Smithsonian
National Air and Space Museum

Krafft Arnold Ehricke Papers
Paul Silbermann
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Collection Overview

Repository: National Air and Space Museum Archives
Title: Krafft Arnold Ehricke Papers
Identifier: NASM.2003.0025
Date: 1949-1984
Extent: 124.9 Cubic feet
Creator: Ehricke, Krafft, 1917-1984
Language: English
Summary: This collection is composed of Krafft Ehricke's files including Ehricke's published and unpublished papers as well as papers and works by others that Ehricke gathered, presumably as reference material.

Administrative Information

Acquisition Information
Ingeborg M. Ehricke, Gift, 2003

Processing Information
All metal fasteners (paper clips, staples, binder clips, etc) have been removed from the collection due to the significant amount of rust present. When materials in a single folder were originally fastened together in groups these groups have been separated within the folder by half-width sheets of legal paper (4½"x14"). Newsprint and thermofax documents have been photocopied for preservation. Folded oversized materials have been flattened and filed separately in appropriately-sized containers in the same order. Multiple copies of documents in different files are identified as copy 1, copy 2, etc.

Some materials, mainly relating to nuclear space propulsion, carry security classification markings. These documents have been reviewed and declassified by the National Archives and Records Administration's National Declassification Center and appropriately marked. All such documents have been returned to NASM's custody.

Preferred Citation
Krafft A. Ehricke Papers, Accession 2003-0025, National Air and Space Museum, Smithsonian Institution.

Restrictions
No restrictions on access.
Biographical Note

Krafft Arnold Ehricke (1917-1984) was an engineer and scientist who made vital contributions to the American space program. Ehricke was considered "one of the few philosophers of astronautics" by the early 1960s (note 1) and until his death remained a visionary and public champion of the cause of space exploration and colonization.

Ehricke was born in Berlin, Germany on 24 March 1917. He was inspired by Fritz Lang's 1929 science fiction film *Frau im Mond (Woman in the Moon)* and attempted to join the German rocket society, Verein für Raumschifffahrt (VfR), but, denied membership due to his youth, he instead conducted his own experiments. He spent two years (1936-1938) fulfilling military service requirements in Germany's new Panzer Corps, then earned an Aeronautical Engineering degree (MS equivalent) from the Technical University of Berlin (1938-1940). With World War II underway, Ehricke was recalled to service and was wounded during the Blitzkrieg on the Western Front in 1940. While recuperating from his wound he took graduate courses in Celestial Mechanics and Nuclear Physics from the University of Berlin (1940-1941). He returned to duty in 1941 as an officer to participate in the German attack on Russia. In 1942 he was again wounded, but his earlier engineering work had come to the attention of Wernher von Braun and he was recruited into von Braun's rocket development team, a move he later credited with saving his life. Ehricke spent the next two years (1942-1944) as a propulsion engineer at Peenemünde, then became an ordnance lecturer in Köslin, Germany (now Koszalin, Poland) until the end of the war. In January 1945 Ehricke married Ingeborg Maria Mattull. As the Third Reich collapsed in May he returned to her in Berlin and went into hiding to escape being "recruited" by the Soviet Union. He was finally located by an American officer in 1946 and was reunited with von Braun and the other *Operation Paperclip* (note 2) scientists under United States Army auspices.

In January 1947 Ehricke began work as a Research Engineer for the Research and Development Service of the United States Army Ordnance Corps at Ft. Bliss, TX, moving to Huntsville, AL, in 1950 when the Army transferred missile development from Ft. Bliss to Redstone Arsenal, AL. In 1952 Ehricke was recruited by Walter Dornberger (note 3), left government service for private industry, and moved to Buffalo, NY, to work as a Design Specialist at Bell Aircraft. For the next two years he worked on Bell's Orbital Glider project, a precursor to *Project Dyna-Soar*, the Air Force reusable boost-glide weapon system that itself prefigured NASA's Space Shuttle.

In November 1954 Ehricke moved to San Diego, CA, to begin a decade-long career with what was then the Convair Division of General Dynamics. For several years he was a key figure in the development of the Convair's SM-65 Atlas ICBM and Atlas launch vehicle. NASA used the man-rated Atlas LV-3 for the orbital flights of the Mercury Program and as of this writing the Atlas V family of Evolved Expendable Launch Vehicles remains a mainstay of the United States launch vehicle inventory. Between 1959 and 1962 Ehricke directed the development of the Centaur booster, the first high-energy upper stage powered by liquid hydrogen. Although Centaur was not successfully launched until 1965, it eventually served as the upper stage for Atlas, Titan, and Delta launch vehicles and was the last stage for the Viking (Mars) and Voyager (Outer Planets) missions. During this time he also authored *Space Flight*, a two-volume textbook on celestial mechanics and launch vehicle design (note 4). In 1962 Ehricke became the director of the Advanced Projects Department of General Dynamics Astronautics, where he directed and contributed to studies of next-generation (Post-Saturn) launch vehicles and propulsion systems, planetary exploration programs, and post-Apollo space activities.
At the end of October 1965 Ehricke left General Dynamics to become the assistant director of Astrionics at the Autonetics Division of North American Aviation (note 5), later rising to become Chief Scientist in the Advanced Systems Department of North American Rockwell's Space Division (1968-1973) and Chief Scientific Advisor for Rockwell International's North American Space Operations (1973-1977). While at North American Ehricke was involved in some aspects of the Space Shuttle program but primarily worked advanced project studies, including studies relating to NASA's space station and deep space exploration programs, and culminating in a multi-year study of space industrialization which began in 1976. During this time he also acted as scientific advisor to the abortive Satellite Power Corp (1974-1976), which proposed using satellites to generate and transmit electrical power to the Earth.

Ehricke retired from Rockwell in July 1977 and established Space Global Company with himself as president. Space Global was, in essence, a vehicle to promote space exploration and to promulgate his vision of a future space civilization, a concept he originally called the "Extraterrestrial Imperative" but later referred to as the "Open World Synthesis." The basic concept was relatively straightforward: because Earth's resources, although great, are limited, they place a limit on mankind's development. The only way to escape that limit is to move beyond the Earth and exploit the resources available in space. It was an argument for space exploration and colonization that Ehricke developed during the 1950s and 1960s, and finally crystallized in a manuscript he co-authored with Elizabeth Miller. Doubleday planned to publish the book in 1971, but then cancelled the project. Ehricke managed to get facets of the idea published in a number of technical journals, most notably in a four-part article in the Journal of the British Interplanetary Society (1979-1981), and gave numerous lectures on the topic, but The Extraterrestrial Imperative never appeared in the general media. Described as a "warm, witty man" and "a popular lecturer," he kept up an active speaking career until his health began to fail in 1984. He died of complications from leukemia on 11 December 1984.

During his life Ehricke wrote over 200 scientific and technical papers, contributed to a number of dictionaries and encyclopedias, and authored or co-authored several books. His final book The Seventh Continent: Industrialization and Settlement of the Moon (published in German as Der Siebente Kontinent – Die Industri Alisierung und Besiedlung des Mondes (Müchen: Thiemig Verlag, 1984)) was being edited for English publication at the time of his death. He was awarded an Honorary Doctorate of Humane Letters by the National College of Education (note 6) (1961) and received numerous awards including the International Astronautical Federation's Guenther Loeser Medal (1956), the American Rocket Society's Astronautics Award (1957) and Edward J. Pendray Award (1963), the New York Academy of Sciences' I. B. Laskowitz Award (1972), the American Institute of Aeronautics and Astronautics' Goddard Astronautics Award (1984), and was inducted into the Aerospace Hall of Fame (1966).

Notes

1) Dandridge M. Cole to Krafft Ehricke, 12 February 1964.
2) Operation Paperclip was a program by the United States Office of Strategic Services (OSS) to bring German scientists to the United States in the immediate aftermath of World War II. More than 1500 scientists and engineers and nearly 4000 members of their families had entered the US by the end of 1947.
3) Walter Robert Dornberger (1895-1980) was a German artillery officer and engineer. In 1942 he was placed in charge of coordinating V-1 and V-2 development at Peenemünde. Captured by the British in 1945, he participated in Britain's Operation Backfire before being brought to the United States as part of Operation Paperclip, working on guided missile development for the United States Air Force. Between 1950 and 1965 he worked for Bell, eventually becoming a Vice President of the company. According to some stories he was responsible for poaching several Paperclip scientists away from the Army's Huntsville team for USAF projects.

6) In 1990 National College of Education (NCE, est. 1886) expanded and reorganized into the National Louis University (NLU), headquartered in Chicago, IL, with NCE becoming one of the NLU's three colleges.

**Chronology**

1917 Mar 24 born (Berlin, Germany)

1923-1926 Grammar School (Berlin, Germany)

1927-1936 Gynasium (Berlin, Germany)

1936-1938 German Army (military service, Panzer Corps)

1938-1941 Berlin Technical University (Aeronautical Engineering Diploma, 1941)

1940 German Army (Sergeant, Panzer Corps) – Western Front

1941-1944 Peenemünde Research and Development Center (Development Engineer and Assistant to Director, Propulsion Development)

1944-1945 Köslin, Germany (Lecturer, Army Ordnance)

1945 Jan 19 married Ingeborg Maria Mattull (Berlin, Germany)

1947-1950 Ft Bliss, TX (Research Engineer)

1950-1952 Redstone Arsenal, Huntsville, AL (Thermodynamics Research Engineer, Chief of Gas Dynamics Dept)

1952-1954 Bell Aircraft Corp, Buffalo, NY (Preliminary Design Specialist)

1954-1955 General Dynamics/Convair, San Diego, CA (Design Specialist)

1956-1958 General Dynamics/Convair, San Diego, CA (Chief of Preliminary Design and Systems Analysis)

1956 received Gunther Loesler Medal (International Astronautics Federation)

1957 received Astronautics Award (American Rocket Society)

1958-1959 General Dynamics/Convair, San Diego, CA (Assistant to Chief Engineer)

1959-1962 General Dynamics/Convair, San Diego, CA (Director, Centaur Development)

1959-1961 NASA Research Advisory Committee on Electric Energy Systems (Chairman)

1961 awarded Honorary Doctorate of Humane Letters (National College of Education, Evanston, IL)

1962-1965 General Dynamics/Convair, San Diego, CA (Director, Advanced Studies Dept/Astronautics Division)

1963 received Edward Pendray Award (American Rocket Society)
1965-1968
North American Aviation, Anaheim, CA (Assistant Director, Astronics Division)

1966
inducted into Aerospace Hall of Fame (San Diego, CA)

1968-1973
North American Aviation / Rockwell International, Anaheim, CA
(Chief Scientist, Advanced Systems Department, Space Division)

1972
received I. B. Laskowitz Award (New York Academy of Sciences)

1973-1977
Rockwell International, Anaheim, CA (Chief Scientific Advisor, North American Space Operations)

1977-1984
Space Global Co (President)

1981
received Space Systems Award (IAA)

1984
received Goddard Astronautics Award (American Institute of Aeronautics and Astronautics)

1984 Dec 11
died of complications from leukemia (La Jolla, CA)

Partial Bibliography of Papers, Reports, Lectures, and Interviews by Krafft Ehricke

- "Absolute Comparisons of Management Systems" (no date)
- Accuracy Improvement of Martian Probe by Post-Escape Correction and Improved Determination of the Astronomical Constant (Convair report AZM-049; 1 Aug 1958)
- "Acquisition of Geospace" (Nov 1968)
- "Aero-Thermodynamics of Descending Orbital Vehicles" (Astronautica Acta 2, fasc.1 (1956))
- "Aerojet-General Nucleonics Non-Chemical Propulsion Program" (presented to USAF, 11 Feb 1966)
- "Aerospace and National Economic Development" (Feb 1976)
- "Aerospace Contribution to Solving the Energy and Pollution Crisis" (delivered to luncheon meeting of Capital Section of AIAA, 27 Jun 1973)
- "Aerospace Transportation" (Jun 1966)
- "Aerospace Transportation – Concepts and Advanced Systems" (Jun 1966)
- "Air Traffic in the Coming Space Age" (published as "Toward Aviation's New Infinities", Jet Tales 1/81)
- An der Schwelle des Industriellen Raumzeitalters (report E75-9-1, Sep 1975)
- "Analysis of Orbital Systems" (2nd edition; presented to IAF 5th International Astronautical Congress, 5-7 Aug 1954)
- "Analysis of Transportation Systems Flight Performance" (1970)
- "Anthropology of Astronautics (The)" (Astronautica 2 no.4 (Nov 1957) : 26-29, 65-68; reprinted in Astronautics and the Future)
- Apollo 11 Flight [5th] Anniversary "Town Hall Talk" (circa 1974)
- "Apollo and the Future" (delivered to Industrial Management Club of Reading and Berks County, Reading, PA, 25 Mar 1971)
• *Ascent and Descent of Rocket Vehicles* (Convair report AZP-071; no date)
• "Ascent of Orbital Vehicles" (published in *Astronautica Acta* 2 fasc.4 (1956))
• "Aspects Concerning the Impact of Manned Heliocentric Mission on Space Station and Space Shuttle" (NR report PD70-5; Jan 1970)
• "Aspects of Deep Space Probes Requiring Cryogenic Engineering Solutions" (University of California, Engineering X428GHI, Lecture 14, 14-17 May 1962)
• "Astro-ecology and the Human Environment" (no date)
• "Astrogenic Environments – The Effect of Stellar Spectral Classes in the Evolutionary Pace of Life" (*Space Flight* 14 no.1 (Jan 1972); NR report SD71-716)
• "Astronautical and Space-Medical Research with Automatic Satellites" (presented to the Franklin Institute; Jun 1956)
• "Astronautical Vehicles" (no date)
• "Astronautical Vehicles" (*Colliers Encyclopedia Year Book*, 1960)
• "Astronautics" (San Diego State College course, Physics 131, Fall Semester 1960)
• "Astropolis and Androcell / Thermonuclear Power Generation Satellite / Lunar Productivity Center" (extracts from papers and testimony, 1972-1975; SG reprint SG578-1R, May 1978)
• "Astropolis and Androcell – The Psychology and Technology of Space Utilization and Extranetarianization" (presented to Session 2, International Space Hall of Fame Dedication Conference, 3-9 Oct 1976)
• "Atlas Family of Spacecraft & Preliminary Data on 990000 and 2x106 lb 3-Stage System with O2/H2 Second and Third Stage" (30 Sep 1958)
• *Atmosphere Braking Entry and Associated Technologies* (NR report X6-624/3061, 1968)
• "Aufstieg und Abstieg von Raketenraketen" (published as Chapter 8 of *Handbuch der Astronautik* (Karl Schütte and Hans K. Kaiser, eds; Akademische Verlaggesellschaft Athenion, 1958), pp.235-254; also Convair report AZP-071, circa 1958)
• "Ausbeutung des Roten Planeten" (with unidentified "German author", circa Oct 1975)
• "Ballistic Ascent to Satellite Orbits" (no date)
• *Beyond Earth: The Story of Astronautics* (with Betty A. Miller, 1970 [not published])
• "Beyond the First Space Stations" (Jan 1971; presented to Alabama AIAA Meeting, 20 Jan 1971)
• "Blaue Planet hat doch eine Zukunft (Der)" (*Die Welt*, 29 Jun 1974)
• "Brief Outline of Steps for Commercial Development of Solar Power Systems on Earth and Power Transmission Through Space" (no date)
• "Brief Study of the Application of Three Nerva Engine Models to Comparatively Modern Manned Interplanetary Missions Such as Capture in an Elliptic Orbit around Venus in 1975 and Return to Earth" (with B. Brown, B. Oman, and W. Strobl; GDA report GDA 63-1223, 20 Nov 1963)
• Будущее Космической Индустрии (Москва: Машиностроеине, 1979) [The Future of Space Industry (Moscow: Mashinostroenie, 1979)]
• "Buck Stops Here (The)" (Viewpoint column; *Fusion*, Sep 1981)
• "Busy World of Outer Space (The)" (*Discovery; ABC TV*, aired 28 Jan 1968; includes Ehrcke interview)
• "Calculations on a Manned Nuclear Propelled Space Vehicle" (ARS paper 532-57; presented at ARS 12th Annual Meeting, 2-5 Dec 1957)
• "Case for Space (A)" (presented to the Citizen's Campaign for Space, Sponsored by The Center of American Living Inc, New York City, NY, 17-18 Feb 1970; NR report SD70-65; Feb 1970)
• "Case for Space" [II] (presented to unidentified meeting, 27 Jun 1970; also to California State Polytechnical College, Aerospace Education Workshop, 14 Jul 1970)
• "Case for the Space Station (The)" (circa Feb 1970)
• CBS News Interview (Krafft Ehrice/Walter Cronkite, Sep 1966)
• "Changing Role of Technology (The) – Yesterday Today and Tomorrow" (presented to 8th Space Congress, 19-23 Apr 1971; NR SD71-536)
• "Circular Satellite Orbits" (no date)
• "Cislunar Operations" (ARS paper 467-57; presented at ARS Semi-Annual Meeting, 10-13 Jun 1957)
• Cislunar Orbits (Convair report AZP-004, 30 Mar 1957)
• "Comments on the Question of the Usefulness of the Scramjet to Boost and Reentry Vehicle Program" (no date)
• "Communications and the New Life Style" (address to Public Broadcasting System Annual Meeting, 1972)
• "Comparison of One-Way Transfers and the Effect of Specific Impulse Isp and Mass Fraction x on Gross Payload Fraction" (no date)
• "Comparison of Propellants and Working Fluids for Rocket Propulsion (A)" (Sep 1952; published in Journal of ARS 23, no.5 (Sep/Oct 1953))
• "Comparison of Rocket Propulsion at Constant Thrust and Constant Acceleration (A)" (Jun 1951; published in Rocket Science 5, no.3 (Sep 1951))
• "Computations of Number of Binary Bits of Information for Venus Radar Mapping" (no date)
• "Concept of Shuttle Stations and Their Functions in Geolunar Space Utilization (The)" (NR report PD70-4, 15 Jan 1970, revised Jan 1970)
• "Contributions of Space Reflection Technology to Food Production, Local Weather Manipulation and Energy Supply, 1985-2020" (presented to 17th European Space Symposium, 4-6 Jun 1980; published in JBIS Space Technology 34 no.12, Dec 1981))
• "Cost Reductions in Transportation to Geosynchronous and Lunar Orbit" (presented to IAF 23rd International Astronautical Congress, 8-15 Oct 1972, 5th Lunar International Laboratory Symposium; NR report SD72 SA-0174, Sep 1972; published as "Cost Reduction in Transportation to Geosynchronous and Lunar Orbit in a Swing Station" (Raumfahrtforschung 17 no.3 (May/June 1973) : 126-135)
• "Cost Reductions in Transportation to Geosynchronous and Lunar Orbit in a Swing Station" (Raumfahrtforschung 17 no.3 (May/June 1973) : 126-135; NR report SD72-SA-0174, Sep 1972; presented to IAF 23rd International Astronautical Congress, 8-15 Oct 1972, 5th Lunar International Laboratory Symposium as "Cost Reduction in Transportation to Geosynchronous and Lunar Orbit")
• Delta (California Museum of Science and Industry, TV Pilot, Jun 1974; Ehricke included in on-screen interview)
• "Destination Mankind – Proposal for a Saturn V-Apollo Mission into Geosynchronous Orbit" (19 May 1972)
• Development of a Basic Planetary Transportation System Model, Interim Report (GDA report, circa 1964)
• "Development of Large Earth Orbital Space Station" (presented to IAF 21st International Astronautical Congress, 4-10 Oct 1970; NR report SD 70-641, Nov 1970)
• "Earth Environment and Resources Management from Space" (presented to IAF 22nd International Astronautical Congress, 20-24 Sep 1971; NR report SD 71-734, Sep 1971)
• *Earth's Seventh Continent – Industrialization and Settling of the Moon* (in preparation for publication, 1984)
• "Earth-Moon Transportation" (presented to AAS 16th Annual Meeting, 8-10 Jun 1970; NR report SD70-338)
• "Earth-Space Meta-Environment and the Future of Man 1970-2070" (presented to ISF 1971 Conference on International Science Policy with the International Meta-University, Sep 1971)
• "Economy of Large Launch Vehicles including Labor Costs" (*Journal of Spacecraft and Rockets* 1, no.6 (Nov 1964) : 611-619; originally presented as part of "Nexus – Concept of a Large Reusable Launch Vehicle"; AIAA Summer Meeting, paper 63-277, 17-20 Jun 1963; originally titled "Economy of Saturn V and Post-Saturn Vehicles with Consideration of Orbital Labor Cost")
• "Economy of Saturn V and Post-Saturn Vehicles with Consideration of Orbital Labor Cost" (originally presented as part of "Nexus – Concept of a Large Reusable Launch Vehicle"; AIAA Summer Meeting, paper 63-277, 17-20 Jun 1963; published as "Economy of Large Launch Vehicles including Labor Costs", *Journal of Spacecraft and Rockets* 1, no.6 (Nov 1964) : 611-619)
• *Effective Initial Contributions of a Manned Space Station* (report KAE-11, 6 Nov 1970)
• "Electric Propulsion Systems Model" (no date)
• *Elements of Rocket Science* (unpublished textbook, no date)
• "ELV Comparison and Evaluation Methodology" (Summer 1963)
• *EMPIRE Follow-On Final [Third] Presentation* (GDA report AOK 64-002, 28 Jan 1964)
• *EMPIRE Follow-On – Parametric Mission Analysis* (GDA report AOK 63-024, 30 Aug 1963)
• "Energy and the Shuttle Compatible Space Energy Test (SET) Facility Briefing, September 25, 1974"
• "Engineering and Space Operations" (presented to Space Station Utilization Conference, NASA/Ames Research Center; 9-10 Sep 1970)
• "Engineering Problems of Manned Space Flight" (presented to USC Symposium on the 75th anniversary of the University and 59th Anniversary of the Engineering Dept, Apr 1955)
• "Engineering the Reality of Lunar Industrialization" (presented to CSU Northridge School of Engineering and Computer Science Colloquium, 24 Feb 1983)
• "Erde und Raum als Integrale Aktionsumwelt des Menschen" (no date)
• *Error Analysis of Keplerian Flights Involving a Single Central Force Field and Transfer Between Two Central Force Fields Spacecraft Orbits* (Convair report AZM-7-551; 17 Jan 1958)
• "Error Analysis of Single and Two-Force Field Spacecraft Orbits" (Ehrice; presented to Franklin Institute Lecture Series on Space Flight, Mar 1958; Convair report AZM-054, 22 Sep 1958)
• "Evolution of Space Flight" (no date)
• *Evolution of the Space Ship* (not published)
• "Ex Mens[is] – 1: On the Integrated Plan" (15 Feb 1970)
• "Ex Mens[is] – 2: Perspective" (no date)
• Excerpts of Chapter 7 "Low Thrust Space Flight" of *Space Flight*, Vol. II "Dynamics" (Convair report KE62/1, no date)
• *Exoindustrial Productivity – The Extraterrestrial Imperative of Our Time* (report E75-5-1, May 1975)
• "Exoindustrialization as a System" (no date)
• *Exoindustry: A Macro-System Analysis* (report E76-1-1, Jan 1976)
• *Exploration of the Solar System* (with Betty A. Miller; published as *Exploring the Planets* (Learning Corp, 1969))
• *Exploration of the Solar System and Interstellar Space* (with Elizabeth A. Miller, 1971 [not published])
• *Exploring the Planets* (with Betty A. Miller; (Learning Corp, 1969); originally titled *Exploration of the Solar System*)
• "Extraterrestrial Contamination, Pollution and Waste Disposal" (published as "Space Dumping – Extra-terrestrial Contamination, Pollution and Waste Disposal" in *The Environment This Month* 1 no.1 (Jul 1972) : 36-45)
• "Extraterrestrial Imperative" (published as "The Extraterrestrial Imperative – Grow and Live", NY Times, 23 May 1972)
• *Extraterrestrial Imperative (The)* (with Elizabeth A. Miller, 1971 [first version], not published)
• *Extraterrestrial Imperative (The)* (with Elizabeth Miller, 1974 [second version], not published)
• *Extraterrestrial Imperative (The), Part I – Evolutionary Logic* (SG report SG1078-1, Oct 1978)
• "Extraterrestrial Imperative (The), Part II – Productive Earth Orbits – New Partnership Through Pressures and Promise" (*JBIS* 32 no.11 (November 1979) : 410-418)
• *Extraterrestrial Imperative (The), Part IV – Evolution II* (SG report SG-OW-9ET-4-182, Jan 1982)
• "Extraterrestrial Imperative (The)" (*Air University Review* 29 no.2 (Jan-Feb 1978) : 2-20)
• "Extraterrestrial Imperative (The)" (*Futures* 13 no.2 (Apr 1981) : 107-114; originally titled "The Extraterrestrial Imperative – Evolutionary Perspective and a Cosmopolitan Strategy")
• "Extraterrestrial Imperative (The)" (*Futures* 13 no.2 (Apr 1981) : 18-26; reprinted in *New Worlds* 2 no.2 (Feb 1972) : 12-23)
• "Extraterrestrial Imperative (The) – Evolutionary Logic and Realistic Promise" (SG report SG678-1; submitted to *Smithsonian*, circa 1978)
• "Extraterrestrial Imperative (The) – Evolutionary Perspective and a Cosmopolitan Strategy" (published as "The Extraterrestrial Imperative", *Futures* 13 no.2 (Apr 1981) : 107-114)
• "Extraterrestrial Imperative (The) – Grow and Live" (NY Times, 23 Mar 1972)
• "Extraterrestrial Imperative – Road Into the Future" (presented to SYNCON ’72, 17-21 May 1972; NR report SD72 SA-0120, Jun 1972)
• "Extraterrestrial Imperative (The) – The Logic of Social and Realistic Promise" (CSU Northridge extension course SOC X496G/X896G, 30 Jan-14 May 1980)
• "Extraterrestrial Imperative (The): Why Mankind Must Colonize Space" (*Fusion* (English language edition) 5 no.6 (Dec 1982) : 18-24)
• "Extraterrestrial Imperative and Lunar Development" (originally presented to NASA Symposium, Lunar Bases and Space Activities of the 21st Century, 29-31 Oct 1984 as "Lunar Industrialization and Settlement – Birth of Polyglobal Civilization")
• "Extraterrestrial Imperatives" (presented to Future Oriented Activities in the United Nations, 30 Nov 1972)
• "Extraterrestrial Industry – A Challenge to Growth Limitation" (Jun 1972)
• "Extraterrestrial Nuclear Mining" (no date)
• "Fast Flight Profiles for Manned Helionautical Missions" (presented to 4th International Symposium on Bioastronautics and the Exploration of Space, 24-27 Jun 1968, San Antonio, TX))
• "Flight Profiles and Navigation of Interorbital Transports in Geolunar Space" (presented to ION National Space Meeting, 23-25 Feb 1971; NR report SD71-475, Mar 1971)
• "For a Synergistic Space Program – Excerpts from Material Presented to the Advanced Aerospace Projects Office, NASA Langley Research Center, on July 16, 1970" (16 Jul 1970)
• Forward to Into the Unknown (Don Dwiggins; San Carlos (CA): Golden Gate Junior Books, 1971)
• Foundations of Interplanetary Flight (unpublished textbook, no date)
• "Four Objectives – The Fundamental Principles of Our Commitment to Space" (5 Jul 1970; published as "Our Commitment to Space", Spaceflight 13 no.3 (Mar 1971) : 82)
• "From Closed to Open World" (presented to NASA Study Group on "Outlook for Space", 23-24 Oct 1974)
• From Dust to Stars: The Evolution of Space Flight (with Elizabeth Miller and J. Sentovic, 1967)
• "Further Comments on the Power Relay Satellite Concept" (Jan 1974)
• "Future in Space" (presented to Air Command and Staff College, Maxwell AFB, AL, 18 May 1972)
• Future of Space Industry (The) (Moscow: Mashinostroenie, 1979) [Будущее Космической Индустрии (Москва: Машиностроение, 1979)]
• Geospace Development – Presentation to C. W. Mathews, Deputy Associate Administrator, Office of Manned Space Flight, NASA Headquarters, Washington, DC (NR report PD70-24; Mar 1970)
• "Good Heavens, Santa!" (television script with Leon Leonidoff and Elizabeth A. Miller, 20 Jul 1978)
• "Government, Industry and Research Responses to Space Exploration" (presented to ARDC 7th Annual Science and Engineering Symposium, 29-30 Nov 1960)
• "Habeus Extraterrestrial – Kultur und Technik im gesetz Jenseits der Erde" (no date)
• "Harenodynamic Cooling: The Use of Lunar Sand as a Cooling Medium" (published in Acta Astronautica 11 no.6 (Jun 1984) : 319-325)
• "Helionauts in the Year 2000" (no date)
• Helionauts (The) (proposed TV series, circa 1966; also titled The Infinauts)
• "Heritage of Apollo – Presentation to the Town Hall of California (The)" (report E74-7-1, 16 Jul 1974)
• "How Do We Get There From Here?" (presented to Los Angeles Council of Engineers and Scientists [LACES], 3 Apr 1975)
• "I Can Get Us There by 1966" (Space World 1 no.2 (Jul 1960) : 16-19, 48-49)
• "Identification of Manned Space Activities Beyond Apollo at Modest Orbital Work, Attractive to Scientific Community" (n.d)
"Industrial Productivity as a New Overarching Goal of Space Development" (Oct 1975)
"Industrialisierung des Mondes (Die) – Der erste Schritt in eine Neue Offene Welt" (Fusion (German language edition) 3 no.2 (Mar 1982) : 38-51 and Fusion (German language edition) 3 no.3 (May 1982) : 40-50)
"Industrialization of Space" (presented to the Wisconsin American Institute of Aeronautics and Astronautics, Milwaukee, WI, 28 Apr 1978)
"Industrializing the Moon – The First Step into a New Open World" (Fusion (English language edition) 5 no.2 (Dec 1981) : 21-31 and Fusion (English language edition) 6 no.1 (May-Jun 1984) : 46-55)
"Infinauts (The)" (proposed TV series, circa 1966; originally titled The Helionauts)
"Instrumented Comets – Astroanautics of Solar and Planetary Probes" (ARS paper 493-57; presented to IAF 8th International Astronautical Congress, 6-12 Oct 1957)
"Integrated Geolunar Transportation and Occupation System Using Space Station Modules in Highly Eccentric Orbits" (report KAE-4, 18 Nov 1969)
"Interplanetary Mission Profiles" (GDC report AZM-023, 30 Apr 1958)
"Interplanetary Mission Profiles – Pt. II" (report KE60/2, 1 Dec 1960; published as part of Space Flight, Vol. II – Dynamics)
"Interplanetary Probes: Three Problems" (Astronautics, Jan 1959 : 20-22, 42, 44, 46)
"Ion Propulsion System for Orbital Stabilization of Satellites, Especially of Several Satellites in Closely Similar Orbits (Pt. 1)" (Convair report ASM-2, 13 Sep 1957)
"Kraftsoletta – Eine Industrie-Sonne für Europa" (SG report SG1177-1, Nov 1977)
"Künstliche Kometen – Eine Analyse der Enforschüng der Interplanetaren Raums mit hyperbolischen Sonden" (no date)
"Large Scale Processing of Lunar Material" (presented to LSI 7th Lunar Science Conference "Utilization of Lunar Materials and Expertise for Large Scale Operations in Space", 15-19 Mar 1976; report E76-3-1, Mar 1976)
"Light and Shadow Distribution in a Circular Satellite Orbit with and without Precession" (Convair report ZP-7-019; 3 Nov 1953)
"Long-Range Perspective and Some Fundamental Aspects of Interstellar Evolution (A)" (Apr 1975; published in JBIS 28, no.11 (Nov 1975); report E75-6-1, Jun 1975)
"Lunar Atmospheric Research by Lunar Satellite and the Landing of Lunar Probes Within Pressurized Structures" (circa 1960)
"Lunar Bases – Complexes for Exploration and Colonization of the Moon" (with Betty Ann Miller, pp.1380-1391 of unidentified publication)
• "Lunar Settlements and Their Value for the Human Environment on Earth" (Acta Astronautica 1, no.5-6 (May-Jun 1974) : 585-622; originally titled "Permanent Lunar Settlements and Their Value for the Human Environment on Earth")
• "Lunetta System Analysis" (IAF paper 80-A-11: presented at IAF 31st International Astronautic Congress, Symposium on Space and Energy; possibly SG report SG-OW-21-182)
• Magnificent Heritage – Missions to New Worlds and the New Solar System (The) (documentary; with Elizabeth Miller, Jul 1970)
• "Man Can Use Interstellar Space" (Los Angeles Times, 28 Jun 1972)
• "Man, Resources and Planets" (presented to IAF 19th International Astronautical Congress, 13-19 Oct 1968; NR report X8-2233/060)
• "Maneuvers and Navigation in Manned Helionautics" (presented to ION National Space Meeting, 23-25 Feb 1971; NR report SD 71-474, Mar 1971)
• "Manned Planetary Spacecraft Commonality with Space Station" (with A. L. Jones; presented to AAS 16th Annual Meeting, 8-10 Jun 1970; NR report SD70-342, Jun 1970)
• Manned Space Service Program (report KAE-16, Nov 1968)
• "Manned Spaceflight in the Seventies, Part I – Alternatives for Manned Spaceflight in the Seventies" (Jan 1971)
• "Manned Versus Unmanned Spaceflight" (Oct 1968)
• "Material on Space Industrialization Presented to J. T. Murphy, NASA-MSFC, 31 Aug 1976"
• "Mehr Mut, die Brücke in eine große Zukunft zu betreten" (Die Welt no.304, 31 Dec 1982)
• "Mensch, Umwelt, Technik und wachstum – Dem 'Klub von Rom' zum Zehnten ins Stammbuch" (no date)
• "Method of Using Small Orbital Carriers for Establishing Satellites" (ARS paper 69-52, Dec 1952)
• Methodology of Mission and Systems Synthesis of Manned Planetary Flights with Particular Emphasis on Venus and Mars as Target Planets (GD report AOK-63-019, 1 Jul 1963)
• "Methods of Minimizing Shuttle-Based High- and Low-Thrust Transportation Costs to Geosynchronous Orbit" (IAF paper A74-03; presented to IAF 25th International Astronautical Congress, 30 Sep-5 Oct 1974)
• "Mission Analysis of Fast Manned Flights to Venus and Mars" (presented to Interplanetary Mission Conference, AAS 9th Meeting, 15-17 Jan 1963)
• "Morphological Analysis and Comparison of Nuclear Pulse Drive Mechanization Concepts" (presented to AIAA 5th Joint Propulsion Specialist Conference, 9-13 Jun 1969)
• "New Cosmos and Homo Extraterrestris (The)" (delivered to AIAA Symposium: "Our Extraterrestrial Heritage – from UFOs to Space Colonies", 28 Jan 1978)
• "New Growth in an Open World at the Threshold of the First Cosmopolitan Millenium – Collected Works of K. A. Ehricke, 1939 through 1980" (introduction to SG "OpenWorld" document series)
• "New Supply System for Satellite Orbits (A) – Part 1" (Jet Propulsion 24 No.5 (Sep-Oct 1954) : 302-309)
• "New Supply System for Satellite Orbits (A) – Part 2" (Jet Propulsion 24 No.6 (Nov-Dec 1954) : 369-373)
• "Nexus – Concept of a Large Reusable Earth Launch Vehicle (with Freeman D'Vincent; presented at AIAA Summer Meeting, 17-20 Jun 1963; GDA report 63-0065; AIAA paper 63-277)
• "Nexus Concept (The)" (with Freeman D'Vincent; Astronautics and Aerospace 2 no.1 (Jan 1964))
• Non-relativistic Interstellar Mission Performance Analysis to Alpha Centauri (report KAE-19, circa 1971)
• "Notwendigkeit der Weltraumfahrt (Die) – Der Extraterrestrial Imperativ" (published in Fusion (German language edition) 4 no.4 (Fall 1983) : 29-41)
• "Offene Neue Welt" (no date)
• Omni Interview (Omni 3 no.12 (Sep 1981) : 87-91, 124)
• "On Bounding the Problem of Growth" (17 Jul 1972)
• "On the Application of Solar Power in Space Flight" (presented to IAF 7th International Astronautical Congress, 17-22 Sep 1956)
• "On the Commercial Satellite Project" (no date)
• "On the Descent of Winged Orbital Vehicles" (Astronautica Acta 1, fasc.3 (1955))
• "On the Mechanics of Descent to a Celestial Body" (presented to ARS Annual Meeting, Dec 1954; Journal of Astronautics 2 no.4 (Winter 1955) : 137-144)
• "On the Need for New Launch Vehicles" (session paper for "Do We Need New Propulsion Systems (Post Saturn) for Lunar and Planetary Flight?", panel for AIAA Annual Meeting, 29 Nov-2 Dec 1966 (chaired by Ehricke); NA report X7-158/060)
• "On Space Dynamics at Moderately Low Accelerations" (no date)
• "Öppen värld med obegränsad tillväxt (En)" (Energi and Utveckling, no date, 50-58)
• "Orbit Change at Moderate Infra G Acceleration" (no date)
• "Our Commitment to Space" (Spaceflight 13 no.3 (Mar 1971) : 82; originally titled "Four Objectives – The Fundamental Principles of Our Commitment to Space" (5 Jul 1970))
• "Our Philosophy of Space Missions", (Aero/Space Engineering 17 no.5 (May 1958) : 38-43; originally titled "Philosophy of Our Space Mission")
• "Out There ... Why Not?" (no date)
• "Outer Atmosphere Research Program" (Jan 1954)
• "Outlook for Space 1980-2000" (6 Sep 1974)
• Parametric Mission Analysis (GDA report AOK 63-024, 30 Aug 1963)
• "Passive Power Relay Satellite (The) – Concept and Appraisal of Extraterrestrial Means to Contribute to Overcoming the Energy Confrontation" (circa 1974)
- "Peenemünde: The Coming of the Future" (CSULB-Nova; Ehricke interviewed for program; possibly aired as "Hitler's Secret Weapon", NOVA, 5 Jan 77)
- "Peenemüende Rocket Center" (3 Jan 1950)
- "Permanent Lunar Settlements and Their Value for the Human Environment on Earth" (published as "Lunar Settlements and Their Value for the Human Environment on Earth"; Acta Astronautica 1 no.5-6 (May-Jun 1974) : 585-622)
- "Pesticides, Fungicides, Oxides of Nitrogen = Recognized Environmental Hazards" (no date)
- Philosophy and Outline of Long-Range Space Planning for the Needs of This Nation and Mankind (NR report PD71-16; Jul 1971)
- "Philosophy of Our Space Mission" (published as "Our Philosophy of Space Missions", Aero/Space Engineering 17 no.5 (May 1958) : 38-43)
- "Planning Space Stations for Long Range Utilization" (presented to Short Course in Space Station Utilization, University of Tennessee, Tullahoma, Mar 1971; NR report SD 71-473, Mar 1971)
- "Planning Space Stations for Long Range Utilization of Space for Earthians" (presented to von Karman Institute for Fluid Dynamics, Brussels, during the Short Course on Space Station Technology and Utilization, Sep 1971; NR report SD 71-562, Sep 1971)
- Pollution of the Future (The) (SG report SG879-1, Aug 1978)
- Power Relay Satellite (The) – A Means of Global Distribution of Electricity from Large Remotely Located Energy Factories Processing Solar, Nuclear or Other Sources of Primary Energy (report E74-11-1, Nov 1974)
- "Power Relay Satellite (The) – Problem Areas" (circa Jan 1974)
- "Powered Ascension Path of Satellite Vehicles" (no date)
- "Powered Flyby" (no date)
- "Producing Advanced Fusion Fuel on the Moon" (Fusion (English language ed.), Sep 1982)
- "Profitability of Manufacturing in Space in View of Lunar Industrial Development and Geo-Socio-Economic Benefit" (presented to ASME Winter Meeting – Manufacturing in Space,

