

Charles H. Townes Papers
A Finding Aid to the Collection in the Library of Congress



Manuscript Division, Library of Congress
Washington, D.C.
2021

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Prepared by Manuscript Division staff

Finding aid encoded by Library of Congress Manuscript Division, 2019
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Collection Summary

Title: Charles H. Townes Papers

Inclusive Dates: 1898-2014

Bulk Dates: 1950-2010

ID No.: MSS84413

Creator: Townes, Charles H.

Extent: 129,250 items

Extent: 468 containers plus 2 classified and 4 oversize

Extent: 187.2 linear feet

Extent: 1 microfilm reel

Extent: 98 digital files (6.38GB)

Language: Collection material in English

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

LC Catalog record: <https://lccn.loc.gov/mm99084413>

Summary: Physicist, astrophysicist, and educator. Correspondence, computation notebooks, technical memoranda and notes, patents, teaching files, astronomical observations, grants and projects, subject files, legal files, speeches, writings, biographical material, awards, printed matter, photographs, digital files, microfilm, and other papers relating to Townes's career beginning in 1948.

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

Abella, Isaac D., 1934- --Correspondence.

Basov, N. G. (Nikolaï Gennadievich), 1922-2001--Correspondence.

Basov, N. G. (Nikolaï Gennadievich), 1922-2001.

Boyd, Robert W., 1948- --Correspondence.

Chiao, Raymond Y.--Correspondence.

Danchi, William Clifford--Correspondence.

Dicke, Robert H. (Robert Henry)--Correspondence.

Genzel, Reinhard, 1952- --Correspondence.

Greyber, Howard D., 1923- --Correspondence.

Javan, Ali, 1926-2016--Correspondence.

Letokhov, V. S.--Correspondence.

Ottusch, John J.--Correspondence.

Prokhorov, A. M. (Aleksandr Mikhaïlovich), 1916-2002--Correspondence.

Prokhorov, A. M. (Aleksandr Mikhaïlovich), 1916-2002.

Rosenfeld, Arthur H., 1926-2017--Correspondence.

Rydbeck, O. E. H. (Olof Erik Hans), 1911- --Correspondence.

Schawlow, Arthur L., 1921-1999--Correspondence.

Scully, Marlan O. (Marlan Orvil), 1939- --Correspondence.

Shimoda, Kōichi--Correspondence.

Shockley, William, 1910-1989--Correspondence.

Stroschio, Michael A., 1949- --Correspondence.

Townes, Charles H.

Townes, Charles H. How the laser happened : adventures of a scientist. 1999.

Wang, Tien-Chuan--Correspondence.

Wollman, Eric Robert, 1947- --Correspondence.

Organizations

Columbia University.

Committee on Scholarly Communication with the People's Republic of China (U.S.)

Hubble Space Telescope (Spacecraft)
Institute for Defense Analyses.
JASON Defense Advisory Group.
Laser History Project.
Massachusetts Institute of Technology.
National Academy of Sciences (U.S.)
National Science Foundation (U.S.)
Perkin-Elmer Corporation.
Research Corporation.
United States. Army Research Office.
United States. National Aeronautics and Space Administration.
United States. National Aeronautics and Space Administration. Science and Technology Advisory Committee for Manned Space Flight.
United States. Office of Naval Research.
University of California, Berkeley.
University of California, Berkeley. Quantum Electronics and Astrophysics Group.

Subjects

Aeronautics.
Astronomy--Observations.
Astronomy--Research--China.
Astronomy.
Astrophysics--Research.
Astrophysics--Study and teaching.
Astrophysics.
Electromagnetic waves--Patents.
Interferometry.
Lasers--Patents.
Lasers.
Manned space flight--United States.
Masers--Patents.
Masers.
Microwave spectroscopy.
Nobel Prizes.
Nuclear physics.
Optics.
Physics--Awards.
Physics--Research.
Physics--Study and teaching.
Physics.
Quantum electronics.
Quantum theory.
Religion and science.
Religion--Awards.
Science and state--United States.
Science--International cooperation.
Space telescopes--United States.
Technology and state--United States.
Templeton Foundation Prize.

Places

United States--Defenses.
United States--Military policy.

Occupations

Astrophysicists.
Educators.
Physicists.

Acquisition Information

The papers of Charles H. Townes were given to the Library of Congress by Townes in 1999. Numerous additions were given by him between 2000 and 2009. Further additions were received in 2014 and 2015.

Processing History

Part I of the papers of Charles H. Townes was arranged and described in 2012 by Melinda K. Friend with the assistance of Tracey R. Barton and Maria Farmer. The finding aid was revised in 2015. Additional material received in 2014 and 2015 was processed as Part II in 2019 by Melinda K. Friend and the finding aid revised and updated. The finding aid was further revised by Melinda K. Friend in 2021.

Digital files were received as part of the papers of Charles H. Townes on a variety of storage media, each of which was assigned a unique digital ID number. Use the digital ID number to request access copies of the files associated with each media. A description of the standard processes taken on all born digital records can be found in the Processing History Note: Born Digital Collection Material at <https://www.hdl.loc.gov/loc.mss/eadmss.digital>.

Transfers

Audiotapes, videotapes, and sound discs have been transferred to the Library's Motion Picture, Broadcasting, and Recorded Sound Division where they are identified as part of the Charles H. Townes Papers.

Other Repositories

Other papers of Charles H. Townes are located in the Bancroft Library of the University of California, Berkeley, California.

Copyright Status

Copyright in the unpublished writings of Charles H. Townes in these papers and in other collections of papers in the custody of the Library of Congress has been dedicated to the public.

Access and Restrictions

The papers of Charles H. Townes 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.

National Security Classified Information

Government regulations control the use of national security classified items in this collection. Manuscript Division staff can furnish information concerning access to and use of classified material.

Technical Requirements

Digital files in the papers of Charles H. Townes include text files in .pdf, .html, .doc, and unidentified formats, moving image files in .vob format, and images files in .jpg format. No special tools or software are required to view the content.

Microfilm

Microfilm on one reel was received as part of the papers of Charles H. Townes in 2014 and is listed in the finding aid. The contents of the microfilm is two volumes of computation notebooks. This microfilm is not available for interlibrary loan.

Preferred Citation

Researchers wishing to cite this collection should include the following information: Container, reel, or digital ID number, Charles H. Townes Papers, Manuscript Division, Library of Congress, Washington, D.C.

