

**Vera C. Rubin Papers**  
**A Finding Aid to the Collection in the Library of Congress**



**Manuscript Division, Library of Congress**  
**Washington, D.C.**  
**2018**

Contact information: <http://hdl.loc.gov/loc.mss/mss.contact>

Catalog Record: <https://lcn.loc.gov/mm2001084805>

Additional search options available at: <https://hdl.loc.gov/loc.mss/eadmss.ms018011>

Prepared by Karen Linn Femia

Finding aid encoded by Library of Congress Manuscript Division, 2018

## Collection Summary

**Title:** Vera C. Rubin Papers

**Span Dates:** 1781-2014

**Bulk Dates:** (bulk 1945-2010)

**ID No.84805:** MSS84805

**Creator:** Rubin, Vera C., 1928-2016

**Extent:** 86,000 items

**Extent:** 242 containers plus 17 oversize

**Extent:** 104 linear feet

**Language:** Collection material in English

**Location:** Manuscript Division, Library of Congress, Washington, D.C.

**LC Catalog record:** <https://lccn.loc.gov/mm2001084805>

**Summary:** Astronomer. Correspondence, writings, lecture notes and illustrations, observation logs, astronomical data, photographs, reports, and other papers relating to Rubin's career as an astronomer specializing in the movement of galaxies and in the existence of dark matter in the universe as well as her involvement in professional organizations and her efforts to promote women in science.

## Selected Search Terms

The following terms have been used to index the description of this collection in the LC Catalog. They are grouped by name of person or organization, by subject or location, and by occupation and listed alphabetically.

### People

Bahcall, John N.

Bahcall, Neta.

Burbidge, E. Margaret.

Burbidge, Geoffrey R.

Coyne, George V., 1933-

Faber, S. M. (Sandra M.)

Ford, W. Kent, Jr., 1931-

Gamow, George, 1904-1968.

Lynden-Bell, D.

McCarthy, Martin Francis.

Rubin, Vera C., 1928-2016.

Sandage, Allan.

Singer, Maxine.

Young, J. S. (Judith S.), 1952-

### Organizations

American Association for the Advancement of Science.

American Astronomical Society.

Association for Women in Science.

Association of Universities for Research in Astronomy.

Carnegie Institution of Washington. Department of Terrestrial Magnetism.

Cerro Tololo Inter-American Observatory.

Cornell University.

Georgetown University.

Hubble Space Telescope (Spacecraft)

International Astronomical Union.

Kitt Peak National Observatory.

Las Campanas Observatory.

Lowell Observatory.

National Academy of Sciences (U.S.)

National Radio Astronomy Observatory (U.S.)

Palomar Observatory.  
Pontificia Accademia delle scienze.  
Space Telescope Science Institute (U.S.)  
Specola vaticana.  
Vassar College.

### **Subjects**

Astronomy--Societies, etc.  
Astronomy.  
Cosmic rotation.  
Dark matter (Astronomy)  
Galaxies--Clusters.  
Galaxies.  
Gold Medal of the Royal Astronomical Society.  
National Medal of Science.  
Science--Awards.  
Science--Societies, etc.  
Spectrograph.  
Women in astronomy.  
Women in science.

### **Places**

Andromeda Galaxy.  
Virgo Cluster.

### **Occupations**

Astronomers.

## **Provenance**

The papers of Vera C. Rubin, astronomer, were given to the Library of Congress by Vera C. Rubin in 2001 and 2012. Small additions were given by the estate of Vera C. Rubin through the Carnegie Institution of Washington, Department of Terrestrial Magnetism, in 2017 and by Charles J. Peterson in 2018.

## **Processing History**

Given the inter-related and complex content of the Rubin papers, it was decided to retain the collection's original arrangement. The collection was boxed, therefore, in the order it was received, with minor adjustments. Rubin's papers that were given in 2001 are in containers 1-72 and oversize containers OV1-OV10 and OV14. Her 2012 donation is in containers 72-237 and oversize containers OV11-OV13 and OV15-OV17. The 2017 addition from Rubin's estate is in containers 237-242. Although many original file folders were replaced, many of Rubin's original folders were retained, in particular those with annotations made by her.

