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Table of Contents

Collection Overview	1
Administrative Information	1
Descriptive Entry.....	1
Names and Subjects	1
Container Listing	3

Collection Overview

Repository:	Smithsonian Institution Archives, Washington, D.C., osiaref@si.edu
Title:	Richard H. Emmons Papers
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Descriptive Entry

Richard H. Emmons (1919-2005), astronomer, engineer, and proponent of astronomy education, taught astronomy and physics at Kent State University and later worked as an engineer for Goodyear Aerospace Corporation. He was well-known for the planetariums he established, over 23 in all. Emmons was also the team leader for the North Canton Moonwatch Team. Moonwatch teams were established around the world by the Smithsonian Astrophysical Observatory, Moonwatch Division, 1956-1975, to track and photograph artificial satellites. This accession consists of records created and maintained by Emmons documenting his work as an astronomer and an engineer, his participation in Moonwatch, and his research interests. Materials include correspondence and memoranda; theories, calculations, charts, graphs, and notes; images of astronomers, equipment, facilities, and the sky; articles written and co-written by Emmons; newspaper clippings; professional society and astronomy club newsletters; and research and reference materials such as journal articles, manuscripts, predictions, and technical documents. Some research and reference materials pre-date the date span of this accession, but would have been collected during this time period.

Names and Subject Terms

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

Subjects:

- Aerospace engineering
- Aerospace engineers
- Artificial satellites -- Tracking

Astronomers
Astronomy
Astronomy -- Study and teaching
Astrophysicists
Astrophysics
Planetariums
Satellites

Types of Materials:

Black-and-white photographs
Clippings
Color photographs
Manuscripts
Newsletters

Names:

Emmons, Richard H., 1919-2005
Goodyear Aerospace Corporation
Kent State University
North Canton Moonwatch Team
Smithsonian Astrophysical Observatory. Moonwatch Division

Container Listing

Box 1

- Box 1 of 5 "The Need for Astronomical Telescopes in the Tracking of Space Probes," Douglas Aircraft Company, Inc., July 1961
- Box 1 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, September 23-24, 1959
- Box 1 of 5 "Data Acquisition from Spacecraft," National Aeronautics and Space Administration (NASA), December 1962
- Box 1 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, January 12, 1959
- Box 1 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, October 29, 1958
- Box 1 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, July 15, 1958
- Box 1 of 5 "Control, Guidance, and Navigation of Spacecraft," NASA, December 1962
- Box 1 of 5 "Geophysics and Astronomy in Space Exploration," NASA, December 1962
- Box 1 of 5 "Aerodynamics of Space Vehicles," NASA, December 1962
- Box 1 of 5 "Lunar and Planetary Sciences in Space Exploration," NASA, December 1962
- Box 1 of 5 "Celestial Mechanics and Space Flight Analysis," NASA, December 1962
- Box 1 of 5 Proceedings of Lunar and Planetary Exploration Colloquium May 13, 1958
- Box 1 of 5 "The Nature, Cause, and Relief of Diseases of the Heart, Angina Pectoris, High Blood Pressure, and Their Complications," by Sherman Van Walden
- Box 1 of 5 Satellite Observer's Manual, 1962-1965 (3 folders)
- Box 1 of 5 "Satellite Orbits in Theory and Practice," c. 1957
- Box 1 of 5 "Manual for Astronomical Photoelectric Photometry," 1962
- Box 1 of 5 Policy Statement on Near Earth Object Research, International Astronomical Union Executive Committee, July 4, 1998
- Box 1 of 5 "A Form for the Reduction of True Airspeeds," July 19, 1945
- Box 1 of 5 "Basic Design Principles Applicable to Reaction-Propelled Space Vehicles," by D. C. Romick, August 1954