- Programmatic Comparison of Initial Manned Missions to Venus and Mars (A) (GDA report AOK 63-031, 16 Oct 1963)
- "Project Orbital Carrier" (1st edition, May 1952)
- "Project Orbital Carrier" (2nd edition, Aug 1952)
- "Propellant for Booster of a Two-Stage Missile" (PGAF Memorandum #3, 1 Feb 1949)
- "Propulsion System for Fast Manned Reconnaissance Flights to Mars and Venus" (presented to IAS National Flight Propulsion Meeting, 6 Mar 1959; Convair report AZM-068)
- "Raumfahrtsziele und Weltraumtechnik von Morgen" (presented at Industry Fair, Hannover, 26-27 Apr 1971; published in Astronautik 8 no.3/4 (Aug-Dec 1971) : 95-109; Technische Möglichkeiten von Morgen III (Düsseldorf and Vienna: Econ Verlag, 1971); Junkers Nachrichten 14 no.2 (Mar-Apr 1972) : 3-5; no.3 (May-Jun 1972) : 5-7; no.4 (Jul-Aug 1972) : 4-6; no.5 (Sep-Oct 1972) : 4-6; no.6 (Nov-Dec 1972) : 4-6)
- Re-entry Characteristics of Recoverable Spherical Satellites, Satelloids and Lunar Vehicles (Convair report AZP 001, 25 Jun 1957)
- "Re-entry of Spherical Bodies Into the Atmosphere at Very High Speeds" (presented to ARS 12th Annual Meeting, Dec 1957)
- "Regional and Global Energy Transfer Via Passive Power Relay Satellites" (presented to 10th Annual Space Congress, 11-13 Apr 1973; RI report SD73-SH-0117, Apr 1973)
- "Regional Power Distribution Via Power Relay Satellite" (presented to 1st Greater Los Angeles Area Energy Symposium, 3 Apr 1975)
- "Rescue from Space by a Secondary Vehicle" (presented to 2nd International Symposium on the Physics and Medicine of the Atmosphere and Space, 10-12 Nov 1958)
- "Response to Questions by the Subcommittee on Energy (Congressman Mike McCormack, Chairman) and the Subcommittee on Space Science and Applications (Congressman James W. Symington, Chairman) Following Testimony Before Both Subcommittees on 24 May 1973" (23 Jul 1973)
- "Review of Important Aspects Concerning the Use of Power Relay Satellite for Icelandic Energy Export by Means of Beamed Microwave Transmission (A)" (no date)
- Review of Future Space Applications for House Science and Astronautics Committee (RI report SSV74-41; 25 Sep 1974)
- "Role of the Army in Space" (presented to Association of the United States Army "Rockwell Night", 24 Feb 1970)
- "Satellite Orbits for Interplanetary Flight" (Jet Propulsion 24, No. 6 (Nov-Dec 1954): 381)
- "Satelliten zur irdischen Energie-Übertragung Technische und sozio-ökonomische Untersuchungen" (presented at HOG 23rd Raumfahrtkongreß, Jun 1974; published in Astronautik 12 no.2 (1975) : 19-25)
- "Satellloid (The)" (presented to IAF 6th International Astronautical Congress, Copenhagen, 1-6 Aug 1955; Astronautica Acta 2 no.2 (1956) : 63-100)
• “Science Policy and the Extraterrestrial Imperative” (adapted and excerpted from Extraterrestrial Imperative (1971); presented to Congressman G. P. Miller, Chairman, Committee on Science and Astroanautics, US House of Representatives, Feb 1972; later identified as report KE72-1-1, Jan 1972)
• Selection of Promising Initial Planetary Missions and Mission Modes (GDA report ASO 63/24, 18 Sep 1963)
• "Shuttle and Apollo – The Nature of their Differences" (circa 1971)
• Shuttle Station as Element of Low-Cost Geospace Transportation to Geosynchronous Orbit, Interlinking with Earth-Space Shuttle (NR report PD70-24, Feb 1970)
• "Sidereal Civilization" (no date)
• Siebente Kontinent (Der) – Die Industri Alisierung und Besiedlung des Mondes (München: Thiemig Verlag, 1984)
• "Significance of Earth-To-Low-Orbit Shuttle for the Cost Effectiveness of Space Operations (The)" (presented to IAF 22nd International Astronautical Congress, 20-24 Sep 1971; NR report SD 71-780, Sep 1971; published in Raumfahrtforschung 16 no.2 (Mar/Apr 1972) : 65-77)
• "Social Relevance" (Skyline 30 no.2 (1972) : 50-55)
• Solar Option (The) – A Study (report E74-4-1, Apr 1974)
• "Solar Power from Space" (circa 1973)
• "Solar Power Module Concept and Data Summary" (no date)
• "Solar Powered Space Ship (The)" (ARS paper 310-56; presented to ARS Semi-Annual Meeting, 18-20 Jun 1956
• "Some Basic Aspects of Operation in Cislunar and Lunar Space" (no date)
• "Space" (Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
• "Space – 1980" (circa 1970)
• "Space and a World Society Under Law" (no date)
• "Space and Energy Sources" (presented to the World Electrotechnical Congress, Moscow, USSR, June 21-25, 1977; RI report, May 1977)
• "Space and Human Dividends" (no date)
• "Space Applications for Earth-to-Low-Orbit Shuttle Vehicles" (presented as the University of Tennessee, Tullahoma Short Course in Reusable Launch and Re-Entry Vehicles for
  • "Space Applications for Low Cost Ferry Vehicles" (presented at the Space Institute of the University of Tennessee Tullahoma Short Course in Reusable Launch and Re-Entry Vehicles for Space Flight Technology and Applications, 18-22 Aug 1969; NR report SD70-66, Feb 1970)
  • "Space Dumping – Extra-terrestrial Contamination, Pollution and Waste Disposal" (The Environment This Month 1 no.1 (Jul 1972) : 36-45; originally titled "Extraterrestrial Contamination, Pollution and Waste Disposal")
  • "Space Engineering" (no date)
  • Space Flight, Vol. III – Missions, Operations, Vehicles and Planning (not published)
  • "Space Industrial Productivity – New Options for the Future" (Jul 1975; presented to the Committee on Science and Technology and the Subcommittee on Space Science and Applications, Hearings on Future Space Flight, 22-30 Jul 1975)
  • Space Industrialization – Statement to the Committee on Science and Technology Hearing on Future Space Projects, US House of Representatives (SG report SG178-1, Jan 1978)
  • "Space Light – The Enhanced Solar Option" (published in Swann Oil Energy Digest 2 no.17 (24 Aug 1977); SG report SG777-1)
  • Space Light Illumination from Sun-Synchronous Orbits (SG report SG278-2, Feb 1978)
  • "Space Medicine" (Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
  • "Space Pilot" (Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
  • "Space Planning Methodology" (circa 1969)
  • Space Shuttle – The Timing is Right (RI report E73-4-1, Apr 1973)
  • "Space Shuttle and the Energy Crisis" (no date)
  • "Space Shuttle and the Power Crisis" (no date)
  • "Space Shuttle May Point the Way to Safe Disposal of Atomic Waste" (Huntsville Times, 30 Jun 1972)
  • "Space Station" (Young People’s Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
  • Space Station Accessibility and Launch Complex Selection (Convair report KE-59/3, 15 Sep 1959)
  • Space Station Accessibility and Launch Complex Selection (Convair report KE-59/4, rev. 25 Feb 1960)
  • Space Station for Development and Orbital Flight Training (Convair report KE-59/2, 12 May 1959)
  • "Space Stations – Symbols and Tools of New Growth in an Open World" (keynote address to Session 1 (International Space Stations) of the International Space Hall of Fame Dedication Conference, 3-9 Oct 1976; RI report SD 76-SA-0200)
• Space Technology Course – "Interplanetary Operations" (UCLA course, Engineering X461, 1958)
• "Space Tourism" (AAS paper 67-127; presented to AAS 13th Annual Meeting, 1-3 May 1967)
• "Space Transportation Lecture" (presented to 3rd Conference on Engineering for Executives, University of Texas; NA report BR6-802/3061, Mar 1966)
• "Space Travel" (Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
• "Space Vehicles" (Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970))
• "Spacecraft" (presented to 3rd Jet Age Conference, 26-28 Feb 1958; Convair report AZM-020, 25 Feb 1958)
• "Spacelab – Model for International Teamwork," (presented to 12th Space Congress, 9-11 Apr 1975)
• "Sprung In Die Unendlichkeit – Der Flug Des Pioneer Zum Jupiter" (circa 1974)
• "STEPP, A Computerized System for Space Technology Evaluation and Program Planning" (no date)
• "Statement of Krafft A. Ehricke , Chief Scientific Adviser to the Space Division of Rockwell International, Before the Committee on Aeronautical and Space Sciences, United States Senate" (RI report, 31 Oct 1973)
• "Statement of Krafft A. Ehricke, Scientific Advisor, North American Space Operations, Rockwell International Corporation, before the Committee on Interior and Insular Affairs, United States Senate" (RI report, 27 Jun 1974)
• "Statement to Subcommittee on Science, Technology and Space; Committee on Commerce, Science and Transportation, Symposium on the Future of Space, US Senate" (SG report SG278-1, Feb 1978)
• "Statement to the Committee of Science and Astronautics, House of Representatives, Congress of the United States" [1973 NASA Authorization, 92nd Congress, Second Session] (Jan 1972)
• "Strategic Approach to Interplanetary Flight (A)" (presented to 4th International Symposium on Bioastronautics and The Exploration of Space, 24-27 Jun 1968, San Antonio, TX; NR report X8-1689/060)
• Study of Interplanetary Missions (GDA report, circa Jan 1964)
• Study of Interplanetary Missions to Mercury through Saturn with Emphasis on Manned Missions to Venus and Mars 1973/82 Involving Capture (GDA report GDA 63-0916, 30 Sep 1963)
• Study of Interplanetary Vehicle Assembly Modes, Part I (GDA report AOK 63-029, 23 Sep 1963)
• *Summary of Preliminary Data on Earth-to-Orbit Vehicles* (Convair report KE59/1, 4 May 1959)
• "Sun-Synchronous Power Generation and Space Light Systems Lunetta/Soletta" (*IAF paper 76-120; presented to session 15 of the IAF 27th International Astronautical Congress, 10-16 Oct 1976)
• *Sun-Synchronous Power Generation Satellite System (The)* (report E76-1-2, Jan 1976)
• "Sun, Wind, and Space (Testimony Before the Senate Interior Committee)" (no date)
• "Synoptic Comparison of Advanced Propulsion Systems for Maneuvering Operations Associated with Several Employment Modes in Geolunar Space" (presented to 5th Symposium on Advanced Propulsion Concepts, 8-10 Apr 1968; NR report X8-1353/060, Apr 1968)
• *System Analysis of a New Concept for Low-Cost Transportation Involving Geosynchronous and Lunar Space* (report KAE-8-1, no date)
• *System Concepts for STS Derived Heavy Lift Launch Vehicles, Special Emphasis Task Description* (circa Apr 1975)
• "Technology and Economy of Extraterrestrial Industrialization (The)" (no date)
• "Toward Aviation's New Infinities" (originally titled "Air Traffic in the Coming Space Age", *Jet Tales* 1/81)
• "Toward a 3-Dimensional Civilization" (interview; *Skyline* 28 no.3 (Jul 1970))
• "Ultraplanetary Probe (The)" (AAS paper AAS-71-164; presented to AAS 17th Annual Meeting, 28-30 Jun 1971; NA report SD 71-542)
• *United Nations and the Power Relay Satellite as Element of Global Energy Development (The)* (report KE75-4-1, 5 Apr 1975)
• "Use of Shuttle in Establishing Large Space Installations" (presented at American Association for the Advancement of Science 7th Annual Meeting, Dec 27-28, 1972; NR report SD 73-SA-0015, Jan 1973)
• "Utilization of Space Environment for Therapeutical Purposes" (with B. D. Newsom; AAS paper 66-19; presented to AAS 12th Annual Meeting, 21-22 Feb 1966; NR report X6-1962/060, August 1966)
• "Vision of Space: We Must Expand to Survive" (Don Barr interviews Ehricie; *Los Angeles Herald Examiner*, 9 Apr 1970)
• "Wachsen in die Offene Welt" (*Die Welt* no.89, 17 Apr 1982)
• "Wachstum als überlebenschance des Modernen Menschen" (published as "Wie ist das eigentlich mit den Grenzen des Wachstums?", *Geistige Welt* 244, 18 Oct 1980)
• "We Must Colonize the Planets" (Don Barr interviews Ehricie; *Los Angeles Herald Examiner*, 10 Apr 1970)
• "Weltraum Technik als Mittel der Produktionssteigerung" (no date)
• "Wie ist das eigentlich mit den Grenzen des Wachstums?" (Geistige Welt 244, 18 Oct 1980; originally titled "Wachstum als überlebenschance des Modernen Menschen")
• Wirtschaft, Weltall und Wachstum (with E. A. Miller, 1978)
• "World Electrification through Space Transmission (WEST)" (Jan 1973)

Abbreviations

- AAS  American Astronautical Society
- ABMA  Army Ballistic Missile Agency
- AFOSR  Air Force Office of Scientific Research (USAF)
- AFSC  Air Force Systems Command (USAF)
- AIAA  American Institute of Aeronautics and Astronautics
- ARS  American Rocket Society
- ASME  American Society of Mechanical Engineers
- AWST  Aviation Week and Space Technology
- CRS  Congressional Research Service (Library of Congress)
- GD  General Dynamics
- GD|FW  General Dynamics, Fort Worth
- GDA  General Dynamics Astronautics
- GDC  General Dynamics Convair
- GE  General Electric
- HOG  Hermann Oberth Gesellschaft
- IAF  International Astronautical Federation
- IAS  Institute for Aeronautical Sciences
- ION  Institute of Navigation
- JBIS  Journal of the British Interplanetary Society
- JPL  Jet Propulsion Laboratory
- LC  Library of Congress
- LLL  Lawrence Livermore Laboratory
- LSI  Lunar Science Institute
- MIT  Massachusetts Institute of Technology
Scope and Contents

This collection consists of Krafft Ehricke's writings and interviews spanning 1949-1984 and items gathered by Ehricke as reference material for his various writing projects. The files on his writings include handwritten manuscripts, typed drafts, publication proofs, and/or final published versions and reprints, and in some cases include correspondences or other documents relating to publication. The collection also includes original paste-up versions of graphics created by or for Ehricke to illustrate his writings. The reference material includes technical reports, scientific papers, and newspaper and magazine articles gathered by Ehricke during his career.

Arrangement

The collection remained in the possession Ehricke’s family for nearly two decades after his death and apparently was largely unorganized prior to processing. The material has been arranged in five series, with oversized materials filed at the end of the collection in series order by size.
Series I. Writings (Boxes 1-80) – copies of papers, articles, and lectures by Ehricke, including a mix of manuscript (MS), typescript (TS), paste-up, and published copies. Reports written by Ehricke as part of a study conducted as part of his professional duties are filed in Series IV as part of the "Studies and Projects" section of each subject group (see below). The materials are organized chronologically with different versions of the same work filed together by date of publication (if published) or completion. Ehricke rarely labeled MS or TS pages by title, generally wrote on the similar topics, and often cut finished text blocks or figures from one paper to use in another, a process he referred to cannibalization. As a result, although efforts have been made to organize loose MS and TS pages by their final works these assignments must be considered tentative and some pages have been left unassigned due to lack of sufficient information.

Series II. Graphics (Boxes 81-94) – copies of original and paste-up graphics (charts, graphs, illustrations) designed or created by Ehricke. Because these materials were mainly found in their original folders, they have been filed consistent with their original labeling. As a result they fall into groups roughly corresponding to Ehricke's tenures at General Dynamics, North American Rockwell, and Space Global.

Series III. Company Files (Boxes 94-104) – files and materials relating to business activities at the various companies for which Ehricke worked, organized by company in chronological order of Ehricke's tenure. Within each company, materials are organized by named files (filed alphabetically) and proposals and related material (filed chronologically). The proposals filed in this series represent studies or programs for which no other documentation exists in the collection.

Series IV. Reference Files (Boxes 104-253) – files and documents arranged by broad subject areas, based upon the subject organization for Ehricke's existing lecture transparencies. Within each subject area files are organized into three groups: named files (arranged alphabetically); studies (arranged chronologically by the start of the study); and other reports (arranged chronologically). Named files usually contain a variety of papers, reports, and articles and sometimes include items written by Ehricke. Studies often include correspondence, papers, or reports by Ehricke in addition to documents by other members of the study team; items by Ehricke have been filed in this series, rather than in Series I to preserve the context in which they were created and used. Other reports are generally filed chronologically by date of publication unless it could be clearly established that Ehricke acquired the material significantly later than its publication date (for instance: in cases where order forms attached to document bundles show that Ehricke had requested copies of the documents a decade after they were published). The subject areas are:

Subseries

1) General (Boxes 104-108)
2) Vehicle Technology (Boxes 108-154)
3) Planets and Planetary Missions (Box 154-203)
4) Transportation Systems (Boxes 204-208)
5) Space Habitation and Human Factors (Boxes 208-219)
6) Space and Lunar Industry (Boxes 219-229)
7) Earth / Resources / Open World Synthesis (Boxes 229-234)
8) Energy (Boxes 234-249)
9) Space Light (Boxes 249-250)
10) Information Services (Boxes 250-253)

Unfortunately, there is significant overlap between these subject areas, especially between subseries 2, 3, 4, and 5; subseries 5, 6, and 9; and subseries 7, 8, and 9. Researchers are cautioned to examine several subject areas.

Series V. Miscellaneous Personal and Posthumous Materials (Boxes 253-254) – files and documents not otherwise related to Ehricke's research and writing or which post-date his death.
Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:
- Centaur Rocket
- Interplanetary voyages
- Launch vehicles (Astronautics)
- Rocket engines
- Space colonies
- Space industrialization
- Space scientists
- Space stations
- V-2 rocket

Types of Materials:
- Articles
- Audiotapes -- Open reel
- Illustrations
- Newspaper clippings
- Notes
- Papers, technical
- Photographic prints
- Sketches
- VHS (videotape format)
- Videotapes

Names:
- Bell Aircraft Corporation
- Convair (Consolidated Vultee Aircraft Corp)
- Dornberger, Walter, 1895-
- North American Aviation, Inc.
- Rockwell International
- Space Global
- Von Braun, Wernher, 1912-1977
Container Listing

Series 1: Writings, Lectures, Appearances

80 Boxes

This series consists of files relating to Dr. Ehricke's writings, lectures, and other public appearances, except as noted below. Materials include drafts (both in manuscript, MS, or typescript, TS), proofs, and final printed or published versions of the works, as well as correspondence and other information relating to the publication of the work or the conference at which Ehricke presented the paper. Materials are filed chronologically by (1) date of presentation at conference, (2) date of publication, or (3) date of completion for unpublished works. Materials are filed by the earliest applicable date in order, so that a paper delivered at conference is filed under that date, regardless of later publication or prior completion. Undated materials follow the dated materials in alphabetical order.

Box 1, Folder 1  Information - list of writing projects, filing system

Box 1, Folder 2  [List of Papers by Ehricke]

1949

Box 1, Folder 3  "Propellant for Booster of a Two-Stage Missile" (PGAF Memorandum #3, 1 Feb 1949)

1950

Box 1, Folder 4  "Peenemuende Rocket Center" (3 Jan 1950)

1951

Box 1, Folder 5  "A Comparison of Rocket Propulsion at Constant Thrust and Constant Acceleration" (Jun 1951; published in Rocket Science 5, No.3 (Sep 1951))

1952

Box 1, Folder 6  "Project Orbital Carrier" (1st edition, May 1952)

Box 1, Folder 7  "Project Orbital Carrier" (2nd edition, Aug 1952)

Box 1, Folder 8  "A Comparison of Propellants and Working Fluids for Rocket Propulsion" (Sep 1952; published in Journal of the American Rocket Society 23 no.5 (Sep/Oct 1953))

1953

Box 1, Folder 9  TS, correspondence

Box 1, Folder 10  TS

Box 1, Folder 11  Part I, as published (tear sheets)

Box 1, Folder 12  Part I, as published (full issue)

Box 1, Folder 13  as published (reprints)

1954

Box 1, Folder 14  "Outer Atmosphere Research Program" (Jan 1954)

Box 1, Folder 15  "Analysis of Orbital Systems" (1st edition, Feb 1954)

"Analysis of Orbital Systems" (2nd edition; presented to IAF 5th International Astronautical Congress, 5-7 Aug 1954) [3 folders]

Box 2, Folder 1  mimeograph

Box 2, Folder 2  reprint from *Bericht über den V. Internationalen Astronautischen Kongreß*

Box 255, Folder 1  graphics proofs [oversized material]

Box 2, Folder 3  "Satellite Orbits for Interplanetary Flight" (*Jet Propulsion* 24 no.6 (Nov-Dec 1954): 381)

"On the Mechanics of Descent to a Celestial Body" (presented to ARS Annual Meeting, Dec 1954; *Journal of Astronautics* 2 no.4 (Winter 1955): 137-144) [3 folders]

Box 2, Folder 4  TS

Box 2, Folder 5  Convair blueline

Box 2, Folder 6  as published
1955

Box 2, Folder 7  "Engineering Problems of Manned Space Flight" (presented to USC Symposium on the 75th anniversary of the University and 59th Anniversary of the Engineering Dept, Apr 1955)

"The Satelloid" (presented to IAF 6th International Astronautical Congress, Copenhagen, 1-6 Aug 1955; Astronautica Acta 2 no.2 (1956): 63-100) [4 folders]

Box 2, Folder 8  drafts, graphics

Box 2, Folder 9  notes

Box 2, Folder 10  blueline

Box 2, Folder 11  6th International Astronautical Congress (Copenhagen, Denmark) program, notes, papers

Box 2, Folder 12  "On the Descent of Winged Orbital Vehicles" (Astronautica Acta 1 fasc.3 (1955))

Box 3, Folder 1  Light and Shadow Distribution in a Circular Satellite Orbit With and Without Precession (Convair report ZP-7-019, 3 Nov 1955)

1956


Box 3, Folder 2  blueline, draft, proofs

Box 3, Folder 3  published copy

Box 3, Folder 4  "Astronautical and Space-Medical Research with Automatic Satellites" (presented to the Franklin Institute, Jun 1956)


Box 3, Folder 5  blueline

Box 3, Folder 6  ARS print

Box 3, Folder 7 blueline

Box 3, Folder 8 reprint from Proceedings of the VII International Astronautical Congress

Box 3, Folder 9 "Ascent of Orbital Vehicles" (Astronautica Acta 2 fasc.4 (1956) [complete issue]

1957


Box 3, Folder 11 Cislunar Orbits (Convair report AZP-004, 30 Mar 1957)

Box 3, Folder 12 2639 Air Force Reserve Center Research and Development Course (Spring 1957)

Box 3, Folder 13 "Cislunar Operations" (ARS paper 467-57; presented at ARS Semi-Annual Meeting, 10-13 Jun 1957)

"Basic Analysis of Global Weapon Systems & Space Weapon Systems" (Ehricke to Distribution; Convair Memo ASM-1, 21 Jun 1957) [2 folders]

Box 4, Folder 1 blueline

Box 4, Folder 2 global weapon system - miscellaneous graphs

Box 4, Folder 3 Re-entry Characteristics of Recoverable Spherical Satellites, Satelloids and Lunar Vehicles (Convair report AZP-001, 25 Jun 1957)

Box 4, Folder 4 Ion Propulsion System for Orbital Stabilization of Satellites, Especially of Several Satellites in Closely Similar Orbits (Pt. 1) (Convair report ASM-2, 13 Sep 1957)

Box 4, Folder 5 "Instrumented Comets - Astronautics of Solar and Planetary Probes" (ARS paper 493-57; presented to IAF 8th International Astronautical Congress, 6-12 Oct 1957)

"The Anthropology of Astronautics" (Astronautics 2 no.4 (Nov 1957) : 26-29, 65-68) [2 folders]
Box 4, Folder 6 as published (photocopy)

Box 4, Folder 7 as reprinted in *Astronautics and the Future*

Box 4, Folder 8 "Re-entry of Spherical Bodies Into the Atmosphere at Very High Speeds" (presented to ARS 12th Annual Meeting, Dec 1957)

Box 4, Folder 9 *Comparison of Advanced Propulsion Systems: Solar-Heating, Arc Thermodynamics and Arc Magneto Hydrodynamics* (Convair report AZK-002, 1 Dec 1957)

Box 4, Folder 10 "Calculations on a Manned Nuclear Propelled Space Vehicle" (ARS paper 532-57; presented at ARS 12th Annual Meeting, 2-5 Dec 1957)

Box 4, Folder 11 San Diego State College [correspondence and documents, 1957-1961]

1958

Box 4, Folder 12 *Error Analysis of Keplerian Flights Involving a Single Central Force Field and Transfer Between Two Central Force Fields Spacecraft Orbits* (Convair report AZM-7-551; 17 Jan 1958)

Box 4, Folder 13 "Spacecraft" (presented to 3rd Jet Age Conference, 26-28 Feb 1958; Convair report AZM-020, 25 Feb 1958)

Box 4, Folder 14 "Error Analysis of Single and Two-Force Field Spacecraft Orbits" (presented to Franklin Institute Lecture Series on Space Flight, Mar 1958; Convair report AZM-054, 22 Sep 1958)

*Interplanetary Mission Profiles* (GDC report AZM-023, 30 Apr 1958) [2 folders]

Box 5, Folder 1 MS, background material

Box 5, Folder 2 printed report

Box 5, Folder 3 "Philosophy of Our Space Mission" (published as "Our Philosophy of Space Missions", *Aero/Space Engineering* 17 no.5 (May 1958) : 38-43)

Box 5, Folder 4 *Accuracy Improvement of Martian Probe by Post-Escape Correction and Improved Determination of the Astronomical Constant* (Convair report AZM-049; 1 Aug 1958)