The contents of the collection were described and listed during processing in a spreadsheet which was sorted by series and therein either alphabetically or chronologically. The sorted spreadsheet was then used to generate the container list. The finding aid's container list, as a result, describes the collection in intellectual rather than physical order. Rather than creating cross-references, some folders are listed in two series. The spreadsheet is available as an Excel file upon request.

## **Other Repositories**

The Vera C. Rubin Photograph Collection, circa 1942-2012, is available to researchers at the Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, D.C.

## Copyright Status

Copyright in the unpublished writings of Vera C. Rubin in these papers and in other collections in the custody of the Library of Congress is reserved. Consult a reference librarian in the Manuscript Division for further information.

## Access and Restrictions

The papers of Vera C. Rubin are open to research. Researchers are advised to contact the Manuscript Reading Room prior to visiting. Many collections are stored off-site and advance notice is needed to retrieve these items for research use.

## Preferred Citation

Researchers wishing to cite this collection should include the following information: Container number, Vera C. Rubin Papers, Manuscript Division, Library of Congress, Washington, D.C.

## Biographical Note

Date	Event
1928, July 23	Born Vera Cooper, Philadelphia, Pa.
1938	Moved to Washington, D.C.
1945	Graduated from Calvin Coolidge High School, Washington, D.C.
1948	B.A., Vassar College, Poughkeepsie, N.Y.
1948	Married Robert Rubin (died 2008)
1951	M.A., Cornell University, Ithaca, N.Y.
1954	Ph.D., Georgetown University, Washington, D.C., George Gamow, dissertation advisor
1954-1955	Instructor of mathematics and physics, Montgomery Junior College, Takoma Park, Maryland
1955-1962	Research associate and lecturer in astronomy, Georgetown University, Washington, D.C.
1962-1965	Assistant professor in astronomy, Georgetown University, Washington, D.C.
1963-1964	Research assistant for E. Margaret and Geoffrey R. Burbidge, University of California, San Diego
1965-2001	Staff member in astronomy, Department of Terrestrial Magnetism, Carnegie Institution of Washington. With fellow staff member and spectrometer innovator, W. Kent Ford, Jr., began measuring movements of galaxies. The data Rubin collected and interpreted provided the observational evidence for the existence of dark matter.
1981	Elected to the National Academy of Sciences
1993	Awarded the National Medal of Science
1996	Awarded the Royal Astronomical Society's Gold Medal
1997	Published <i>Bright Galaxies Dark Matters</i> . Woodbury, N.Y.: American Institute of Physics
2001-circa 2013	Senior fellow, Department of Terrestrial Magnetism, Carnegie Institution of Washington.
2016, Dec. 25	Died, Princeton, N.J.

## Scope and Content Note

The papers of Vera C. Rubin (1928-2016) span the years 1781-2014 with the bulk of the material dating from 1945 to 2010. Rubin was an observational astronomer whose principal achievement was to confirm the existence of dark matter in the universe. She did this by studying the way in which galaxies rotate about their centers. How astronomers perceive the universe was profoundly transformed by the realization that most of its matter is in a mysterious and invisible form. This dark matter is still not understood. Rubin received her PhD in 1954 from Georgetown University. She taught there for several years then, in 1965, began her long tenure at the Department of Terrestrial Magnetism, Carnegie Institution of Washington, where she remained until her retirement. It was there that Rubin embarked on her program of research on galaxies, working closely with W. Kent Ford, Jr., who developed the innovative image tube spectrograph used to make

their ground-breaking observations. Her work frequently took her to major observatories such as Palomar Observatory, California, Las Campanas and Cerro Tololo observatories in Chile, and Kitt Peak National Observatory in Arizona. Rubin entered the scientific profession at a time when women scientists were a small minority and often suffered discrimination. In 1963 she became the first woman allowed to observe in her own right at the Palomar Observatory. She was an early and noted critic of the Cosmos Club of Washington D.C. which did not admit women as members or even allow them to enter through the front door. Rubin became a dedicated advocate for women in science, a cause well documented in her papers. Many young scientists, especially women, regarded her as an inspiration and role model: her own daughter and three sons all became scientists. In recognition of her achievements, Rubin received numerous honors.