Biographical Note

Date	Event
1915, July 28	Born, Greenville, S.C.
1935	B.A., modern languages, and B.S., physics, Furman University, Greenville, S.C.
1937	M.A., physics, Duke University, Durham, N.C.
1939	Ph.D., physics, California Institute of Technology, Pasadena, Calif.
1939-1947	Technical staff, Bell Telephone Laboratories, New Jersey, including design and development of radar bombing and navigation systems for Allied bombers
1941	Married Frances Hildreth Brown
1948-1961	Professor, Columbia University, New York, N.Y.; associate professor of physics, 1948-1950; appointed professor of physics, 1950; executive director, Columbia Radiation Laboratory, 1950-1952; chairman, Physics Department, 1952-1955; on sabbatical in Europe and Japan, 1955-1956; on leave as vice president and director of research to the Institute for Defense Analyses, 1959-1961
1953	Successfully tested first practical maser (microwave amplification by stimulated emission of radiation) device
1955	Published with Arthur L. Schawlow, <i>Microwave Spectroscopy</i> . New York: McGraw-Hill
1955-1956	Guggenheim fellow and Fulbright lecturer, University of Paris, Paris, France, and University of Tokyo, Tokyo, Japan
1958	Introduced with Arthur L. Schawlow, concept of the optical maser (laser)
1959	Awarded Patent No. 2,879,439 for production of electromagnetic energy (basic maser patent)
1959-1961	Vice president and director of research, Institute for Defense Analyses, Washington, D.C.
1959-1969	Consultant, President's Scientific Advisory Committee; member, 1966-1969
1960	Awarded with Arthur L. Schawlow, Patent No. 2,929,922 for maser and maser communication systems (basic laser patent)
1961-1966	Provost and professor of physics, Massachusetts Institute of Technology, Cambridge, Mass.
1963	Scott lecturer, University of Toronto, Toronto, Canada
1964	Awarded Nobel Prize in Physics with N. G. Basov and A. M. Prokhorov for contributions to fundamental work in quantum electronics leading to the development of the maser and laser
1964-1970	Chairman, Science and Technology Advisory Committee for Manned Space Flight, National Aeronautics and Space Administration
1966-1985	Member, Board of Directors, Perkin-Elmer Corp.
1967	President, American Physical Society
1967-2014	Professor, University of California, Berkeley, Calif.; professor of physics, 1967-1986; professor emeritus of physics, 1986-1994; professor in the graduate school, 1994-2014
1973-1986	Director, General Motors Corp.
1976-1977	Member, President's Advisory Committee on Science and Technology
1995	Published <i>Making Waves</i> . Woodbury, N.Y.: American Institute of Physics

1999	Published <i>How the Laser Happened: Adventures of a Scientist</i> . New York: Oxford University Press
2002	Awarded inaugural Trotter Prize, Texas A&M University, College Station, Tex.
2005	Awarded Templeton Foundation Prize for contributions to the understanding of religion
2012	Awarded inaugural Golden Goose Award in recognition of the unexpected impact of his study of molecular and atomic spectroscopy
2015, Jan. 27	Died, Oakland, Calif.

Scope and Content Note

The papers of Charles Hard Townes (1915-2015) span the years 1898-2014, with the bulk of the items concentrated between 1950 and 2010. The collection consists of two parts. Part I comprises the bulk of the collection and documents Townes's career as a physicist, astrophysicist, and educator primarily from 1948 to 2000. Part II covers Townes's career in physics and astrophysics at the University of California, Berkeley, California, primarily from 2000 to 2010. Further descriptions of each part follow.

Part I

Part I of the papers spans the years 1898-2009, with the bulk of the material dating from 1948 to 2000. The papers are organized into the following series: [General Correspondence](#), [Personal File](#), [Alphabetical File](#), [Academic File](#), [Grants and Projects](#), [Patent and Litigation File](#), [Speech and Engagement File](#), [Writings](#), [Photographs and Slides](#), [Classified](#), [Oversize](#), and [Digital Files](#).

The [General Correspondence](#) is comprised mostly of a chronological file of letters spanning the years 1978-2002 and probably maintained as a central file. Crank mail sometimes referred to as "special letters" by Townes dates from 1962 to 1998. Further correspondence resides in the [Personal File](#) and the [Alphabetical File](#).

The [Personal File](#) contains mostly correspondence, interviews, awards, and biographical information. Correspondence includes letters of advice to students, letters of recommendation, and personal and family letters. Interviews conducted by organizations, including the Laser History Project, chronicle Townes's development of the maser and the laser. An awards file kept by Townes begins with his 1964 receipt of the Nobel Prize, but information for that event is sparse. Other underrepresented or nonexistent years include 1971-1975, 1981-1982, and 1984-2004. A large amount of material covers his win of the Templeton Prize in 2005. A list of awards and honors, bio-bibliographies prepared for the University of California, a chronological file, and background forms for publications provides biographical information.

The [Alphabetical File](#) contains the largest amount of material and covers Townes's membership in and leadership of various academic, scientific, and governmental organizations. In 1959 Townes began work for the Institute for Defense Analyses in Washington, D.C., a nonprofit agency organized to assist the United States government with technical advice. Growing out of the institute and founded in 1960 was the JASON Defense Advisory Group, a part-time defense think tank for university professors that evaluated national issues involving science and technology. Townes continued with the group through the 1990s. Material for the institute and the JASON Defense Advisory Group includes correspondence, contract agreements, reports, studies, and printed matter. For the National Academy of Sciences, Townes served on the Committee on Scholarly Communications with the People's Republic of China. Documentation for this committee includes meeting minutes, correspondence, reports, and an account by Townes of visits to Chinese astronomical centers in 1977. At the National Aeronautics and Space Administration, Townes began serving as chairman of the Science and Technology Advisory Committee for Manned Space Flight in 1964 and later sat on the review panels for the Hubble Space Telescope. Further information on the Hubble Space Telescope is located in files pertaining to the Perkin-Elmer Corporation. Material relating to his work at the National Aeronautics and Space Administration includes meeting minutes, correspondence and memoranda, testimony before Congress, reports, studies, blueprints, and printed matter. Of note are the appointments of Townes through the years to various presidential science and technology committees.

The [Alphabetical File](#) also contains a large amount of correspondence. Correspondents include Isaac D. Abella, N. G. Basov, Raymond Y. Chiao, William Clifford Danchi, Robert H. Dicke, Reinhard Genzel, Howard D. Greyber, Ali Javan, V. S. Letokhov, John J. Ottusch, A. M. Prokhorov, O. E. H. Rydbeck, Arthur L. Schawlow, William Shockley, Kōichi Shimoda, Tien-Chuan Wang, and Eric Robert Wollman.