Box 5, Folder 5 "Rescue from Space by a Secondary Vehicle" (presented to 2nd International Symposium on the Physics and Medicine of the Atmosphere and Space, 10-12 Nov 1958)

Box 5, Folder 6
Convair report

Box 5, Folder 7

Evolution of the Space Ship (not published), 1958 [2 folders]

Box 5, Folder 8
correspondence, book proposal

Box 5, Folder 9
TS

Box 5, Folder 10
Space Technology Course - Interplanetary Operations [UCLA course, Engineering X461, 1958]

Box 5, Folder 11

1959

Box 5, Folder 12
"Interplanetary Probes: Three Problems" (Astronautics, Jan 1959 : 20-22, 42, 44, 46)

Box 5, Folder 13
"Propulsion System for Fast Manned Reconnaissance Flights to Mars and Venus" (presented to IAS National Flight Propulsion Meeting, 6 Mar 1959; Convair report AZM-068)

Box 5, Folder 14
Summary of Preliminary Data on Earth-to-Orbit Vehicles (Convair report KE59/1, 4 May 1959)

Box 6, Folder 1
Space Station for Development and Orbital Flight Training (Convair report KE59/2, 12 May 1959)

Box 6, Folder 2
Space Station Accessibility and Launch Complex Selection (Convair report KE59/3, 15 Sep 1959); Space Station Accessibility and Launch Complex Selection (Convair report KE59/4, rev. 25 Feb 1960)

1960
Box 6, Folder 3  "I Can Get Us There by 1966" (*Space World* 1 no.2 (Jul 1960) : 16-19, 48-49) [photographic copy]

Box 6, Folder 4  Astronautics (Physics 131, San Diego State College, Fall Semester 1960) [Final Exam Answers]

Box 6, Folder 5  "Government, Industry and Research Responses to Space Exploration" (presented to ARDC 7th Annual Science and Engineering Symposium, 29-30 Nov 1960)

Box 6, Folder 6  *Interplanetary Mission Profiles - Pt. II* (Convair report KE60/2, 1 Dec 1960; published as part of *Space Flight*, Vol. II - *Dynamics*)

Box 6, Folder 7-8  *Colliers Encyclopedia Year Book* - "Astronautical Vehicles" [MS, TS, correspondence; 2 folders]

Box 6, Folder 9  *Space Flight* - Capt. Merrill correspondence, outlines (1953-1956)

Box 6, Folder 10-11  [equations; 2 folders]

Box 6, Folder 12  "Vectorial Derivation of Motion in a Central Force Field" (Amendment to *Space Flight*, Vol.1, Chapter 4, pp.300-302) [photocopy]

Box 6, Folder 13  errata sheets to 1st printing

Box 6, Folder 14  orbital data for asteroids, meteor streams, and comets - selected photocopies from Chapter 3

Box 6, Folder 15  "Lunar Atmospheric Research by Lunar Satellite and the Landing of Lunar Probes Within Pressurized Structures" (circa 1960)

1961

"System Analysis of Fast Manned Flights to Venus and Mars" [3 folders, total]


Box 6, Folder 16  Convair report (blueline), Part I

Box 7, Folder 1  published copy, Parts I & II

Box 7, Folder 2  reprint, Part II


"Summary of Fundamental Rules of Space Navigation" (Convair report KE61/2, 22 Sep 1961; published as part of Space Flight, Vol. II - Dynamics) [2 folders]

Box 7, Folder 4  blueline

Box 7, Folder 5  photocopy

Box 7, Folder 6  Starten und Fliegen - Das Buch der Luftfahrt und Raumfahrt, Hans-Joachim Luz (ed.) [notes, TS, correspondence with editor]


1962

Box 7, Folder 9  "Aspects of Deep Space Probes Requiring Cryogenic Engineering Solutions" (Lecture 14, Engineering X428GHI (UCal), 14-17 May 1962)


Box 7, Folder 10  [equations]

Box 7, Folder 11  notes and derivations

Box 7, Folder 12  "Deflected Powered Trajectories" (Vol. II, Chapter 6)

Box 7, Folder 13  Appendix A, Appendix C
Box 8, Folder 1  Appendix A, Appendix C
Box 8, Folder 2  Appendix D
Box 8, Folder 3-4  Solutions to Problems (circa 1963) [2 folders]
Box 8, Folder 5  Krafft Ehricke to D. E. Koelle (circa 1962)
Box 8, Folder 6-7  *Excerpts of Chapter 7 "Low Thrust Space Flight" of Space Flight, Vol. II "Dynamics"* (Convair report KE62/1, circa 1962) (2 copies) [2 folders]

1963

Box 8, Folder 8  "Mission Analysis of Fast Manned Flights to Venus and Mars" (presented to Interplanetary Mission Conference, AAS 9th Meeting, 15-17 Jan 1963)

"Nexus - Concept of a Large Reusable Earth Launch Vehicle" (with Freeman D'Vincent; AIAA paper 63-277, presented at AIAA Summer Meeting, 17-20 Jun 1963; General Dynamics report 63-0065) [4 folders, total]

Box 8, Folder 9  blueline (General Dynamics report; copy 1 of 2)
Box 9, Folder 1  blueline (General Dynamics report; copy 2 of 2)
Box 9, Folder 2  conference print
Box 9, Folder 3  reprint (2 copies)
Box 9, Folder 4  *Study of Interplanetary Missions to Mercury through Saturn with Emphasis on Manned Missions to Venus and Mars 1973/82 Involving Capture* (General Dynamics report GDA 63-0916, 30 Sep 1963)
Box 9, Folder 5  *A Programmatic Comparison of Initial Manned Missions to Venus and Mars* (General Dynamics report AOK 63-031, 16 Oct 1963) (2 copies)
Box 9, Folder 6  Planetary Paper (circa 1963)

1964

"The Nexus Concept" (with Freeman D'Vincent; *Astronautics and Aerospace* 2 no.1 (Jan 1964)) [2 folders]

Box 9, Folder 7  complete issue
Box 9, Folder 8 reprint (2 copies)

Box 9, Folder 9 "Missions Between Planets and to Selected Asteroids of this Solar System, Covering the Period of 1973 to 2000" (presented to AIAA National Meeting, Washington, DC, 28 Jun-2 Jul, 1964) [abstract]

Box 9, Folder 10 "Economy of Saturn V and Post-Saturn Vehicles with Consideration of Orbital Labor Cost" (originally presented as part of "Nexus - Concept of a Large Reusable Launch Vehicle"; AIAA Summer Meeting, paper 63-277, 17-20 Jun 1963; published as "Economy of Large Launch Vehicles including Labor Costs", Journal of Spacecraft and Rockets 1 no.6 (Nov 1964) : 611-619) (2 copies)

1965


Box 9, Folder 11 outline (10 Apr 1965)

Box 9, Folder 12 table of contents

Box 9, Folder 13 Vol III Material

Box 9, Folder 14-15 "Advanced Nuclear Reactor Propulsion Concepts" (AIAA Lecture Series - Advanced Propulsion Systems for Space Applications, 6 Apr 1965) (3 partial copies) [2 folders]

"Interplanetary Maneuvers in Manned Helionautical Missions" (AIAA paper 65-695; presented to the AIAA/ION Astrodynamics Specialist Conference, 16-17 Sep 1965) [3 folders]

Box 10, Folder 1 blueline


Box 10, Folder 3 reprint from Progress in Astronautics, Vol. 17

Conference on Planetology and Space Mission Planning (New York Academy of Sciences, 3-4 Nov 1965) [2 folders]

Box 10, Folder 4 correspondence

Box 10, Folder 5 correspondence, notes
Box 10, Folder 6  
Ehricke to "Wernher" [von Braun?] (circa 1965)

1966

Box 10, Folder 7  
Aerojet-General Nucleonics Non-Chemical Propulsion Program (presented to USAF, 11 Feb 1966)

"Utilization of Space Environment for Therapeutical Purposes" (with B. D. Newsom; AAS paper 66-19, presented to AAS 12th Annual Meeting, 21-22 Feb 1966; NA report X6-1962/060, August 1966) [2 folders]

Box 10, Folder 8  
NA report

Box 10, Folder 9  
graphics


Box 10, Folder 10  
NA report (incomplete copy)

Box 10, Folder 11-12  
NA report (2 cannibalized copies) [2 folders]

Box 256, Folder 1  
"Repairmen in Space Could Save Millions" (I. M. Levitt, The Philadelphia Inquirer, 22 May 1966 [oversized material tipped into report]

Space Transportation Lecture (presented to 3rd Conference on Engineering for Executives, University of Texas; NA report BR6-802/3061, Mar 1966) [2 folders]

Box 10, Folder 13  
paper

Box 10, Folder 14  
correspondence and notes on conference

Box 10, Folder 15  
"Aerospace Transportation - Concepts and Advanced Systems" (Jun 1966)

"Aerospace Transportation" (Jun 1966) [4 folders]

Box 10, Folder 16  
modification copy

Box 11, Folder 1  
miscellaneous pages

Box 11, Folder 2  
final TS
Box 11, Folder 3  "Addition to Section 3.6 Advanced Applications"

CBS News Interview (Krafft Ehrice/Walter Cronkite) [3 folders]

Box 11, Folder 4  "CBS News Interview-Ehrice/Cronkite Interview Requirements" (Bill. A. Wheeler to R. P. Lytle; NA Internal Letter, 14 Sep 1966)

Box 11, Folder 5  Pictures (KA Ehrice) [negatives]

Box 11, Folder 6  Dr Krafft Ehrice - Walter Conkite TV Interview [photos, humorous captions]

Box 11, Folder 7  Guidance and Navigation Approach to Lifting Reentry Vehicle Missions (NA report T6-2580/060, Oct 1966) (photocopy)

"Do We Need New Propulsion Systems (Post Saturn) for Lunar and Planetary Flight?" (panel for AIAA Annual Meeting, 29 Nov-2 Dec 1966, chaired by Ehrice) [3 folders, total]

Box 11, Folder 8  background material

"On the Need for New Launch Vehicles" (session paper for AIAA panel; NA report X7-158/060) [2 folders]

Box 11, Folder 9  mechanical (NA report)

Box 11, Folder 10  printed copy (NA report)

Box 11, Folder 11  The Helionauts / The Infinauts (Proposed TV series, circa 1966) [treatment]

1967

Box 11, Folder 12  Ehrice and Sauers Briefing on Lifting Body to Martin Baltimore, February 1967 [photocopy of briefing charts]

Jet, Rocket, Nuclear, Ion, and Electric Propulsion - Theory and Design (UCLA Short Course, 27 Feb-10 Mar 1967) [21 folders, total]

Box 11, Folder 13  correspondence

Box 11, Folder 14  miscellaneous calucations of Isp

"Propulsion Systems Comparison and Evaluations for Space Missions" (NA report X7-626/060, Mar 1966) [9 folders, total]
Box 11, Folder 15  TS

Box 12, Folder 1  edited photocopy

Box 12, Folder 2-4  mechanical [3 folders]

Box 12, Folder 5-7  master print [3 folders]

Box 13, Folder 1  printed copy


Box 13, Folder 2-4  master print copy 1 [3 folders]

Box 13, Folder 5-6  master print copy 2 [1-2 of 3 folders]

Box 14, Folder 1  master print copy 2 [3 of 3 folders]

Box 14, Folder 2  printed copy of NA report

Appendix to Chapter 18 of Jet, Rocket, Nuclear, Ion, and Electric Propulsion - Theory and Design [3 folders]

Box 14, Folder 3  TS

Box 14, Folder 4  paste-up

Box 14, Folder 5  blueline

"Space Tourism" (AAS paper 67-127; presented to AAS 13th Annual Meeting, 1-3 May 1967) [3 folders]

Box 14, Folder 6  paste-up

Box 14, Folder 7  preprint (2 copies)

Box 255, Folder 2  
"Fun and Games in Outer Space" (Dick Adler, Los Angeles *Times, West Magazine*, 9 Jul 1967: 37-40; interview with Ehricke) [oversized material]


Box 14, Folder 9  
2nd version (TS)

Box 14, Folder 10  
3rd version (TS)

Box 15, Folder 1  
paste-up

Box 15, Folder 2  
final TS

Box 15, Folder 3  
notes from Second Conference on Planetology and Space Mission Planning

Box 15, Folder 4  
Excerpts from Exploration of Space, Etc for Maj. Jackson (January 1968)

Box 15, Folder 5-6  
printed copy [2 copies; 2 folders]

Box 15, Folder 7  

Box 15, Folder 8-9  
*From Dust to Stars: The Evolution of Space Flight* (Ehrickke, Miller, and J. Sentovic)

1968

Box 15, Folder 10  
"The Busy World of Outer Space" (*Discovery;* ABC TV, aired 28 Jan 1968) [script]

Box 15, Folder 11  
"Synoptic Comparison of Advanced Propulsion Systems for Maneuvering Operations Associated with Several Employment Modes in Geolunar Space" (presented to 5th Symposium on Advanced Propulsion Concepts, 8-10 Apr 1968; NR report X8-1353/060, Apr 1968)

University of Texas Engineering for Executives Program [2 folders]

Box 16, Folder 1  
correspondence

Box 16, Folder 2  
notes
Box 16, Folder 3-4  "A Strategic Approach to Interplanetary Flight" (presented to 4th International Symposium on Bioastronautics and The Exploration of Space, 24-27 Jun 1968, San Antonio, TX; NR report X8-1689/060) [paste-up; 2 folders]

Box 16, Folder 5  "Fast Flight Profiles for Manned Helionautical Missions" (presented to 4th International Symposium on Bioastronautics and the Exploration of Space, 24-27 Jun 1968, San Antonio, TX) [abstract]

Box 16, Folder 6  "Identification of Manned Space Activities Beyond Apollo at Modest Orbital Work, Attractive to Scientific Community" (not dated; sent to D. L. Williams, 29 Aug 1968)

Box 16, Folder 7  "Manned Versus Unmanned Spaceflight" (Oct 1968)

"Man, Resources and Planets" (presented to IAF 19th International Astronautical Congress, New York, NY, 13-19 Oct 1968; NR report X8-2233/060) [3 folders]

Box 16, Folder 8  printed copy

Box 16, Folder 9  19th International Astronautical Congress program

Box 255, Folder 3  mechanical [oversized material]


Box 16, Folder 11  printed copy

Box 255, Folder 4  mechanical [oversized material]

"Acquisition of Geospace" (Nov 1968) [2 folders]

Box 16, Folder 12  TS
Box 16, Folder 13  "What is the most important contribution of the Space Station Program" (photocopy)

"Astropolis: The First Space Resort" (Playboy, Nov 1968 : 96-98, 222) [2 folders]

Box 16, Folder 14  tear sheets and full issue

Box 16, Folder 15  artwork (photographic copies)

Manned Space Service Program (report KAE-16, Nov 1968) [3 folders, total]

Box 16, Folder 16-17  draft (2 drafts) [2 folders]

Box 16, Folder 18  final TS

Atmosphere Braking Entry and Associated Technologies (NR report X6-624/3061, 1968) [2 folders]

Box 16, Folder 19  MS

Box 16, Folder 20  printed copy (2 copies)

1969

Box 17, Folder 1  "Acquisition of the Solar System" (presented to "Contemporary Americans in an Intricate Society - 1969", The Hackley School Program for a Special Senior Conference, 19-29 May 1969)

"Morphological Analysis and Comparison of Nuclear Pulse Drive Mechanization Concepts" (presented to AIAA 5th Joint Propulsion Specialist Conference, 9-13 Jun 1969) [7 folders]

Box 17, Folder 2  Nuclear Pulse Drive Study (notes, MS pages)

Box 17, Folder 3  Nuclear Pulse Study Material (notes, MS pages)

Box 17, Folder 4  abstract; TS

Box 17, Folder 5  correspondence, printed copy

Box 17, Folder 6  printed copy

Box 17, Folder 7  graphics (photocopies)
Box 17, Folder 8  edited print


Box 17, Folder 9  TS, mechanicals

Box 17, Folder 10  printed copy

"Space Applications for Low Cost Ferry Vehicles" (presented at the Space Institute of the University of Tennessee Tullahoma Short Course in Reusable Launch and Re-Entry Vehicles for Space Flight Technology and Applications, 18-22 Aug 1969; NR report SD70-66, Feb 1970) [4 folders]

Box 18, Folder 1  printed copy

Box 18, Folder 2  Corrected Print

Box 18, Folder 3  Corrected & Added Copy

Box 18, Folder 4  Printed Copy Suitable for Cut-up


Box 18, Folder 5  paste-up

Box 18, Folder 6  cannibalized copy

Box 18, Folder 7  *Integrated Geolunar Transportation and Occupation System Using Space Station Modules in Highly Eccentric Orbits* (report KAE-4, 18 Nov 1969)

*Exploring the Planets* (with Betty A. Miller; Morristown (NJ): Silver Burdett [Learning Corp], 1969) [6 folders, total]

Box 18, Folder 8  Silver Burdett - Detailed Outline

Box 18, Folder 9  "Exploration of the Solar System" - "AA-BB" version

Box 18, Folder 10-11  "Exploration of the Solar System" - Master final (2/21/69) [2 folders]

Box 18, Folder 12  author biographies
Box 18, Folder 13
Royalty Statement (25 Dec 1972)

Box 19, Folder 1
"1990 A.D. and Man's Flight to the Planets" (extract from *Exploring the Planets*, circa 1969)

Box 19, Folder 2
"Space Planning Methodology" (circa 1969)

1970

*The Concept of Shuttle Stations and Their Functions in Geolunar Space Utilization* (NR report PD70-4) [6 folders, total]

Box 19, Folder 3
original issue (15 Jan 1970), cannibalized

Box 19, Folder 4-6
as revised Jan 1970 (3 copies) [3 folders]

Box 19, Folder 7-8
as revised Jan 1970 (2 cannibalized copies) [2 folders]

*Aspects Concerning the Impact of Manned Heliocentric Mission on Space Station and Space Shuttle* (NR report PD70-5; Jan 1970) [4 folder, total]

Box 19, Folder 9-11
printed copy (3 copies) [3 folders]

Box 20, Folder 1
cannibalized copy

Box 20, Folder 2
*Shuttle Station as Element of Low-Cost Geospace Transportation to Geosynchronous Orbit, Interlinking with Earth-Space Shuttle* (NR report PD70-24, Feb 1970)

Box 20, Folder 3
"Ex Mens[is] - 1: On the Integrated Plan" (15 Feb 1970)

"A Case for Space" (presented to the Citizen's Campaign for Space, Sponsored by The Center of American Living Inc, New York City, NY, 17-18 Feb 1970; NR report SD70-65, Feb 1970) [3 folders]

Box 20, Folder 4
paste-up

Box 20, Folder 5
cannibalized copy

Box 255, Folder 5
photolith [oversized material]

Box 20, Folder 6
"Role of the Army in Space" (presented to Association of the United States Army "Rockwell Night", 24 Feb 1970)
Box 20, Folder 7  
"The Case for the Space Station" (circa Feb 1970) [edited photocopy]  

Box 20, Folder 8  
printed copy

Box 20, Folder 9  
cannibalized copy

Box 20, Folder 10  
"Ex Mens[is] - 2: Perspective" [photocopy]  
*Los Angeles Herald Examiner* articles [2 folders]  
- "Vision of Space: We Must Expand to Survive" (Don Barr interviews Ehricke; 9 Apr 1970)  
- "We Must Colonize the Planets" (Don Barr interviews Ehricke; 10 Apr 1970)

Box 20, Folder 11  
[reduced size reference copies]

Box 256, Folder 2  
[oversized originals]

"Earth-Moon Transportation" (presented to AAS 16th Annual Meeting, 8-10 Jun 1970; NR report SD70-338) [3 folders]

Box 20, Folder 12  
paste-up

Box 20, Folder 13  
printed copy

Box 20, Folder 14  
cannibalized copy

"Perspective and Systems Engineering of Manned Planetary Flight" (presented to AAS 16th Annual Meeting, 8-10 Jun 1970; NR report SD70-339, Jun 1970) [3 folders]

Box 20, Folder 15  
paste-up

Box 20, Folder 16  
printed copy

Box 20, Folder 17  
corrected reference copy

Box 20, Folder 18  
"Manned Planetary Spacecraft Commonality with Space Station" (with A. L. Jones; presented to AAS 16th Annual Meeting, 8-10 Jun 1970; NR report SD70-342, Jun 1970)
Box 20, Folder 19
"Case for Space" [II] (presented to unidentified meeting, 27 Jun 1970; also to California State Polytechnical College, Aerospace Education Workshop, 14 Jul 1970)

*The Magnificent Heritage - Missions to New Worlds and the New Solar System* (with Elizabeth Miller, documentary; Jul 1970) [3 folders, total]

Box 21, Folder 1-2
1st draft [2 folders]

Box 21, Folder 3
"4. The Dissimilar Twins - Venus and Earth"

Box 21, Folder 4
"Toward a 3-Dimensional Civilization" (Ehricke interview; *Skyline* 28 no.3 (Jul 1970))

Box 21, Folder 5

Box 21, Folder 6
"Engineering and Space Operations" (presented to Space Station Utilization Conference, NASA-Ames Research Center; 9-10 Sep 1970)


Box 21, Folder 7
paste-up; printed copy

Box 21, Folder 8
cannibalized copy

Box 255, Folder 6
mechanical [oversized material]

"Development of Large Earth Orbital Space Station" (presented to IAF 21st International Astronautical Congress, 4-10 Oct 1970; NR report SD 70-641, Nov 1970) [6 folders]

Box 21, Folder 9
edit copy

Box 21, Folder 10
IAF print

Box 21, Folder 11
paste-up (NR report)

Box 21, Folder 12
cannibalized copy
Box 21, Folder 13  correspondence

Box 255, Folder 7  mechanical [oversized material]


Box 21, Folder 14  notes

Box 22, Folder 1  TS

Box 22, Folder 2  original charts

Box 22, Folder 3-4  Third Conference on Planetology and Space Mission Planning (Annals of the New York Academy of Science 187 (25 Jan 1972)) (2 copies) [2 folders]

Box 22, Folder 5  Effective Initial Contributions of a Manned Space Station (report KAE-11, 6 Nov 1970)

Box 22, Folder 6  "Analysis of Transportation Systems Flight Performance" (1970)

Beyond Earth: The Story of Astronautics (with Betty A. Miller, 1970 - not published) [22 folders, total]

Box 23, Folder 1  Material for Beyond Earth

Box 23, Folder 2-3  Sketches - Illustrations [1] [2 folders]

Box 23, Folder 4  [Sketches - Illustrations 2]

Box 23, Folder 5  [Sketches - Illustrations 3]

Box 23, Folder 6  [Sketches - Illustrations 4]

Box 23, Folder 7  [photos]

Box 23, Folder 8  correspondence, drafts

Box 23, Folder 9  Supporting Material

Box 23, Folder 10  table of contents
Box 23, Folder 11  "Space Flight and Our World" (Chapter 1); "Charting Space" (Chapter 2) [TS]

Box 23, Folder 12  "Space Flight and Our World" (Chapter 1); "Space Launch Vehicles" (Chapter 7) [MS]

Box 255, Folder 8  "Space Flight and Our World" (Chapter 1); "Space Launch Vehicles" (Chapter 7) [oversized material from end of file]

Box 23, Folder 13  "Fundamentals of Astronautics" (Chapter 3) [MS]

Box 23, Folder 14  "Fundamentals of Astronautics" (Chapter 3) [TS]

Box 24, Folder 1  "Flight Paths in Space" (Chapter 4)

Box 24, Folder 2  "Flight Paths in Space" (Chapter 5); Chapter 10 [pp 10-19 to 10-27 only]

Box 24, Folder 3  "Stairway to the Stars and Wings Across Space" (Chapter 5)

Box 24, Folder 4  "Propulsion" (Chapter 6); "Geospace Applications Satellites" (Chapter 8)

Box 24, Folder 5-7  2nd draft [3 folders]

Young People's Science Encyclopedia (Edited by the Staff of the National College of Education, Chicago: Children's Press, 1970) [8 folders]

Box 25, Folder 1  correspondence

Box 25, Folder 2  original text (photocopy)

Box 25, Folder 3  "Space" (rewrites)

Box 25, Folder 4  "Space Medicine" (rewrites)

Box 25, Folder 5  "Space Pilot" (rewrites)

Box 25, Folder 6  "Space Station" (rewrites)

Box 25, Folder 7  "Space Travel" (rewrites)

Box 25, Folder 8  "Space Vehicles" (rewrites)

Box 25, Folder 9  "Space - 1980" (circa 1970)
1971

"Beyond the First Space Stations" (Jan 1971; presented to Alabama AIAA Meeting, 20 Jan 1971) [3 folders]

Box 25, Folder 10 incomplete TS

Box 25, Folder 11 AIAA Meeting, Huntsville, AL, 20 Jan 1971 (notes)

Box 255, Folder 9 photolith [oversized material]

"Manned Spaceflight in the Seventies" [4 folders, total]

Box 25, Folder 12-13 notes, graphics [2 folders]

Part I - "Alternatives for Manned Spaceflight in the Seventies" (Jan 1971) [2 folders]

Box 25, Folder 14 TS

Box 25, Folder 15 photocopy

"Maneuvers and Navigation in Manned Helionautics" (presented to ION National Space Meeting, 23-25 Feb 1971; NR report SD 71-474, Mar 1971) [2 folders]

Box 26, Folder 1 paste-up

Box 26, Folder 2 printed copy

"Flight Profiles and Navigation of Interorbital Transports in Geolunar Space" (presented to ION National Space Meeting, 23-25 Feb 1971; NR report SD71-475, Mar 1971) [2 folders]

Box 26, Folder 3 paste-up

Box 26, Folder 4 printed copy

Box 26, Folder 5 Proceedings of the ION National Space Meeting on Space Shuttle-, Space Station-, Nuclear Shuttle Navigation (Institute of Navigation, 1971)

"Our Commitment to Space" (Spaceflight 13 no.3 (Mar 1971) : 82) [2 folders]
Box 26, Folder 6  TS ["Four Objectives - The Fundamental Principles of Our Commitment to Space" (5 Jul 1970)]

Box 26, Folder 7  as published

"Planning Space Stations for Long Range Utilization" (presented to Short Course in Space Station Utilization, University of Tennessee, Tullahoma, Mar 1971; NR report SD 71-473, Mar 1971) [3 folders]

Box 26, Folder 8  paste-up

Box 26, Folder 9  printed copy

Box 26, Folder 10  cannibalized copy

Box 26, Folder 11  "Apollo and the Future" (speech delivered to Industrial Management Club of Reading and Berks County, Reading, PA, 25 Mar 1971) [correspondence]

"The Changing Role of Technology - Yesterday Today and Tomorrow" (presented to 8th Space Congress, 19-23 Apr 1971; NR report SD71-536) [2 folders]

Box 26, Folder 12  TS, edited copy

Box 26, Folder 13  edited photocopy

"Raumfahrtsziele und Weltraumtechnik von Morgen" (presented at Industry Fair, Hannover, 26-27 Apr 1971) [4 folders]

Box 27, Folder 1  TS

Box 27, Folder 2  as published in Astronautik 8 no.3/4 (Aug-Dec 1971) : 95-109

Box 27, Folder 3  as published in Technische Möglichkeiten von Morgen III (Düsseldorf and Vienna: Econ Verlag, 1971)

Box 27, Folder 4  as published in Junkers Nachrichten 14 no.2 (Mar-Apr 1972) : 3-5; Junkers Nachrichten 14 no.3 (May-Jun 1972) : 5-7; Junkers Nachrichten 14 no.4 (Jul-Aug 1972) : 4-6; Junkers Nachrichten 14 no.5 (Sep-Oct 1972) : 4-6; Junkers Nachrichten 14 no.6 (Nov-Dec 1972) : 4-6

"The Ultraplanetary Probe" (AAS paper AAS-71-164; presented to AAS 17th Annual Meeting, 28-30 Jun 1971; NR report SD 71-542, Jun 1971) [2 folders]

Box 27, Folder 5  AAS preprint
Box 27, Folder 6  AAS 17th Annual Meeting [correspondence]

"Philosophy and Outline of Long-Range Space Planning for the Needs of This Nation and Mankind" (NR report PD71-16; Jul 1971) [3 folders]

Box 27, Folder 7  printed copy

Box 27, Folder 8  uncorrected version

Box 27, Folder 9  work copy for additions and updates

"Earth-Space Meta-Environment and the Future of Man 1970-2070" (presented to ISF 1971 Conference on International Science Policy with the International Meta-University, Sep 1971) [3 folders]

Box 27, Folder 10  MS

Box 27, Folder 11  TS

Box 27, Folder 12  corrected copy

"The Significance of Earth-To-Low-Orbit Shuttle for the Cost Effectiveness of Space Operations" (presented to IAF 22nd International Astronautical Congress, 20-24 Sep 1971; NR report SD 71-780, Sep 1971) [2 folders]

Box 27, Folder 13  printed copy

Box 27, Folder 14  as published in Raumfahrtforschung 16 no.2 (Mar-Apr 1972) : 65-77

"Planning Space Stations for Long Range Utilization of Space for Earthians" (presented to von Karman Institute for Fluid Dynamics, Brussels, during the Short Course on Space Station Technology and Utilization, Sep 1971; NR report SD 71-562, Sep 1971) [2 folders]

Box 28, Folder 1  paste-up

Box 28, Folder 2  cannibalized copies (2 copies)

Box 28, Folder 3  HOG 20th Astronautical Congress (Bremen, Germany; Sep 1971) [participant list]

"The Extraterrestrial Imperative" (Bulletin of the Atomic Scientists 27 no.9 (Nov 1971) : 18-26; reprinted in New Worlds 2 no.2 (Feb 1972) : 12-23) [4 folders]
Box 28, Folder 4  
TS

Box 28, Folder 5  
TS, paste-up, graphics

Box 28, Folder 6  
as published in *Bulletin of the Atomic Scientists*

Box 28, Folder 7  
photocopy of *Bulletin of the Atomic Scientists*

Forward to Don Dwiggins, *Into the Unknown* (San Carlos (CA): Golden Gate Junior Books, 1971) [2 folders]

Box 28, Folder 8  
correspondence, TS, MS of forward

Box 255, Folder 10  
proof of main text of book [oversized material]

*Exploration of the Solar System and Interstellar Space* (with Elizabeth A. Miller, 1971 - not published) [26 folders, total]

Box 28, Folder 9  
background material

Box 28, Folder 10  
"The Solar System and Interstellar Space" (Chapter 1)

Box 28, Folder 11  
"Methods" (Chapter 2.3)

Box 28, Folder 12  
"Interstellar Mission Concepts" (Chapter 7)

Box 28, Folder 13  
"Interstellar Mission Concepts" (Chapter 7), from section titled "Near Interstellar Space Vehicle"

Box 28, Folder 14-15  
"Exploration of Interstellar Space" (Chapter 7) [2 folders]

Box 29, Folder 1  
"Exploration of Interstellar Space" (Chapter 7) - edited photocopy

Box 29, Folder 2  
"Exploration of Interstellar Space" (Chapter 7) - incomplete photocopy

Box 29, Folder 3-6  
miscellaneous pages [4 folders]

Box 30, Folder 1-2  
Excess Illustrations [2 folders]

Box 30, Folder 3-5  
Chapters 1-5 - TS [3 folders]

Box 30, Folder 6  
Chapters 6-7 - TS [1 of 3 folders]
Box 31, Folder 1-2  
Chapters 6-7 - TS [2-3 of 3 folders]

Box 31, Folder 3-7  
Long Version - TS [5 folders]

_Exttraterrestrial Imperative_ (with Elizabeth Miller; First Version, 1971 - not published) [7 folders, total]

Box 32, Folder 1  
Synopsis (photocopy)

Box 32, Folder 2  
Synopsis (“Exttraterrestrial Imperative - The New Global Development”, notes)

Box 32, Folder 3-4  
"Environment" (Chapter 2) - TS (photocopy) (2 copies) [2 folders]

Box 32, Folder 4-7  
_From Dust to Stars_ - TS [3 folders]

Box 32, Folder 8  
"Exttraterrestrial Imperative" (Film Proposal, circa 1971)


Box 32, Folder 9  
correspondence

Box 32, Folder 10  
original texts

Box 33, Folder 1  
"Electromagnetic Propulsion" (vol. 4; rewrite)

Box 33, Folder 2  
"Ion Propulsion" (vol. 7; rewrite)

Box 33, Folder 3  
"Magnetogas Dynamics" (vol. 8; rewrite)

Box 33, Folder 4  
"Solar Energy" (vol. 12; new article)

Box 33, Folder 5  
"Spacecraft Propulsion" (vol. 12; galley proof)

Box 33, Folder 6  
"Spacecraft Propulsion, Fusion Propulsion" (vol. 12; new article)

Box 33, Folder 7  
"Spacecraft Propulsion, Nuclear Pulse Propulsion" (vol. 12; new article)