Due to the inter-related and complex nature of the papers, The collection's original physical arrangement has been retained by rehousing it largely as it was received. The finding aid, however, lists the collection in intellectual rather than physical order. The intellectual arrangement consists of seven series: [Personal File](#); [General Correspondence](#); [Alphabetical File](#); [Organizations, Observatories, and Institutions](#); [Writings and Lectures](#); [Notebooks and Binders](#); and [Research File](#). Files are listed either alphabetically or chronologically within each series. The decision to list the papers intellectually was intended to ease navigation of the collection's content. Researchers will still want to note the physical relationship of folders for possible relevance.

The [Personal File](#) includes biographical material, interviews, files concerning her many awards and honorary doctorates received, press coverage, a few photographs, and folders related to her daughter, Judith S. Young, who also became an astronomer. There are very few family papers, but Rubin frequently writes about her family in correspondence throughout the collection.

The [General Correspondence](#) series contains folders of correspondence organized by year as maintained by Rubin with the addition of loose correspondence discovered while processing. Also included in this series are logs of telephone messages and a collection of school letters from young students.

The [Alphabetical File](#) primarily includes files of individual astronomers or physicists and subject matter files. Several subject matter groupings include: Conferences, symposiums, and workshops; Referee reports (Rubin's review of other writers' journal submissions); and Women in Astronomy and Women in Science. Scientists with Alphabetical File folders include John N. and Neta Bahcall, E. Margaret and Geoffrey R. Burbidge, George V. Coyne, Sandra M. Faber, George Gamow, Donald Lynden-Bell, Martin Francis McCarthy, Allan Sandage, and Maxine Singer. Correspondence with individuals represented in the Alphabetical file can often also be found elsewhere in the collection.

The [Organizations, Observatories, and Institutions](#) series documents Rubin's activities with scientific and academic organizations, universities, observatory visiting committees and boards, and other institutions. Rubin served on many search committees, visiting committees, and boards for numerous academic institutions and observatories. These files provide insight to the inner workings of these organizations. Also in the series is material from Rubin's home institution where she worked for over forty years: the Carnegie Institution of Washington, Department of Terrestrial Magnetism. Organizations with prominent files include the American Association for the Advancement of Science, American Astronomical Society, Association for Women in Science, Association of Universities for Research in Astronomy, International Astronomical Union, National Academy of Sciences, National Radio Astronomy Observatory, Pontifical Academy of Sciences, and the Space Telescope Science Institute. Rubin's alma maters--Cornell University, Georgetown University, and Vassar College--all have substantial files. Observatories with notable files include Cerro Tololo Inter-American Observatory, Las Campanas Observatory, Lowell Observatory, Kitt Peak National Observatory, and the Vatican Observatory (Specola vaticana).

The [Writings and Lectures](#) series begins with a chronological filing of Rubin's published articles and books. The date spans for the chronological organization include the dates for drafts, correspondence with co-writers and publishers, and related research material in addition to final versions of the writing. Also in this series are texts, notes, illustrations, and overhead transparencies used by Rubin for professional lectures and public talks.

The next series contains a set of [Notebooks and Binders](#) as received from Rubin. Material was removed from the original binders and foldered but original order and Rubin's labels and titles have been maintained. Most of the material is research files and data. Notebooks that are not research material have been cross-listed in other series; for example, the notebook in container 232 for AURA's Observatory Visiting Committee is also listed in the Organizations, Observatories and Institutions series. Research material is not cross-listed.

The [Research File](#) contains Rubin's data, observing logs, charts, spectra, astronomical photographs, and occasional correspondence with fellow researchers and observatories. Research material is also found as part of many of the Writings and Lectures files and also in the majority of the Notebooks and Binders series. Given the technical nature of her research, Rubin's original folder labels have been carefully maintained. Throughout the collection, many of Rubin's original folders have been maintained. This is especially true in the Research File where many of her folders are heavily notated.