The [Academic File](#) includes Townes's notebooks and memoranda along with material relating to the physics courses and graduate students he taught over the years. His computation notebooks cover the years 1948-1994, with the notebook dated from July 1, 1957 to May 1, 1965, containing the invention of the optical maser or laser. Townes's memoranda and notes on interferometry written alone and with associates cover the years 1982-1989, his technical memoranda date from 1979 to 1999, and seven volumes of personal notebooks on physics are undated. Teaching physics at American universities and abroad, his courses covered quantum electronics and mechanics, optics, nuclear physics, and astrophysics. He worked closely with graduate students, some of whose computation notebooks, writings and publications, correspondence, and experiments are among the files. Townes also served as the faculty sponsor for the Quantum Electronics and Astrophysics Group, a research unit operating under the University of California at Berkeley that employed postdoctoral fellows and visiting scholars from the United States and abroad to work on grant-funded projects. Agencies that funded projects include the National Aeronautics and Space Administration and the Office of Naval Research. Related grant files are located in [Grants and Projects](#).

The [Grants and Projects](#) series is comprised of files on grant-funded projects carried out by Townes, his colleagues, and graduate students at the University of California at Berkeley. Material includes applications, contracts, correspondence, proposals, budgets, and reports. Agencies that funded projects include the Army Research Office, National Aeronautics and Space Administration, Office of Naval Research, and the University of California Committee on Research. The projects include developing equipment for astronomical observations.

The [Patent and Litigation File](#) documents legal cases involving maser and laser patents. The largest amount of material concerns Patent Number 2,879,439 on the production of electromagnetic energy. Townes assigned the maser patent to the Research Corporation whose attorney, Harold Stowell, handled their legal matters. Material related to this period includes the original patent and correspondence with Stowell and Stowell Law Offices. By 1970, Dana M. Raymond represented the Research Corporation. His original files, designated with the R34 prefix, contain investigatory material from the case *Gould v. Schawlow* and material from the two patent infringement cases he pursued, *Research Corporation v. Spectra-Physics* and *Research Corporation v. Coherent Radiation*. The correspondence with the Research Corporation also relates to the maser patent and to infringement cases. Raymond's files probably became part of this collection after their use along with those of Townes for the Laser History Project. In 1966, Gordon Gould challenged Patent Number 2,929,922, the laser patent held by Townes and Arthur L. Schawlow, in the case *Gould v. Schawlow*. Townes and Schawlow prevailed. Of interest is a chronological file on Gould chronicling his decades of patent litigation. Inquiries about the maser and the laser as well as their history are located in [Writings](#).

The [Speech and Engagement File](#) covers Townes's career from 1948 to 2008 with some gaps in the latter years. The miscellaneous speeches filed at the end of each year contain Townes's handwritten drafts while many of the printed versions are among the numbered works in [Writings](#). Events attended by Townes are also found in the [Alphabetical File](#) usually listed under the name of an organization.

The papers are rounded out by a [Writings](#) series comprised mostly of articles, books, and printed speeches, and a [Photographs and Slides](#) series. The photographs relate to events attended by Townes and his childhood while the slides are of images used in the classroom or for publications. A [Classified](#) file contains correspondence, minutes, and an article related to atmospheric absorption and the Institute of Radio Engineers. [Oversize](#) items consist of blueprints, photographs, a broadside, and card file index.

Part II

Part II of the papers spans the years 1921-2014, with the bulk of the material dating from 2000 to 2010. The papers are organized into the following ten series: [General Correspondence](#), [Personal File](#), [Alphabetical File](#), [Academic File](#), [Grants and Projects](#), [Speech and Engagement File](#), [Writings](#), [Classified](#), [Oversize](#), and [Digital Files](#).

The [General Correspondence](#) continues the chronological file begun in Part I and covers the years 2003-2010. Further correspondence resides in the [Personal File](#) and [Alphabetical File](#).

The [Personal File](#) contains mostly awards, interviews, and biographical information, with some overlap with Part I. The awards file includes some new material related to the 1964 Nobel Prize in Physics that Townes shared with N. G. Basov and A. M. Prokhorov, including a scrapbook of clippings, but mostly covers the years 2000-2010. The interviews largely pertain to the invention of the laser, especially those conducted in 2010 during the laser's fiftieth anniversary, but also relate to the coexistence of religion and science. Some interviews also are located in the numbered file in [Writings](#).

The [Alphabetical File](#) continues to chronicle Townes's involvement with academic, scientific, and governmental organizations while highlighting the number of awards, lectures, and science facilities named for him. The [Alphabetical File](#) also contains correspondence files. Correspondents include N. G. Basov, Robert W. Boyd, Arthur H. Rosenfeld, Arthur L. Schawlow, Kōichi Shimoda, Marlon O. Scully, and Michael Stroschio. Also of interest are subject files compiled by Townes on masers and lasers and science and religion.

The [Academic File](#) includes a 1949 computation notebook Townes kept during his tenure at Columbia University in New York, New York, lists of students Townes supervised from 1953 to 2007, and a list of theses written by his students. The [Grants and Projects](#) series is comprised of files on grant-funded projects carried out by Townes, his colleagues, and graduate students at the University of California, Berkeley, with some overlap with Part I. Agencies that funded projects include the National Aeronautics and Space Administration, National Science Foundation, and Office of Naval Research.

The [Speech and Engagement File](#) overlaps some of the years covered in Part I, but extends through 2013. The miscellaneous speeches filed at the end of each year contain Townes's handwritten drafts while many of the printed versions are among the numbered works in [Writings](#). Events Townes attended also are found in the [Alphabetical File](#) usually listed under the name of the organization, and in the [Personal File](#) under awards.

The [Writings](#) contain both works by Townes and by others, with the majority of the works by Townes located in the numbered file. Though the index for the numbered file in Part II provides a complete listing of all of the works enumerated by Townes from 0 to 489, it does not include material in the collection for every number. Part II mostly covers numbers 300-489, and overlaps with numbers found in Part I. *How the Laser Happened: Adventures of a Scientist* is listed under the heading of books in Part I, but in Part II Townes placed material related to that title under number 301. It should also be noted that some folders only contain correspondence and drafts related to a title and not the final product.