- Box 1 of 5 "Longitude Positioning and Orbit Control of the 24-hour, Equatorial Satellite," by G. Kang and M. F. Kenahan, January 21-23, 1963
- Box 1 of 5 Photograph of Member (?) of Akron-Canton Moonwatch Team
- Box 1 of 5 Astronomy Club of Akron Newsletter, 1974
- Box 1 of 5 "The Star of Bethlehem" Script - The North Canton Planetarium
- Box 1 of 5 1993 Almanac and 1991-1992 NASA Prediction Bulletins
- Box 1 of 5 Observations per Month, October 1957-May 1961
- Box 1 of 5 "Artificial Satellites and Space Exploration," Prepared by Goodyear Aircraft Corporation and the North Canton Planetarium (Script for Slide Show)"Conversion Table Useful in Approximating Future Position of the First Russian Satellite, 1957
- Box 1 of 5 Steadman Thompson Correspondence, 1956
- Box 1 of 5 Richard C. Vanderburgh Correspondence, 1962-1964
- Box 1 of 5 "The Satellite Story," Operator's Supplementary Information, Suggestions, and Regulations
- Box 1 of 5 "Statistics of Visibility in Satellite Communication Systems," United States Department of Commerce, 1963
- Box 1 of 5 "The Moonwatch Satellite Decay Prediction Method," Smithsonian Astrophysical Observatory (SAO) Moonwatch Division, 1965
- Box 1 of 5 "Project Space Track: Charts to Determine the Visibility of Artificial Earth Satellites," United States Air Force, Air Research and Development Command, April 1959
- Box 1 of 5 Volunteer Satellite Tracking Program Phototrack Bulletin, March 30, 1961
- Box 1 of 5 "The General Radio Experimenter," December 1957
- Box 1 of 5 Cambridge Satellite Observer, 1958
- Box 1 of 5 Akron-North Canton-Canton Local Group, Volunteer Observers
- Box 1 of 5 "Man in Space: The Box Score"
- Box 1 of 5 Visible Photometric Measurements of Satellites
- Box 1 of 5 "Planning Visual or Photographic Observations of Man-Made Satellites" Society of Photographs Scientists and Engineers
- Box 1 of 5 Independent Tracking Coordination Program, "The Pathfinder Star Atlas"

- Box 1 of 5 Meeting Schedule, 1956-1957
- Box 1 of 5 Albert Werner Correspondence, 1968-1971
- Box 1 of 5 "A Method for Prediction of Satellite Positions and Visibilities," by Paul R. Measel and Kenneth E. Kissell
- Box 1 of 5 Leon Campbell, Jr. Correspondence, 1961
- Box 1 of 5 SAO, "Bulletin for Visual Observers of Satellites," 1956, 1958
- Box 1 of 5 "Suncoast Moonwatch Orbit," Newsletter, 1963-1964, 1966-1969
- Box 1 of 5 "Orbital Flight Handbook for the National Aeronautics and Space Administration," Volume 1, Martin Space Systems Division (2 folders)
- Box 1 of 5 Hand-held Bright Satellite Photometer Technical Information, 1963
- Box 1 of 5 Dr. Johnson Phone Call, June 11, 1965
- Box 1 of 5 "Image of the Sun on a Specular Sphere to an Infinitely Distant Observer," 1965
- Box 1 of 5 Directions for Using the Goodwin Resolving Power Barlow-Type Lens
- Box 1 of 5 Predictions, 1968
- Box 1 of 5 Arthur Leonard, 1965-1968
- Box 1 of 5 Western Satellite Research Network Bulletin, 1966
- Box 1 of 5 Echo I Calculations, 1963
- Box 1 of 5 Size Characteristics of Objects in Orbit, October 20, 1961
- Box 1 of 5 Moonwatch Newsletter, 1961
- Box 1 of 5 Echo II Predictions, 1965-1969
- Box 1 of 5 SA-5 Launch, 1963
- Box 1 of 5 Echo II Launch, 1963
- Box 1 of 5 Perforation Hazard at Lunar Surface, 1963
- Box 1 of 5 Second-order Atmospheric Extinction, 1966
- Box 1 of 5 Sidus Ludoviciana, 1957-1967
- Box 1 of 5 Yuma Observatory Photographs, 1967