## Arrangement of the Papers

This collection is arranged in seven series:

- [Personal File, 1945-2010](#)
- [General Correspondence, 1948-2014](#)
- [Alphabetical File, 1781-2010](#)
- [Organizations, Observatories, and Institutions, 1945-2010](#)
- [Writings and Lectures, 1852-2011](#)
- [Notebooks and Binders, 1944-2002](#)
- [Research File, 1943-2008](#)

# Description of Series

## Container

## Series

### Personal File, 1945-2010

Files that are primarily biographical in nature, including press coverage. Includes files on her many honorary doctorates and awards, including the National Medal of Science and the Gold Medal from the Royal Astronomical Society, a list of twenty-eight years of her observatory work, and files for family members related to their own professional work. Correspondence, curriculum vitae, interviews, news clippings, photographs, and related material.

Arranged alphabetically by type of material or name of award or name of family member.

### General Correspondence, 1948-2014

Rubin's chronological files of correspondence with a variety of people and institutions comprises the major part of this series. Also included is a file of letters from students and a set of telephone message logs. Correspondence found loose in the papers was added to the chronological correspondence folders.

Correspondence and telephone message logs. Arranged chronologically by year, followed by alphabetical arrangement by type of material and chronologically therein.

### Alphabetical File, 1781-2010

Files with subject matter titles or personal names. Individuals represented are almost entirely scientists, primarily astronomers or physicists. The folder titles reflect Rubin's original folder labels, although many titles have been edited and regularized in order to bring together like material in the container list. Correspondence, conference material, reports, writings by others, referee reports written by Rubin, and printed matter.

Arranged alphabetically by name or topic.

### Organizations, Observatories, and Institutions, 1945-2010

Papers documenting Rubin's activities with various academic societies and scientific organizations. The series also includes a large file concerning her home institution, the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, as well as various other institutions, universities, and observatories. Correspondence, committee and board of directors materials, conference and symposium files, financial reports, nominations and applications, observatory users manuals and schedules, reports, reviews of academic departments and observatories, teaching materials, travel vouchers, and related material.

Arranged alphabetically by name of organization.

### Writings and Lectures, 1852-2011

Rubin's published writings with drafts and related correspondence and research material, notes and illustrations for lectures given, and a set of overhead transparency sheets. Other smaller files in the series relate to Rubin's writing and include a bibliography of Rubin's publications, letters to the editor, correspondence with literary agents, and requests for reprints. Published articles, drafts of articles, book drafts and galleys, research material, correspondence, illustrations, notes, overhead transparencies, and publicity for public lectures.

Arranged into a chronological file of writings followed by an alphabetical arrangement by type of material.

### **Notebooks and Binders, 1944-2002**

This set of notebooks and binders was foldered and rehoused in the order as received. Rubin's titles and labels were retained. The contents are primarily research material.

Arranged alphabetically by title or label as established by Rubin.

### **Research File, 1943-2008**

Rubin's research files on galaxies and rotation curves include substantial files on Abell clusters, Hickson Compact Groups, Low surface brightness galaxies, M31 (the Andromeda galaxy), and Virgo cluster galaxies. Also in this series are Rubin's observing logs and correspondence and requests for observing time at various observatories and the Hubble Space Telescope. Most folders maintain Rubin's original file label and many of her original annotated folders have been retained. Additional research material can be found in the Notebooks and Binders series and in the Writings and Lectures series. Data, charts, graphs, astronomical photographs, spectra, observing logs and schedules, correspondence with observatories and notes to co-observers.

Arranged alphabetically by topic.