A [Classified](#) file contains a charter for the JASON Defense Advisory Group. The [Oversize](#) series consists of posters and a blueprint. The [Digital Files](#) consist of audiovisual and text files relating to Townes's speeches and engagements and text files of draft chapters of his book *How the Laser Happened: Adventures of a Scientist*.

Arrangement of the Papers

This collection is arranged into two parts and twenty-two series:

Part I:

- [General Correspondence, 1962-2002](#)
- [Personal File, 1948-2005](#)
- [Alphabetical File, 1929-2006](#)
- [Academic File, 1946-1999](#)
- [Grants and Projects, 1966-1998](#)
- [Patent and Litigation File, 1898-1994](#)
- [Speech and Engagement File, 1948-2008](#)
- [Writings, 1924-2000](#)
- [Photographs and Slides, circa 1917-2009](#)
- [Classified, 1950-1952](#)
- [Oversize, 1971-2008](#)
- [Digital Files](#)

Part II:

- [General Correspondence, 2003-2010](#)
- [Personal File, 1959-2014](#)
- [Alphabetical File, 1948-2014](#)
- [Academic File, 1948-2007](#)
- [Grants and Projects, 1971-2009](#)
- [Speech and Engagement File, 1961-2013](#)
- [Writings, 1921-2011](#)
- [Classified, 2002](#)
- [Oversize, 1982-2010](#)

- Digital Files, 1995-2008

Description of Series

Container

Series

BOX 1-21

Part I: General Correspondence, 1962-2002

Incoming and outgoing correspondence, including attachments, between Townes and family, friends, colleagues, organizations, and the public relating to personal and professional activities.

Arranged in chronological and crank mail files.

BOX 22-38

Part I: Personal File, 1948-2005

Correspondence, including letters of advice to students, letters of recommendation, and personal and family letters, biographical information, interviews, awards, appointment calendars, and lists of appointments to organizations and committees.

Arranged alphabetically by topic or type of material.

BOX 39-259

Part I: Alphabetical File, 1929-2006

Correspondence, memoranda, reports, minutes, consulting contracts, speeches, writings, drafts and notes, photographs, blueprints, printed matter, and financial records.

Arranged in three files and therein alphabetically by name of person, organization, or topic, roughly following the groupings established by Townes. A Columbia University file closely follows Townes's tenure at that institution from 1948 to 1961. Files titled Set A and Set B largely begin with Townes's move to the Massachusetts Institute of Technology in 1961 and continue through his years with the University of California at Berkeley. Overlapping years, organizations, topics, and persons are common among the three, but especially between Set A and Set B. Miscellaneous correspondence is interspersed within each letter of the alphabet under Columbia University and filed at the end of each letter in Set A and Set B.

BOX 260-296

Part I: Academic File, 1946-1999

Computation notebooks, technical memoranda, notebooks on physics, grade books, course and seminar files, student experiments, published and unpublished writings, drafts and notes, abstracts, correspondence, calculations, diagrams, illustrations, photographs, subject files, grant and project files, budgets, reports, printed matter, and microfilm.

Arranged alphabetically by topic or type of material.

BOX 297-312

Part I: Grants and Projects, 1966-1998

Applications, proposals, contracts, budgets, correspondence, notes, reports, and financial records.

Arranged alphabetically by name of organization and therein by project number.

BOX 313-338

Part I: Patent and Litigation File, 1898-1994

Correspondence and memoranda, patent applications and patents, attorney files, briefs, depositions, drafts, exhibits, interrogatories, notes, opinions, pleadings, and printed matter.

Arranged into files of legal cases and patents and therein alphabetically by name of person, organization, or case name, or by type of material. Files beginning with the R34 prefix originally belonged to Dana M. Raymond.

BOX 338-355

Part I: Speech and Engagement File, 1948-2008

Correspondence, schedules, speeches, drafts, photographs, broadsides, and printed matter.

Arranged chronologically by date of event with miscellaneous speeches filed at the end of each year.

- BOX 355-402** **Part I: Writings, 1924-2000**
Correspondence, articles, books, dissertation, thesis, speeches, drafts, page proofs, notes, calculations, contracts, background information, illustrations, photographs, and printed matter.
Arranged into writings by Townes and a miscellaneous file and therein alphabetically by type of material and title of work with the numbered works largely arranged by Townes in chronological order.
- BOX 403-408** **Part I: Photographs and Slides, circa 1917-2009**
Photographs, broadsides, photocopies, slides, and indexes.
Arranged as received from Townes.
- BOX CL 1** **Part I: Classified, 1950-1952**
Correspondence, minutes, and an article.
Arranged and described according to the series, containers, and folders from which the items were removed.
- BOX OV 1-OV 3** **Part I: Oversize, 1971-2008**
Blueprints, photographs, a broadside, and an index.
Arranged and described according to the series, containers, and folders from which the items were removed.
- DF** **Part I: Digital Files**
A 3/4" machine-readable tape, labeled "MF115131," found with the paper files during the course of processing is currently inaccessible and unprocessed.
- BOX 409-415** **Part II: General Correspondence, 2003-2010**
Chronological file of incoming and outgoing correspondence, including attachments, between Townes and friends, colleagues, organizations, and the public relating to personal and professional activities. The correspondence is usually stamped "mailed."
Arranged in chronological order.
- BOX 415-420** **Part II: Personal File, 1959-2014**
Awards, interviews, biographical information, family papers, genealogy, and photographs.
Arranged alphabetically by topic, name of person, or type of material.
- BOX 420-440** **Part II: Alphabetical File, 1948-2014**
Correspondence, memoranda, reports, minutes, speeches, writings, drafts and notes, photographs, and printed matter, with the correspondence usually stamped as "file copy."
Arranged alphabetically by name of person, organization, or topic and therein in reverse chronological order. Miscellaneous correspondence is filed at the end of each letter of the alphabet.
- BOX 441-442** **Part II: Academic File, 1948-2007**
Computation notebook, course files, lists of theses and graduate students, photographs, and printed matter.
Arranged alphabetically by type of material.
- BOX 442-446** **Part II: Grants and Projects, 1971-2009**
Applications, proposals, contracts, budgets, correspondence, notes, reports, and financial records.

Arranged alphabetically by name of organization and therein by project number.

BOX 446-457

Part II: Speech and Engagement File, 1961-2013

Correspondence, schedules, speeches, drafts, photographs, posters, photocopies of transparencies, and printed matter.

Arranged chronologically by date of event with miscellaneous speeches filed at the end of each year, with some years only represented by miscellaneous speeches.