Box 33, Folder 8  
tear sheets

Box 33, Folder 9  
"The Long-Term Economic Impact of Space Research and Development Technology" (circa 1971)
Box 33, Folder 10  "Non-relativistic Interstellar Mission Performance Analysis to Alpha Centauri" (report KAE-19, circa 1971)

Box 33, Folder 11  "Shuttle and Apollo - The Nature of their Differences" (circa 1971)

Box 33, Folder 12  "Shuttle Economics" (circa 1971)

1972

"Astrogenic Environments - The Effect of Stellar Spectral Classes in the Evolutionary Pace of Life" (Space Flight 14 no.1 (Jan 1972) : 2-14; NR report SD71-716) [3 folders]

Box 33, Folder 13  final edit copy

Box 33, Folder 14  mechanical (NR report)

Box 33, Folder 15  as published in Space Flight 14 no.1 (Jan 1972) : 2-14


Box 33, Folder 16  paste-up

Box 33, Folder 17  cannibalized copy

Box 33, Folder 18-19  "Science Policy and the Extraterrestrial Imperative" (adapted and excerpted from Extraterrestrial Imperative (1971); presented to Congressman G. P. Miller, Chairman, Committee on Science and Astronautics, US House of Representatives, Feb 1972; later identified as report KE72-1-1, Jan 1972) (3 copies; one copy identified as report KE72-1-1) [2 folders]

"The Extraterrestrial Imperative - Grow and Live" (New York Times, 23 May 1972) [3 folders]

Box 34, Folder 1  photocopy [draft, "Extraterrestrial Imperative"]

Box 34, Folder 2  final draft

Box 34, Folder 3  photocopy

Box 34, Folder 4  "Social Relevance" (Skyline 30 no.2 (1972) : 50-55) [complete issue]
Box 34, Folder 5-6  "Destination Mankind - Proposal for a Saturn V-Apollo Mission into Geosynchronous Orbit" (19 May 1972) (2 copies) [2 folders]

"Extraterrestrial Imperative - Road Into the Future" (presented to SYNCON '72, 17-21 May 1972; NR report SD72-SA-0120, Jun 1972) [8 folders, total]

Box 34, Folder 7  paste-up (NR report)

Box 34, Folder 8-9  printed copy (NR report) (2 copies) [2 folders]

Box 34, Folder 10-11  cannibalized copies (2 copies) [2 folders]

Box 34, Folder 12  Syncon '72 - notes, correspondence

Box 34, Folder 13  Syncon '72 - Barbara Hubbard correspondence

Box 34, Folder 14  Syncon '72 - correspondence

Box 34, Folder 15  "Future in Space" (presented to Air Command and Staff College, Maxwell AFB, AL, 18 May 1972) [correspondence only]

"Space Shuttle May Point the Way to Safe Disposal of Atomic Waste" (The Huntsville Times, 30 Jun 1972) [2 folders]

Box 34, Folder 16  [reduced size reference copies]

Box 256, Folder 3  [oversized original materials]

Box 34, Folder 17-18  "Extraterrestrial Industry - A Challenge to Growth Limitation" (Jun 1972) (2 copies) [2 folders]

Box 34, Folder 19  "On Bounding the Problem of Growth" (17 Jul 1972)

Box 34, Folder 20  "Space Dumping - Extra-terrestrial Contamination, Pollution and Waste Disposal" (The Environment This Month 1 no.1 (Jul 1972) : 36-45)

Box 34, Folder 21-23  "Industrielle Evolution und Revolution im Geolunaren Raum 1980-2010" (presented to 21 Raumfahrt-tagung der HOG, Garmisch-Partenkirchen, Germany, 28 Sep-1 Oct 1972; NR report SD72-0173, Sep 1972) [3 folders]

Box 34, Folder 21  print on vellum

Box 34, Folder 22  printed copy
Box 34, Folder 23  
corrected version (submitted for publication)  

"Saturn-Jupiter Rebound - A Method of High-Speed Spacecraft Ejection from the Solar System" (JBIS 25 no.10 (Oct 1972) : 561-571) [4 folders]

Box 34, Folder 24  
paste-up ("A Method of High-Speed Spacecraft Ejection from the Solar System", NR report)

Box 34, Folder 25  
printed copy ("A Method of High-Speed Spacecraft Ejection from the Solar System", NR report)

Box 34, Folder 26  
edit copy ("A Method of High-Speed Spacecraft Ejection from the Solar System", NR report)

Box 35, Folder 1  
as published in JBIS

"Cost Reductions in Transportation to Geosynchronous and Lunar Orbit" (presented to IAF 23rd International Astronautical Congress, 8-15 Oct 1972, 5th Lunar International Laboratory Symposium; NR report SD72-SA-0174, Sep 1972) [6 folders]

Box 35, Folder 2  
corrections copy (NR report)

Box 35, Folder 3  
corrected copy (NR report)

Box 35, Folder 4  
print on vellum (NR report)

Box 35, Folder 5  
printed copy (NR report)

Box 35, Folder 6  
corrected copy (NR report) and cannibalized copy

Box 35, Folder 7  
as published in Raumfahrtforschung 17 no.3 (May/June 1973) : 126-135  ["Cost Reduction in Transportation to Geosynchronous and Lunar Orbit in a Swing Station"]

"Lunar Industries and Their Value for the Human Environment on Earth" (presented to IAF 23rd International Astronautical Congress, 8-15 Oct 1972; NR report SD72-SA-0176, Sep 1972) [6 folders]

Box 35, Folder 8  
print on vellum (NR report)

Box 35, Folder 9-10  
NR report [2 copies (notes tipped into copy 2); 2 folders]

Box 35, Folder 11  
paste-up of figures for Acta Astronautica
Box 35, Folder 12 as published in Acta Astronautica 1 no. 5 (May 1974): 585-622

Box 35, Folder 13 photocopy of Acta article

Box 35, Folder 14 "Extraterrestrial Imperatives" (presented to Future Oriented Activities in the United Nations, 30 Nov 1972) [flyer, notes]

Box 35, Folder 15 "Voyage Beyond Apollo" - Conference on the Total Environment and the Future of Civilization (aboard S.S. Statendam, 4-13 Dec 1972) [program]

"Use of Shuttle in Establishing Large Space Installations" (presented at American Association for the Advancement of Science 7th Annual Meeting, Dec 27-28, 1972; NR report SD 73-SA-0015, Jan 1973) [5 folders]

Box 35, Folder 16 preliminary copy

Box 35, Folder 17 final copy

Box 35, Folder 18-19 cannibalized copy [1-2 of 3 copies; 2 folders]

Box 35, Folder 20 cannibalized copy [3 of 3 copies (references cannibalized)]

Box 36, Folder 1 "Communications and the New Life Style" (address to Public Broadcasting System Annual Meeting, 1972)

1973

Box 36, Folder 3 "World Electrification through Space Transmission (WEST)" (Jan 1973)

Box 36, Folder 4 "Space Shuttle - The Timing is Right" (report E73-4-1, Apr 1973)


Box 36, Folder 5 notes, MS, TS [includes Ehricke, "The Passive Power Relay Satellite - Concept and Appraisal of Extraterrestrial Means to Contribute to Overcoming the Energy Confrontation" (no date)]

Box 36, Folder 6 preliminary copy

Box 36, Folder 7 paste-up

Box 36, Folder 8 correction copy
Box 36, Folder 9  corrected copy

Box 36, Folder 10  10th Space Congress [correspondence]

"Regional and Global Energy Transfer Via Passive Power Relay Satellites" (presented to 10th Annual Space Congress, 11-13 Apr 1973; NR report SD73-SH-0117, Apr 1973) [3 folders]

Box 36, Folder 11  miscellaneous MS, notes, calculations

Box 36, Folder 12  edit copy

Box 36, Folder 13  master

"Extraterrestrial Industry - A Challenge to Growth Limitation" (presented to The Conference Board, The Essential Resources Conference, 16 Apr 1973; NR report SD 73-SH-0134, Apr 1973) [7 folders, total]

Box 36, Folder 14  June 1972 version for mark-up

Box 36, Folder 15  paste-up

Box 37, Folder 1  cannibalized copy

Essential Resources (The Conference Board conference, 16 Apr 1973) [4 folders]

Box 37, Folder 2  correspondence, Jul 1972

Box 37, Folder 3  background papers

Box 37, Folder 4  correspondence, program

Box 37, Folder 5  Essential Resources (The Conference Board, Papers from the Essential Resources Conference, Reprinted for the International Industrial Conference, 1973)


Box 37, Folder 6  paste-up

Box 37, Folder 7  print

Box 37, Folder 8 paste-up (RI report)

Box 37, Folder 9 print (RI report)

Box 37, Folder 10 "Space Technology and Energy" (Appendix) (24 May 1973)

"Aerospace Contribution to Solving the Energy and Pollution Crisis" (presented to luncheon meeting of AIAA National Capital Section, 27 Jun 1973) [2 folders]

Box 37, Folder 11 abstract

Box 37, Folder 12 AIAA National Capital Section Luncheon Meeting, 27 Jun 1973 [correspondence]

"Response to Questions by the Subcommittee on Energy (Congressman Mike McCormack, Chairman) and the Subcommittee on Space Science and Applications (Congressman James W. Symington, Chairman) Following Testimony Before Both Subcommittees on 24 May 1973" (23 Jul 1973) [3 folders]

Box 37, Folder 13 original testimony ["Space Technology and Energy - Presentation to the Space Science and Applications and the Energy Subcommittee of the Committee of Science and Astronautics, US House of Representatives" (RI report SD 73-SH-139, 24 May 1973), see also Box 37, Folders 8-10 above], questions by committee

Box 38, Folder 1 paste-up

Box 38, Folder 2 photocopy


Box 38, Folder 3 [correspondence]

Box 256, Folder 4 [oversized material]

Box 38, Folder 4 paste-up

Box 38, Folder 5 print

Box 38, Folder 6 as published in Raumfahrtforschung 18 no.4 (Jul/Aug 1974) : 173-182


Box 38, Folder 7 Baku Abstract [includes: "Space Shuttle and the Power Crisis" (no date); "The Power Relay Satellite - A Means of World Electrification Through Space Transmission" (photocopy of abstract); "The Passive Power Relay Satellite - Concept and Appraisal of Extraterrestrial Means to Contribute to Overcoming the Energy Confrontation" (photocopy)]

Box 38, Folder 8 preliminary paste-up

24th International Astronautical Congress [4 folders]

Box 38, Folder 9-11 correspondence [3 folders]

Box 38, Folder 12 program

"Statement of Krafft A. Ehricke, Chief Scientific Adviser to the Space Division of Rockwell International, Before the Committee on Aeronautical and Space Sciences, United States Senate" (RI report, 31 Oct 1973) [3 folders]

Box 38, Folder 13 original draft (TS)

Box 38, Folder 14 print

Box 38, Folder 15 transcript and committee report (photocopy)


Box 38, Folder 17 "Space Shuttle and the Energy Crisis" (circa 1973)

"Space Shuttle and the Power Crisis" (circa 1973) [2 folders]
Box 39, Folder 1  mechanical
Box 39, Folder 2  edit copy

1974

"Further Comments on the Power Relay Satellite Concept" (Jan 1974) [2 folders]

Box 39, Folder 4  JPL review ["Regional and Global Energy Transfer Via Passive Power Relay Satellites - A Review of 'Regional and Global Energy Transfer via Passive Power Relay Satellites'" (R. L. Phen, G. L. Parker, T. O. Thatesen, W. P. Williams; JPL, no date)], notes, MS

Box 39, Folder 5  print

Box 39, Folder 6  "The Power Relay Satellite - Problem Areas" (circa Jan 1974)

Box 39, Folder 7-8  paste-up [2 folders]

Box 39, Folder 9  Originals of Tables for PRS Pt.I
Box 39, Folder 10  print
Box 39, Folder 11  corrected copy

"The Solar Option - A Study" (report E74-4-1, Apr 1974) [4 folders]

Box 40, Folder 1  notes; graphics
Box 40, Folder 2  paste-up
Box 40, Folder 3  print
Box 40, Folder 4  cannibalized copy
"Permanent Lunar Settlements and Their Value for the Human Environment on Earth" (published as "Lunar Settlements and Their Value for the Human Environment on Earth"); *Acta Astronautica* 1 no.5-6 (May-Jun 1974) : 585-622 [photocopy of proofs]


"Satelliten zur irdischen Energie-Übertragung Technische und sozio-ökonomische Untersuchungen" (presented at HOG 23rd Raumfahrtkongreß, Jun 1974) [3 folders]

"The Heritage of Apollo - Presentation to the Town Hall of California" (report E74-7-1, 16 Jul 1974)
Box 41, Folder 6-7  "A Review and Evaluation of Solar Central Power Stations for Use in the U.S., Mideast and Japan and Associated Solar Engineering Business Development" (19 Jul 1974) (2 copies) [2 folders]

Box 41, Folder 8  "Energy and the Shuttle Compatible Space Energy Test (SET) Facility Briefing, September 25, 1974" [outline]

Box 41, Folder 9  "Review of Future Space Applications for House Science and Astronautics Committee" (RI report SSV74-41; 25 Sep 1974)

"Methods of Minimizing Shuttle-Based High- and Low-Thrust Transportation Costs to Geosynchronous Orbit" (IAF paper A74-03; presented to IAF 25th International Astronautical Congress, Amsterdam, Netherlands, 30 Sep-5 Oct 1974) [2 folders]

Box 41, Folder 10  paste-up

Box 41, Folder 11  preprint

"Space Stations - Tools of New Growth in an Open World" (5th IAF Invited Lecture, presented to IAF 25th International Astronautical Congress, Amsterdam, Netherlands, 30 Sep-5 Oct 1974) [9 folders, total]

Box 41, Folder 12  TS for address

Box 41, Folder 13  TS draft

Box 41, Folder 14  reduced version for publication

Box 41, Folder 15  IAF proof (photocopy)

Box 41, Folder 16  paste-up as report E74-9-1

Box 41, Folder 17  printed copy of report E74-9-1

Box 41, Folder 18  cannibalized copy of report E74-9-1

25th International Astronautical Congress (Amsterdam, Netherlands) [2 folders]

Box 41, Folder 19  program

Box 42, Folder 1  abstracts
"From Closed to Open World" (presented to NASA Study Group on "Outlook for Space", 23-24 Oct 1974) [8 folders, total]

Box 42, Folder 2-6 graphics [5 folders]

Box 42, Folder 7 introduction

Box 42, Folder 8 correspondence (Sep-Oct 1974)

Box 42, Folder 9 correspondence (Sep 1974; photocopies)

Box 42, Folder 10 "The Power Relay Satellite - A Means of Global Distribution of Electricity from Large Remotely Located Energy Factories Processing Solar, Nuclear or Other Sources of Primary Energy" (report E74-11-1, Nov 1974)


Box 42, Folder 11 TS


Box 42, Folder 13 Unused part of letter to Jim Hartz (Dec 1974)

The Extraterrestrial Imperative (with Elizabeth Miller, second version, 1974 - not published) [101 folders, total]

Box 42, Folder 14 Summary (The Extraterrestrial Imperative - From Closed to Open World) (2 copies)

Box 42, Folder 15-16 Synopsis (The Extraterrestrial Imperative - From Closed to Open World) (TS, 2 copies) [2 folders]

Box 42, Folder 17 Reference Material I

Box 43, Folder 1 organizational notes, draft pages

Box 43, Folder 2 Preface [MS]

Box 43, Folder 3 Preface [TS]

Box 43, Folder 4 Introduction [TS; edit copy]
Box 43, Folder 5  draft pages (Chapter 1) [MS]
Box 43, Folder 6  "The Anthropology of The Extraterrestrial Imperative" (Chapter 1) [TS]
Box 43, Folder 7  "Evolutionary Logic and Realistic Promise" (Chapter 3) [TS]
Box 43, Folder 8  Chapter 3 Outs [MS, TS]
Box 43, Folder 9  "World Metabolism and the Terrestrial Biosphere" (I/6) [TS (photocopy)]
Box 43, Folder 10 Part I [partial MS, TS]
Box 43, Folder 11 Part I [partial MS, TS]
Box 43, Folder 12 Part I [MS, TS]
Box 43, Folder 13 Prologue, parts eliminated from quasi-final version to be used in Pt II or III
Box 43, Folder 14 Typed Sections (miscellaneous pages)
Box 43, Folder 15 "A Lonely Beginning - The Cerebral Revolution" (II/1) [TS]
Box 44, Folder 1  "Emancipation from the Biosphere - The Process of Humanization" (II/3) [TS]
Box 44, Folder 2  "Milestones in the Humanization Phase" (chart)
Box 44, Folder 3  "Civilization and Technology" (II/4) [TS]
Box 44, Folder 4  "A Systems Model of the First Great Crisis and the Necessity of Its Solution by Growth" (II/5) [MS]
Box 44, Folder 5  "The Crisis of the Closed World" (II/6); "The Population Factor" (III/4) [TS, miscellaneous graphics]
Box 44, Folder 6  "The Anatomy of Human Society" (Chapter 8) / "The Vanishing Options" (Chapter 9) - to be part of II/7 [TS (photocopy)]
Box 44, Folder 7  Part II [MS, TS]
Box 44, Folder 8  Material for Extraterrestrial Imperative 3 [notes]
"Open World Development - Integration of Space Development Into Overcoming the Second Great Crisis" (III/1) [3 folders]

Box 44, Folder 9  MS

Box 44, Folder 10  miscellaneous graphics

Box 44, Folder 11  TS

Box 44, Folder 12  "Open World Development - Growth With Conservation" (III/6) [TS]

Box 44, Folder 13  "Open World Development - A Global Concensus Gentium [sic] for Human Development in a Commonwealth of Earth" (III/8) [MS]

Box 44, Folder 14  "Open World Development - A Global Concensus Gentium [sic]" (III/7) [TS]

Box 44, Folder 15  "The Open World – A New Natural Balance" (III/8, to III/9) [edited TS]

Box 44, Folder 16  "The Androsphere" (Chapter 4, to III/3) [TS, MS]

Box 45, Folder 1  "The Androsphere" (II/2) [MS]

Box 45, Folder 2  "The Androspheric Macro-Environment" (III/3) [MS]

Box 45, Folder 3  III/4 [miscellaneous graphics]

Box 45, Folder 4  "The Human Factor - To Grow or Not to Grow" (III/6) [TS]

Box 45, Folder 5  "Space Industry Class E - Space Lights" (III/7) [TS (photocopy)]

Box 45, Folder 6  "Space Industry Class E - Space Lights" (III/7) [edited TS]

Box 45, Folder 7  "The Energy Confrontation" (III/8) [TS (photocopy)]

Box 45, Folder 8  "Socio-Economics in Confrontation and Transition" (III/19) [MS]

Box 45, Folder 9  "Socio-Economics in Confrontation and Transition" (III/9 ) [TS]

Box 45, Folder 10  "Metal Confrontation" (Chapter 10) [MS]

Box 45, Folder 11  "Metal Confrontation" (Chapter 10) [MS, TS, notes]
| Box 45, Folder 12 | "Metal Confrontation" (III/10) [edited TS] |
| Box 45, Folder 13 | "Space Industry Class E - The Power Relay Satellite (III/11) [TS] |
| Box 45, Folder 14 | "Space Industry Class E - Space Power Generation" (III/12) [MS] |
| Box 46, Folder 1 | "The New Growth" (III/16) [TS/MS] |
| Box 46, Folder 2 | "Androspheric Economics - The Economics of the Open World" (III/17) [MS] |
| Box 46, Folder 3 | "Androspheric Economics - The Economics of the Open World" (III/17) [MS] |
| Box 46, Folder 4 | "Androspheric Economics - The Economics of the Open World" (III/17) [TS] |
| Box 46, Folder 5 | "From Biosphere to Androsphere - The Achievement of Whole and Lasting Civilization" (III/18) [TS] |
| Box 46, Folder 6 | "Perspective II" (III/20) [TS] |
| Box 46, Folder 7 | Part III [unidentified section] [MS] |
| Box 46, Folder 8 | Part III Chapters [MS/TS] |
| Box 46, Folder 9-10 | Part III [MS/TS] [1-2 of 3 folders] |
| Box 47, Folder 1 | Part III [MS/TS] [3 of 3 folders] |
| Box 47, Folder 2 | "Space Light - The Lunetta" (IV/4) [TS] |
| Box 47, Folder 3 | "Basics of Space Transportation" (IV/12) [MS] |
| Box 47, Folder 4 | "Basics of Space Transportation" (IV/12) [MS, miscellaneous pages] |
| Box 47, Folder 5 | "Basics of Space Transportation" (IV/12) [MS/TS] |
| Box 47, Folder 6 | "Basics of Space Transportation" (IV/12) [cannibalized TS] |
| Box 47, Folder 7 | "Economics of Commercial Space Transportation" (IV/13) [MS] |
| Box 47, Folder 8 | "Economics of Space Transportation" (IV/13) |
Box 47, Folder 9  "The Human Aspects of Building the Androsphere" (III/19) [MS/TS]

Box 47, Folder 10  "New Growth - The Human Aspects of Building the Androsphere" (IV/ ) [TS]

Box 47, Folder 11  "New Growth - The Human Aspects of Building the Androsphere (IV/15) [TS]

Box 47, Folder 12-13  Part IV [MS/TS] [2 folders]

Box 48, Folder 1  Original Figures

Box 48, Folder 2  Illustrations / Layouts

Box 48, Folder 3-19  miscellaneous pages [1-17 of 21 folders]

Box 49, Folder 1-4  miscellaneous pages [18, 20-21 of 21 folders]

Box 256, Folder 6  miscellaneous pages [19 of 21 folders] [oversized material]

Box 49, Folder 5-7  notes [1-3 of 4 folders]

Box 256, Folder 7  notes [4 of 4 folders] [oversized material]

Box 49, Folder 8  "Earth, The Astronaut's Planet in the Solar System" [photocopy of graphic]

Box 49, Folder 9  Apollo 11 Flight [5th] Anniversary "Town Hall Talk" (circa 1974)

Box 49, Folder 10  "Open World and New Growth" [story outline]


Box 49, Folder 11  paste-up, print

Box 49, Folder 12  photocopy

Box 49, Folder 13  "Sprung In Die Unendlichkeit - Der Flug Des Pioneer Zum Jupiter" (circa 1974)

1975
Box 49, Folder 14  "How Do We Get There From Here?" (presented to Los Angeles Council of Engineers and Scientists, 3 Apr 1975)

Box 49, Folder 15  "Regional Power Distribution Via Power Relay Satellite" (presented to 1st Greater Los Angeles Area Energy Symposium, 3 Apr 1975) [correspondence]

Box 50, Folder 1  \( Q=E^3 \) - The Future is Now - Greater Los Angeles Area Energy Symposium, 3 Apr 1975 (Los Angeles Council of Engineers and Scientists [LACES], Proceedings Series 1 (1975))

"The United Nations and the Power Relay Satellite as Element of Global Energy Development" (report KE75-4-1, 5 Apr 1975) [3 folders]

Box 50, Folder 2  paste-up

Box 50, Folder 3  print

Box 50, Folder 4  SG reprint, Jul 1978

"Spacelab - Model for International Teamwork (presented to 12th Space Congress, 9-11 Apr 1975) [2 folders]

Box 50, Folder 5  paper

Box 50, Folder 6  12th Space Congress (9-11 Apr 1975) [preliminary programs, correspondence]

"Exoindustrial Productivity - The Extraterrestrial Imperative of Our Time" (report E75-5-1, May 1975) [8 folders, total]

Box 50, Folder 7-9  print [3 folders]

Box 50, Folder 10  miscellaneous pages for corrections

Box 50, Folder 11-12  erratta/reference copy [2 folders]

Box 51, Folder 1-2  cannibalized copy [2 folders]

"Space Industrial Productivity - New Options for the Future" (Jul 1975; presented to the Committee on Science and Technology and the Subcommittee on Space Science and Applications, Hearings on Future Space Flight, 22-30 Jul 1975) [15 folders, total]

Box 51, Folder 3-4  cannibalized copies (2 copies) [2 folders]
Box 51, Folder 5  Appendix (Jul 1975)

Box 51, Folder 6  correspondence (Jun-Nov 1975)

Box 51, Folder 7  draft correspondence [Ehricke to Pirek, Ehricke to Humphrey]

Box 51, Folder 8-11  Ehricke to Rep. Don Fuqua, Chairman of the Subcommittee on Space Science and Applications, Committee on Science and Technology, US House of Representatives. (14 Aug 1975) (6 copies; box 51 folder 9 includes copies of Ehricke's statements) [4 folders]

Future Space Programs 1975 [3 folders]


Box 52, Folder 2  Vol. II - A Compilation of Papers Prepared for the Subcommittee on Space Science and Applications Prepared for the Committee on Science and Technology, US House of Representatives, Ninety-fourth Congress, First Session [committee print]


Box 52, Folder 4  SG reprint SG378-1R (Mar 1978) [cover paste-up]

Box 52, Folder 5  SG reprint SG378-1R (Mar 1978) [printed copy]

Box 255, Folder 11  paste-up of presentation graphics [oversized material]

Box 52, Folder 6  "Peenemünde: The Coming of the Future" (CSULB-Nova) [Ehricke interviewed for program; possibly aired as "Hitler's Secret Weapon", NOVA, 5 Jan 77]

"An der Schwelle des Industriellen Raumzeitalters" (report E75-9-1, Sep 1975) [5 folders, total]

Box 52, Folder 7-8  notes [2 folders]

Box 52, Folder 9  TS drafts
Box 52, Folder 10 final TS
Box 52, Folder 11 paste-up
Box 53, Folder 1 Deutsche Gesellschaft für Luft- und Raumfahrt e.v. [DGLR] 8th Annual Meeting, 16-18 Sep 1975
26th International Astronautical Congress (21-27 Sep 1975) [2 folders]
Box 53, Folder 2 abstracts
Box 53, Folder 3 Notes
"Industrial Productivity as a New Overarching Goal of Space Development" (Oct 1975) [31 folders, total]
Box 53, Folder 4 MS, beginning at "Lunar Industry" (pp.87-118A)
Box 53, Folder 5 MS, beginning at "Lunar Science"
Box 53, Folder 6 final TS (pp.3A-8)
Box 53, Folder 7-8 final TS (pp.8A+) [2 folders]
Box 53, Folder 9 final TS, for insertion before "Extractive Methods" (pp.117+)
Box 53, Folder 10 edited photocopy, beginning at "Lunar Industry" (pp.105-166)
Box 53, Folder 11 edited photocopy (pp.119-128)
Box 53, Folder 12 edited photocopy, beginning at "Lunar Industry" (final pp.105+)
Box 53, Folder 13 edited photocopy, pp.24-38 (final pp.113+)
Box 54, Folder 1 edited photocopy, beginning at "The Lunar Industrial Factor in Geolunar Transportation" (final pp.137+)
Box 54, Folder 2 edited photocopy, beginning at "Transportation in Lunar Space" (final pp.143+)
Box 54, Folder 3 edited photocopy, beginning at "Transportation" (pp.148-157)
Box 54, Folder 4 edited photocopy, beginning at "Space Light" (pp.47-104)
Box 54, Folder 5  edited photocopy, beginning at "Lunar Industry" (pp.105-124)
Box 54, Folder 6  edited photocopy, beginning at "Transportation in Lunar Space" (pp.143+)
Box 54, Folder 7  loose page "Orbitron Construction in Circumlunar Orbit" (p.152)
Box 54, Folder 8-10  paste-up [3 folders]
Box 54, Folder 11  cannibalized edit copy ["KAE II"]
Box 55, Folder 1-6  photocopy with cover photo (copies 1-3 of 5; 2 folders each) [6 folders]
Box 56, Folder 1-4  photocopy with cover photo (copies 4-5 of 5; 2 folders each) [4 folders]
Box 56, Folder 5  "Ausbeutung des Roten Planeten" (with unidentified "German author", circa Oct 1975)

"A Long-Range Perspective and Some Fundamental Aspects of Interstellar Evolution" (Apr 1975) [4 folders]

Box 56, Folder 6  TS (without illustrations)
Box 56, Folder 7  markup TS (report E75-6-1)
Box 56, Folder 8  as published in JBIS 28, no.11 (Nov 1975)
Box 56, Folder 9  paste-up using cannibalized copy of JBIS article

"Solar Power Module Concept and Data Summary" (circa 1975) [2 folders]

Box 57, Folder 1  TS
Box 57, Folder 2  photocopy

1976

"Exoindustry: A Macro-System Analysis" (report E76-1-1, Jan 1976) [6 folders]

Box 57, Folder 3  master
Box 57, Folder 4-5  printed copies [2 copies; 2 folders]
Box 57, Folder 6-8  cannibalized copies [3 copies; 3 folders]

"The Sun-Synchronous Power Generation Satellite System" (report E76-1-2, Jan 1976) [3 folders]

Box 58, Folder 1  paste-up

Box 58, Folder 2  printed copy

Box 58, Folder 3  cannibalized copy

Box 58, Folder 4  Marshall Space Flight Center, Alabama [9 Jan 1976; travel itinerary]

Box 58, Folder 5  Fellows Dinner - AIAA/AIAA Banquet/AIAA Congress - Washington, DC [28 Jan 1976]

"Aerospace and National Economic Development" (Feb 1976) [2 folders]

Box 58, Folder 6  Proposed Discussion Outline for Presentation and Seminar - Lapan - Jakarta - Indonesia - February 1976 [includes paste-up of "Aerospace and National Economic Development"]

Box 58, Folder 7  photocopy

"Large Scale Processing of Lunar Material" (presented to LSI 7th Lunar Science Conference "Utilization of Lunar Materials and Expertise for Large Scale Operations in Space", 15-19 Mar 1976; report E76-3-1, Mar 1976) [7 folders, total]

Box 58, Folder 8  MS

Box 58, Folder 9-11  7th Lunar Science Conference (correspondence) [3 folders, total]

Box 47, Folder 9  correspondence, Dec 1975

Box 58, Folder 10  correspondence, Feb-Mar 1976

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Box 58, Folder 12  [1 of 3 copies]
<table>
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<th>Box 59, Folder 1-2</th>
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<td>&quot;A Review of Important Aspects Concerning the Use of Power Relay Satellite for Icelandic Energy Export by Means of Beamed Microwave Transmission&quot; (no date) [6 folders, total]</td>
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<td>Box 59, Folder 9</td>
<td>International Academy of Astronautics Programme Review Committee (Ehrcke to L. I. Sedov, 19 Sep 1976) [correspondence]</td>
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<td>&quot;Space Stations - Symbols and Tools of New Growth in an Open World&quot; (keynote address to Session 1 (International Space Stations) of the International Space Hall of Fame Dedication Conference, 3-9 Oct 1976; RI report SD 76-SA-0200) [4 folders, total]</td>
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<td>edited copy (2) of RI report</td>
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<td>Box 60, Folder 5</td>
<td>&quot;Astropolis and Androcell - The Psychology and Technology of Space Utilization and Extraterrestrialization&quot; (presented to Session 2, International Space Hall of Fame Dedication Conference, 3-9 Oct 1976)</td>
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Box 60, Folder 9

partial photocopy

Box 60, Folder 10

"Sun-Synchronous Power Generation and Space Light Systems Lunetta/Soletta" (IAF paper 76-120; presented to session 15 of the IAF 27th International Astronautical Congress, 10-16 Oct 1976) [Material for IAF Paper]

27th International Astronautical Congress, Anaheim, CA, 10-16 Oct 1976 [6 folders, total]

Box 60, Folder 11-12

correspondence [2 folders]

Large Energy Systems in Space, Session 15 of the IAF 27th International Astronautical Congress (Krafft Ehricke, chairman) [3 folders]

Box 61, Folder 1

"Space and Energy" (Ivan Bekey; IAF paper 76-121) [correspondence, advanced copy]

Box 61, Folder 2-3

"Using the Orbital Tower to Launch Earth-Escape Payloads Daily" (Jerome Pearson; IAF paper 76-123) [correspondence, advanced copy] [2 folders]

6th International Cost Reduction in Space Operations Symposium II, Session 34 of the IAF 27th International Astronautical Congress (Krafft Ehricke, chairman) [1 folder]

Box 61, Folder 4

"Economy of In-Orbit Manufacturing and Processing" (G. Gregor; IAF paper A-76-25) [correspondence]

1977

Box 61, Folder 5


Box 61, Folder 6

AIAA Mini Symposium (22 Mar 1977)

Box 61, Folder 7

AWA Conference, 2 May 1977 - correspondence (Edward G. Tripp to Ehricke; 25 Apr 1977)

Box 61, Folder 8

Future in Space - Itinerary (Maxwell AFB, 25 May 1977)

"Space and Energy Sources" (presented to the World Electrotechnical Congress, Moscow, USSR, June 21-25, 1977; RI report, May 1977) [9 folders, total]
Box 61, Folder 9  
RI report

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Moscow Superslides

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Box 61, Folder 12  
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World Electrotechnical Congress (Moscow, USSR) [2 folders]