# Container List

Container	Contents
	<b>Personal File, 1945-2010</b>
	Files that are primarily biographical in nature, including press coverage. Includes files on her many honorary doctorates and awards, including the National Medal of Science and the Gold Medal from the Royal Astronomical Society, a list of twenty-eight years of her observatory work, and files for family members related to their own professional work. Correspondence, curriculum vitae, interviews, news clippings, photographs, and related material.
	Arranged alphabetically by type of material or name of award or name of family member.
BOX 92	A Celebration of Vera Rubin's Career: "Unveiling the Mass: Extracting and Interpreting Galaxy Masses," Kingston, Canada, 2009
BOX 150	Antoinette de Vaucouleurs Memorial Lectureship and Medal, University of Texas, Austin, 1991-1993
BOX 65	Appointment calendar, 1983, Jan.-Mar. Biographical material
BOX 204	Draft article based on interview by Carole Rayl, 1987-1988
BOX 82	File for writing "Recollections after Fifty Years: Haverford AAS meeting, December 1950," 1949-1956, 1997-1999
BOX 94	General, 1945-1955, 1971, 1981, 1995, undated
BOX 95	General, 1951-1957
BOX 169	List of Rubin's observatory work from 1963 to 1991, circa 1991
BOX 94	Press coverage and miscellany, 1983-2010
BOX 25	Calvin Coolidge High School, Washington, D.C., class reunion, 1985
BOX 136	Catherine Wolfe Bruce Gold Medal, 2003
BOX 92	Curriculum vitae, circa 1984, 1998-2004
BOX 161	Dickson Prize, Carnegie Mellon University, Pittsburgh, Pa., 1994 Honorary doctorates
BOX 163	Georgetown University, Washington, D. C., 1996-1997
BOX 139	Grinnell College, Grinnell, Iowa, 2002
BOX 210	Harvard University, Cambridge, Mass., 1988
BOX 117	Ohio State University, Columbus, Ohio, 1998
BOX 133	Smith College, Northampton, Mass., 2001
BOX 114	University of Michigan, Ann Arbor, Mich., 1995-1996
BOX 160	Williams College, Williams, Mass., 1993
BOX 158	Yale University, New Haven, Conn., 1990
BOX 95	Interview with Carol A. Mockros, 1992
BOX 99	Interview with David DeVorkin, 1995-1997
BOX 134	John Scott Award, City of Philadelphia, 2001
BOX 100	Journal, "Padua," 2010
BOX 58	Klutzn Press, childhood photographs for publication, 1995-1996
BOX 106	Miscellaneous awards, 1993-2010
BOX 114	National Medal of Science, 1992-1996 (4 folders)

## Personal File, 1945-2010

Container	Contents
BOX 105	National Medal of Science, 1994
BOX 149	National Medal of Science, nomination, 1991
BOX 150	New York Academy of Sciences Award in Celebration of Women's History Month, and honorary life membership, 1992-1995
BOX 149	Photographs of Rubin, 1992, 2002, undated
BOX 239	Postcards and note cards collected from Rubin's office desk and bulletin boards following her retirement, circa 1975-2014
BOX 106	Press coverage, 1950-2010 (5 folders)
BOX 104	Press coverage, 1990-2009, undated
BOX 239	Press coverage, 1951
BOX 238	Press coverage, 1954, 1966, 1971-1984, 1992, 2002, undated
BOX 95	Press coverage, correspondence, and miscellany, 1972-2008, undated
BOX 82	Royal Astronomical Society Gold Medal, 1996
BOX 151	Rubin, Robert, 1954, 1988
BOX 10	University of California, San Diego, La Jolla, housing, 1963
BOX 119	Weizmann Women and Science Award, 1996
BOX 141	Wings Worldquest, Air and Space Women of Discovery Award, 2003-2004
BOX 195	Young, Judith S. (daughter), 1970-1972?
BOX 190	Young, Judith S. (daughter), thesis "Stable Models of Spiral Galaxies," 1974
BOX 108	Young, Judith S. (daughter), 1982-2000
BOX 108	Young, Judith S. (daughter), 1982-2000

### General Correspondence, 1948-2014

Rubin's chronological files of correspondence with a variety of people and institutions comprises the major part of this series. Also included is a file of letters from students and a set of telephone message logs. Correspondence found loose in the papers was added to the chronological correspondence folders.

Correspondence and telephone message logs. Arranged chronologically by year, followed by alphabetical arrangement by type of material and chronologically therein.