BOX 457-468

Part II: Writings, 1921-2011

Correspondence, articles, books, speeches, interviews, lectures, editorials, drafts, notes, calculations, contracts, background information, illustrations, photographs, and printed matter.

Arranged into writings by Townes and by others and therein alphabetically by type of material and title of work with the numbered works largely arranged by Townes in chronological order.

BOX CL 2

Part II: Classified, 2002

Charter.

Arranged and described according to the series, container, and folder from which the item was removed.

BOX OV 4

Part II: Oversize, 1982-2010

Posters and a blueprint.

Arranged and described according to the series, containers, and folders from which the items were removed.

DF

Part II: Digital Files, 1995-2008

Text files and audiovisual files relating to Townes's speeches and engagements and text files of draft chapters of his book *How the Laser Happened: Adventures of a Scientist*.

Arranged and described according to the series, containers, and folders from which the items were removed.

Container List

Container	Contents
BOX 1-21	Part I: General Correspondence, 1962-2002 Incoming and outgoing correspondence, including attachments, between Townes and family, friends, colleagues, organizations, and the public relating to personal and professional activities. Arranged in chronological and crank mail files.
BOX 1	Chronological 1978-1979 (7 folders) 1980 (1 folder) (2 folders)
BOX 2	1981 (7 folders) 1982 (1 folder) (4 folders)
BOX 3	1983 (4 folders) 1984 (1 folder) (5 folders)
BOX 4	1985 (4 folders) 1986 (1 folder) (7 folders)
BOX 5	1987 (1 folder) (11 folders)
BOX 6	1988 (11 folders)
BOX 7	1989 (1 folder) 1990 (11 folders)
BOX 8	1991 (1 folder) 1992 (8 folders)
BOX 9	1993 (1 folder) 1994 (2 folders)
BOX 10	1995 (4 folders) 1996 (7 folders)
BOX 11	1997 (1 folder)

Part I: General Correspondence, 1962-2002

Container	Contents
	1993-1994 (9 folders)
	1995 (1 folder)
BOX 12	(3 folders)
	1996 (4 folders)
	1997 (3 folders)
BOX 13	(1 folder)
	1998 (7 folders)
	1999 (2 folders)
BOX 14	(5 folders)
	2000 (7 folders)
BOX 15	(8 folders)
	2001 (2 folders)
BOX 16	(11 folders)
BOX 17	2002 (11 folders)
BOX 18	(2 folders)
	Crank mail
	1962-1973 (9 folders)
	1974 (1 folder)
BOX 19	(1 folder)
	1975-1984 (10 folders)
	1985 (1 folder)
BOX 20	(1 folder)
	1986-1992 (9 folders)
BOX 21	1993-1998 (7 folders)
BOX 22-38	Part I: Personal File, 1948-2005 Correspondence, including letters of advice to students, letters of recommendation, and personal and family letters, biographical information, interviews, awards, appointment calendars, and lists of appointments to organizations and committees. Arranged alphabetically by topic or type of material.
BOX 22	Appointment calendars, 1996-2005 (2 folders) Appointments

Part I: Personal File, 1948-2005

Container	Contents
	California University, Berkeley, Calif., 1967-1968 Consultant, 1982-1983
BOX 23	Massachusetts Institute of Technology, Cambridge, Mass., provost and resignation, 1961, 1966 Awards 1964-1969 (20 folders) 1970 (1 folder)
BOX 24	(3 folders) 1971-1978 (9 folders) 1979 (1 folder)
BOX 25	(2 folders) 1980-1986 (7 folders)
BOX 26	1992 2005 (10 folders)
BOX 27	(2 folders) Biographical information Awards and honors, 1983-1998 Bio-bibliographies for California University, Berkeley, Calif., 1969-1998 (2 folders) Chronological file, circa 1954-1998 (2 folders)
BOX 28	(3 folders) Forms for <i>Who's Who</i> and other publications, 1953-1984 Christmas card file, 1985 Committee rosters, 1976-1982, undated Correspondence Family, 1959-1983 (2 folders)
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Arranged in three files and therein alphabetically by name of person, organization, or topic, roughly following the groupings established by Townes. A Columbia University file closely follows Townes's tenure at that institution from 1948 to 1961. Files titled Set A and Set B largely begin with Townes's move to the Massachusetts Institute of Technology in 1961 and continue through his years with the University of California at Berkeley. Overlapping years, organizations, topics, and persons are common among the three, but especially between Set A and Set B. Miscellaneous correspondence is interspersed within each letter of the alphabet under Columbia University and filed at the end of each letter in Set A and Set B.

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BOX 365	Nos. 78-80 (13 folders)
BOX 366	Nos. 81-96 (19 folders)
BOX 367	Nos. 97-99 (7 folders)

Part I: Writings, 1924-2000**Container Contents**

BOX 368	Nos. 100-107 (14 folders)
BOX 369	Nos. 108-113 (11 folders)
BOX 370	Nos. 114-120 (11 folders)
BOX 371	Nos. 121-125 (9 folders)
BOX 372	Nos. 126-129 (10 folders)
BOX 373	Nos. 130-138 (13 folders)
BOX 374	Nos. 139-144 (7 folders) No. 145 (2 folders)
BOX 375	(1 folder) Nos. 146-152 (10 folders)
BOX 376	Nos. 153-158 (9 folders)
BOX 377	Nos. 159-163 (8 folders)
BOX 378	Nos. 164-165 (6 folders) No. 166 (1 folder)
BOX 379	(1 folder) Nos. 167-171 (8 folders)
BOX 380	Nos. 172-177 (8 folders)
BOX 381	Nos. 178-181 (7 folders) No. 182 (1 folder)
BOX 382	(2 folders) Nos. 183-189 (8 folders) No. 190 (1 folder)
BOX 383	(1 folder) Nos. 191-196 (8 folders)
BOX 384	Nos. 197-205 (12 folders)
BOX 385	Nos. 206-208 (8 folders)