Box 2

- Box 2 of 5 Visibility Enhancement of Interplanetary Vehicles Using Gas Clouds
- Box 2 of 5 Albedo Corrections on Ground-based Photometric Observations of Satellites, 1966
- Box 2 of 5 "Technical Note: Temperature Control of the Explorer IX Satellite," by Charles V. Woerner and Gerald M. Keating (NASA), July 1962
- Box 2 of 5 On-Site Observation Period Technical Discussion
- Box 2 of 5 "Photometric Calibration Procedures Using Standard Stars," by Richard H. Emmons (Goodyear Aerospace Corporation), February 10, 1966
- Box 2 of 5 "Visual Determinations of Stellar Magnitudes and Analyses for Grid Sphere Drag Experiment Satellites," by Richard H. Emmons (Goodyear Aerospace Corporation), October 1972
- Box 2 of 5 Rachan J. Gregg Correspondence, 1989-1995 (4 folders)
- Box 2 of 5 Riverside Telescope Makers Conference, Escondido, California, May 1990 - Photographs
- Box 2 of 5 "Photometric Periods of Artificial Satellites," 1990
- Box 2 of 5 "Solar Eclipse Photography for the Amateur," 1963
- Box 2 of 5 Astronomy Club of Akron Newsletter, 1977
- Box 2 of 5 Sacramento Valley Astronomical Society (SVAS) News, May 1979
- Box 2 of 5 Tracking Kits
- Box 2 of 5 "Astrophysics and Optical Astronomy," by Shea L. Valley
- Box 2 of 5 "Experience of the Smithsonian Astrophysical Observatory in the Construction and Use of Star Catalogues," by K. Haramundanis, July 1967
- Box 2 of 5 Acknowledgments
- Box 2 of 5 NASA, Langley Research Center, 1969
- Box 2 of 5 The Arizona-Tonantzintla Catalogue
- Box 2 of 5 Charles E. Manry Correspondence, 1965
- Box 2 of 5 Photometric Normalization Error Due to Error in Slant Range, 1966
- Box 2 of 5 Photometric Observations of Echo I, Spring 1968
- Box 2 of 5 24" Telescope, 1966

- Box 2 of 5 Determination of the Brightness Variation of PAGEOS I, 1968
- Box 2 of 5 Photometric Signature of Explorer XIX, 1968
- Box 2 of 5 Recommended Utilization of NASA's Mobile Photometric Observatory During the Total Solar Eclipse of March, 7, 1970 (1968)
- Box 2 of 5 "Solar Physics," by Harold Zirin, 1963
- Box 2 of 5 "Scientific Results of the Surveyor I Lunar Landing," by Leonard D. Jaffe
- Box 2 of 5 "Night Cloud Coverage in the Southwest with Reference to Astronomical Observing Condition," by Harlan J. Smith and Richard E. McCrosky
- Box 2 of 5 Herschel Wedge Directions
- Box 2 of 5 "A Treatise on Astronomy," by Elias Loomis, 1869
- Box 2 of 5 Surveyor I Preliminary Results, 1966
- Box 2 of 5 "Quasi-stellar Objects," by Maarten Schmidt, 1966
- Box 2 of 5 "The SAO News," 1962-1963
- Box 2 of 5 "The Bright Stars," by Donald A. MacRae
- Box 2 of 5 Observers' Forum, 1977-1978
- Box 2 of 5 Photography with your Telescope
- Box 2 of 5 "Probability of Record Satellite Images Optically," by Kurt Lambeck, 1966
- Box 2 of 5 Eyepiece Photometry, 1967
- Box 2 of 5 "Stellar Magnitudes and Atmospheric Extinction," by Edwin A. Roth and Tichard A. Berg, 1964
- Box 2 of 5 "Photometric Studies of Asteroids," by T. Gehrels and D. Owings, 1961
- Box 2 of 5 Lamps
- Box 2 of 5 "Quantitative Radiant Intensity Measurements Using Photographic and Electronic Imaging," by Eugene B. Turner (Defense Documentation Center)
- Box 2 of 5 "Photographic Spectrometry and Radiometry on Distant Field Sources" by Andrew Guttman
- Box 2 of 5 Theory for Photographic Photometry
- Box 2 of 5 "The Soar Constant," by Francis S. Johnson, 1954
- Box 2 of 5 "The Visibility of an Earth Satellite," by R. Tousey