Box 61, Folder 16  
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Box 62, Folder 1  
"Space Light - The Enhanced Solar Option" (published in Swann Oil Energy Digest 2 no.17 (August 24, 1977); SG report SG777-1, Jul 1977) [SG report]

Box 62, Folder 2  
HOG 26th Raumfahrtkongreß (Berlin, Germany) [program]


Box 62, Folder 3  
paste-up (IAF preprint)

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28th International Astronautical Congress (Prague, Czechoslovakia) [5 folders, total]

Box 62, Folder 6-8  
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Box 62, Folder 10  
abstracts
7th International Symposium on Cost Effectiveness in Space Operations I [2 folders]

Box 62, Folder 11 correspondence (1976)

Box 62, Folder 12 correspondence (Apr-Jun 1977)

Box 62, Folder 13 "Kraftsoletta - Eine Industrie-Sonne für Europa" (SG report SG1177-1, Nov 1977)

Box 62, Folder 14 Space Museum Meeting Paper (Guggenheim Lecture, NASM, 16 Nov 1977)

Box 62, Folder 15 Oppenheim - Acta Article - correspondence (1977; title of article not given)


Box 62, Folder 16 correspondence

"Solar Energy" [4 folders, total]

Box 62, Folder 17 correspondence

Box 62, Folder 18-19 TS [2 folders]

Box 62, Folder 20 rewrite TS, illustrations, proofs

1978

Box 62, Folder 21 "The Extraterrestrial Imperative" (Air University Review 29 no.2 (Jan-Feb 1978) : 2-20)

"Space Industrialization - Statement to the Committee on Science and Technology Hearing on Future Space Projects, US House of Representatives" (SG report SG178-1, Jan 1978) [2 folders]

Box 63, Folder 1 paste-up; graphics

Box 63, Folder 2 reference copy

"The New Cosmos and Homo Extraterrestris" (presented to AIAA Symposium: Our Extraterrestrial Heritage - from UFOs to Space Colonies, 28 Jan 1978) [5 folders, total]
Box 63, Folder 3  MS, annotated TS, speaking copy

*Our Extraterrestrial Heritage - from UFOs to Space Colonies* (AIAA Symposium, Jan 1978) [4 folders]

Box 63, Folder 4  proceedings, pp.1-38

Box 63, Folder 5  proceedings, pp.39-54

Box 63, Folder 6  proceedings, pp.55+

Box 63, Folder 7  proceedings, pp.39-52 (Ehricke paper; cannibalized)

Box 63, Folder 8  "Space Light Illumination from Sun-Synchronous Orbits" (SG report SG278-2, Feb 1978)


Box 63, Folder 9  photocopies of selected pages

Box 63, Folder 10  "Statement to Subcommittee on Science, Technology and Space; Committee on Commerce, Science and Transportation, Symposium on the Future of Space, US Senate" (SG report SG278-1, Feb 1978)

Box 63, Folder 11  "Industrialization of Space" (presented to the Wisconsin American Institute of Aeronautics and Astronautics, Milwaukee, WI, 28 Apr 1978) [brochure]

Box 63, Folder 12  "Astropolis and Androcell" / "Thermonuclear Power Generation Satellite" / "Lunar Productivity Center" (SG reprint SG578-1R, May 1978)

Box 63, Folder 13  "Extraterrestrial Imperative - Evolutionary Logic and Realistic Promise" (SG report SG678-1; submitted to *Smithsonian*)

Box 63, Folder 14  "Space Industrial Productivity - New Options for the Future" / "Space Light" (extracts from testimony, 22-30 Jul 1975; SG reprint SG778-1R, Jul 1978)

*Good Heavens, Santa!* (Leon Leonidoff, Elizabeth A. Miller, and Krafft A. Ehricke; proposed television show, registered 20 Jul 1978) [2 folders]

Box 64, Folder 1  show outline & treatment


"The Pollution of the Future" (SG report SG879-1, Aug 1979)

"Space Light: Space Industrial Enhancement of the Solar Option" [4 folders, total]
Box 65, Folder 5-6  SG report SG812-1, Feb 1981 [paste-up, notes] [2 folders]

Box 255, Folder 12  paste-up of charts [oversized material]

Box 65, Folder 7  Будущее Космической Индустрии (Москва: Машиностроение, 1979) [The Future of Space Industry (Moscow: Mashinostroenie, 1979)]

"The Extraterrestrial Imperative" (1979) [10 folders, total]

Box 65, Folder 8  Part 1 - "Evolutionary Logic" (SG report SG1078-1, Oct 1978) [TS]

Part 3 - "New Earth-Space Energy Metabolism", I - "Energy Demand Model, Near-Term Space Assist, Space Disposal of Nuclear Waste" (SG report SG779-1, Jul 1979) [4 folders]

Box 65, Folder 9  MS

Box 65, Folder 10  paste-up, photocopy

Box 65, Folder 11  SG print

Box 65, Folder 12  graphics, miscellaneous loose pages

Box 66, Folder 1  Part 4 - "Evolution II" (SG reprint SG-OW-9ET-4-182, Jan 1982)

Box 66, Folder 2  miscellaneous Space Global graphics [copies]

Box 66, Folder 3  Requests Relating to Extraterrestrial Imperative [correspondence]

as published in JBIS [2 folders]

Box 66, Folder 4  proofs - "Part II, Productive Earth Orbits - New Partnership Through Pressures and Promise" (JBIS 32 no.11 (November 1979) : 410-418); "Part III, New Earth-Space Metabolism I" (JBIS 33 no.11 (November 1983) : 379-390)

Box 66, Folder 5  published copy

Extraterrestrial Imperative Lecture Series [23 folders, total]

Box 66, Folder 6  lecture series outline

Box 66, Folder 7-9  transparencies [3 folders]
Box 66, Folder 10  overhead transparencies - Interplanetary
Box 66, Folder 11  overhead transparencies - unlabeled folder (1) [1 of 2 folders]
Box 67, Folder 1  overhead transparencies - unlabeled folder (1) [2 of 2 folders]
Box 67, Folder 2  overhead transparencies - Extraterr Imperative
Box 67, Folder 3  overhead transparencies - unlabeled folder (2)
Box 67, Folder 4  overhead transparencies - General Transportation
Box 67, Folder 5  overhead transparencies - Fusion
Box 67, Folder 6  overhead transparencies - Fission & Space Disposal
Box 67, Folder 7-8  overhead transparencies - Space Industry / Economy [2 folders]
Box 67, Folder 9  overhead transparencies - Moon
Box 67, Folder 10  overhead transparencies - unlabeled folder (3)
Box 67, Folder 11  overhead transparencies - Space Program
Box 67, Folder 12  overhead transparencies - Interstellar
Box 67, Folder 13  overhead transparencies - Space Light / Laser / PRS / SPS
Box 255, Folder 13-15  overhead transparencies - unlabelled folder (4) [oversized material; 3 folders]
Box 255, Folder 16  overhead transparencies - unlabelled folder (5) [oversized material]

1980

Los Alamos Scientific Laboratory (presentation, 22 Jan 1980) [2 folders]

Box 68, Folder 2  [newsclippings]
Box 256, Folder 8  [oversized materials]
"The Extraterrestrial Imperative - The Logic of Social and Realistic Promise" (CSU Northridge extension course SOC X496G/X896G, 30 Jan-14 May 1980) [7 folders]

Box 68, Folder 3
catalog

Box 68, Folder 4
staff paperwork; expense records

Box 68, Folder 5
course outline; miscellaneous correspondence

Box 256, Folder 9
course outline; miscellaneous correspondence [oversized material]

Box 68, Folder 6
final exam, grades, "follow-on" course preferences, student lists

Box 68, Folder 7
newscuttings

Box 256, Folder 10
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"Contributions of Space Reflection Technology to Food Production, Local Weather Manipulation and Energy Supply, 1985-2020" (presented to 17th European Space Symposium, 4-6 Jun 1980) [3 folders]

Box 68, Folder 8
correspondence

Box 68, Folder 9
paste-up

Box 68, Folder 10
as published in JBIS Space Technology 34 no.12, Dec 1981


Box 68, Folder 11
correspondence, abstracts & graphics

Box 68, Folder 12
TS, paste-up


Box 69, Folder 1
TS, MS
Box 69, Folder 2-3

as published in *Acta Astronautica* 10 no.11 (Nov 1983) [2 copies; 2 folders]

"Wachstum als überlebenschance des Modernen Menschen" [3 folders]

Box 69, Folder 4

TS draft

Box 69, Folder 5

correspondence; as published in *Geistige Welt* 244, 18 Oct 1980 ("Wie ist das eigentlich mit den Grenzen des Wachstums?")

Box 256, Folder 11

[oversized material]

Box 69, Folder 6

Erhöhung der Wirtschaftlichkeit im Luftverkehr (Saint-Paul-de-Vence, France, 26-29 Oct 1980) [program, correspondence]

Box 69, Folder 7

Flow General [correspondence regarding consulting]

1981

Box 69, Folder 8

"Air Traffic in the Coming Space Age" (published as "Toward Aviation's New Infinities", *Jet Tales* 1/81)

Box 69, Folder 9

1981 Cal Space Conference (California Space Institute, La Jolla, CA, 24-25 Mar 1981) [pre-conference documentation]

Box 69, Folder 10

*Omni* Space Prospectus

"The Extraterrestrial Imperative - Evolutionary Perspective and a Cosmopolitan Strategy" (published as "The Extraterrestrial Imperative", *Futures* 13 no.2 (Apr 1981) : 107-114) [2 folders]

Box 69, Folder 11

drafts, correspondence

Box 69, Folder 12

reprint

Box 69, Folder 13

Fusion Energy Foundation Conference "America's Next 20 Years in Space" [MS; FEF Special Report]

Box 69, Folder 14


Box 69, Folder 15

*Omni* Interview (*Omni* 3 no.12 (Sep 1981) : 87-91, 124)

Box 69, Folder 16

"The Buck Stops Here" (Viewpoint column; *Fusion*, Sep 1981) [proof]

Box 70, Folder 1 paste-up
Box 70, Folder 2 photocopy of paste-up
Box 70, Folder 3 photocopy of paste-up (miscellaneous pages)
Box 70, Folder 4 SG reprint SG-OW-1-881 ("corrected copy")
Box 70, Folder 5 SG reprint SG-OW-1-881 ("reference copy")
Box 70, Folder 6 SG reprint SG-OW-1-881
Box 70, Folder 7 "En öppen värld med obegränsad tillväxt" (Energi and Utveckling, no date, 50-58) [Swedish]

"Industrializing the Moon - The First Step into a New Open World" (Fusion (English language edition) 5 no.2 (Dec 1981) : 21-31 and Fusion (English language edition) 6 no.1 (May-Jun 1984) : 46-55) [5 folders]

Box 70, Folder 8 miscellaneous TS pages
Box 70, Folder 9 edited draft
Box 70, Folder 10 proofs (miscellaneous pages)
Box 70, Folder 11 as published
Box 70, Folder 12 "Die Industrialisierung des Mondes - Der erste Schritt in eine Neue Offene Welt" (Fusion (German language edition) 3 no.2 (Mar 1982) : 38-51 and Fusion (German language edition) 3 no.3 (May 1982) : 40-50)

Box 70, Folder 13 Commentary on Keyworth Dec 81 [response to report in "The National Scene", Astronautics & Aeronautics, Dec 1981]

1982

"Mensch, Umwelt, Technik und wachstum - Dem 'Klub von Rom' zum Zehnten ins Stammbuch" [2 folders]
Box 70, Folder 14  
TS

Box 70, Folder 15  
photocopy

"Wachsen in die Offene Welt" (Die Welt no.89, 17 Apr 1982) [2 folders]

Box 70, Folder 16  
TS

Box 70, Folder 17  
as published (photocopy)

Box 70, Folder 18-19  
"Producing Advanced Fusion Fuel on the Moon" (Fusion (English language ed.), Sep 1982) [2 copies; 2 folders]

Box 71, Folder 1  


Box 71, Folder 2  
paste-up; as published in Acta Astronautica 11 no.2 (Feb 1984)

Box 71, Folder 3  
cannibalized copy

Box 71, Folder 4  
33rd International Astronautical Congress [notes from 12th International Symposium on Space Economics and Benefits]

Box 71, Folder 5  
Scientists' Institute for Public Information [correspondence]

"The Extraterrestrial Imperative: Why Mankind Must Colonize Space" (Fusion (English language edition) 5 no.6 (Dec 1982) : 18-24) [2 folders]

Box 71, Folder 6  
proofs (Ehricke biographical note)

Box 71, Folder 7  
published copy

"Mehr Mut, die Brücke in eine große Zukunft zu betreten" (Die Welt no.304, 31 Dec 1982) [2 folders]

Box 71, Folder 8  
[reduced-size reference copies]
Box 256, Folder 12  [oversized material]

United Nations Space Conference (UNISPACE) Report [5 folders, total]

Box 71, Folder 9  correspondence (1980)

Box 71, Folder 10  background correspondence (1982)

Box 71, Folder 11  working drafts (1)

Box 71, Folder 12-13  working drafts (2) [2 folders]

Box 71, Folder 14  Ehricke to "Frau Bitterlich" (?) [MS]

German.

1983

"Engineering the Reality of Lunar Industrialization" (presented to CSU Northridge School of Engineering and Computer Science Colloquium, 24 Feb 1983) [9 folders, total]

Box 71, Folder 15  abstract, correspondence

Box 71, Folder 16  overhead transparencies (folder 1 of 8 )

Box 72, Folder 1-7  overhead transparencies (folders 2-8 of 8)


Box 72, Folder 8  MS

Box 72, Folder 9  as published in Die Welt 106, 7 May 1983 (as "Und Wieder wind die Welt gerettel")

Box 256, Folder 13  [oversized material]

Beam Defense - An Alternative to Nuclear Destruction (Fusion Energy Foundation; Falbrook (CA): Aero Publishers, 1983) [2 folders]

Box 72, Folder 10  correspondence, review by Ehricke
Box 72, Folder 11  proof copy for review

"Die Notwendigkeit der Weltraumfahrt - Der Extraterrestrischel Imperativ" (Fusion (German language edition) 4 no.4 (Fall 1983) : 29-41) [2 folders]

Box 72, Folder 12  published copy

Box 72, Folder 13  photocopy of published copy

Box 255, Folder 17  IAF 34th International Astronautical Congress, Session 56 ["Competition in Space: Government vs Industry" (Paul D. Maley, Chairman)] [correspondence - oversized material]


1984

Box 72, Folder 15  IAA [International Academy of Astronautics] correspondence (Jeremy Grey to Ehricke, 10 Jan 1984)

Box 72, Folder 16  "Harenodynamic Cooling: The Use of Lunar Sand as a Cooling Medium" (published in Acta Astronautica 11 no.6 (Jun 1984) : 319-325)


Box 72, Folder 17  MS (photocopy)

Box 72, Folder 18  TS, MS

Box 72, Folder 19  notes

Box 72, Folder 20  slide list (retilted "Extraterrestrial Imperative and Lunar Development")

Box 73, Folder 1  Lunar Bases and Space Activities of the 21st Century [conference information]

Box 73, Folder 2  Earth's Seventh Continent - Industrialization and Settling of the Moon
Der Siebente Kontinent - Die Industrialisierung und Besiedlung des Mondes
(München: Thiemig Verlag, 1984) [16 folders, total]

Box 73, Folder 3-5 notes, partial TS [3 folders]
Box 256, Folder 14 notes, partial TS [oversized material]
Box 73, Folder 6 miscellaneous MS pages
Box 73, Folder 7 graphics paste-ups
Box 73, Folder 8 miscellaneous illustrations
Box 73, Folder 9 photos & negatives
Box 73, Folder 10 photos
Box 73, Folder 11 list of illustrations in German
Box 73, Folder 12 Chapter 8 MS
Box 74, Folder 1-2 Chapter 8 proofs [2 folders]
Box 74, Folder 3 Chapter 8 proofs (pp. 8/65-8/80)
Box 74, Folder 4-5 Chapter 9 MS & notes [2 folders]

Undated
Box 74, Folder 6 "Absolute Comparisons of Management Systems"
Box 74, Folder 7 "Ascent and Descent of Rocket Vehicles (Convair report AZP-071; no date)
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Miscellaneous Reference Materials

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1950

Box 179, Folder 8  
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Box 179, Folder 23  "Satellite Liberations" (Wolfgang B. Klemperer and Robert M. L. Baker Jr) [conference print]

Box 179, Folder 24  "One-Year Exploration-Trip Earth-Mars-Venus-Earth" (G. A. Crocco) [conference print]

Box 179, Folder 25  "Studies of a Minimum Orbital Unmanned Satellite of the Earth (MOUSE) - Part IV: Radiation Equilibrium and Temperature" (D. T. Golden and S. F. Singer) [conference print]

Box 179, Folder 26  "The Ecosphere in the Solar Planetary System" (Hubertus Strughold) [conference print]

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Box 180, Folder 3  Ascent of SM-65 Boosted Satellites into Various Circular Orbits (Frank M. Perkins, Convair report ASM-6 rev.2, 11 Mar 1958)

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Box 180, Folder 6  Lifetime of Satellites in Circular Orbit Using Smithsonian Atmosphere based Upon Sputnik Observations (GD report ASM-11, circa Jun 1958)

Box 180, Folder 7  [Martian Telescope] ("Don" [Robey?] to Ehricke, 22 Jul 1958)

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Box 181, Folder 15 "Round Trip Trajectories for Mars Observation" (Paul G. Johnson and Roger L. Smith, presented to AAS 2nd Annual Western Regional Meeting, 4-5 Aug 1959)

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- "NASA Plans to Get Three-Stage Nova (Hal Taylor, p.13)
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Box 183, Folder 19  
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Box 183, Folder 20  
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Box 184, Folder 2  
"Dynamics and Flight Environment of Lifting Vehicles Entering the  
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Box 184, Folder 3  
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Box 184, Folder 4  
"Engineering Model Atmosphere of Mars" (Gerhard F. Schilling)

Box 184, Folder 5  
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Box 184, Folder 15-16 original report [1-2 of 3 folders]

Box 185, Folder 1 original report [3 of 3 folders]

Box 185, Folder 2 Part 1 - *Background Material* (Martin Marietta, NASA report SP-34 Part 1, 1963) [photocopy]

Box 185, Folder 3-4 Part 2 - *Lunar Mission Phases* (Martin Marietta, NASA report SP-34 Part 2, 1963) [print from NASA microfiche N63-21105] [2 folders]

Box 185, Folder 5 Part 3 - *Mission Planning* (Martin Marietta, NASA report SP-34 Part 3, 1963) [print from NASA microfiche N63-21106]

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Box 186, Folder 4
"Influence of Shape on Aerodynamics Damping of Oscillatory Motion During Planet Atmosphere Entry and Measurement of Pitch Damping at Large Oscillation Amplitudes" (Bain Dayman, Jr, James M. Brayshaw, Jr, Duane A. Nelson, and Terry L. Babineaux)

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Box 186, Folder 9

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Box 186, Folder 10
*Final Report* [?] (Avco, c 1965) [pp.147-192 only; related to instrument payloads for Voyager Venus/Mars 1973]

Box 186, Folder 11
"A Method for Determining Orbital Launch Windows for Interplanetary Trajectories - Including Data Illustrating the Application for a Typical Example" (John W Brice, 2 Jul 1963)

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Early Manned Interplanetary Missions - Follow-on Contract (NAS8-5024)
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*Phase I Report* (STL report 8423-6001-TL-000, 29 Oct 1963)

Box 187, Folder 5  
*A Compilation of Recent Research Related to the Apollo Mission* (NASA TM X-890, Oct 1963)

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*An Unsolicited Proposal for Evaluation of Midcourse Correction Requirements for Lunar Missions* (GDA report GDA 63-1193, 22 Nov 1963 for submission to MSFC)

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  - "Exploding Galaxies - How Stable is Our Own Milky Way?" (Sir Bernard Lovell, pp.63-65)
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Box 187, Folder 16  

*Earth-Mars-Earth Ballistic Trajectory Data, 1975-1986* [5 folders, total]

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Box 188, Folder 4-5  

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Box 189, Folder 2 "Transferts Orbitaux Économiques" (Jean-Pierre Marec, published in *La Recherche Aérospatiale* 105 (Mar-Apr 1965) : 11-21; ONERA report T.P.No.246 (1965))

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Box 189, Folder 5 "Methoden der Simulation und Analyse mit dem Elektronenrechner beim Entwurf zuverlässiger Schaltungen" (W. Hochwald, K. F. McQuade, and H. S. Scheffler, presented to NTG-Tagung "Zuverlässigkeit", Apr 1965) [photocopy]

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Box 189, Folder 9 "Application of Saturn/S-IVB/Apollo Systems to Planetary Exploration" (M. W. Root, presented to AAS Symposium Post-Apollo Space Exploration, 4-6 May 1965; Douglas Engineering paper PD-3645)

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Box 190, Folder 3-4  
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Box 190, Folder 5  
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"Weltraumforschung und Raumflugtechnik in der Europäischen Zusammenarbeit" (Günther Bock, presented at 6th Europäischen Luftfahrtkongreß, 1-4 Sep 1965)

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*Post Apollo Programs* (NA report SID 65-1217, 167 Sep 1965)

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Box 190, Folder 9  
*Project Surveyor - Report of the Subcommittee on NASA Oversight of the Committee on Science and Astronautics, U.S. House of Representatives, Eighty-Ninth Congress, First Session* [photocopy of committee print]
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Box 191, Folder 14: "Nth Country Considers Its Post Manned Lunar Landing Space Program" (Nicholas E. Golovin, Office of Science and Technology, Office of the President, 16 Jun 1966)
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Box 192, Folder 5  Astronautik 3 no.4 (Jul-Aug 1966)


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Box 192, Folder 8  articles from the San Diego Union, 15 Sep 1966
  • "Gemini Leaves Vital Legacy for Apollo Program"
  • "Software Concern Sets Rapid Pace" (Carl Plain, p.D-2)

Box 192, Folder 9  "Lunar Orbiter Mission A" [brochure, circa Sep 1965]

Box 192, Folder 10  "Considerations in the Design of a Guidance and Control System for Advanced Interplanetary Missions" (Rudy R. Mueller, T. L. Gunkel II and C. H. Genrikson, presented to 17th International Astronautical Congress, 10-15 Oct 1966; NA report X6-2418/060)

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Box 192, Folder 14  Study Plan (GDC report GDC-DCL66-001, 4 Nov 1966)

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Box 192, Folder 16  "Einfache Rendezvous-Manöver Bei Elliptischer Zielbahn" (Karl Schütte, Astronautik 1966 no.6 (Nov-Dec 1966) : 171-175) [reprint]
Box 192, Folder 17  "Lunar Orbiter-2 Reveals Crater Details" (Aviation Week and Space Technology, 5 Dec 1966)

Box 192, Folder 18  Exploration of Interplanetary Space (5th Fall series Industrial Liaison Symposium, MIT (Boston, MA), 8 Dec 1966) [program]

Box 192, Folder 19  Hyperbolic Transfer (W. C. Riddell, Convair technical note 66-586-154, Dec 1966)

Box 192, Folder 20  "Herleitung der Relativistischen Zeitdilatation aus dem Doppler-Effekt" (R. Becker, Der Mathematische und Naturwissenschaftliche Unterricht 18, no. 9 (1965/1966) : 306-307)

Box 193, Folder 1  Statements by Homer E. Newell to Subcommittee on Space Science and Applications, Committee on Science and Astronautics, U. S. House of Representatives (1966)

1967

articles from Planetary and Space Science 15 no 1 (Jan 1967) [4 folders]


Box 193, Folder 3  "Measurements of the Depth of Loose and Loosely Bonded Material on the Lunar Surface Based on Ranger VII, VIII and IX Photographs" (Nils Aall Barricelli and Ralph Metcalfe, pp. 49-51)

Box 193, Folder 4  "Resonance Effects Due to the Longitude Dependence of the Gravitational Field of a Rotating Primary" (R. R. Allen, pp. 53-76) [photocopy]

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Box 193, Folder 8  "Rotational Effects on the Distribution of Thermal Plasma in the Magnetosphere of Jupiter" (D. B. Melrose, pp.381-393)

Box 193, Folder 9  *The National Space Program - Its Values and Benefits - Staff Study for the Subcommittee on NASA Oversight of Committee on Science and Astronautics, U.S. House of Representatives, Ninetieth Congress, First Session* (2 Mar 1967) [committee print]

Box 193, Folder 10  Fifth Goddard Memorial Symposium on "Voyage to the Planets" (14-15 Mar 1963) [papers]


Box 193, Folder 13  "On the Location In Space of the Zodiacal Dust Particles" (R. D. Wolstoncroft, *Planetary & Space Science* 15 no 6 (Jun 1967) : 1081-1089)

Advanced Voyager [?]


Manned Planetary Flyby Missions Based on Saturn/Apollo Systems (NAS8-18025) [2 folders]

Box 194, Folder 1  [Dummy Proposal] (GDA, circa Apr 1966)

Box 194, Folder 2  *Final Briefing* (NA report SID 67-549-2, Aug 1967)

Box 194, Folder 3  "The Worth of the Space Program" (President's Forum, AIAA 4th Annual Meeting & Technical Display, 27 Oct 1967)

articles from *Planetary and Space Science* 15 no 10 (Oct 1967) [2 folders]

Box 194, Folder 5  "Lifetimes of Satellites in Large-Eccentricity Orbits" (G. E. Cook and Diana W. Scott, pp.1549-1556)

Box 194, Folder 6  "Preliminary Performance Calculations for SM as a Maneuverable Satellite" (Ehricke to D. J. Yockey, NA memo, 2 Nov 1967)


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Box 194, Folder 8  "On the Constitution of Uranus and Neptune" (W. M. Ramsey, pp.1609-1623)

Box 194, Folder 9  "A Unifying Theory of Galactic Forms and Activity" (J. H. Piddington, pp.1625-1640)

Box 194, Folder 10  "Jupiter's Rotation Period" (R. A. Duncan, pp.1687-1694)

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Box 194, Folder 12  Metaprobe Separation Concepts (circa 1968)

Box 194, Folder 13  "Development of Standardized Instrumentation to be Used with the Microprobe/Metaprobe Concept" (G. B. Hallahan to Ehricke, NR internal letter, 12 Feb 1968)

"Grand Tour of Planets Possible Starting October '78" (Don Dwiggins, *The Register* (evening ed.), 26 Feb 1968, D1)

Box 194, Folder 14  [reduced size reference copy]

Box 255, Folder 21  [oversized original material]

Box 194, Folder 15  "Origin of Lunar Surface Still a Mystery" (George S. Hunter, *Aviation Week and Space Technology* (22 Apr 1968) : 40-47)
Box 194, Folder 16  "Research and Development: Our Neglected Weapon" (Republican Coordinating Committee, 27 May 1968); under cover of A. J. Montgomery to [blank], NR Internal Letter, 5 Jul 1968

Box 194, Folder 17  Flight 94 No.3098 (25 Jul 1968) [Space Special Issue]


Box 195, Folder 1  "Trajectory Analysis of a 1975 Mission to Mercury via an Impulsive Flyby of Venus" (R. Allen Wallace, presented to AAS/AIAA Astrodynamics Specialist Conference, Sept 3-5, 1968)

Technology Requirements for Atmosphere Breaking to Orbit Around Mars & Venus


Box 195, Folder 3  George E. Mueller to J. L. Atwood, 2 Oct 1968 [photocopy]

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Box 195, Folder 7-8  Multi-Planet Mission (Missions to the Outer Planets) - Presentation Material of Final Study Results (JPL document 131-01, Nov 1968) [3 copies; 2 folders]


Box 195, Folder 10  Planetary Astronomy - An Appraisal of Ground-Based Opportunities (National Academy of Sciences publication 1688, 1968) [photocopy]

Box 195, Folder 11  Re-entry and Planetary Entry, Vol.1 (W. H. T. Loh, NY: Springer Verlag, 1968) [Chapter 13 illustrations]
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The Multiple Outer Planet Mission (Grand Tour) (IIT Research Institute report M-16, Jan 1969) [2 folders]

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Briefing Presentation to U.S. House of Representatives, Committee on Science and Astronautics, Manned Space Flight Subcommittee, Friday, March 14, 1969 (NR SD report AP69-8, 14 Mar 1969; preliminary)

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Apollo Lunar Exploration Missions Experiment Instruments Performance and Interface Specification - Block II - CSM (NR report SD69-315, 13 Jun 1969) [2 photocopies; 2 folders]

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"NASA Goals, Positions, Objectives, and Thrusts Approved by the Planning Steering Group" (received by R. J. Kirby, NR, 17 Jun 1969)

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Box 196, Folder 15  "NASA FY 1971 Program" (John E. Naugle to NASA Administrator, memo, 28 Jun 1969)

Box 196, Folder 16  Integrated Space Program for 1970's (briefing, 24 Jun 1969) [photocopy]


Box 197, Folder 2  Integrated Space Program - Manned Planetary Missions for the 1980's (circa Jun 1969) [photocopies of two different documents with this title]

Box 197, Folder 3  NASA Integrated Program of Space Utilization and Exploration - Executive Summary (22 Jul 1969) [photocopy]

Box 197, Folder 4  Planetary Program Model (NR report PD69-66, May 1969)


Box 197, Folder 9  Future NASA Space Programs - Hearing Before the Committee on Aeronautical and Space Sciences - United States Senate, Ninety-First Congress - First Session (5 Aug 1969) [photocopy of selected pages on Apollo Applications Program]

Box 197, Folder 10  "Planetary Mission Planning Analysis" (G. O. DeDonato to J. D. Cardall, NR Internal Letter, 5 Aug 1969)

Box 197, Folder 11  articles from Electronic Design 17 (16 Aug 1969):
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  - "Man on the Moon" (Charles D. LaFond, pp.24-28)
  - "Next: Era of Discovery" (David N. Kaye, pp.30-32)
  - "The Indespensible Man" (David N. Kaye, pp.40-43)
  - "Apollo's Success Rubs Off on Earth" (Elizabeth deAtley, pp.44-47)
Box 197, Folder 12  "Scientific Experiments Seminars [ALEM]" (D. W. Patteson to Those Listed, NR Internal Letter, 28 Oct 1969)

Box 197, Folder 13  "Candidate Missions for Manned Flights to Mars and Venus (1971-2000)" (FM8/Advanced Mission Design Branch to Informal Distribution, NASA memo, 29 Aug 1969) [photocopy]

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Box 198, Folder 4  "Zukunft der Raumfahrt in Europa - Ein Informationsschrift zum Projekt Neptun" (Eckart Eisner and Dirk Moelle, Lehrschule u. Institut für Raumfahrttechnik der TU Berlin report TUBIR 69/8, Sep 1969)


"Nuclear Engine Key to Mars Flight" (Ed Edelse, San Diego Union (14 Dec 1969) : C-9)

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Box 198, Folder 11  News Releases (1969)

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Box 198, Folder 13  Mariner Mars 69 - Photos (Mars, 1969)

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Box 199, Folder 6  "Statement by the President" (Richard Nixon, Office of the White House Press Secretary release, 7 Mar 1970)

Box 199, Folder 7  "NASA Struggles for Funds; Cost Overrides Criticized" (Frank Macomber, San Diego Union (15 Mar 1970) : A-11)

Box 199, Folder 8  articles from San Diego Union, 15 Mar 1970 : A-6
  •  "US Space Goals Detailed"
  •  "Chief of Third Moon Voyage Hits Quarantine"
  •  "Multiple Warhead Testing Ban Urged"

Experiment Module Concept Study (NAS8-25051)

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*Welchen Nutzen hat das Deutsche Weltraumprogramm? - Bussammenfassung der Ergebnisse einer Studie* (Institute für Raumfahrttechnik, TUB; Jul 1970)

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*Space Program for the 70’s . . . . NR View* (NR report, 18 Aug 1970)

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"Integrated Management Control System (IMCS) - Missile and Space Division - Texas - LTV Aerospace Corp" (LTV report, presented to the Joint Meeting of the American Institute of Industrial Engineers/II/E/ and the Aspr Institute, 21-23 Oct 1970)

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"Planetary Exploration with Electrically Propelled Vehicles" (Ernst Stuhlinger, presented to NYAS, 20 Oct 1970)

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"Galilean Satellite Eclipse Observation: The Scientific Potential and Results of Recent Observations" (Thomas F. Greene, Richard W. Shorthill, and L. Gail Despain, AAS paper AAS-71-107)

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"Design of a Probe for Deep Penetration into Jupiter's Atmosphere" (Jack D. Pettus, Douglas B. Cross, John R. Mellin, and Paul G. Rezniecek, AAS paper AAS-71-143)

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*Space Program Planning for the 1970's - Issues and Alternatives* (NR SD report PD71-117, Jul 1971)

Integrated Operations/Payloads/Fleet Analysis (NASA contract NASw-02129 Study A)

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Box 200, Folder 10  
"Formula for a Poor Man's Space Program" (Theodore B. Dufur, 2 Sep 1971)