BOX 105	1948
BOX 29	1951-1968 (11 folders)
BOX 195	1960-1961
BOX 105	1963-1966
BOX 147	1968-1978, 1984-1988
BOX 30	1969-1974 (9 folders)
BOX 191	1974-1982
BOX 31	1975-1978 (10 folders)
BOX 42	1975-1983 (8 folders)
BOX 105	1976, 1986-1987
BOX 32	1979-1982 (8 folders)
BOX 204	1982-1996

## General Correspondence, 1948-2014

Container	Contents
BOX 33	1983 (1 folder)
BOX 43	1983-1986 (8 folders)
BOX 112	1985, 1991-1992 (5 folders)
BOX 127	1985-1988, undated
BOX 44	1986-1989 (7 folders)
BOX 147	1989
BOX 156	1989-1990
BOX 147	1990, circa 1990 (5 folders)
BOX 105	1990-2008, undated (2 folders)
BOX 240	1990-2012, undated (6 folders)
BOX 147	1991 (3 folders)
BOX 113	1992-1993 (4 folders)
BOX 161	1992-1993
BOX 120	1993-1994 (3 folders)
BOX 161	1994 (2 folders)
BOX 163	1994
BOX 116	1995 (3 folders)
BOX 163	1995
BOX 163	1996
BOX 117	1996-1998 (2 folders)
BOX 210	1996-2011, undated
BOX 163	1997-1998
BOX 139	1998-2003 (2 folders)
BOX 239	Postcards and note cards collected from Rubin's office desk and bulletin boards following her retirement, circa 1975-2014
BOX 239	School letters, 1992-2002
BOX 214	Telephone messages, 1989-1993
BOX 215	Telephone messages, 1985 (2 folders)
BOX 216	Telephone messages, 1993-1998 (2 folders)

## General Correspondence, 1948-2014

### Container

### Contents

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BOX 238

Telephone messages, 2001-2008

#### **Alphabetical File, 1781-2010**

Files with subject matter titles or personal names. Individuals represented are almost entirely scientists, primarily astronomers or physicists. The folder titles reflect Rubin's original folder labels, although many titles have been edited and regularized in order to bring together like material in the container list. Correspondence, conference material, reports, writings by others, referee reports written by Rubin, and printed matter. Arranged alphabetically by name or topic.

BOX 169

Accurate positions of galaxies, 1976, undated

BOX 97

Ackerman, Diane, 1992-1997, undated

BOX 136

Africa, astronomy in, 1998-2004

BOX 50

Air pollution, 1971

BOX 97

Alpher, Ralph A. and Robert Herman, 1987-1994, 2006

BOX 25

Annual Review of Astronomy and Astrophysics, 1983-1984

BOX 25

Archeoastronomy, 1982

BOX 97

Arp, Chip, 1982-1985

BOX 131

Astrobiology, 1976, 2000

BOX 140

Astro-Chemistry, star formation, 1998-1999, undated

BOX 145

The Astronomers, (television series), 1990-1991

BOX 62

Astronomical Journal, search for editor, 1974-1975

BOX 5

Astronomy education, 1964, undated

BOX 9

Astronomy education, undated

BOX 97

Babcock, Horace W., 1941, undated

Bahcall, John N.

BOX 50

Bahcall objects, 1970

BOX 97

General, 1983-2005

BOX 170

Mass model, 1982-1984

BOX 190

Writings, 1970-1972, 1982-1983

BOX 97

Bahcall, Neta, 1987-2006

(2 folders)

BOX 190

Bahcall, Neta, writings, 1970-1972, 1982-1983

BOX 203

Balkowski, C., 1992

BOX 116

Bill Nye the Science Guy (television show), 1995

BOX 203

Block, David, 1984-1985

BOX 135

Bonanos, Alceste, 2000-2007

BOX 204

Borne, Kirk D., 1982-1994

BOX 97

Boss, Alan Paul, 2004-2005, undated

BOX 98

Bothun, Gregory D., 1983, undated

BOX 98

Brainerd, Teresa G., 1999-2000

BOX 193

Brinks, Eli, M 31, 1982-1984

BOX 98

Burbidge, E. Margaret, 1953-1964, 1981-1985, 1994, 2000-2001

(2 folders)

BOX 13

Burbidge, E. Margaret, 1980-1981, 1994

BOX 190

Burbidge, E. Margaret and Geoffrey R., writings, 1959-1971

(2 folders)