- Box 2 of 5 "Visual Thresholds for Telescopic Satellite Observation," by Bradford A. Smith, 1959
- Box 2 of 5 "The Effects of the Space Environment on Optical Materials and Systems," University of California, Los Angeles (UCLA) Lecture #18
- Box 2 of 5 Stellar Magnitude Increment of the Echo I Satellite due to the Earth's Albedo, 1964
- Box 2 of 5 "Photometric Observations of Artificial Satellites for Determining Optical and Physical Characteristics," by Richard H. Emmons, Clarence L. Rogers, Jr., and Raymond H. Preski, 1967
- Box 2 of 5 "A Mobile Photometric Observatory for Satellite Studies," for NASA by Goodyear Aerospace Corporation
- Box 2 of 5 Wire Grid Spheres, 1963-1972
- Box 2 of 5 Approximate List of Brightest Stars, 1973
- Box 2 of 5 Orbit Selection Criteria
- Box 2 of 5 Calibration and Extinction Coefficients Obtained at Palomar Mountain During September-October 1968
- Box 2 of 5 Determination of Zero-Point Calibration Terms, 1967
- Box 2 of 5 Eclipse Characteristics of Close Earth Satellite Orbits, 1961
- Box 2 of 5 Cloudcroft and Organ Mountain Facilities, 1965
- Box 2 of 5 "Wide Band (Visual Spectrum) Photoelectric Photometry of PAGEOS During its First Fifteen Months in Orbit," by Richard C. Vanderburgh
- Box 2 of 5 "The New Astronomers," by Leo Goldberg, 1965
- Box 2 of 5 "A Bridge to Relativity Theory," by J.S. Frame
- Box 2 of 5 "The 1954 Opposition of Mars" - Talk Given by Emmons to Astronomy Club of Akron, April 23, 1954
- Box 2 of 5 Model Lunar Surface
- Box 2 of 5 "New Frontiers of Astronomical Technology," by Aden Baker Meinel, 1961
- Box 2 of 5 Space Optics Course, University of California, June 18-29, 1962
- Box 2 of 5 Climates of the United States, 1941
- Box 2 of 5 Radio Astronomy and Radio Sources, 1966

- Box 2 of 5 B.R.A.S. Bulletin, 1956-1957
- Box 2 of 5 "The Collapse Phase of Early Solar Evolution," by A. G. W. Cameron, 1963
- Box 2 of 5 Asteroid Paths
- Box 2 of 5 "Can We Learn From Other Planets?" by Fred Hoyle, 1964
- Box 2 of 5 "The Planet Jupiter" by R. Wildt, H. J. Smiths, E. E. Saltpeter, and A. G. W. Cameron, 1963
- Box 2 of 5 "Stellar Evolution and the Origin of the Chemical Elements," by Jesse L. Greenstein
- Box 2 of 5 Interplanetary Guidance, American Astronomical Society, 1960
- Box 2 of 5 Mars Atmosphere and Uncertainties, 1963
- Box 2 of 5 Problems Requiring Solutions, 1968
- Box 2 of 5 "A Student Experiment in Visual Astronomical Photometry," by H. John Wood, George P. Garmany, Jr., Lawrence B. A. Doepke, and William D. Cannell, 1968
- Box 2 of 5 "Visual Photometric Observation of W Serpentis," by Dean B. McLaughlin, 1961
- Box 2 of 5 "Five-Color Photometry of Bright Stars," by Braulio Iriarte, Harold L. Johnson, Richard I. Mitchell, and Wieslaw K. Wisniewski, 1965
- Box 3
- Box 3 of 5 "Photoelectric Reductions," by Robert H. Harde
- Box 3 of 5 Interplanetary Midcourse Guidance, 1959
- Box 3 of 5 Visit to Mobile Photometric Tracking Observatory, 1967
- Box 3 of 5 NASA-Lewis Comments, 1964
- Box 3 of 5 "Change of Albedo of the First Artificial Earth Satellite as a Result of the Action of External Factors," by I. M. Yatsunskii and O. V. Gurko
- Box 3 of 5 Trip to UCLA, Department of Meteorology, 1965
- Box 3 of 5 "A Wollaston Photometer," by Thomas Gehrels and Thomas M. Teska, 1960
- Box 3 of 5 "Environmental Effects Evaluation - Project Apollo," by R. H. Emmons (Goodyear Aerospace Corporation), 1965
- Box 3 of 5 "Optical Problems of the Satellites," by R. Tousey, 1957