Part I: Writings, 1924-2000

Container	Contents
BOX 386	Nos. 209-214 (10 folders)
BOX 387	Nos. 215-218 (8 folders)
BOX 388	No. 219 (2 folders) (1 folder) Nos. 220-222 (5 folders) No. 223 (4 folders)
BOX 389	(1 folder) Nos. 224-226 (8 folders)
BOX 390	Nos. 227-230 (6 folders) No. 231 (1 folder)
BOX 391	(2 folders) Nos. 232-235 (8 folders)
BOX 392	Nos. 236-238 (6 folders) No. 239 (2 folders)
BOX 393	(2 folders) Nos. 240-246 (11 folders)
BOX 394	Nos. 247-252 (9 folders) No. 253 (4 folders)
BOX 395	(9 folders)
BOX 396	(6 folders) Nos. 254(a)-256(c) (6 folders)
BOX 397	Nos. 257-261 (10 folders)
BOX 398	Nos. 262-275 (18 folders)
BOX 399	Nos. 276-280 (9 folders) No. 281 (1 folder)
BOX 400	(1 folder) Nos. 282-298 (18 folders) Fragments

Part I: Writings, 1924-2000

Container	Contents
BOX 401	Thesis, 1936 Miscellaneous Maser and laser history and early papers, 1924, 1955-1990, undated (10 folders) Maser and laser inquiries 1961-1962 (2 folders)
BOX 402	1963-1976, 1991-1992, undated (9 folders)
BOX 403-408	Part I: Photographs and Slides, circa 1917-2009 Photographs, broadsides, photocopies, slides, and indexes. Arranged as received from Townes.
BOX 403	Photographs grouped by Townes Index, circa 2009 Group A: Youth, circa 1917-1940 (2 folders) Group B: Portraits and autograph photographs, 1960-2002 (3 folders) Group C: Instruments 002-033, 1949-1988 <i>See also Oversize</i> (6 folders)
BOX 404	034-048a, 1954-1997, undated (4 folders) Group D: Receiving awards, 1961-2009 (5 folders) Group E: At conferences, banquets, and meetings 001-022, 1955-1988 (4 folders)
BOX 405	023-083, 1943-2005 (11 folders)
BOX 406	084-085, 2005 (3 folders) Group F: Other scientists and with other scientists, 1927-1996, undated (4 folders) Group G: Exhibits, 1968, 1988 Group H: Notes and data, 1951-1959, undated Group M: Miscellany, 1956-2007 <i>See also Oversize</i> (3 folders) Slides, undated Indexes By number By subject <i>See Oversize</i>
BOX 407	Nos. 1-800 (8 folders)

Part I: Photographs and Slides, circa 1917-2009

Container	Contents
BOX 408	Nos. 801-1293 (5 folders)
BOX CL 1	Part I: Classified, 1950-1952 Correspondence, minutes, and an article. Arranged and described according to the series, containers, and folders from which the items were removed.
BOX CL 1	Alphabetical File Columbia University, New York, N.Y. Atmospheric absorption, 1951-1952 (Container 39) Institute of Radio Engineers, 1950 (Container 46)
BOX OV 1-OV 3	Part I: Oversize, 1971-2008 Blueprints, photographs, a broadside, and an index. Arranged and described according to the series, containers, and folders from which the items were removed.
BOX OV 1	Alphabetical File Set A Kollmorgen Corp., material on infrared telescope Blueprints, 1971 Folder 2 of 5 (Container 89) Folder 3 of 5 (Container 89) Folder 4 of 5 (Container 89) National Aeronautics and Space Administration Ames Research Center, Moffett Field, Calif. Kuiper Airborne Observatory/C-141 (jet transport), 1986 Blueprints, 1985-1986 (Container 106) Perkin-Elmer Corp. Infrared telescopes, design study, and drawings 1975 Blueprints, 1975 (Container 125) 1976 Folder 2 of 5 Blueprints, 1976 (Container 125) White Mountain Research Station, Bishop, Calif. Advisory Committee Subcommittee on Astronomy Blueprints, 1970 (Container 147) Telescope Blueprints, 1973 (Container 147) Speech and Engagement File 2008 Trotter Prize and Endowed Lecture Series Broadside, 2008, Dec. 9 (Container 355)
BOX OV 2	Photographs and Slides Photographs grouped by Townes

Part I: Oversize, 1971-2008

Container	Contents
	Group C: Instruments No. 030.1-No. 033, 1966 (Container 403)
	Group M: Miscellaneous No. 035, 1959 (Container 406)
BOX OV 3	Slides Index By subject, undated (Container 406)
DF	Part I: Digital Files A 3/4" machine-readable tape, labeled "MF115131," found with the paper files during the course of processing is currently inaccessible and unprocessed.
BOX 409-415	Part II: General Correspondence, 2003-2010 Chronological file of incoming and outgoing correspondence, including attachments, between Townes and friends, colleagues, organizations, and the public relating to personal and professional activities. The correspondence is usually stamped "mailed." Arranged in chronological order.
BOX 409	2003 (8 folders)
BOX 410	2004 (6 folders)
BOX 410	2005 (1 folder)
BOX 411	(7 folders)
BOX 412	2006 (5 folders)
BOX 412	2007 (1 folder)
BOX 413	(4 folders)
BOX 413	2008 (3 folders)
BOX 414	2009 (5 folders)
BOX 414	2010 (1 folder)
BOX 415	(4 folders)
BOX 415-420	Part II: Personal File, 1959-2014 Awards, interviews, biographical information, family papers, genealogy, and photographs. Arranged alphabetically by topic, name of person, or type of material.
BOX 415	Awards
BOX 415	1964, 2000-2005 (8 folders)
BOX 416	2006-2012 (9 folders)
BOX 416	Battelle, consulting contract with Townes, 1999-2001
BOX 416	Biographical information