## Alphabetical File, 1781-2010

Container	Contents
BOX 98	Burbidge, Geoffrey R., 1953-1964, 1981-1985, 1994, 2000-2002 (2 folders)
BOX 98	Burke, Bernard, 1959, 2005
BOX 98	Burnell, S. Jocelyn, 2000-2004
BOX 98	Burstein, David, 1983-1993 (2 folders)
BOX 98	Cambridge Press, 2002-2005 (2 folders)
BOX 100	Carignan, Claude, and K.C. Freeman, 1984, undated
BOX 205	Carney, Bruce W., 1982-1994
BOX 95	Cartoons, astronomy themed, 1991-1998, undated
BOX 115	Catalogs of astronomy slides and images, 1970, 1990-1993, undated
BOX 131	"Catalogue containing data of the galaxies," 1942
BOX 102	Chaname, Julio, 2008
BOX 98	Chen, Wen-Ping, 2004
BOX 146	China, 1986-1987
BOX 154	Clusters file, 1974, 1982-1991, undated (4 folders)
BOX 98	Cohen, Judith, 2005
BOX 184	Computer instructions, undated
	Conferences, symposiums, and workshops
BOX 159	"After the First Three Minutes," workshop at the University of Maryland, College Park, 1990
BOX 160	"Analysis of Emission Lines" Symposium, Baltimore, Md., 1994
BOX 164	Astrophysics conference: "After the Dark Ages, When Galaxies were Young," University of Maryland, College Park, 1998
BOX 150	Astrophysics conference: "Back to the Galaxy," University of Maryland, College Park, 1992
BOX 163	Astrophysics conference: "Dark matter," University of Maryland, College Park, Md., 1994
BOX 2	"Comparative HI Content of Normal Galaxies," Green Bank Observatory workshop, Green Bank, W. Va., 1982
BOX 163	"Critical Dialogue in Cosmology" Conference, Princeton University, Princeton, N.J., 1996 (2 folders)
BOX 23	ESO-CERN Symposium, 1983
BOX 84	Gamow Symposium, George Washington University, Washington, D.C., 1996
BOX 191	"Gravitational Collapse and other Topics in Relativistic Astrophysics," Dallas, Tex., 1963
BOX 156	Herstmonceux conference, Cambridge, England, 1990
BOX 52	"Instability of Systems of Galaxies," Santa Barbara, Calif., 1961
BOX 210	"Le monde des galaxies," a conference to honor Gérard and Antoinette de Vaucouleurs, Paris, France, 1988 (2 folders)
BOX 62	M.I.T.-Harvard Neighborhood Workshop on Interacting (?) Galaxies, 1981
BOX 201	Macy Foundation symposium, "Women's Careers in Science: Gender Discrimination," 1984-1987 (2 folders)
BOX 35	Mayall Symposium, Nogales, Ariz., 1971
BOX 62	Mexico, Observatory dedication and symposium, 1979
BOX 105	Michigan Symposium on Astrophysics of 1953, 1953, 1989