- Box 3 of 5 Model of Mobile Observatory
- Box 3 of 5 "Determination of Optical and Physical Properties of Artificial Satellites by Passive Ground-based Photometry," by Raymond H. Preski, 1969
- Box 3 of 5 "On the Albedo of Planets and their Satellites," by Henry Norris Russell, 1916
- Box 3 of 5 "Visual Detection of Light Source on or Near the Moon," by S. H. Dole, 1957
- Box 3 of 5 Proceedings of University of Miami Symposium on Optical Properties of Orbiting Satellites, May 1969
- Box 3 of 5 "Soviet Space Programs," by Nicholas Johnson (Teladyne Brown Engineering)
- Box 3 of 5 Class Notes and Lectures
- Box 3 of 5 Zenith Distance and Slant Range Finder
- Box 3 of 5 1972 Solar Ephemeris and Surveying Instrument Manual
- Box 3 of 5 Subroutine Culm
- Box 3 of 5 PAGEOS Predictions, 1966
- Box 3 of 5 Documentary Photographs Taken at Sulfer Grove, United Sates Air Force, October 29, 1965 (List only)
- Box 3 of 5 American Astronomical Society, 1962
- Box 3 of 5 Raymond H. Wilson, Jr. Correspondence, 1962-1964
- Box 3 of 5 Specific Observing Site for PAGEOS Photometric Surveillance, 1966
- Box 3 of 5 Trip to NASA Headquarters to Discuss Technical Proposal (Echo Satellite), 1962
- Box 3 of 5 PAGEOS Fragments, 1977
- Box 3 of 5 Two-Line Orbital Elements, 1982
- Box 3 of 5 NASA Prediction Bulletin, 1982
- Box 3 of 5 Map Overlay Method of Hand Computing Station Predictions, 1982
- Box 3 of 5 Equipment Images
- Box 3 of 5 Miscellaneous Information for Team's Use
- Box 3 of 5 1960 Lambda Sputnik V
- Box 3 of 5 1958 Delta Two

- Box 3 of 5 "Phases of the Moon, 1800-1959," by Bernice L. Morrison (United States Naval Observatory Circular No. 112), 1966
- Box 3 of 5 "A Letter to Gregory Roberts, Part II," by Wilcox P. Overbeck, 1962
- Box 3 of 5 "Timing Results for Seven Pulsars," by Gordon E. Gullahorn, John M. Rankin, David W. Richards, and Robert R. Payne (National Astronomy and Ionosphere Center)
- Box 3 of 5 Gun Director, mark 5I, Mod 2, Operator's Manual, 1944
- Box 3 of 5 1958 Epsilon Explorer IV Cylindrical Radiation Counters
- Box 3 of 5 1960 Gamma Three
- Box 3 of 5 "Simplified Satellite Prediction from Modified Orbital Elements," National Academy of Sciences, National Research Council
- Box 3 of 5 "The Reflector: Newsletter of the Astronomical League," 1986
- Box 3 of 5 Light Filters, 1980
- Box 3 of 5 "Theory of Secular Variations in the Orbit of a Satellite of an Oblate Planet," NASA Technical Report by William A. Mersman, 1961
- Box 3 of 5 "Catalogue of Satellite Observations," SAO, 1960
- Box 3 of 5 Satellite Charts
- Box 3 of 5 1959 Delta II Explorer VI Paddlewheel Satellite
- Box 3 of 5 "Perturbations of Orbits of Artificial Satellites Due to Air Resistance," by Yu B. Batrakov and B. F. Proshkurin (NASA Technical Translation), 1960
- Box 3 of 5 "Observation of an Artificial Satellite by the Expectation Method," by V. M. Vakhnin and V. V. Beletskiy (NASA Technical Translation), 1960
- Box 3 of 5 1959 Satellite Tracking Pictures (Empty Envelope)
- Box 3 of 5 1958 Delta II Sputnik III
- Box 3 of 5 Star Transits for Walnut Creek Computed by China Lake, 1961-1962
- Box 3 of 5 Summary of WSRN Satellite Observations, 1968
- Box 3 of 5 Moonwatch, 1960
- Box 3 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, 1960, Volume 2, Number 2