Part II: Personal File, 1959-2014

Container	Contents
BOX 416	Awards and honors, list, 1959-2011
BOX 416	Bio-bibliographies and research recall appointments for California University, Berkeley, Calif., 2001-2010 (2 folders)
BOX 416	Chronological file, 1963-1968, 1974-1978, 1987, 1993-2010, undated (2 folders)
BOX 416	Curricula vitae and biographical data, 2000-2011, undated
BOX 416	Family papers
BOX 416	Miscellaneous, 2004-2011
BOX 416	Townes, David, 2004-2007
BOX 416	Townes, George A., III, 2006
BOX 416	Townes, Henry Keith, Jr., circa 1990
BOX 416	Townes, Robert, 2006-2007
BOX 416	Townes, Stephen A., 2004-2008
BOX 417	Townes-Anderson, Ellen, 1998, 2004-2005
BOX 417	Townes-Rosenwein, Linda, 1998, 2005
BOX 417	Townes-Witzel, Holly, 2008
BOX 417	Genealogy, Hard and Townes families, 2011-2013
BOX 417	Haynie, Rachel
BOX 417	“Charles H. Townes and a Beam Straight to the Stars,” undated
BOX 417	<i>First You Explore: The Story of the Young Charles H. Townes</i> , 2014
BOX 417	Interviews
BOX 417	American Institute of Physics, oral history, 1987
BOX 417	California University, Berkeley, Calif., oral history project, 1990-1994 (2 folders)
BOX 418	(2 folders)
BOX 418	Caruso, Gregg, 2013
BOX 418	Dowd, Michael, 2010
BOX 418	<i>Electronic Engineer's Design Magazine</i> , 1967
BOX 418	<i>Esquire</i> , 2001-2002
BOX 418	<i>Guardian</i> newspaper, 2005
BOX 418	<i>IFCO Spotlight</i> newsletter, 2010
BOX 419	Institute for International Studies, <i>Conversations with History</i> video series, 1999-2000
BOX 419	Institute of Electrical and Electronics Engineers, oral history, 1992 (2 folders)
BOX 419	<i>International Science and Technology</i> magazine, 1964
BOX 419	<i>Laser Community</i> magazine, 2010
BOX 419	<i>Matter & Beyond</i> television program, 2008
BOX 419	Miscellaneous, 2002-2013
BOX 419	<i>Nature Photonics</i> magazine, 2010
BOX 419	<i>Rosie the Riveter World War II Home Front</i> , oral history project, 2012
BOX 419	Science and Spiritual Quest project, circa 1997-1999
BOX 419	Singh, Taran D., 2005
BOX 419	<i>Specimen</i> magazine, 2011-2012
BOX 419	SPIE, <i>Year of Light</i> video, 2014
BOX 419	Stoller, Lincoln, 2005
BOX 419	<i>U.S. News & World Report</i> , 1968

Part II: Personal File, 1959-2014

Container	Contents
BOX 419	World Health Academy, video, 2010
BOX 419	<i>Yale Scientific</i> magazine, 1987
BOX 419	Miscellany, 1998
BOX 420	Outstanding emeritus nomination, 2009
BOX 420	Patents, lists, and other materials, 2001-2008
BOX 420	Photographs of Townes, circa 1950s-2013
BOX 420	Townes family farm, 2011
BOX 420	<i>Townes: Life in the Universe</i> , film biography, 2013
BOX 420-440	Part II: Alphabetical File, 1948-2014 Correspondence, memoranda, reports, minutes, speeches, writings, drafts and notes, photographs, and printed matter, with the correspondence usually stamped as "file copy." Arranged alphabetically by name of person, organization, or topic and therein in reverse chronological order. Miscellaneous correspondence is filed at the end of each letter of the alphabet.
BOX 420	American Association of Physics Teachers, 2004-2005
BOX 420	American Scientific Affiliation, 2001-2003
BOX 420	American Society for Laser Medicine and Surgery, 2001, 2009-2010, undated
BOX 420	Asiatic Society, 1998-2002
BOX 420	<i>Astronomical Journal</i> , 2000-2002
BOX 420	Astronomical Society of the Pacific, annual report and publication agreement, 2012-2013
BOX 420	<i>Astronomy and Astrophysics in the New Millennium</i> , Astronomy and Astrophysics Survey Committee 1990-1998
BOX 420	1999 (2 folders)
BOX 421	(2 folders)
BOX 421	Undated
BOX 421	Atlas Economic Research Foundation, 2006-2007
BOX 421	Australian Research Council, proposals, 1995-1997
BOX 421	Austrian Broadcasting Corp., film project on science and religion, 2000-2001
BOX 421	"A" miscellaneous, 1993-2005
BOX 421	B. M. Birla Science Centre, Hyderabad, India, 2010
BOX 422	Balzan Prize, nomination of Reinhard Genzel, 2003
BOX 422	Bar-Ilan University, Israel, canceled conference, 2001
BOX 422	Basov, N. G., 1999-2001
BOX 422	Bauer, Nyles, request to print article, 2007
BOX 422	Bernheimer, Mark Martin, "The Torch," 2003-2011
BOX 422	Berthold Liebinger Innovationspreis, recommendations, 2000
BOX 422	Birgenau, Robert J., 2004-2005
BOX 422	Bloemberger, Nicolaas, 2004, 2011
BOX 422	Bloemhof, Eric Edward, 1995-2012
BOX 423	Boyd, Robert W., 1991, 1998-2010 (3 folders)
BOX 423	Brazilian Society of Laser Medicine and Surgery, 2010
BOX 423	Bridge to Asia Foundation, donations, 2006-2009

Part II: Alphabetical File, 1948-2014

Container	Contents
BOX 423	“B” miscellaneous, 1996-2010 (5 folders)
BOX 424	California Institute of Technology, Pasadena, Calif., 2000, 2007-2009
BOX 424	California University, Berkeley, Calif. Infrared Spatial Interferometry Group, 1999-2006
BOX 424	Miscellaneous, 1988, 1995-1998, 2008-2010
BOX 424	Project SERENDIP, 1997
BOX 424	Center for Theology and Natural Sciences, 1995-1999, 2007
BOX 424	Clemson University, Clemson, S.C., Charles H. Townes Laboratories for Optical Science and Engineering, 2006-2010
BOX 424	Columbia University, New York, N.Y., Frances and Charles Townes Fellowship, 1999-2011, undated (2 folders)
BOX 424	Commission for the Establishment of Academic Content and Performance Standards, California, 1998
BOX 424	“C” miscellaneous, 1999-2011
BOX 424	Dey, Avi, 2008
BOX 424	Dimitrov, Tihomir, 2002-2003
BOX 424	Dousmanis, George, correspondence regarding, 2008-2013
BOX 424	Drell, Sidney, 2008-2010
BOX 424	Duke University, Durham, N.C., 1997-2009
BOX 425	Dyson, Freeman, 2009
BOX 425	“D” miscellaneous, 2004-2006
BOX 425	Ecole Supérieure des Procédés Electroniques et Optiques, Université D’Orléans, Orléans, France, 1999-2000
BOX 425	<i>Encyclopedia of Sustainability Science and Technology</i> , 2009
BOX 425	European Academy of Sciences, 2004-2005
BOX 425	“E” miscellaneous, 2006
BOX 425	Famous quotations, undated
BOX 425	Finkbeiner, Ann, book on JASON Defense Advisory Group, 2004-2006
BOX 425	Food and Disarmament International, 2000
BOX 425	Frieß, Peter, 2000
BOX 425	Fuji, Kan-ichi, 1998-2007 (2 folders)
BOX 425	Furman University, Greenville, S.C. Board of Trustees Meetings, 2011 (1 folder) (2 folders)
BOX 426	Miscellaneous, 2004-2011
BOX 426	Charles H. Townes Center for Science, 2004-2007
BOX 426	Donations, 2005
BOX 426	General, 2000-2011
BOX 427	Science Advisory Board, 2004-2006, undated (2 folders)
BOX 427	“F” miscellaneous, 2000-2006
BOX 427	Garmire, Elsa, 2009