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*International Cooperation in Outer Space: A Symposium* (Committee on Aeronautical and Space Sciences, United States Senate, US GPO, 1971) [photocopies of selected pages]

Box 200, Folder 12  
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"Another Technology Viewpoint" (Editorial, *AWST*, 3 Apr 1972; extracts from remarks by Edward E. David, Jr, Science Advisor to President Nixon)

Box 201, Folder 2  
"Detecting Life in Space" (William R. Curliss, *International Science and Technology* Jun 1965, 28-34) [photocopy requested by Ehrcke from NR TIC, 17 Apr 1972]

papers presented to IAF 23rd International Astronautical Congress, 8-15 Oct 1972 [2 folders]

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"The Effect of Space Shuttle Payload Design Technologies on Total Space Program Cost" (Maxwell W, Hunter II)

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"The Future of Space: The View from Capitol Hill" (Sen. Frank E. Moss (D-UT), address to AIAA/ASME/SAE Space Mission Planning and Executive Meeting, 10 Jul 1973) [photocopy]

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*Presentation to the Committee on Aeronautical and Space Sciences, United States Senate* (RI report SD 73-CE-0004, 27 Sep 1973) [2 copies, photocopies of selected pages; 4 folders]
Box 201, Folder 12  "Optimization of One-Impulse Transfer from the Elliptic Orbit into Hyperbolic One with the Given velocity 'On Infinity'" (V. A. Yegorov, presented to IAF 24th International Astronautical Congress, 7-13 Oct 1973)

Box 201, Folder 13  Planetary Resonances and Solar Activity Cycles (H. Prescott Sleeper Jr, Northrop Service Inc report, circa 1973)

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Box 201, Folder 14-15  "Low Cost Management for Spacelab" (Heinz Stoewer, IAF paper A74-06, presented to IAF 25th International Astronautical Congress, Amsterdam; 30 Sep - 5 Oct 1974) [2 copies; 2 folders]

Box 201, Folder 16  The Economic Impact of Space R&D Activity (RI SD report, Oct 1974)

Box 201, Folder 17  Manned Space Flight Planning (NASA report, circa 1974)

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Box 201, Folder 18  United States and Soviet Progress in Space: Summary Data through 1974 and a Forward Look (Charles S. Sheldon II, LC CRS report 75-18 SP, 13 Jan 1975)

Box 201, Folder 19  Employment Implications of Alternative Government Programs (T. A. Gibson, RI report, Apr 1975)

Box 201, Folder 20  A National Space Program for Interstellar Exploration (Robert L. Forward, Hughes research report 492, Jul 1972)

Box 201, Folder 21  NSIA Advisory Committees Semi-Annual Project Status Report and Directory (National Security Industrial Association, 1 Jul 1975)

"Zur Probe ein Luftsprung vom Rücken der Jumbos" (Adalbert Bärwolf, Die Welt, 25 Jul 1975)

Box 201, Folder 22  [reduced size reference copy]


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Box 201, Folder 24  "Some Applications of a 1-Million-Second $I_{sp}$ Rocket Engine" (T. A. Heppenheimer, *JBIS* 28 (1975) : 175-181)

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Box 201, Folder 25  *United States and Soviet Progress in Space: Summary Data through 1975 and a Forward Look* (Charles S. Sheldon II, LC CRS report 76-32 SP, 2 Feb 1976)

Box 201, Folder 26  "Revitalizing the Space Program - By Targeting on One Major, Dramatic Objective with Universal Appeal" ("Alyosha", 1976)

Box 201, Folder 27  "Infrastellar and Interstellar Exploration" (Robert L. Forward, Hughes Research report 503, Seminar presented at JPL, Sep 1976)

"Bibliography of Interstellar Travel and Communications - August 1975 Update" (Eugene F. Mallone, Robert L. Forward, and Zbigniew Paprotny, *JBIS* 29 (1976) : 494-517) [2 folders]

Box 201, Folder 28  draft

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Box 201, Folder 30  "Viking: Zwischenbilanz vom Mars - Leben noch nicht widerlegt" (Jesco von Puttkamer, *Umschau in Wissenschaft und Technik* 77 no. 3 (Feb 1977) : 67-73) [reprint]

Box 202, Folder 1  "A Conservative Approach to Interstellar Flight" (T. A. Heppenheimer, presented to BIS 2nd Conference on Interstellar Travel and Communication, 9 Mar 1977)

Box 202, Folder 2  testimony before Senate Science and Space Subcommittee (Mar-Apr 1977)

- *Testimony of Dr T. Stephen Cheston, Associate Dean, Graduate School, Georgetown University, Before the Science and Space Subcommittee, Committee on Commerce, Science and Transportation, United States Senate, March 17, 1977*
- *Statement of Rev. T. Byron Collins, S.J., and Rev. William L. George, S.J., Assistants to the President, Georgetown University, and Dr T. Stephen Cheston, Associate Dean, Graduate School, Georgetown, University [regarding HR488], April 5, 1977*
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*The Mariners and Their Launch Vehicles - No Simple Story* (Edward C. Ezell, 2 Apr 1977) [draft]

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"Trajectory Dynamics in the Earth-Moon System" (T. A. Heppenheimer, presented to AIAA and Princeton University 3rd Conference on Space Manufacturing Facilities, 9-12 May 1977)

Box 202, Folder 5  
"Interstellar Applications and Limitations of Several Electrostatic/ Electromagnetic Ion Collection Techniques" (Gregory L. Matloff and Alphonsus Fennelly, *JBIS* 30 (1977) : 213-222) [reprint]

Box 202, Folder 6  
materials sent to Ehricke by Robert W. Farquhar (1976-1977)

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Box 202, Folder 13  
"Mars Trapped Particle Belt" (Donald H. Robey, no date)

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"Rotation Parameters for Mercury and Venus" ("I. L." to Ehricke, no date)
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150 Boxes

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Box 107, Folder 5  Notebook 17 (circa 1973)
Box 107, Folder 6  Notepads 1 & 2 (NR notepads) (circa 1973)
Box 107, Folder 7  Notepad 3 (circa 1973)
Box 107, Folder 8  annotated 1977 calendar
Box 107, Folder 9  Notebook 18 (circa 1981)
Box 107, Folder 10 loose material tipped into back of Notebook 18 (circa 1981)
Box 107, Folder 11  Notepad 4 (circa 1984)
Box 107, Folder 12  Notepads 5 & 6 (circa 1984)
Box 107, Folder 13  Notepad 7 (circa 1984)
Box 107, Folder 14 list of technological/scientific developments (1962-1967)
Box 107, Folder 15 miscellaneous calculations
Box 107, Folder 16 miscellaneous calculations
Box 107, Folder 17 miscellaneous notes
Box 108, Folder 1 miscellaneous notes (1949)
Box 108, Folder 2 miscellaneous notes and graphics (circa Jan 1971)
Box 108, Folder 3 miscellaneous notes (c 1976)
Box 108, Folder 4 miscellaneous notes and data (1975-1976)
Box 108, Folder 5  miscellaneous notes
Box 108, Folder 6  miscellaneous notes - "Things to Do Today" pad
Box 108, Folder 7  notes from outside of empty folder
Box 108, Folder 8  notes from unknown International Astronautical Congress

Vehicle Technology
(includes Materials, Propulsion, and Vehicle Systems)

Named Files

Box 108, Folder 9  Aerodynamics (1)
Box 108, Folder 10  Aerodynamics (2)
Box 108, Folder 11  Aerodynamics (3)
Box 108, Folder 12  Aerothermodynamics
Box 108, Folder 13  APU (1)
Box 108, Folder 14  APU (2)
Box 109, Folder 1-2  APU (3) [2 folders]
Box 109, Folder 3-4  APU (4) [2 folders]
Box 109, Folder 5  Arc Heating
Box 109, Folder 6  Boundary Layer & Heat Transfer (1)
Box 109, Folder 7  Boundary Layer & Heat Transfer (2)
Box 109, Folder 8  Boundary Layer & Heat Transfer (3)
Box 110, Folder 1  Boundary Layer & Heat Transfer (4)
Box 110, Folder 2  Boundary Layer Theory (1)
Box 110, Folder 3  Boundary Layer Theory (2)
Box 110, Folder 4  Characteristic Performance Data of Main Propulsion Systems - Charts
Box 110, Folder 5  Characteristics
Box 110, Folder 6-7  Chemical and Physical Properties of Propellant Components [2 folders]
Box 110, Folder 8  Chemical Properties
Box 110, Folder 9  Chemical Rocket Engines (1 of 2 folders)
Box 111, Folder 1  Chemical Rocket Engines (2 of 2 folders)
Box 111, Folder 2  Chemical Rocket Power Plant (2)
Box 111, Folder 3  Chemical Space Boosters (Built)
Box 111, Folder 4  Chemische Raketentriebwerke
Box 111, Folder 5  Composite (Rocket / Airbreathing) Engines
Box 111, Folder 6  Configurations
Box 111, Folder 7  Cryogenic Storage in Space
Box 111, Folder 8  Cryogenics
Box 111, Folder 9  Design
Box 111, Folder 10-11  Electric Drive [2 folders]
Box 111, Folder 12  Electric Propulsion
Box 112, Folder 1  Electronics & Electronic Systems
Box 112, Folder 2  Equilibrium Data
Box 112, Folder 3  Feed Systems
Box 112, Folder 4  Fluorine Compounds
Box 112, Folder 5  Free Radicals [1]
Box 112, Folder 6  Free Radicals [2]
Box 112, Folder 7  Fusion Drive
Box 112, Folder 8  Gas Computations / Equilibrium Calculations
Box 112, Folder 9  Gasdynamics
Box 112, Folder 10  Gaseous Fission Engine
Box 112, Folder 11  GEM/VTO
Box 112, Folder 12  Geometrical Curves
Box 112, Folder 13  Ground & Flight Support Equipment
Box 112, Folder 14  Guidance
Box 112, Folder 15-16  Guidance & Control [2 folders]
Box 112, Folder 17  Heat Transfer
Box 113, Folder 1  Heat Transfer to Liquids
Box 113, Folder 2  High Speed Aircraft
Box 113, Folder 3  Hydrogen
Box 113, Folder 4  H₂O₂
Box 113, Folder 5  Hypersonic (Intercontinental) Passenger Glider
Box 113, Folder 7  Instrumentation (Vehicle)
Box 113, Folder 8  Ion Drives (1)
Box 113, Folder 9  Ion Drives (2)
Box 113, Folder 6  Hypersonic Research Rocket & Airplane
Box 113, Folder 10-11  Ion Drives (3) [2 folders]
Box 114, Folder 1  Liquid Propellant Rocket Engines
Box 114, Folder 2  Magnetohydrodynamics
Box 114, Folder 3  Materials [1]
Box 256, Folder 17  Materials [1; oversized material]
Box 114, Folder 4  Materials [2]
Box 114, Folder 5  Measurement & Instrumentation
Box 114, Folder 6  Mercury [Spacecraft]
Box 114, Folder 7  Meteorite Protection of Spacecraft
Box 114, Folder 8  Meteorites
Box 114, Folder 9  Missiles Summaries
Box 114, Folder 10-11  NACA / NASA reports [2 folders]
Box 114, Folder 12  NASA & DOD Reports (1)
reports from the NASA Special Committee on Space Technology (1958)
Box 115, Folder 1  NASA & DOD Reports (2)
draft reports from the NASA Research Advisory Committee on Mechanical 
Power Plant Systems - Recommendations for Research (1959)
Box 115, Folder 2  Nitrogen
Box 115, Folder 3  Nomad
Box 115, Folder 4  Nuclear Aircraft
Box 115, Folder 5  Nuclear and Electric Vehicles
Box 115, Folder 6  Nuclear Heat Exchanger Systems
Box 115, Folder 7  Nuclear Physics
Box 115, Folder 8  Nuclear Propulsion
Box 115, Folder 9  ORNL Studies - Nuclear APU, Radiation, & Meteor Protection
Box 115, Folder 10  Oxygen
Box 115, Folder 11  O₃
Box 115, Folder 12  Performance of Working Fluids
Box 115, Folder 13  Photovoltaic Systems
Box 115, Folder 14  Plasma Drive
Box 115, Folder 15  Power Systems Briefing Charts
Box 116, Folder 1  Project Studies
Box 116, Folder 2-3  Propellant Calculations & Propellant Data [2 folders]
Box 116, Folder 4  Propellant Containers
Box 116, Folder 5  Propellant Performance - General
Box 116, Folder 6  Propellant Performance - Analysis
Box 116, Folder 7  Propellant Performance Calculations
Box 116, Folder 8  Propellant Storage
Box 116, Folder 9  Propellants with HNO₃
Box 116, Folder 10  Radar
Box 116, Folder 11  Radiators for Spacecraft
Box 116, Folder 12  Ramjet
Box 116, Folder 13  Solid Propellant Propulsion Systems
Box 255, Folder 20  Spacecraft: Internal Temperature Conditions [oversized material]
Box 116, Folder 14  Spacecraft Propulsion (General)

Box 117, Folder 1  Structural Papers

Box 117, Folder 2  Study of Thrust for R-Motors and Airbreathing Motors

Box 117, Folder 3  Superaerodynamics & Hypersonic Aerodynamics (1)

Box 117, Folder 4  Superaerodynamics & Hypersonic Aerodynamics (2)

Box 117, Folder 5  Systems

Box 117, Folder 6  Systems Analysis

Box 117, Folder 7  Systems Weight Data

Box 117, Folder 8  Tetranitromethane

Box 117, Folder 9  Thermodynamic & Performance Data of Hydrogen

Box 117, Folder 10  [thermodynamic data for liquid oxygen with liquid hydrogen]

Box 117, Folder 11-12  [thermodynamic data for various nitrogen compounds; 2 folders]

Box 118, Folder 1  [thermodynamic data for various gases]

Box 118, Folder 2  Thermonuclear Rocket Power Plant (1)

Studies and Projects

**Global Glider Study** (Convair) [10 folders, total]

Box 118, Folder 3-5  Global Glider Study [3 folders]

Box 118, Folder 6-8  Flight Mechanics - Glider [3 folders]

Box 119, Folder 1-2  Missile & Glider Analysis (Ft. Bliss 1949) [2 folders]

Box 119, Folder 3  Performance & Flight Path of Winged Missiles

Box 119, Folder 4  Satellite Glider (1956)
Centaur Development (ARPA Project, transferred to NASA 1 Jul 1959) [22 folders, total]

Box 119, Folder 5-6  Centaur [2 folders]

Box 119, Folder 7  "Atlas Family of Spacecraft & Preliminary Data on 990000 and 2x106 lb 3-Stage System with O₂/H₂ Second and Third Stage" (Ehricke, 30 Sep 1958)

Box 119, Folder 8  [thermodynamic calculations for H₂ fuel] (Ehricke to "Helen")

Box 119, Folder 9  "Overall Zero Gravity Testing Program" (Convair report AZJ-55-008, 10 Nov 1959)

Box 119, Folder 10  "Outline of Proposed Zero-G Test Program" (Convair report AZJ-55-010, 23 Dec 1959)

Box 119, Folder 11  "Payload Capability of Atlas/Centaur for Mariner-A P37 and P38 Missions" (Convair Astronautics report AE61-0170, 20 Feb 1961)

Box 119, Folder 12  "Fuel Losses on a Typical 6.2 Hour Centaur Mission Due to Meteroid Punctures" (A. H. Jazwinski; Convair Astronautics report AE61-1042, 28 Aug 1961)

Box 119, Folder 13  "Mission Aspects of Evaluating the Surveyor as Centaur Third Stage for Advent Missions" (Ehricke to Distribution, memo, 16 Feb 1962)


Box 120, Folder 1  Centaur Lunar Targeting Program - II [LTP-II] (GDA report GDA63-0910, 15 Oct 1963)

Box 120, Folder 2  Centaur Precision Targeting Program (GDA report GDA63-1356, 31 Dec 1963)

Box 120, Folder 3  Centaur Technical Handbook (GDA report GD|A-BPM64-001, 15 Feb 1964)

Box 120, Folder 4  Centaur Capability Handbook (GDA report GD|A-BTD64-119, 15 Jul 1964)

Progress Report, 21 July to 24 September (W. E. Strobl; GDC report AOK 65-004, no date) [2 folders]
Box 120, Folder 5  TS
Box 120, Folder 6  blueline
Box 120, Folder 7  "Atlas/γ-Centaur Trajectory Data for Reference Mission" (no date)
Box 120, Folder 8  "Longitude of First Equator Crossing as Function of Launch Azimuth (90 n.m. Parking Orbit Altitude)" (no date)
Box 120, Folder 9  Maneuverable Centaur
Box 120, Folder 10  miscellaneous correspondence
Box 120, Folder 11  Presentation Slides - Gamma Centaur [slides 1-11]
Box 120, Folder 12  Presentation Slides - Atlas-Based Launch Vehicles [slides 12-25]


Box 121, Folder 1  Minutes of Meeting (24-25 Feb 1960)
Box 121, Folder 2  Lewis Presentation (24-25 Feb 1960)
Box 121, Folder 4  "Report of Visit of United States Controlled Thermonuclear Research Team to the USSR" [extracts]

**Study of Post-Nova Launch Vehicles** (NASA contract NAS8-5022) [36 folders, total]
(renamed "Study of Post-Saturn Launch Vehicles" circa Jan 1964)

Box 121, Folder 6-7  Proposal (GDA report AE62-0385, 13 Apr 1962) [2 copies; 2 folders]
Box 121, Folder 8  miscellaneous correspondence (Sep 1962)
Box 121, Folder 9-10


Box 121, Folder 11

"Aerodynamic Heating of Post-Nova Vehicle Recoverable Booster" (R. Magnus to Ehricke; memo, 29 Oct 1962)

Box 121, Folder 12-13

[briefing] (GDA report AOK62-0011, 13 Nov 1962) [2 copies; 2 folders]

Box 121, Folder 14-15

*Intermediate Report No.2:* "Extraterrestrial Options, Concept Selections and Schedule" (Ehricke; GDA report AOK62-0012, 13 Nov 1962) [2 copies; 2 folders]

Box 121, Folder 16

"Nuclear Engine (NERVA)" (D. H. Robey to Ehricke; GDA memo, 23 Nov 1962)

Box 121, Folder 17

"Minutes of Advanced Nova Meeting - January 29, 30, 1963"

Box 122, Folder 1-2

*Intermediate Report No.3:* "NEXUS - Concept of a Large Re-Usable Earth Launch Vehicle" (GDA report, circa Mar 1963) [2 folders]

Box 122, Folder 3

*Final Report - Propulsion Studies for Post-NOVA Launch Vehicle Study - General Dynamics/Astronautics* (Rocketdyne report LAPR 63-36, 7 Mar 1963)

Box 122, Folder 4-5

"Summary Weight Analysis for Nexus Version of Post Nova Study" (G. Jensen; Convair report ASO 63/3, 28 Mar 1963) [2 copies; 2 folders]

Box 122, Folder 6

*Phase III Proposal* (GD report AOK 63-0012, 29 Mar 1963)

Box 122, Folder 7

miscellaneous notes and graphics (MS)

*Phase I and II Final Report* (GD report AOK 63-013, circa Apr 1963) [3 folders]

Box 122, Folder 8

TS

Box 122, Folder 9

§ 7.2 "Theory" (TS)

Box 122, Folder 10

§ 7.2 "Theory" (photocopy; 2 copies)

*Final Summary Report*

Box 122, Folder 11

Phase I & II Final Report (NASA contract NAS8-5021, awarded to Douglas)

Box 123, Folder 1-2 Vol. VI - Operational Plans and Cost Formulation (Douglas report SM-42969, Apr 1963) [2 folders]

Box 123, Folder 3 "Trip Report of Visit to the Nuclear Propulsion Branch of Lewis Research Center at Cleveland, Oct. 31, 1963" (R. E. Mannion to Ehricke; GD memo, 8 Nov 1963)

Box 123, Folder 4 Phase III Second Presentation 12 December 1963 at GD/Astronautics (GDA report AOK 63-035, 11 Dec 1963)

Box 123, Folder 5 Launch Vehicle Questionnaire (circa 17 Dec 1963)

Box 123, Folder 6 "Results of Propulsion System Questionnaire" (H. H. Koelle to Ehricke; NASA MSFC R-FP-586-64, 17 Dec 1963)

Box 123, Folder 7 W. G. Huber to Ehricke; NASA MSFC letter R-FP-592-64, 19 Dec 1963

Box 123, Folder 8 miscellaneous notes

Box 123, Folder 9 Post-Saturn Launch Vehicle illustrations

Phase III - Class IV Vehicles Final Report [4 folders]

Box 123, Folder 10 Vol. I - Condensed Summary (GD report GD|A-AOK 64-009-1, 11 Mar 1964) (2 copies)

Box 123, Folder 11 Vol. II - Summary (GD report GD|A-AOK 64-009-2, 25 May 1964)

Box 123, Folder 12 Vol. III - Supplement, Part 2A (GD report GD|A-AOK 64-009-3a, 8 Jun 1964)

Box 124, Folder 1 Vol. III - Supplement, Part 2B (GD report GD|A-AOK 64-009-3a, 8 Jun 1964)

Nova Vehicle Systems Study (NASA contract NAS8-5136) [13 folders, total]

Box 124, Folder 2 "Two Stage Nova Performance - Solid Propellant First Stage, Advanced LO2-LH2 Second Stage Engines, Tandem Staging (Category E-1L)" (C. Simons to Distribution, Nova Memo No.518, 5 Dec 1962)
Box 124, Folder 3  
*Nova Program Study - Presentation to Nova Management Team, National Aeronautics and Space Administration* (GDA report, 11 Dec 1962)

Box 124, Folder 4  
*Nova Program Study - Presentation to Marshall Space Flight Center*  
(GDA report, 13 Dec 1962)

Box 124, Folder 5  
Nova memos  
- "Preliminary Mars Vehicle Reliability Model" (GDA, Nova Memo 167 Supplement A, 7 Dec 1962) [page 1 missing]  
- "Probability of Success Versus Number of Launches for Single Capsule Mars Vehicle" (GDA, Nova Memo 167 Supplement B, 19 Dec 1962)

Box 124, Folder 6  
"Nova Operational Mission Model Ground Rules" (MSFC FPO, 31 Jan 1963)

*Part I Conceptual Design Study* (GDA report AE63-0096) [3 folders]

Box 124, Folder 7  
Vol. 1 - *Vehicles Systems Comparison and Selection, Advanced Technology Plan* (1 Apr 1963)

Box 124, Folder 8  
Vol. 6 - *Category J Vehicle* (25 Mar 1963)

Box 124, Folder 9  
Vol. 7 - *Unconventional Propulsion* (15 Mar 1963)

Box 124, Folder 10  
"Nova Launch Vehicle Design Studies" (Andrew Kalitinsky, draft, 21 May 1963)

*Part II Conceptual Design Study, Final Report* (GDA report 63-0844, Sep 1963) [4 folders, total]

Box 124, Folder 11  
Vol. I - *Study Summary*

Box 124, Folder 12  
Vol. II - *Trade-Off and Parametric Studies*

Box 125, Folder 1-2  

*Advanced Nuclear-Electric Power Generator System* (NASA contract NASw-360) [6 folders, total]

Box 125, Folder 3  
*Parametric Studies Report - Thermionic Nuclear Space Powerplant*  
(PWA report PWA-2240, 30 Jul 1963)
Box 125, Folder 4-5  

Box 125, Folder 6-7  

Box 125, Folder 8  
*Summary* (PWA report PWA-2280, 31 Oct 1963)

**Nuclear Pulse Space Vehicle Study** (NASA contract NAS8-11053) [19 folders, total]

Box 126, Folder 1  

*Technical Report* [17 folders, total]

Box 126, Folder 2  
Vol I - *Summary* (GD report GA-5009 vol. I, Jan 1964)


Box 126, Folder 3  
§ 5.0-7.0 (MS)

Box 126, Folder 4-5  
§ 5.0-7.0 (water damaged blueline) [2 folders]

Box 126, Folder 6-9  
unabridged draft (water damaged blueline) [4 folders]

Box 127, Folder 1-3  
incomplete final copy [3 folders]

Box 127, Folder 4-6  
final copy [3 folders]

Box 127, Folder 7  
published copy [1 of 2 folders]

Box 128, Folder 1  
published copy [2 of 2 folders]

Box 128, Folder 2  
Vol IV - *Mission Velocity Requirements and System Comparisons (Supplement)* (GD report GA-5009 vol. IV (Supplement), 28 Feb 1966)

Box 128, Folder 3  
correspondence with Gulf General Atomic (18 Jun 1969)

**Beyond the Horizon** (USAF study SCL-6-66-10) [11 folders, total]
Box 128, Folder 4  "Comments on the Question of the Usefulness of the Scramjet to Boost and Reentry Vehicle Program" (Ehricke) (MS)

Box 128, Folder 5  Director's Report (USAF AFSC report, draft of 20 Jul 1966) (photocopy)

Director's Report (USAF AFSC report, draft of 26 Jul 1966) (photocopy) [4 folders]

Box 128, Folder 6  Vol.1

Box 128, Folder 7  Vol.1 Annex C - Global Transportation

Box 128, Folder 8  Vol.1 Annex D - Vertical Take-off and Landing Vehicles

Box 128, Folder 9  Vol.1 Annex E - Boost and Re-Entry for Space Flight

Director's Report (USAF AFSC report, draft of 10 Aug 1966) (photocopy) [5 folders]

Box 128, Folder 10  Vol.1 Annex A - Study Method and Organization

Box 128, Folder 11  Vol.1 Annex C - Global Transportation

Box 128, Folder 12  Vol.1 Annex D - Vertical Take-off and Landing Vehicles

Box 128, Folder 13  Vol.1 Annex E - Boost and Re-Entry for Space Flight

Box 128, Folder 14  selected pages from Vol.1 Annex C, D, E

Nuclear Flight System Definition, Potential Flight Test and Early Operational Payloads  (NASA contract NAS8-24975) [36 folders, total]

Proposal [2 folders]


Box 129, Folder 3  "Revised Proposal for Task 15.0 - Outer Planet Exploration Missions" (circa Jun 1969)
"Information Received from Chuck Guttman, NASA/MSFCM, on Contract NAS8-24975" (E. M. Repic to OPM Personnel, NR Internal Letter ADS/UMS/69-78, 18 Jul 1969)

Phase I Review (Tasks 1-10) (NR report PDS 69-101-1, 7 Oct 1969)


"Revised Project Directive, Nuclear Flight System Definition Study (Task 1-10), Contract NAS8-24975, Section A" (F. F. Boyd to Those Listed, NR Internal Letter, 29 Oct 1969)


Phase I, Part B (Outer Planets Exploration Mission) Final Report [8 folders]

Vol. I - Summary (NR report SD 70-32-1, Jan 1970)

Vol. II - Mission Objectives and Payloads (NR report SD 70-32-2, Jan 1970)


Vol. III - Mission Analysis (NR report SD 70-32-3, Jan 1970), § 4-Appendix

Vol. IV - Conceptual Design (NR report SD 70-32-4, Jan 1970), §§ 1-3

Vol. IV - Conceptual Design (NR report SD70-32-4, Jan 1970), § 4-Appendixes


Vol. VI - Technology Development (NR report SD 70-32-6, Jan 1970)
Box 131, Folder 4  

Box 131, Folder 5  

Box 131, Folder 6-7  
*Interim Phase II Review (Tasks 1-10)* (NR report PDS 70-207, 28 Jan 1970) [2 copies, 2 folders]

Box 132, Folder 1  
*Final Phase II Review* (NR report SD 70-223, 19 May 1970)

Box 132, Folder 2  

Box 132, Folder 3  

*Phase II (Reusable Nuclear Shuttle) Final Report* [2 folders]

Box 132, Folder 4  

Box 132, Folder 5  
*Vol. V - Program Options and Definition* (NR report SD 70-117-5, Aug 1970)

Box 132, Folder 6  
*Phase III (Reusable Nuclear Shuttle) First Interim Review* (NR report PDS 70-242, 2 Sep 1970)

Box 132, Folder 7  

*Phase III (Reusable Nuclear Shuttle) Final Report* [8 folders]

Box 133, Folder 1  
*Vol. I - Executive Summary* (NR report SD 71-466-1, Apr 1971)

*Vol. II - Concept and Feasibility Analysis*

Box 133, Folder 2  
Part B - *Baseline System Definition* (NR report SD71-466-3, Apr 1971)

Box 133, Folder 3  
Part C - *System Engineering Documentation* (NR SD report 71-466-4, Apr 1971)
Box 133, Folder 4  Vol. III - Program Support Requirements (NR report SD 71-466-5, Apr 1971)

Box 133, Folder 5  Vol. IV - Cost Data (NR report SD71-466-6, Apr 1971)

Box 133, Folder 6  Vol. V - Schedules, Milestones and Networks (NR report SD 71-466-7, Apr 1971)

Vol. VI - Reliability and Safety Analysis (NR report SD 71-466-8, Apr 1971)

Box 133, Folder 7  copy 1 of 2

Box 134, Folder 1  copy 2 of 2

Box 134, Folder 2  Phase III (Reusuable Nuclear Shuttle) Final Review - Executive Summary (NR report SD 71-481-1, 15 Apr 1971)

Box 134, Folder 3  Phase III (Nuclear Shuttle System) Final Review (NR report SD 71-481-2, 15 Apr 1971)

Box 134, Folder 4  miscellaneous trajectory graphics

Box 134, Folder 5  miscellaneous notes

Solar Electric Propulsion Stage (NASA contract NAS8-27360) [8 folders, total]

Box 134, Folder 6  Technical Proposal (NR report SD71-463-1, 26 Mar 1971; response to NASA RFQ DCN 1-1-20-00076)

Final Report [3 folders, total]

Box 134, Folder 7  Vol I - Executive Summary (NR report SD72-SA-0011-1, 27 Mar 1972)

Vol II - Concepts and Feasibility Analysis [2 folders]


Box 134, Folder 9  Part 2 - Concept Development (NR report SD72-SA-0011-2-2, 27 Mar 1972)
Box 135, Folder 1  
*Extended Definition Feasibility Study - Expected Environments for the Solar Electric Propulsion Stage* (NR report SD 72-SA-0129, Sep 1972)

*Feasibility Study of a Solar Electric Propulsion Stage for Geosynchronous Equatorial Mission - Final Report* [2 folders]

Box 135, Folder 2  

Vol.II - *Concept and Feasibility Analysis*

Box 135, Folder 3  
Part 2 - *Concept Analysis* (NR report SD 72-SA-0199-2, 23 Feb 1973)

Box 135, Folder 4  
*Extended Definition Feasibility Study - Final Briefing* (RI report SD 73-SA-0133, 8 Jan 1974)

**Space Shuttle Orbiter Design** (NASA contract NAS9-14000) [29 folders, total]

Box 135, Folder 5  
*Space Shuttle - Keystone for Tomorrow* (NR release SP-17, circa 1971)

Box 135, Folder 6  
"Blueprint for the Future" (NR brochure, Pub 3540-S, Apr 1972) [2 copies]

Box 135, Folder 7-8  
*Space Shuttle System Summary* (NR report SSV 72-2, Oct 1972) [2 copies, 2 folders]

Box 135, Folder 9-11  
*Space Shuttle - Service to Mankind - Earth Resources Development Review* (NR report SSV72-4, Nov 1972) [3 copies; 3 folders]

Box 136, Folder 1  

Box 136, Folder 2  
*Space Shuttle - Keystone for Tomorrow* (NR release SP-17, rev.8 Mar 1973)

Box 136, Folder 3  
*Rockwell International Space Division Presentation to Manned Space Flight Subcommittee of House Science and Astronautics Committee* (RI report MS 73-2, 23 Mar 1973)

Box 136, Folder 4  
GO Presentation [Presentation to HR Science and Astronautics Committee, Subcommittee on Manned Space Flight, Visit to Space Division, Rockwell International - Downey, California, 23 Mar 1973]
Box 136, Folder 5  
*Solid Rocket Booster - The Low Cost Approach to the Space Shuttle*  

Box 136, Folder 6  
"Testimony by G. W. Rathjens before the Committee on Appropriations, United States Senate, April 9, 1973, and the Committee on Aeronautical and Space Sciences, United States Senate, April 10, 1973"

Box 136, Folder 7  
"Testimony Submitted to the Senate Committee on Aeronautical and Space Sciences" (Thomas Gold, 10 Apr 1973)

Box 136, Folder 8  
"Statement of James J. Harford, Executive Secretary, AIAA: Accompanied by Dr Jerry Grey, Administrator of Technical Activities, AIAA; and Mr J. Preston Layton, Senior Research Engineer and Lecturer, Princeton University; before the Subcommittee on HUD-Space-Science-Veterans, Committee on Appropriations, United States Senate, 93rd Congress, First Session" (11 Apr 1973)

Box 136, Folder 9  
*Congressional Record* (House), 23 May 1973

Box 136, Folder 10  
"Space Shuttle Orbiter and Subsystems" (E. P. Smith, RI report SD 73-SH-0144, Jun 1973, for presentation to AIAA/ASME/SAE Space Mission Planning and Execution Meeting, Denver, CO, 10-12 Jul 1973)