- Box 3 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, 1958, Volume 1, Number 3
- Box 3 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, 1958, Volume 1, Number 2
- Box 3 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, 1958, Volume 1, Number 1
- Box 3 of 5 Proceedings of Lunar and Planetary Exploration Colloquium, 1959, Volume 1, Number 6
- Box 3 of 5 GAC Purchase Acceptance Test Procedures, 1966
- Box 3 of 5 Reflectivity Degradation of Aluminum Films Due to Solar Winds in Interplanetary Space, 1963
- Box 3 of 5 Radius of Curvature and Reflectivity of a Specular Spherical Surface
- Box 3 of 5 Approximate Values for the Primary Atmospheric Extinction, 1967
- Box 3 of 5 G2S2 Program, 1964
- Box 3 of 5 Meteoroid Hazard Problems and 11th Colloquium of Lunar and Planetary Exploration, 1961
- Box 3 of 5 Preliminary Analysis for Solar Concentrator Model for Electromechanical Satellite Power Plant, 1962
- Box 3 of 5 Moonwatch Certificate
- Box 3 of 5 Monthly Technical Progress Report - Satellite Photometric Observatory, 1971
- Box 3 of 5 Bob Rogers Correspondence, 1971
- Box 3 of 5 William Hirst Correspondence, 1965
- Box 3 of 5 Satellite Orbits Group Newsletter, 1978
- Box 3 of 5 Solar Color Indices from Multicolor Photometric Observations of Artificial Satellites, 1970
- Box 3 of 5 Photograph of Rocket
- Box 3 of 5 Observations, September 18, 1973
- Box 3 of 5 Satellite Sunset Points, 1969
- Box 3 of 5 Envelope with Soviet Stamps
- Box 3 of 5 Mean Anomaly Correction, 1966

- Box 3 of 5 Third International Space Science Symposium, 1962
- Box 3 of 5 Grigorevsky Correspondence, 1976, 1989
- Box 3 of 5 Satellite Prediction Program, 1969
- Box 3 of 5 Machined and Polished 4" Diameter Sphere
- Box 3 of 5 Observations, 1970-1973
- Box 3 of 5 NASA Prediction Bulletins, 1975
- Box 3 of 5 Explanation of Equator Crossing Predictions
- Box 3 of 5 "Space Traffic Surveillance"
- Box 3 of 5 NASA Prediction Format Explanation, 1984
- Box 3 of 5 Observers' Forum, 1980
- Box 3 of 5 Teacher Education and Certification Standards, 1984
- Box 3 of 5 Seasat
- Box 3 of 5 Preliminary Predictions for Skylab at North Canton, 1979
- Box 3 of 5 Predictions, 1968
- Box 3 of 5 Predictions, 1957
- Box 4
- Box 4 of 5 "Simplified Satellite Predictions for Modified Orbital Elements," by Leonard N. Cormier, Norton Goodwin, and Reginald k. Squire (National Academy of Sciences)
- Box 4 of 5 Predictions, 1966
- Box 4 of 5 Physical and Optical Parameters for June 16, 1967 Pass of Explorer XIX, 1968
- Box 4 of 5 Environmental Studies Support Technology Summary Report (Goodyear Aerospace Corporation), 1965
- Box 4 of 5 Stellar Magnitudes and Grid Sphere Drag Experiment Satellite, 1972
- Box 4 of 5 Instantaneous Orientation of Planar Element of Satellite's Surface That is Specularly Reflecting Sunlight
- Box 4 of 5 UBVR IJKL Photometry of the Bright Stars
- Box 4 of 5 "Absolute Calibration of the Arizona Photometry," by H. L. Johnson, 1965