## Alphabetical File, 1781-2010

Container	Contents
BOX 34	"Nuclei of Galaxies," seminar at National Radio Astronomy Observatory, Charlottesville, Va., 1973-1974
BOX 191	"Photometry, Kinematics, and Dynamics of Galaxies," Austin, Tex., 1978-1984
BOX 164	"Science with the Atacama Large Millimeter Array," 1999
BOX 191	Summer Institute on Spectral Theory and Statistical Mechanics, Brookhaven National Laboratory, Upton, N.Y., 1965
BOX 48	"Seyfert Galaxies and Related Objects," University of Ariz., Tucson, Ariz., 1968
BOX 36	Texas Symposium on Relativistic Astrophysics, Boston, Mass., 1976
BOX 208	"The Outer Galaxy Symposium in Honor of Frank Kerr," University of Maryland, College Park, 1987
BOX 173	"What Works: Women in Math, Science, and Engineering," Washington, D.C., 1992
BOX 150	Cosmic Frontiers, television program, 1992
BOX 94	Cosmology, 1940-1974, 1985-2008, undated (2 folders)
BOX 152	Cosmology, 1987-1991, undated (4 folders)
BOX 203	Courteau, Stephane, 1990
BOX 203	Cowley, Anne P., 1982-1983
BOX 206	Cowsik, R., 1972-1984, undated
BOX 5	Coyne, George V., 1962-1965
BOX 98	Coyne, George V., 1992-2003 (2 folders)
BOX 138	Curie, Marie, online exhibit by CWP at UCLA, 2000
BOX 152	Dark matter file, 1983-1992, undated (5 folders)
BOX 153	Dark matter file, 1983-1992, undated (3 folders)
BOX 26	David W. Mann Co., precision measuring instruments, 1965-1966
BOX 132	De Blok, W. J. G., 2000
	De Vaucouleurs, Gerard and Antoinette
BOX 210	Correspondence, notes and illustrations for speech, and miscellany for conference in honor of, 1981-1988 (2 folders)
BOX 203	Correspondence, speech, and miscellany for event honoring, 1987-1988
BOX 203	Reading file, 1781-1785, 1867-1986
	DeVorkin, David
BOX 99	Explore the Universe: An Exhibition for the National Air and Space Museum, 1999-2002
BOX 84	General, 2000-2002
BOX 99	Interviews of Rubin, 1995-1997
BOX 131	National Geographic proposal, 2000-2001
BOX 139	Dinerstein, Harriet L., 1999
BOX 131	Disk model galaxy, 1979
	D'Odorico, Sandro
BOX 49	NGC 3395 and 3396, 1969-1970
BOX 50	Planetaries, 1968-1973
BOX 99	Dressler, Alan, 1984-1985, 1994
BOX 99	"E=MC2: A Biography of the World's Most Famous Equation," television script, 2004-2005

## Alphabetical File, 1781-2010

Container	Contents
BOX 8	Earth Science Curriculum Project newsletter, 1963-1965
BOX 23	Eclipse of 1984, 1983-1984
BOX 99	Eder, Jo Ann, 1989-1991, undated
BOX 99	Elmegreen, Debra Meloy, 1984
BOX 190	Estonia, Institute of Astrophysics, 1976-1979 (2 folders)
BOX 99	Faber, Sandra M., 1981-2009 (2 folders)
BOX 140	Faber, Sandra M., 2005
BOX 100	Fang Lizhi, 1987
BOX 58	Fellowships, 1989
BOX 100	Fergusson, Frances D., 1986-1987, 2001-2005
BOX 100	Filippenko, Alexei, 1985-1991, undated
BOX 48	Finding charts Virgo region, undated
BOX 25	Fisher and Tully, "A New Method of Determining Distances to Galaxies," 1975
BOX 203	Forbes, Duncan, 1989-1991
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BOX 61	"Rotation Curves of High-Luminosity Spiral Galaxies and the Rotation Curve of our Galaxy," IAU paper
BOX 46	"Stellar and Gas Kinematics in Disk Galaxies," with Whitmore and Ford
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BOX 54	Book review of A Convergence of Lives. Sofia Kovalevskaja: Scientist, Writer, Revolutionary, by Ann Hibner Koblitz
BOX 14	"Distribution of Mass in Spiral Galaxies," with Burstein
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BOX 14	"Women Astronomers in America: The First 150 Years"
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BOX 208	"Constraints on the Dark matter from Optical Rotation Curves," Proceedings of the IAU Symposium #117, Princeton, N.J.
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	1987
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BOX 83	"Cecilia Payne-Gaposchkin," for Institute of Physics Publishing 1999
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BOX 83	"Rotation Curves of Spiral Galaxies," with Sofue (4 folders)
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	Undated
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### Research File, 1943-2008

Rubin's research files on galaxies and rotation curves include substantial files on Abell clusters, Hickson Compact Groups, Low surface brightness galaxies, M31 (the Andromeda galaxy), and Virgo cluster galaxies. Also in this series are Rubin's observing logs and correspondence and requests for observing time at various observatories and the Hubble Space Telescope. Most folders maintain Rubin's original file label and many of her original annotated folders have been retained. Additional research material can be found in the Notebooks and Binders series and in the Writings and Lectures series. Data, charts, graphs, astronomical photographs, spectra, observing logs and schedules, correspondence with observatories and notes to co-observers.

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