Box 136, Folder 11  
PALE [Pelvis and Legs Elevating] Seat

Box 136, Folder 12  
"Looking Out For Our Earth with the Space Shuttle Transportation System" (script, circa 1975)

Box 136, Folder 13  
*Space Shuttle System Summary* (RI report SSV74-32(R), May 1975)

Box 136, Folder 14  
*Space Shuttle Transportation System* (RI report, Sep 1975)

Box 136, Folder 15  
"Rockwell International Exhibit Plans for U.S. Bicenntenial Exposition on Science and Technology - NASA Kennedy Space Center, 31 May through 6 September 1976"

Box 136, Folder 16  
*Space Shuttle System Summary* (RI report SSV 78-1, Jan 1978)

Box 137, Folder 1  
Shuttle / Navstar Press Kits (19 Apr 1978) [cannibalized]

Box 137, Folder 2-3  
*Press Information - Space Shuttle Transportation System* (RI, Feb 1981) [2 folders]

Box 137, Folder 4  
Box 137, Folder 5  miscellaneous Space Shuttle photos (circa 1973)

Box 137, Folder 6  miscellaneous Space Shuttle photos (circa 1976)

Miscellaneous Reference Materials

1947

Box 137, Folder 7  "Introduction to the Problem of Rocket-Powered Aircraft Performance" (H. Reese Ivey, Edwrad N. Bowen Jr and Lester F. Oborny, NACA TN 1401, Dec 1947)

Box 137, Folder 8  "Notes & Tables for Use in the Analysis of Supersonic Flow" (NACA TN 1428, Dec 1947)

1949

Box 137, Folder 9  "Investigation of Aircraft Heaters, XXX - Nocturnal Irradiation as a Function of Altitude and Its Use in Determination of Heat Requirements of Aircraft" (L. M. K. Boelter, H. Poppendiek, G. Young, and J. R. Anderson, NACA TN 1454, Jan 1949)

1950

Box 137, Folder 10  "Tables of Thermodynamic Functions for Analysis of Aircraft Propulsion Systems" (Vearl N. Huff and Sandford Gordon; NACA TN 2161, Aug 1950)

1951

Box 137, Folder 11  "Method for Calculation of Ram-Jet Performance" (John R. Henry and J. Buel Bennet, NACA TN 2357, Jun 1951)

1952

Box 137, Folder 12  "Transition Caused by the Laminar Flow Separation" (T. Maekawa and S. Atsumi, NACA TN 1352, Sep 1952)

Box 137, Folder 13  "The Laminar BL in Slip Flow" (T. Nonweiler, College of Aeronautics Cranfield report 62, Nov 1952)

Box 137, Folder 14  "Radiant-Interchange Configuration Factors" (D. C. Hamilton and W. R. Morgan, NACA TN 2836, Dec 1952)

1953
"The Effect of Dissociation on the Thermodynamic Properties of Pure Diatomic Gases" (Harold W. Woolley, NBS report 1884, 1 May 1953 and NACA TN 3270, Apr 1955) [2 folders]

Box 137, Folder 15  NBS report

Box 138, Folder 1  NACA report

Box 138, Folder 2  "The Determination of Skin Temperatures Attained in High Speed Flight" (F. V. Davies and R. J. Monaghan, RAE report 14,990 (Aero 2454), Feb 1952, UK Aeronautical Research Council report CP No 123, 1953)

1954

Box 138, Folder 3  "Propellants for Rockets and Space Ships" (Johan G. Tschinkel; Chemical and Engineering News 32, no.26 (28 Jun 1954) : 2582-2587) (reprint)

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Box 138, Folder 6  "Über die aerodynamische Erwärmung von kegelförmigen Fluglörpern im Bereich extrem hoher machzahlen" (H. Ruppe, reprint)

Box 138, Folder 4  "Gesinterte Hochtemperaturwerkstoffe" (R. Kieffer and F. Binesovsky, reprint)

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Box 138, Folder 16  "Einige Betrachtungen zur Theorie der raumfahrzeugantriebe" (H. Ruppe)

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Box 139, Folder 8  
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Box 139, Folder 13  
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Box 139, Folder 17  Satellite Nuclear Auxiliary Power Unit (Convair report FZM-1701A, 18 Jun 1958)

Box 139, Folder 18  A National Integrated Missile and Space Vehicle Development Program (Working Group on Vehicular Program, Special Committee on Space Technology, NACA)

Box 139, Folder 19  "Der Einfluß der Genauigkeit des Geschwindigkeitsvektors auf kreisnalie Bahnen künstlicher Satelliten" (Karl Schütte, presented to IAF 9th International Astronautical Congress, 25-30 Aug 1958) (reprint from Proceedings of 9th International Astronautical Congress; 3 copies)

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Beneficial Effects of Space Shuttle on Payload Design & Operations (NR report SV70-9, Jul 1970)

Box 151, Folder 14

"Invited Comments" (Ernst Stuhlinger, AIAA Electric Propulsion Conference, 31 Aug-2 Sep 1970)

Preliminary Power Conversion System Radiator (NAS8-26346)

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Final Review (NR report SD70-591, 5 Nov 1970)
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Versatile Upper Stage Study (NAS7-804)

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Box 151, Folder 16-17 Vol.I - Summary (GDC report GDCA-BNZ71-012, Jun 1971) [2 copies; 2 folders]

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Compatibility of a Cryogenic Upper Stage with Space Shuttle (NAS3-14389)

Box 151, Folder 18 Final Study Summary (GDC report GDCA-BNZ71-020-FS, 1 Feb 1972)

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Box 152, Folder 1 Agena Space Tug (Lockheed Missile and Space Co briefing, Aug 1972)


1973

Box 152, Folder 5 reports by Federation of Americans Supporting Science and Technology [FASST]:


- Technology, the Economy, and the Space Program - A Study of Student Attitudes, Perceptions, and Knowledge About Technology, the Economy, and the Space Program (1973)

Box 152, Folder 6 "Mechanical and Physical Properties of Advanced Composites" (W. T. Freeman and G. C. Kuebeler, presented to ASTM 3rd Conference on Composite Materials, 21-22 Mar 1973)

Box 152, Folder 7 Titan IIIE/Centaur D-1T Systems Summary (GDC report CASD-LVP73-007, Sep 1973)
Box 152, Folder 8  citations on mag-lev technology [circa 1973]

Box 152, Folder 9-10  photocopies of articles on mag-lev technology [2 copies each; 2 folders]:


Box 152, Folder 10  "Hybrid Magnetically Levitated Bus" (Charles Guderjahn, presented to Transpo 73 [?], proceedings [?] pp.209-214)

1974

Box 152, Folder 12  Review of Metals Technology (Metals and Ceramics Information Center publication, May 1972-Oct 1974)

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Box 152, Folder 13  "Airships Are Back for Another Try" (US News and World Report, 3 Feb 1975)

Hypersonic Research Engine Project (NAS1-6666)

Box 153, Folder 1  Phase II - Final Oral Review Technical Presentation (AiResearch report 75-11338, 25 Mar 1975)

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Box 153, Folder 2-3  Cold Fuel for Hot Performance - Liquid Hydrogen for Propulsion, 1945-1959 (John L. Sloop, comment draft 7 Nov 1975, Chapters 11-12 only) [2 copies (copy 2 includes Ehricke to Sloop, 22 Apr 1976 and Ehricke to Sloop 28 Apr 1976) 2 folders]

Box 153, Folder 4  TC-5 [Titan-Centaur] / Helios B Launch Data

Box 153, Folder 5  "The Air-Scooping Nuclear-Electric Propulsion Concept for Advanced Orbital Space Transportation Missions" (R. H. Reichel, IAF paper 76-161; presented to the IAF27th International Astronautical Congress, 10-16 Oct 1976) [advance copy]

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Box 153, Folder 13  "Air-Scattered Neutron and Gamma Radiation Dose Rates for the Helios-C Nuclear Rocket" (Donald H. Robey, GDA report, no date)

Box 153, Folder 14  Hydrogen and Metals (RI report SC2443.2T) [§II Introduction only]

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Box 159, Folder 9  Systems Integration, Mission Performance Analysis, Vehicle Comparisons (GDA report AOK 62-0013, 1 Dec 1962) [briefing slide brochure]

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**Outer Planet Missions** (NR Internal Study) [4 folders]

Box 177, Folder 5  

Box 177, Folder 6  
Outer Planet Missions Group - Correspondence (Apr 1970)

Box 177, Folder 7  
*Science Payloads* (NR report PD70-18, Jul 1970)

Box 177, Folder 8  
*Project Description* (NR report SD 70-99-1A, Apr 1971)

**Apollo Lunar Experiments Missions** (part of NASA contract NAS9-150 for Apollo Command-Service Module) [3 folders]

Box 177, Folder 9  
"Call For Lunar Orbit Experiment Proposals" (NASA DNO 69-181, 3 Mar 1969)

Box 177, Folder 10  
"Lunar Orbital Sciences - Proposed Investigations and Investigators" (NR [], 9 May 1969)
Box 177, Folder 11  "Experiment Assignments" (NR [?], 7 Jul 1969)

**Solar Electric Propulsion Asteroid Belt Mission** (JPL contract 952566, subcontract to NASA contract NAS7-100) [6 folders, total]

Box 177, Folder 12  *Second Monthly Presentation* (NR report, 7 Oct 1969)

*Final Report* [5 folders, total]

Box 178, Folder 1-4  *Vol. II - Technical Report* (NR report SD 70-21-2, Jan 1970) [4 folders]

Box 178, Folder 5  *Vol. III - Program Development Plan* (NR report SD 70-21-3, 19 Jan 1971)

**Transportation Systems**

**Named Files**

Box 204, Folder 1  Classifications [charts]

Box 204, Folder 2  Shuttle Station Paper - Vienna

**Studies and Projects**

**Orbit-to-Orbit Shuttle (Chemical) Feasibility Study** (USAF contract F04701-71-C-0171) [4 folders]

Box 204, Folder 3  *First Technical Direction Meeting - Summary Briefing* (NR report, 30 Apr 1971)

Box 204, Folder 4  *Third Technical Direction Meeting - Summary Briefing* (NR report PD 71-114, 8 Sep 1971)

Box 204, Folder 5  *Reaction Control Systems for the Orbit-to-Orbit Shuttle* (D. H. Jaeger, Aerospace Corp report TOR-0059(6759-01)-5, 14 Jul 1970)

Box 204, Folder 6  OOS/Tug Handbook (Aerospace Corp report TOR-0172(2770-02)-2, 21 Jul 1971)

**SPS** [Satellite Power Systems]  **Transportation Workshop** (UAL Huntsville, 29-31 Jan 1980) [15 folders, total]
Box 204, Folder 7  
*SPS Transportation - Executive Summary* (Boeing report, 17 Dec 1979)

Box 204, Folder 8  
"SPS Technology Projects - Transportation Systems (Planned Future Activities)" (Jim Watkins, 19 Dec 1979)

Box 204, Folder 9  
"SPS Transportation System - Orbit-to-Orbit Transfer (EOTV)" (William Wales, 19 Dec 1979)

Box 204, Folder 10  
Correspondence

Box 204, Folder 11  
"Ground to Low-Earth-Orbit Transportation Briefing" (Billy W. Shelton, Jan 1980)

Box 204, Folder 12-13  
*Satellite Power Systems Transportation Workshop Summary* (RI report, Jan 1980) [2 copies (1 cannibalized); 2 folders]

Box 204, Folder 14-15  
*Boeing Presentation Data* (21 Jan 1980) (2 folders)

Box 205, Folder 1  

Box 205, Folder 2  
"SPS Overview" (Carl Schwenk, no date)

Box 205, Folder 3  
*SPS Transportation Workshop - January 29, 30, 31, 1980* (RI briefing) [photocopy]

Box 205, Folder 4  
Workshop Documents (agendas, participant lists)

Box 205, Folder 5-6  
*Final Report of the SPS Space Transportation Workshop* (Johnson Environmental and Energy Center, University of Alabama Huntsville, Oct 1980) [2 copies; 2 folders]

Box 205, Folder 7  
miscellaneous charts

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Box 205, Folder 8  
"Manned Control of Orbital Rendezvous" (E. Levin, presented at the National Symposium on Manned Space Stations, 20-22 Apr 1960; RAND report P-1834, 20 Oct 1959)
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Box 205, Folder 9  

Box 205, Folder 10  

Nuclear Lunar Logistics (NAS8-5600) [2 folders]

Box 205, Folder 11  

Box 205, Folder 12  

Box 205, Folder 13  

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Box 205, Folder 14  

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Box 205, Folder 15  
"Early Nuclear Rocket Applications" (Paul G. Johnson, AIAA paper 68-653, presented to AIAA 4th Propulsion Joint Specialist Conference, Cleveland, OH, 10-14 Jun 1968)

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Box 206, Folder 1  

Box 206, Folder 2  
"Macro System: Hercules - Earth/Moon Transportation system for the Initiation of Lunar Utilization Phase" (William J. D. Escher, Feb 1969)

Box 206, Folder 3  

Box 206, Folder 4  
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Box 206, Folder 5  

Box 206, Folder 6  

Box 206, Folder 7-8  

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Box 207, Folder 1  
"MINIS, MAXIS, and MUSTARD - Considerations in the Sizing of International Space Transportation Systems" (R. F. Creasey, presented to AAS 16th Annual Meeting, 8-10 Jun 1970) [sent to Ehricke by Creasey, 30 Jun 1970]

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Space Tug / OOS Economics Effectiveness Study (NASA)

Box 207, Folder 2  
Briefing (GDC, Nov 1971)

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Box 207, Folder 3  
"Implications of New Transport Vehicles and Cost Analysis of Supplying and Maintaining a Manned Lunar Laboratory" (F. Vinsonneau, circa 1972)

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Box 207, Folder 4  
New Space Transportation Systems - An AIAA Assessment (AIAA Ad Hoc Committee on the Assessment of New Space Transportation Systems, 9 Jan 1973)

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Box 207, Folder 5  
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Study of the Commonality of Space Vehicle Applications to Future National Needs (NASw-2727) [6 folders, total]

Box 207, Folder 6  
*Midterm Submission (Unclassified Portion)* (Aerospace Corp report ATR-75(7365)-2, 24 Mar 1975)  

Box 207, Folder 7  

Box 207, Folder 8  

Box 207, Folder 9  

Box 207, Folder 10  
Vol. III - *Detailed Data, Part I* [incomplete photocopy]

Box 207, Folder 11  

Box 208, Folder 1-2  
"The Space Tug - An Assessment" (H. O. Ruppe, circa 1975) [2 photocopies; 2 folders]

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"Single-Stage-To-Orbit Shuttles - Considerations on Feasibility and Economics" (Robert H. Schmucker and Harry O. Ruppe, presented to the 12th International Symposium on Space Technology and Sciences, 16-21 May 1977)

Shuttle Growth Study - Booster and External Tank Options (NAS8-32015)
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"Star-Raker - An Airbreather/Rocket-Powered, Horizontal Takeoff Tridelta Flying Wing, Single-Stage-To-Orbit Transportation System" (David A. Reed, Jr, Hideo Ikawa, and Jonas A. Sadunas, presented to AIAA Conference on Advanced Technology for Future Space Systems, Hampton, VA, 8-11 May 1979)

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Box 208, Folder 7  

Box 208, Folder 8  

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Box 208, Folder 9  
notes - interorbital staging analyses

Box 208, Folder 10-11  
notes - Transportation Systems [2 folders]

Space Habitation and Human Factors

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Box 208, Folder 12  
Briefing to GMoD Presented in Bonn, Germany, January 1966

Box 208, Folder 13  
Briefing to SAMSO (Col. Mock) - May 8, 1968

Box 208, Folder 14  
Manned Space Stations [1959-1963]

Box 208, Folder 15  
Manned Space Station

Box 208, Folder 16  
Military Space

Box 208, Folder 17  
Military Space Systems Matrix

Box 208, Folder 18-19  
Space Medicine (1) [2 folders]

Box 209, Folder 1  
Space Medicine (2)
Box 209, Folder 2  |  Space Medicine (3)
---|---
Box 209, Folder 3  |  Space Radiation & Shielding
Box 209, Folder 4  |  Space Station

**Studies and Projects**

**Space Station Program Definition** (NASA contract NAS9-9953)

Box 209, Folder 5  

Box 209, Folder 6  
"Suggested Reorientation of Space Station Design Concept" (Director of Flight Operations to Manager, Advanced Missions Program Office, NASA Memo 69-FM8-35, 12 May 1969)

Box 209, Folder 7  
*Phase B Technical Proposal* (NR report SD 69-200-1, 5 Jun 1969)

Box 209, Folder 8  

Box 209, Folder 9  

Box 209, Folder 10  
"Initial Space Station Habitability Considerations Relative to the Artificial-g Environment" (J. W. Beckwith to Distribution, NR Internal Letter SS-OPS/69-011, 3 Oct 1969)

Box 209, Folder 11  
"Initial Systems Safety Criteria" (R. O. Hartley to Distribution, NR Internal Letter, 3 Oct 1969)

*Space Station/Base Technology Plan - A Compilation of Requirements and Projected Utilization with Current Technology Status and Future Technology Projections* (NASA/OMSF/Space Station Task Group, Nov 1969)

Box 209, Folder 12  
[1 of 3 folders]

Box 210, Folder 1-2  
[2-3 of 3 folders]

Box 210, Folder 3  
Box 210, Folder 4  
*Space Station Program Definition (NAS9-9953) - Baseline Habitability Considerations* (C. L. Brockman to "those concerned", NR Internal Letter SS-OPS/69-026, 12 Nov 1969)

Box 210, Folder 5  
*Space Station Program Information Management - Updated IMS Concept* (GE Space Systems report EL-203, 14 Nov 1969)

Box 210, Folder 6  

Box 210, Folder 7  
"Primary Areas of Emphasis" (J. I. Dodds to Ehricke, NR Internal Letter, 10 Nov 1969)

Box 210, Folder 8  
"Provisional Radiation Dose Limits for Space Station Crew" (NASA MSC to North American Rockwell Corp, Seal Beach, CA, TWX, 21 Nov 1969)

Box 210, Folder 9  
*Space Station Definition (NAS8-25140) - 2nd Monthly Progress Report* (McDonnell-Douglas report MDC G0227, 10 Nov 1969) [photocopy sent to Ehricke by E. W. Nicks, 2 Dec 1969]

Box 210, Folder 10  
"Space Base Configuration" (Ehricke to J. I. Dodds, NR Internal Letter, 2 Dec 1969)

Box 210, Folder 11  
"Space Base External Dynamics" (Ehricke to R. E. Greer, NR Internal Letter, 3 Dec 1969)

Box 210, Folder 12  
*Phase B Definition - Informal Technical Briefing / Discussion* (NR report PDS69-119, 5 Dec 1969)

Box 210, Folder 13  
"Orbit Requirements Comparison for Space Base" (Ehricke to R. E. Greer, NR Internal Letter, 10 Dec 1969)

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*Phase B Definition - First Quarterly Progress Report* (NR report SD 69-608, MSC-00734, 12 Dec 1969)

Box 210, Folder 16  
*Phase B Definition - Special Emphasis Task Summary Report* (NR SD 69-611, MSC-00737, 12 Dec 1969)

Box 211, Folder 1  
Box 211, Folder 2  "Space Station Internal Dynamics and Related Human Factors" (Ehrice to unknown, circa 1969)

Box 211, Folder 3  *Phase B Definition - February Progress Review* (NR report PDS70-212, 19 Feb 1970)

Box 211, Folder 4  "Space Station Configuration Option 130 Preliminary Weight Summary" (L. A. Duffey to R. W. Estrup, NR Internal Letter SS-70-220-26, 23 Feb 1970)

Box 211, Folder 5  *February Progress Report* (NR report SD 70-144, MSC-00733, 3 Mar 1970)

Box 211, Folder 6  "Space Station Configuration 712 Preliminary Weights" (L. A. Duffey to R. W. Westrup, NR Internal Letter SS-70-220-36, 9 Mar 1970)

Box 211, Folder 7  *Phase B Definition - Technology Requirements Review* (NR report PDS70-217, 25 Mar 1970)

Box 211, Folder 8  *Phase B Definition - Third Quarterly Progress Report* (NR report SD 70-506, MSC 00734, 19 Jun 1970)

Box 211, Folder 9  *Phase B Definition - Executive Summary* (NR SD 70-123, MSC-00701, Jul 1970)

Box 211, Folder 10  *Phase B Definition - Skylab Program Utilization Plan* (NR report SD 70-126, MSC-00704, Jul 1970)

*Phase B Definition - Solar-Powered Space Station Preliminary Design*

Box 212, Folder 1  Vol. 1 - *Summary, Core Module System* (NR SD 70-159-1, MSC-00720, Jul 1970)

Box 212, Folder 2  *Solar-Powered Space Station Preliminary Performance Specification* (NR report SD 70-510-1, MSC-00729, Jul 1970)

*Phase B Definition - Special Emphasis Task Summary Report* (NR SD 70-531, MSC-00737, Jul 1970) [2 folders]

Box 212, Folder 3  full report

Box 212, Folder 4  §3 ("Special Mission Assessment") [photocopy]

Box 212, Folder 5  *Space Station - A Guide for Experimenters* (NR report SD 70-534, MSC 02453, Oct 1970)
Phase B Definition - Nuclear Reactor-Powered Space Station Definition and Preliminary Design

Vol. I - Summary (NR report SD 70-168-1, MSC-00741, Jan 1971)

Box 212, Folder 6  copy 1 of 2

Box 213, Folder 1  copy 2 of 2

Phase B Definition - Radioisotope-Powered Space Station Definition

Box 213, Folder 2  Vol. I - Summary (NR report SD 70-502-1, MSC-00747, Jan 1971)

Box 213, Folder 3  Phase B Options Period - Executive Summary (NR report SD 70-537, MSC-02456, Jan 1971)

Box 213, Folder 4  Phase B Extension (Modular Space Station) - Second Quarterly Report (NR report SD 71-235, MSC-02467, 2 Sep 1971)

Box 213, Folder 5  Phase B Extension (Modular Space Station) - NASA Administrator's Review (NR report SD 71?582, 3 Dec 1971)

Box 213, Folder 6  Space Station - Charts

Box 213, Folder 7  miscellaneous notes on space station design

Box 213, Folder 8  spiral notebook "σαεσαιη π[superset] ττω & γσαεβσ π[superset] αε"

Box 213, Folder 9  unidentified artists concept of space station

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Box 213, Folder 10  "Die Rückkehr von Geflügelten Geräten von Aussenstationsbahnen" (H. J. Koeppler and M. E. Kübler, presented to IAF 5th International Astronautical Congress, 5-7 Aug 1954) [reprint]

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Box 213, Folder 11  "Personal Experiences During Short Periods of Weightlessness Reported by Sixteen Subjects" (J. Gerathewohl, as published in Astronautica Acta 2 (1956) : 203-217) [reprint]

Box 213, Folder 12  "Una Stazione Spaziale Mimetizzata" (Federico Romano)

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Box 213, Folder 13  Space Medicine: Sealed Cabin Considerations (C. M. Whitlock, Convair report AZM-035, Feb 1958)

Box 213, Folder 14  "Survey of Radiation Around the Earth to a Radial Distance of 107,400 Kilometers" (James A. Van Allen and Louis A. Frank, State University of Iowa, submitted to Nature; circa 1958)

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Box 214, Folder 1  A Systematic Approach to Human Engineering Analysis (J. B. Fink, Convair report ZX-7-047, 2 Feb 1959)

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Box 214, Folder 2  Radiation Shield Requirements for the Solar Flare of May 10, 1959 (Donald H. Robey, GD report AE60-0177, 18 Feb 1960)

Box 214, Folder 3  "Solar Irradiance from Mercury to Pluto" (Hubertus Strughold and Oskar L. Ritter, Aerospace Medicine 31 (Feb 1960) : 127-130) [reprint]

Box 214, Folder 4  Corpuscular & Radio Emission From the Sun (Donald H. Robey, Convair report AE60-0212, 2 Mar 1960)

Box 214, Folder 5  Estimated Radiation Shield for the High Energy Solar Flare of February 23, 1956 (Donald H. Robey, Convair report AE60-0194, 25 Mar 1960)

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Box 214, Folder 7  "Space Medicine and Astrobiology" (Hubertus Strughold, invited lecture to IAF 11th International Astronautical Congress, 14-20 Aug 1960) [reprint]

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Box 214, Folder 9
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Box 214, Folder 11
"Protection Against Solar Flare Protons" (Trutz Foelsche, AAS paper 61-34, presented to AAS 7th Annual Meeting and Interplanetary Missions Conference, 16-18 Jan 1961)

Box 214, Folder 12
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Box 214, Folder 19 "Radiation Doses in Interplanetary Flight" (T. Foelsche, presented to AAS 9th Annual Meeting of Interplanetary Missions Conference, 15-17 Jan 1963)

Box 215, Folder 1 Lectures in Aerospace Medicine (presented to USAF School of Aerospace Medicine, 4-8 Feb 1963)

Box 215, Folder 2 2nd Manned Space Flight Meeting - A Volume of Technical Papers (AIAA, 22-24 Apr 1963)

Manned Orbital Research Laboratory [MORL] [2 folder]

Box 215, Folder 3 Proposal [management review copy]

Box 215, Folder 4 briefing [draft]


Box 215, Folder 5 draft

Box 215, Folder 6 as published ["Biologistics for a Manned Space Station Based on the Metabolic Approach" (William L. S. Wu and Mahmoud M. Yakut, Journal of Spacecraft and Rockets 1 No.2 (Mar-Apr 1964) : 204-209)]

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Preliminary Technical Data for Earth Orbiting Space Station (NASA MSC report MSC-EA-R-66-1, 7 Nov 1966) [6 folders, total]

Box 215, Folder 8 Vol. I: Summary Report

Box 215, Folder 9 Vol. II: Standards & Criteria

Vol. III: Systems [3 folders, total]
Box 215, Folder 10 [1 of 3 folders]

Box 216, Folder 1-2 [2-3 of 3 folders]

Box 216, Folder 3 Vol. IV: Configuration, Integration & Weights

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Box 216, Folder 4 "The Optical Environment of Manned Spacecraft" (Gordon Newkirk Jr., Planetary and Space Science 15 no 8 (Aug 1967) : 1267-1285) [photocopy]

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The Control and Use of Libration-Point Satellites (Robert W. Farquhar, Sanford University Department of Aeronautics and Astronautics report SUDAAR 350, Jul 1968) [3 folders, total]

Box 216, Folder 6-7 SUDAAR 350 [2 copies, 2 folders]

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Box 216, Folder 12 Space Business Daily (14 May 1970)


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Box 217, Folder 1


Box 217, Folder 2

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Lunar Base Synthesis Study (NASA contract NAS8-26145) [2 folders]

Box 217, Folder 3

*Technical Proposal* (NR SD 70-309, 1 May 1970)

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Box 217, Folder 5-6

"Problems Arising in Large Space Stations in the Year 2000" (Rene A. Berglund, MSC-04375, presented to the International Congress on Science & Technology in the Year 2000, 6-13 Jun 1971) (2 copies; 2 folders)

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Geosynchronous Mission Requirements (NR IR&D Project 230) [2 folders]

Box 217, Folder 7

*Geosynchronous Operations* (NR SD report PD72-6, 21 Mar 1972)

Box 217, Folder 8


Geosynchronous Platform Definition (NASA contract) [2 folders]

Box 218, Folder 1


Box 218, Folder 2

"Baseline Mission Model, Initial Definition" (D. M. Galvin and M. R. Schall to H. L. Myers, NR Internal Letter SAP-SE/72-027, 19 Jul 1972)

Box 218, Folder 3


Box 218, Folder 4

Box 218, Folder 5  Dodds' Presentation Material (circa 1973)

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Orbital Assembly and Maintenance (NASA contract NAS9-14319) [3 folders]

Box 218, Folder 6  *Midterm Briefing* (Martin Marietta, 14 Mar 1975)

Box 218, Folder 7  *Third Quarter Briefing* (Martin Marietta, 19 Jun 1975)

Box 218, Folder 8  *Final Report - Executive Summary* (Martin Marietta report MCR-75-319, Aug 1975)

Box 218, Folder 9  "The 'Small Users Concept' for Spacelab Payloads" (A Neubecker and E. Igenbergs, IR/TUM report, no date), [sent to Ehricke by Harry O. Ruppe, 24 Sep 1975]

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Box 218, Folder 10  "Mars Travel May Cause Depression" (*San Diego Union*, 12 Dec 1976)

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Box 218, Folder 11  "15 Nations Plan Spacelab Feat" (*San Diego Union*, 1 Feb 1977)

Box 218, Folder 12  Consideration in the Design of Large-Scale Space Habitats (Loren Abdulezer, Polytechnic Institute of New York, Polytechnic Space Resources Program, circa 1977)

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Box 218, Folder 13  "Consciousness Alteration in Space" (B. J. Bluth; AIAA paper 79-1430, presented to 4th Princeton/AIAA Conference on Space Manufacturing, 14-17 May 1979)

Box 218, Folder 14  articles from *Space World*, Aug-Sep 1979: 33-34
  
  •  "Space Colonies: Two Approaches" (Alexei Vasilyev)
  •  "Vegetable Gardens in Space"

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Box 218, Folder 15  "Social and Psychological Problems of Extended Space Missions" (B. J. Bluth, presented to AIAA Global Technology 2000 Conference, 6 May 1980)
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Box 218, Folder 16 copy 1 [includes Gloria W. Heath to M. Wolfe (27 Jul 1981)]

Box 218, Folder 17 copy 2 [sent to Ehricke by Malcolm G. Wolfe, 11 Jan 1982; includes Gloria W. Heath to Malcolm Wolfe (30 Nov 1981)]

1984

"Advanced Tether Applications - Briefing to the Administrator" (I. Bekey, 10 Aug 1984) [2 folders]

Box 219, Folder 1 briefing packet

Box 219, Folder 2 back-up graphics

Undated

Box 219, Folder 3 "A Preliminary Investigation of Large Scale Space Habitat Atmosphere" (Warren Ziegler)

Box 219, Folder 4-5 material - military space operations [2 folders]

Box 219, Folder 6 material - military space operations from red binder

Box 219, Folder 7 graphics - military use of space

Box 219, Folder 8-10 notes and calculations - military use of space [3 folders]

Box 219, Folder 11 notes - Earth-to-Orbit costs

Box 219, Folder 12 notes - radiation

Space and Lunar Industry

Named Files

Box 219, Folder 13 Calculations - Lunar LOX, Soletta, SPS
Box 219, Folder 13  Lunar Industrialization Papers

Studies and Projects

**Space Industrialization** (NASA contract NAS8-32198) [73 folders, total]  
Rockwell International contact

Box 220, Folder 1  Space Industrialization [correspondence, 1976-1977]

Box 220, Folder 2-3  Space Industrialization RFP [2 folders]

Box 220, Folder 4  Space Industrialization Program - Strawman SOW (RI) [photocopy]

Box 220, Folder 5  "Report by Dr Ehricke on Space Industrialization Productivity Dated July 1975" (J. Gilbert to Distribution, 9 Sep 1975)

Box 220, Folder 6  O'Neill Correspondence (Apr 1976)

*Proposal* [5 folders, total]

[3 copies; 2 folders]

Box 220, Folder 9-11  Vol. III: *Study Plan* (RI report SD 76-SA-0079-3, 29 Jun 1976) [3 copies; 3 folders]

Box 220, Folder 12  "Medical Leave of K. A. Ehricke During Space Industrialization Study" (Ehricke to P. Priest, MSFC, 18 Aug 1976)

Box 220, Folder 13  "Material on Space Industrialization Presented to J. T. Murphy, NASA-MSFC, 31 Aug 1976" (Ehricke)

Box 220, Folder 14  *Study Plan* (RI report SD 76-SA-0079-3A (preliminary), 24 Sep 1976)

Box 220, Folder 15  Background Scenario - Two Principal Global Dynamic Forces: Human Dynamics - Future-Shaping; Climatic Dynamics - Future Conjecture

Box 221, Folder 1-2  background scenario - material from red binder [2 folders]

Box 221, Folder 3  background scenario - material from brown binder

Box 221, Folder 4-5  "Background Scenario Assessment" (Ehricke) [2 folders]

background scenario drafts [5 folders]
Box 221, Folder 6 §1.1.3 "Background Scenario Assessment" [photocopy]

Box 221, Folder 7 §1.1.3.7 "Energy" [MS]

Box 222, Folder 1 §1.1.3.7 "Energy" [TS and photocopies]

Box 222, Folder 2 §1.1.3.8 "Natural - Ecology/Environment in the Natural Domain"

Box 222, Folder 3 [no § number] "Developing World" / "China" / "USSR"

Box 222, Folder 4 "Monthly Progress Report for September/October" (Ehricke to C. C. Priest, MSFC; RI reference 76MA4823, 29 Oct 1976)