- Box 4 of 5 "South Africa Baker-Nunn Photography of the PAGEOS-A Inflation and Apogee Burn of the Agena D," by W. Kirchoff and J. Latimer (SAO)
- Box 4 of 5 Astronomy Photography
- Box 4 of 5 Operations Data Sheet
- Box 4 of 5 Photometric Astronomy Theory
- Box 4 of 5 "Orbital Data Analysis of Grid Sphere Drag Experiment," by L. J. Schneider (Goodyear Aerospace Corporation), 1972
- Box 4 of 5 Predictions, 1964
- Box 4 of 5 "Design of the NASA Lightweight Inflatable Satellite for the Determination of Atmospheric Density at Extreme Altitudes," by Claude W. Coffee, Jr., Walter E. Bressette, and Gerald M. Keating (NASA Technical Note)
- Box 4 of 5 "An Iterative Method of Orbit Determination from Three observations of a Nearby Satellite," by R. E. Briggs and J. W. Slowey
- Box 4 of 5 "Method for Computation of Satellite Orbits," by L. Jacchia, 1957
- Box 4 of 5 Tiros-N Paper Model
- Box 4 of 5 Photometric Calibrations, 1967
- Box 4 of 5 Mobile Photometric Observatory, Goodyear Aerospace Corporation
- Box 4 of 5 "Fundamental Stellar Photometry for Standards of Spectral Type on the Revised System of the Yerkes Spectral Atlas," by H. L. Johnson and W. W. Morgan, 1952
- Box 4 of 5 "PAGEOS Project: Compilation of Information for Use of Experimenter," by David E. Bowker (NASA Technical Note)
- Box 4 of 5 "Orbital Observations of Grid Sphere Drag Experiment," by Frederick J. Stimler and C. Larry Gray (Goodyear Aerospace Corporation), 1973
- Box 4 of 5 Lincoln Calibration Sphere
- Box 4 of 5 Schjeldahl Thermal Control Coatings on Flexible Substrates
- Box 4 of 5 Lunar and Planetary Exploration Colloquium, 1961
- Box 4 of 5 Determining Echo I Satellite's Optical Degradation, 1962
- Box 4 of 5 Ground-based Photometric Surveillance, 1965-1969
- Box 4 of 5 Case Institute of Technology Proposal, 1962

- Box 4 of 5 "Advantages of a 4-Axis Tracking mount for the Photoelectric Photometry of Space Vehicles," by Kenneth E. Kissell, December 1965
- Box 4 of 5 "Precision Optical Tracking of Artificial Satellites," by W. F. Hoffman, R. Krotkov, and T. H. Dicke, 1958
- Box 4 of 5 "Photographic Photometry," by Harold Weaver
- Box 4 of 5 "Spaces of Potential Visibility of Artificial Satellites for the Unaided Eye," by Ingeborg Schmidt
- Box 4 of 5 "Tracking by the Smithsonian Astrophysical Observatory," by F. L. Whipple and C. A. Lundquist
- Box 4 of 5 Miscellaneous Correspondence, 1963-1964, 1972
- Box 4 of 5 Miscellaneous Articles and Clippings (2 folders)
- Box 4 of 5 Miscellaneous Calculations, Charts, Graphs, and Data (5 folders)
- Box 5
- Box 5 of 5 "Space Planners Guide," United States Air Force Command, 1965