Box 222, Folder 5 Standard Merit Criteria [initial review copy]

Box 222, Folder 6 Subsection Write-Ups

Box 222, Folder 7 December Progress Report (RI SD report, enclosure to 77MA0092, 5 Jan 1977)

Box 222, Folder 8 January Progress Report (RI SD report, enclosure to 77MA0708, 2 Feb 1977)

Box 222, Folder 9-10 Mid-Term Briefing (RI report SD 77-AP-0012, 15 Feb 1977) [2 copies; 2 folders]

Box 222, Folder 11-13 Overall Briefing for Mid-term Review (RI report, 16 Feb 1977) [3 copies; 3 folders]

Box 222, Folder 14 societal goal pool analysis

Box 222, Folder 15 "Chuck" [Charles A Gould] to "Krafft" [Ehricke], 22 Feb 1977 [regarding societal goal pool analysis]

Box 223, Folder 1 Contract Modification, effective 1 Mar 1977

Box 223, Folder 2-4 NASA Headquarters Mid-Term Briefing (RI report SD 77-AP-0024, 7 Mar 1977) [3 copies; 3 folders]

Box 223, Folder 5-6 February/March Progress Report (RI report, enclosure to 77MA1593, 4 Apr 1977) [3 copies; 2 folders]

Box 223, Folder 7 Amit K. Maitra [correspondence]
Box 223, Folder 8  
*May Progress Report* (RI report, enclosure to 77MA2627, 3 Jun 1977)

Box 223, Folder 9  
*Industries in Space to Benefit Mankind - A View Over the Next 30 Years* (RI report SD 77-AP-0094, circa Jul 1977)

Box 233, Folder 10-11  
*Part I Final Briefing* (RI report SD77-AP-77, 7 Jul 1977) [2 copies (1 cannibalized); 2 folders]

Box 223, Folder 12  
Proposed Final Report Outline

Box 223, Folder 13  
"Space Industrialization - The Long-Range View and the Near and Intermediate Steps" (Charles L. Gould, RI report, circa 1978)

*Final Report* [4 folders]

Box 223, Folder 14  
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Box 223, Folder 15  
Vol.2: *Space Industrialization Background, Needs, and Opportunities* (RI report SD78-AP-0055-2, 14 Apr 1978)

Box 224, Folder 1  
Vol.3: *Space Industrialization Implementation Concepts* (RI report SD 78-AP-0055-3, 14 Apr 1978)

Box 224, Folder 2  
Vol.4: *Appendixes* (RI report SD 78-AP-0055-4, 14 Apr 1978)

Box 224, Folder 3  
Space Industrialization briefing charts (RI) [photocopies]

Box 224, Folder 4-5  
breifing charts [2 folders]

Box 224, Folder 6  
pages from unidentified briefing (1)

Box 224, Folder 7  
pages from unidentified briefing (2)

Box 224, Folder 8  
pages from unidentified briefing (3)

Box 225, Folder 1  
notes and transparencies from unidentified briefing

Box 225, Folder 2  
miscellaneous correspondence on space industrialization

Box 225, Folder 3  
material on space industrialization

Box 225, Folder 4  
miscellaneous pages
Box 225, Folder 5  miscellaneous pages on space industrialization
Box 225, Folder 6  miscellaneous drafts and data
Box 225, Folder 7  miscellaneous drafts and notes
Box 225, Folder 8  material on manufacture of organics and pharmaceuticals in space
Box 225, Folder 9  material submitted under contract 6 Dec 1977 [SI material for Rockwell]
Box 225, Folder 10 miscellaneous graphics
Box 225, Folder 11 miscellaneous graphics
Box 225, Folder 12 miscellaneous graphics - "Future Markets"
Box 225, Folder 13 miscellaneous graphic - "Lunar Industries Development: Market - Product - Time Matrix"

**Space Industrialization** (NASA contract NAS8-32197) [4 folders, total] Science Applications Inc contract

*Pre-Proposal Briefing - Study of Space Industrialization* (Science Applications Inc, Dec 1975) [2 folders]

Box 225, Folder 14 printed copy
Box 225, Folder 15 photocopy
Box 226, Folder 1 *Space Industrialization Study - Part I - Final Briefing* (Science Applications, Inc, 12 Jul 1977)
Box 226, Folder 2 *Opportunities in Space Industrialization - The Growing Commercial Use of Space* (Science Applications, Inc, 1978)

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Box 226, Folder 3 "Structural Problems of the Lunar Base" (P. L. Sowerby, *JBIS* 13, no. 1 (Jan 1954) : 36-40) [reprint]

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Box 226, Folder 5  "The Relation of Tektites to Lunar Igneous Activity" (Paul D. Lowman, Jr, *Icarus* 2 No. 1 (Jun 1963) : 35-48) [reprint]

Box 226, Folder 6  "Lunar Bases - A State of the Art Review" (Irwin Stambler, *Space/Aeronautics* Dec 1963) [reprint from Planning Research Corp]

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Box 226, Folder 9  "Lunar Resources: Their Value in Lunar and Planetary Exploration" (P. D. Lowman, Jr, *Astronautica Acta* 12 no.5-6 (1966) : 384-393) [reprint]

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Box 226, Folder 10  "New Tools for the Inquisitive Mind - The Industrial Research Laboratory in Space" (Thomas S. Burkhalter and Sheldon S. White, AAS paper 67-112)

Box 226, Folder 11  "The Utilization and Engineering of an Orbital Hospital (Orval H. Minney, AAS paper 67-123)

articles from *The Encyclopedia of Atmospheric Sciences and Astrogeology* (New York: Reinhold, 1967) [2 folders]

Box 226, Folder 12  "Moon - Lunar Impact Craters" [reprint]

Box 226, Folder 13  "Moon - Theories of Origin" [reprint]
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Box 226, Folder 14 Composition of the Lunar Highlands: Possible Implications for Evolution of the Earth's Crust (Paul D. Lowman, Jr, GSFC report X-64-68-87, Mar 1968)

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1972

Box 226, Folder 17 GSFC report

Box 226, Folder 18 NASA TN

1973


Box 226, Folder 20 "The Third Industrial Revolution: A Preview of Mankind's Next Cultural Step" (G. Harry Stine, NY Academy of Sciences; Dec 1972)

Box 226, Folder 23


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Box 226, Folder 24


Box 227, Folder 1


Box 227, Folder 2

"Statement of Harry C. Gatos, Department of Metallurgy and Materials Science, Massachusetts Institute of Technology, Cambridge, Massachusetts to Subcommittee on Manned Space Flight of the Committee on Science and Astronautics, U. S. House of Representatives" (circa 1974)

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Box 227, Folder 3

"A Scheme for Transport of Lunar Materials to Utilization Sites in Earth Orbit" (Gerald W. Driggs, presented to the 7th Lunar Science Conference, 15-19 Mar 1976)

Box 227, Folder 4

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Box 227, Folder 5

"Legal and Economic Prerequisites to Space Industrialization" (Arthur M. Dula, presented to AIAA Meeting, Annaheim, CA, Oct 1976)

Box 227, Folder 6-7

*Space Stations for the International Future* (J. F. Maxwell and R. E. Sexton, RI report SD 76-0076, 1976) [2 copies; 2 folders]

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Box 227, Folder 8

"The Promise of Space Processing" (William R. Lucas, AIAA paper 77-302, presented to AIAA Annual Meeting, 10-13 Jan 1977)

papers presented to the Third Princeton/AIAA Conference on Space Manufacturing Facilities, 9-12 May 1977 [2 folders]

Box 227, Folder 9

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Box 227, Folder 10

"Systems Analysis of a Potential Space Manufacturing Facility" (Gerald W. Drigges; AIAA paper 77-554)
Box 227, Folder 11  "The Industrialization of Space - Will It Really Happen?" (Jack N. James, submitted to IAF 28th International Astronautical Congress, 25 Sep-1 Oct 1977)

Box 227, Folder 12  "The Inevitability of Extraterrestrial Robotics in Space Industrialization" (Robert W. Prehoda, AAS paper 77-244; presented to AAS 23rd annual meeting, 18-20 Oct 1977) [2 copies]

Box 227, Folder 13-14  Polytechnic Engineer 18 No.1 (Nov 1977) [special issue on space industrialization] [2 copies; 2 folders]

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Box 227, Folder 15  "Technology of Space Industrialization" (Charles L. Gould, presented to AIAA Symposium "Our Extraterrestrial Heritage - From UFO's to Space Colonies", 28 Jan 1978, RI report SD78-AP-0007)

Box 227, Folder 16  "The Role of Chemical Engineering in Space Manufacturing" (Robert D. Waldron, Thomas E. Erstfeld, and David R. Criswell, Chemical Engineering 12 Feb 1979 : 80-94)

Earthport Project [4 folders]

Box 227, Folder 17  correspondence and reports (1977-1978)

Box 227, Folder 18  "Frontier for Free Trade" (Mark Frazier, AAS paper 77-268, presented to AAS 23rd Annual Meeting, 18-20 Oct 1977)

Box 227, Folder 19  A Launch Pad for Industry into Space - Earthport (Sabre Foundation, circa 1978)

Box 227, Folder 20  Earthport Project - Status and Goals (Sabre Foundation, Spring 1979)

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Box 228, Folder 1  "Return to the Moon" (Michael A. G. Michaud and Leonard W. David, Astronomy 8 no.4 (Apr 1980) : 6-22)

Box 228, Folder 2  "Global Benefits of the Space Enterprise Facility (SEF) Using the External Tank" (Nick Witek and Thomas C. Taylor, presented to IAF 31st International Astronautical Congress, 21-28 Sep 1980)

Box 228, Folder 3  Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Parts 1 and 2 (Eileen Galloway, prepared for Committee on Commerce, Science, and Transportation, United States
Senate, 96th Congress, 2d Session; US GPO, May 1980) [committee print]

Box 228, Folder 4  
Statement of Mr. Edward Bock, Project Engineer at the Convair Division of General Dynamics Corporation (US Senate Hearings, 29-31 Jul 1980)

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Box 228, Folder 5  

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Box 228, Folder 6  
Research on the Use of Space Resources (William F Carroll, ed, JPL publication 83-36, 1 Mar 1983)

Box 228, Folder 7  

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Box 228, Folder 8  
[correspondence and notes]

Box 257  
[microfiche]

Box 228, Folder 9-10  
McKay to Ehricke, 15 Nov 1983 [2 copies; 2 folders]

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Box 228, Folder 11  
"Establishment of a Space Manufacturing Facility" (Gerald W. Drigges and Jon Neuman)

Box 228, Folder 12  
"Lunar Mass Transport" (Briam O’Leary, T. A. Heppenheimer, and David Keplan)

Box 228, Folder 13  
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Box 228, Folder 14  
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Box 228, Folder 15  material on space industrialization from brown folder

Box 228, Folder 16-20 material on lunar surface composition [1-5 of 6 folders]

Box 229, Folder 1 material on lunar surface composition [6 of 6 folders]

Box 229, Folder 2 notes on lunar surface

Box 229, Folder 3 notes on lunar surface composition

Box 229, Folder 4 notes on space industry

Box 229, Folder 5 pages re lunar shuttle and exoindustry

Earth / Resources / Remote Sensing / Open World

Named Files

Box 229, Folder 6 Extraterrestrial Life

Box 229, Folder 7 Henshaw (Paul S.)

Box 229, Folder 8 History - Philosophy [1]

Box 256, Folder 19 History - Philosophy [1] [oversized material]

Box 229, Folder 9 History - Philosophy [2]

Box 229, Folder 10 Infrared

Box 229, Folder 11 ONR-Convair "Monster" Buoy

Box 229, Folder 12 Sandy Coggan and Related Material

Box 256, Folder 20 Sandy Coggan and Related Material [oversized material]

Box 229, Folder 13 Space Law

Box 229, Folder 14 Space Review Material
Miscellaneous Reference Materials

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Box 229, Folder 15  quote from F. R. Moulton, Consider the Heavens (University of Chicago Press, 1935)

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- "Can Technology Replace 'Social Engineering'?” (Alvin M. Weinberg, pp.55-58)

Box 230, Folder 4 "Forecasting Technology" (Marvin J. Cetrun; *International Science and Technology* Sep 1967, 83-92)

Box 230, Folder 5 *The Year 2000 - A Framework for Speculation on the Next Thirty-Three Years* (Herman Kahn and Anthony J. Wiener, Hudson Institute, 1967) [selected pages from Chapter II, "Comments on Science and Technology"]

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Box 230, Folder 6 "Doing Something About the Weather - In A Big Way" (Lawrence Lessing, *Fortune* Apr 1968 : 132-137, 171-172)

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Box 230, Folder 7 [reduced size reference copies]

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Box 230, Folder 9 *Geologic Orbital Photography: Experience from the Gemini Program* (Paul D. Lowman, Jr, GSFC report X-644-68-228, Jun 1968)


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Box 230, Folder 12  "Space Oceanography, Potential and Use" (L. A. Cheney, AIAA paper 68-1078)

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Box 230, Folder 14  European Preprints [papers from 15th Congresso Scientifco Internazionale per l'Elettronica, Rome, 1968]

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Box 230, Folder 15  Earth Resources Technology Satellite (NR report PD69-19 (TMA 03036), Jan 1969)


Box 230, Folder 17  articles from Oceans 1, no.1 (Jan 1969)
  - "Western Civilization and the World Ocean" (John P. Craven, pp.33-37)
  - "The Unseen Problem of Thermal Pollution" (Donald P. de Silva, pp.38-41)

Box 230, Folder 18  "Down with the Year 2000" (Alissandro Silj, Interplay (May 1969) : 25-28)

Box 230, Folder 19  "'America the Beautiful' Doomed?" (interview with Walter D. Hickel, US News and World Report (10 Nov 1969) : 60-64)

Box 230, Folder 20  "How Computers are Changing Your Life" (US News and World Report (10 Nov 1969) : 96-98)

"Technical Aids Developed in Several Fields" (Frank Macomber, San Diego Union (16 Nov 1969) : A-20) [2 folders]

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Box 230, Folder 22  "How Plant World Narrows" (Thomas Harney, San Diego Union (circa 1969))
Box 230, Folder 23  "Unit Separation Processes in Space" (L. R. McCreight and R. N. Griffin); "Why the United States Should Build a Space Base" (Marvin F. Clarke, 29 Oct 1969); "Why Does General Electric Do Research?"

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Box 230, Folder 24 remarks by Fred Hoyle (?) in Houston, 6 Jan 1970


Box 230, Folder 26 Current News (29 Jan 1970) [NASA press clipping circular]

Box 230, Folder 27 articles from Bulletin of the Atomic Scientists, Jan 1970:
  • "Criteria for an Optimum Human Environment" (Hugh H. Iltis, Orie L. Loucks, and Peter Andrews, pp.2-6)
  • "To Trouble a Star: The Cost of Intervention in Nature" (Garrett Hardin, pp.17-20)
  • "Social Consequences of New Developments in Medicine" (Alexander Leaf, pp.21-22)

Box 230, Folder 28 "Smogless Car May Take Years" / "Ford Introduces Tractor to Aid the Poor" (New York Times (19 Feb 1970) : 94)


Box 230, Folder 30 "Clean-Air Pressure on Car Firms" (Richard McFarland, The Pittsburgh Press (25 Feb 1970) : 44)

Box 230, Folder 31 "The Cities" (Newsweek News Pointer, Feb 1970)


Box 230, Folder 33 To Step Forward With Confidence in 1970: Model of Plans for a Developing Country to Establish Participation in a Global Earth Resources Survey Satellite System within the Decade (John G. Meitner, report 1970-3, prepared for Outer Space Affairs Division, UN, Feb 1970)

Box 230, Folder 34 articles from NR magazine, circa Feb 1970
  • "Stones with a Story - Tiny Fragments of the Moon Yield Clues to the Origin of the Solar System" (p.22-31)


- "Take a Deep Breath - Fresh Winds of Research at Atomics International May Help Blow away Dark Clouds of Air Pollution" (L. B. Taylor, Jr, p.32-39)
- "The Ultimate Wing - A Daring New Design Promises Greater Performance for Subsonic Jet Aircraft" (p.40-47)

Box 231, Folder 1

Box 231, Folder 2

Box 231, Folder 3

Box 231, Folder 4
"Earth Resources Skylab II Experiment"

Box 231, Folder 5
"Technology, Astronauts and Hippies" (Martin Goland, *Tomorrow Through Research* [Southwest Research Institute newsletter], Spring 1970)

Box 231, Folder 6
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Box 231, Folder 7

Box 231, Folder 8
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Box 231, Folder 10
"Emergent United States' ... Post-Industrial Society" (Herman Kahn, pp.17-40 of *The Management of Information and Knowledge - A Compilation of Papers Prepared for the Eleventh Meeting of the Panel on Science and Technology, Committee on Science and Astronautics, US House of Representatives*; 1970)

Box 231, Folder 11-12

Box 231, Folder 13
Box 231, Folder 14


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Box 231, Folder 15

"Counterintuitive Behavior of Social Systems" (Jay W. Forrester, Technology Review 73 no.3 (Jan 1971) : 52-68)

Box 231, Folder 16

articles from Los Angeles Times, 14 Feb 1971

• "Nigeria to Take First Steps in Growth Plan"
• "Nickel Spells Gold for New Caledonia, French Boom Land" (Ian McCausland)

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Box 231, Folder 17

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Box 231, Folder 18

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Box 232, Folder 1


Box 232, Folder 2


Box 232, Folder 3

Earth Resources Management Systems (NR report SD71-489, 1971)

Box 232, Folder 4


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Box 232, Folder 5

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Box 232, Folder 6

"Deep-Sea Vehicles" (Fred Park, International Science and Technology, Mar 1965) [sent to Ehricke by Cranford, 28 Feb 1972]
Box 232, Folder 7  "New Transatlantic Structures and Liaisons to Be Set Up at the Industrial and Operational Level" (D. F. Huebner, presented to the 5th US-European Conference (Eurospace), San Francisco, 22-25 May 1972)

Box 232, Folder 8  Richard A. Givens to Paul Hinshaw, letter, 29 Aug 1972 [on "Limits of Growth"]

Box 232, Folder 9  "Comments on the Earth Resources Sensing and Data Acquisition Program" (Frank Hattersley, presented to the Thirteenth Meeting, Panel on Science and Technology Remote Sensing of Earth Resources, Committee on Science and Astronautics, House of Representatives, House report SCG20031R, Jan 1972)

Box 232, Folder 10  "Towards a Science of Regional Systems" (Amit K. Maitra, presented to American Association for the Advancement of Science meeting, 28 Dec 1972; *General Systems Bulletin* 18 (1973) : 77-86)

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Box 232, Folder 11  *The Sciences* 13 no.1 (Jan/Feb 1973)

Box 232, Folder 12  "Space: The Return on the National Investment" (Robert Anderson, presented to the Detroit Section of SAE, 2 Apr 1973)

Box 232, Folder 13  "Buckminster Fuller on Cities" (interview by Michael Ben-Eli.; *The American Way*, Apr 1973 : 13-21)

Box 232, Folder 14  "American Industry: Does Anyone Care?" (Robert Anderson, presented to The Economic Club, Detroit, MI, 7 May 1973)

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Box 232, Folder 16  "Was It Worth It?" (William F. Buckley, Jr and Alan Shepard, *Firing Line*, 24 Jul 1973)

Box 232, Folder 17  "Recycling Raw Materials from Waste Products" (Gernot Gieseler and Klaus Wahl, *Dornier-Post* 4/73 : 23-27) [complete issue]


Box 232, Folder 19  [unidentified script, circa 1973]
1974

Box 232, Folder 20  
Amit K. Maitra to Ehricke (1 Aug 1974)

Box 232, Folder 21  
US China Business Review 1 No.6 (Nov-Dec 1974)

Box 232, Folder 22  

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Box 232, Folder 23  
"What the Ozone Controversy Is All About" (US News and World Report, 20 Jan 1975, p.72)

Box 232, Folder 24  
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Box 232, Folder 25  
"Environmental Impact of Large Space Facilities" (Richard R. Vondrak, presented to the Princeton University Conference on Space Manufacturing, May 1975)

Box 233, Folder 1  

Box 233, Folder 2  
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Identification of Beneficial Uses of Space (NASA Contract NAS8-28179)

Box 233, Folder 3  


Box 233, Folder 4  
draft

Box 233, Folder 5  
misc pages

Box 233, Folder 6  
"K-101 Editorial" [against government regulation, circa 1975, photocopy]
1976

Box 233, Folder 7 articles from Science 191 (20 Feb 1976) [photocopies]"

- "The Age of Substitutability - What Do We Do When the Mercury Runs Out?" (H. E. Goeller and Alvin Weinberg, pp.683-689)
- "Chemicals From Coal - By-Products of Conversion of Coal to Clean Fuels Will Offer New Options to the Maker of Chemicals" (Arthur M. Squires, pp.689-700)


Box 233, Folder 9 "Space Resources and the Human Race" (W. L. Hurd, presented to the European Organization for Quality Control 20th Annual Conference, 15-18 Jun 1976)

Box 233, Folder 10 Why Space is Important to Our Future (RI brochure, Sep 1976)

Box 233, Folder 11 "Goals and Needs of World Development: Their Relevance to the International Space Stations" (Bertand H. Châtel, presented to IAA International Space Hall of Fame Dedication Conference, Alamagordo, New Mexico, 5-9 Oct 1976)

Box 233, Folder 12 "The Future of Space Law" (E Galloway, IAF paper IAF-ISL-76-06, presented to IAF 27 IAC Colloquium on the Law of Outer Space, 10-16 Oct 1976)

Box 233, Folder 13 "Utilization of O'Neill's Model 1 Lagrange Point Colony as an Interstellar Ark (Gregory L. Matloff, JBIS 29 (1976) : 775-785)

Box 233, Folder 14 Weltall Unser Lebensraum - An der Schwelle zum Dritten Raumfahrtjahrzehnt (Bruno Stanek, circa 1976)

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Box 233, Folder 15 "What Future for an International Remote Sensing Regime?" (Hamilton DeSaussure, presented to the Association of the Bar of the City of New York; 28 Mar 1977)

Box 233, Folder 16 The Impact of Technology on Air Warfare (Proceedings of the Air University Airpower Symposium, 29-31 Mar 1977)
1978


1979

Box 233, Folder 18  newsletter from Albin Kazanowski, World Future Society (sent to Ehricke circa 2 Feb 1979)

Box 233, Folder 19  clippings from Albin Kazanowski, World Future Society (sent to Ehricke 14 Feb 1979)

Box 233, Folder 20  "How James Schlesinger Set Up the Oil Hoax" (*Fusion* (English ed) 2 No.9 (Jul 1979)) complete issue

papers presented to IAF 30th International Astronautical Congress, 16-22 Sep 1979 [2 folders]

Box 233, Folder 21  "Homo spatialis: A Space Law Dilemma" (George S. Robinson)

Box 233, Folder 22  "Structuring the International Marketplace for Maximum Socio-Economic Benefits from Space Industrialization" (W. A. Good, G. S. Robinson, M. F. Shakun, and E. F. Sudit, NYU Graduate School of Business Administration, July 1979)

1980

Box 233, Folder 23  *Fusion* (English ed) 3 No.8 (May 1980)


1981

Box 233, Folder 25  *Fusion* (English ed) 4 No.10 (Aug 1981)

Box 233, Folder 26  *Fusion* (German ed) 2 No.5 (Nov 1981)

Box 234, Folder 1  papers sent to Ehricke by Ben R. Finney, circa 1981

1983

Box 234, Folder 2-3  *Fusion* (German ed) 4, no.5/6 (Dec 1983) (2 copies; 2 folders)
1984

Box 234, Folder 4  
*Fusion Asia* 1 No.2 (Jan 1984)

Box 234, Folder 5  
"Beyond the Space Station" (Jesco von Puttkamer, 30 Jul 1984)

Box 234, Folder 6  
*Abstracts of Papers, 35th International Astronautical Congress*  
(Lausanne, 8-13 1984)

Box 234, Folder 7  
"Panelists Say Joint Adventures in Space Are Crucial to Peace" (Philip M. Boffey, New York *Times*, 30 Oct 1984, C3)

Undated Material

Box 234, Folder 8  
"Früchte des Meeres" (*Die Welt*, no date)

Box 234, Folder 9  
"Re-creation of Dead Predicted in Future" (unidentified newsclipping; no date)

Box 234, Folder 10  
loose bibliography on satellites

Box 234, Folder 11-15  
miscellaneous graphics [5 folders]

Box 234, Folder 16  
miscellaneous graphics - relative values of research programs

Box 234, Folder 17  
miscellaneous graphics - solar system resources and accessibility

Box 234, Folder 18  
miscellaneous illustrations

Box 234, Folder 19  
miscellaneous loose pages

Box 234, Folder 20  
miscellaneous material on marine photosynthesis

Box 234, Folder 21  
miscellaneous newsclippings on aviation technology

Box 234, Folder 22  
miscellaneous newsclippings on environment

Box 256, Folder 23  
miscellaneous newsclippings on environment [oversized material]

Box 234, Folder 23  
miscellaneous newsclippings on evolution
Box 234, Folder 24-26
miscellaneous newsclippings on resources [3 folders]

Box 256, Folder 24-25
miscellaneous newsclippings on resources [oversized materials] [2 folders]

Box 234, Folder 27
miscellaneous notes

Box 256, Folder 26
miscellaneous notes [oversized materials]

Box 234, Folder 28
miscellaneous notes on global issues

Box 234, Folder 29
miscellaneous notes on resources

Box 234, Folder 30
miscellaneous notes on space operational areas

Energy

Named Files

Box 235, Folder 1 Antenna Selection

Box 235, Folder 2-3 Energy (file 1 of 3) [2 folders]

Box 235, Folder 4 Energy (file 2 of 3)

Box 235, Folder 5-6 Energy (file 3 of 3) [2 folders]

Box 235, Folder 7 Energy (Ad Hoc) (file 1 of 2) [RI Solar Central Power Ad Hoc Task Group]

Box 235, Folder 8 Energy (Ad Hoc) (file 2 of 2) [RI Solar Central Power Ad Hoc Task Group]

Box 236, Folder 1 Energy (Material Under Jim Madewell)

Box 236, Folder 2 Energy Related Presentations

Box 236, Folder 3 Lehman Energy Memos (Alan Lehman, RI Internal Letters, Apr 1974)

Box 236, Folder 4 Notti Flywheel Papers

Box 236, Folder 5 Organizations

Box 236, Folder 6 Power Relay Satellite
Box 236, Folder 7  Water Electrolysis (D.H. Robey to Ehricke, NR Internal Letter, 16 Jul 1968)

Studies and Projects

**Satellite Solar Power Station Study** (NASA contract NAS3-16804) [8 folders]

Box 236, Folder 8  NASA RFP 3-4997-Q (1972)

Box 235, Folder 9  *Monthly Progress Report No. 2 - For the Period August 1 to August 31, 1972* (Arthur D. Little / Grumman / Raytheon / Spectrolab report, 13 Sep 1972) [photocopy]

Box 235, Folder 10  *Monthly Progress Report No. 4 - For the Period October 1 to October 31, 1972* (Arthur D. Little / Grumman / Raytheon / Spectrolab report, 10 Nov 1972) [photocopy]


Box 236, Folder 12  SSPS Structure/Control Interaction - Final Briefing (Grumman report, Feb 1973) [photocopy]

Box 236, Folder 13  Application of Microwave Power Transmission to the Satellite Solar Power Station (Raytheon report AV-963, 14 Feb 1973) [photocopy]

Box 236, Folder 14  Final Report Briefing (Arthur D. Little Inc / Grumman / Raytheon / Spectrolab report, 14 Feb 1973) [photocopy]


**Microwave Power Transmission System Studies** (NASA contract NAS3-17835) [6 folders, total]

Box 236, Folder 16  RFP (NASA RFP 3-546232)

Box 236, Folder 17  Fisher to Ehricke, RFP related correspondence to Mar 1974

[Final Report] [4 folders]

Box 236, Folder 18  Vol.I - Executive Summary (Raytheon report ER 75-4368, NASA CR-134886, Dec 1975)
Box 237, Folder 1  

Box 237, Folder 2  
**Vol.III - Section 8 - Mechanical Systems and Flight Operations**  
(Raytheon report ER 75-4368, NASA CR-134886, Dec 1975)

Box 237, Folder 3  
**Vol.IV - Sections 9 Through 14 With Appendices** (Raytheon report ER 75-4368, NASA CR-134886, Dec 1975)

**Space-Based Solar Power Conversion and Delivery Systems** (NASA Contract NAS8-31308) [7 folders, total]

Box 237, Folder 4  
Research and Technology Operating Plan [RTOP] (NASA, 26 Apr 1974)

Box 237, Folder 5  
RFP (NASA RFP 8-1-A-31-00323)

Box 237, Folder 6-7  
[photocopy; 2 folders]

*Second Interim Report* [3 folders]

Box 237, Folder 8-9  
**Vol II - Engineering Analysis of Orbital Systems** (Grumman Aerospace report, 30 Jun 1976) [photocopy; 2 folders]

Box 238, Folder 1  
**Vol III - Economic Analysis of Space-Based Solar Power Systems**  
(ECON Inc report 76-145-2, 30 Jun 1976) [photocopy]

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"MHD Power Generation" (R. J. Rosa, presented to Pacific Energy Conversion Conference, Jul 1962)

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*High Temperature Dense Plasma Induced by Laser* (G. H. Sichling and J. C. Bryner, NA report SID 65-540, Apr 1965)

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*AEC Policy and Action Paper on Controlled Thermonuclear Research* (AEC report TID-23277, Jun 1966)

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Box 239, Folder 1  Solar Energy Society Fourth Annual Meeting - Abstracts (21-23 Oct 1968)

Box 239, Folder 2  "Production of a Dense Thermonuclear Plasma by a Pulsed High Intensity Field Emission Discharge" (F. Winterberg, Zeitschrift für Naturforschung 23a No.9 (1968) : 1396-1397) [reprint]

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Box 239, Folder 6  "Atomic and Pulping Wastes: New Schemes for Treatment" (Chemical Engineering 76 No.21 (6 Oct 1969) : 108-110)
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"Space Resources to Benefit the Earth" (Peter E. Glaser, presented to 3rd Conference on Planetology and Space Mission Planning, NYAS, 29 Oct 1970)

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"Solar Energy for Terrestrial Applications" (statement of Roy P. Jackson to Subcommittee on Aeronauticsand Space Technology, House of Representatives, 1 Mar 1972)

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Box 239, Folder 27  "The Potential Role of Solar Energy Utilization in the Energy Household of the United States of America" (Martin Wolf, presented to the Subcommittee on Foreign Economic Policy, Committee on Foreign Affairs, House of Representatives, 26 Sep 1972) [summary only]

Box 239, Folder 28  "Testimony of Robert E. Hunter, Senior Fellow, Overseas Development Council, Washington, DC, before the Subcommittee on Foreign Economic Policy of the House Foreign Affairs Committee, September 27, 1972"


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"Survey of Energy Consumption Projections" (Committee on Interior and Insular Affairs, United States Senate, 1972)

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*Zur Optimierung von Kernreaktorenenergie versorgungsanlagen mit turboelektrischen Wandlern* (Jürgen Blumenberg, Technische Universität München Institut für Raumfahrtechnik report 72-2, 1972)

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- "Microwave Power Transmission From an Orbiting Solar Power Station" (G. Gobov, pp.223-231)
- "High-Power Microwave Generators of the Crossed-Field Type" (W. C. Brown, pp.245-259)
- "Atmospheric Attenuation of Microwave Power" (V. J. Falcone Jr, pp.269-278)
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*Solar Cells - Outlook for Improved Efficiency* (National Academy of Sciences, 1972) [requested by Ehricke “for Shuttle paper”, circa Feb 1973]

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"Conserving Energy: Corporate Challenge and Response" (C. J. Meecham, opening address for the AIPE Plant Engineering and Maintenance Conference, 18 Mar 1974)

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*Derivation of a Low Cost Satellite Power System* (James E. Drummond and Ronald W. Drummond, Maxwell Labs, no date) [sent to Ehricke by J. E. Drummond, 25 Jun 1976]  
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1966

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Box 252, Folder 3 "Information Transfer Satellites - Sec. 1: Analysis of Future Information Transfer Requirements" (Edgar M. Van Vleck, OART report, 14 Nov 1966)

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Box 255, Folder 25  page from National Management Association Rockwell International, Space Club newsletter [photolith; oversized material]
Box 254, Folder 21  Fusion (English ed) 6 No.4 (Nov-Dec 1984) [Ehricke's obituary]
Box 254, Folder 22  "International Private Initiative on Behalf of Successive Colonization of the Moon and Mars" (Fusion Energy Foundation Memorandum, 1985)
Box 256, Folder 31  "The Truth About the German Rocket Scientists" (Marsha Freeman, published in 5 parts in New Solidarity, May 27-Jul 29, 1985) [oversized material]