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BOX 427	Ghosh, Rash B., 2000-2014 (3 folders)
BOX 428	Gordon, James P., 2000-2014, undated
BOX 428	“G” miscellaneous, 1996, 2005-2009
BOX 428	Heintz, Douglas, <i>Portraits of Great American Scientists</i> , chapter on Townes, 2001
BOX 428	Hofstadter, Douglas, regarding free will, 2007-2008
BOX 428	Hughes, Vernon W., article by, 2001
BOX 428	“H” miscellaneous, 2005-2012
BOX 428	Innovision Awards, 1999
BOX 428	Institute for Defense Analyses, Washington, D.C., JASON Defense Advisory Group <i>See also Container 431, MITRE Corp.</i>
BOX 428	2000-2009 <i>See also Classified</i> (3 folders)
BOX 429	2010-2013
BOX 429	Institute of Electrical and Electronics Engineers, 1999-2000, 2012
BOX 429	Institute of International Education, report on International Educational Exchange, 1974
BOX 429	International Faith & Science Exchange, Charles H. Townes Lectureship in Science and Religion, 2002-2003
BOX 429	International Society for Science and Religion, 2003-2004
BOX 429	Jain, Rajnish, 2007-2008
BOX 429	Javan, Ali, fellowship nomination, 2010
BOX 429	John D. and Catherine T. MacArthur Foundation, MacArthur Fellows Program, 1995-1996
BOX 429	John Templeton Foundation
BOX 429	General, 2004-2012 (2 folders)
BOX 429	Nominations of Robert J. Russell for Templeton Prize
BOX 429	2007
BOX 430	2008-2011
BOX 430	“J” miscellaneous, 2004-2006
BOX 430	Kerry, John, 2004
BOX 430	Knight, Walter D., festschrift contribution by Townes, 1998-1999
BOX 430	Kyoto Prize, nominations, 1998-2003
BOX 430	“K” miscellaneous, 1996, 2005-2006
BOX 430	Lasermind, Laser-Wave Explorer endorsement, circa 2000
BOX 430	Lenox Laser, book on First Light Seminar, 2011
BOX 430	“L” miscellaneous, 1998, 2005-2011
BOX 430	Maiman, Theodore H., obituary, 2007
BOX 430	Manning, Samuel P., nuclear waste in South Carolina, 1996
BOX 430	Masers and lasers
BOX 430	<i>Beginning of the Laser Era in the USSR</i> , collected papers, 2010-2012
BOX 430	History and the future
BOX 430	1948, 1958-1962
BOX 431	1963-1970, 1976, 1984, 1997-1998, 2008-2010, undated <i>See also Oversize</i> (5 folders)
BOX 431	Inquiries, 2010

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Container	Contents
BOX 431	List of papers from Columbia Radiation Laboratory, Columbia University, New York, N.Y., circa 1960
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BOX 431	MITRE Corp., 1988-1989 <i>See also Container 428, Institute for Defense Analyses, Washington, D.C.</i>
BOX 431	Mount Wilson Observatory, Los Angeles County, Calif., 1996-2000, 2012
BOX 431	“Ma-Mu” miscellaneous, 1996-2009 (2 folders)
BOX 432	“My” miscellaneous, 1996-2001
BOX 432	National Academy of Engineering, 1998-2000
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BOX 432	National Academy of Sciences, 1975-1976, 1997-1999
BOX 432	National Aeronautics and Space Administration Ames Research Center, Moffett Federal Airfield, Mountain View, Calif., 2005
BOX 432	Hubble Space Telescope-James Webb Space Telescope Transition Plan Review Panel, 2003-2004 (4 folders)
BOX 432	Jet Propulsion Laboratory, Pasadena, Calif., 2007-2012
BOX 432	Science and Technology Advisory Committee for Manned Space Flight, selected National Aeronautics and Space Administration photographs 1965-1968
BOX 433	1969-1971
BOX 433	<i>National Geographic</i> , 2001
BOX 433	National Ignition Facility, Lawrence Livermore National Laboratory, Livermore, Calif., 2007-2009
BOX 433	National Inventors Hall of Fame, Akron, Ohio, 1995-2007
BOX 433	National Museum of American History, Washington, D.C., Blue Ribbon Commission, 1995-2002 (2 folders)
BOX 433	National Sciences and Engineering Research, Council of Canada, 1997-1998
BOX 433	<i>Nature</i> magazine, articles and interview, 2004-2007
BOX 433	Nebeker, Frederik, <i>Sparks of Genius: Portraits of Electrical Engineering Excellence</i> , chapter on Townes, 1994
BOX 433	New Jersey Inventors Hall of Fame, Newark, N.J., induction of Townes, 1998-1999
BOX 433	New York Academy of Sciences, 1998-2001
BOX 434	Nobel Prize Committees, laureates, and nominations, 1995-2011 (3 folders)
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BOX 434	“N” miscellaneous, 2006-2014
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BOX 435	“O” miscellaneous, 2001, 2008
BOX 435	President’s Science Advisory Committee, 1963-1967
BOX 435	Prokhorov, A. M., correspondence regarding, 2000-2007
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BOX 436	“R” miscellaneous, 2002-2007
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BOX 436	Schawlow, Arthur L., 1997-2011
BOX 436	Science and religion, 1972, 1988, 1999-2001, 2007-2010, undated
BOX 436	<i>Science & Spirit</i> magazine, 2006-2007
BOX 437	Scully, Marlon O., 1996-2011 (3 folders)
BOX 437	Sessler, Andrew M., nomination for award, 2012
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BOX 437	Siegman, Anthony E., 2004
BOX 437	Space Sciences Laboratory, California University, Berkeley, Calif. Charles H. Townes Postdoctoral Fellowship
BOX 437	Donations, 2011-2012, undated
BOX 437	General, 2002-2006
BOX 437	General, 1995-2009
BOX 437	SPIE, 1995-1998, 2004-2010, undated
BOX 437	Staune, Jean 1996-1997
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BOX 438	Stroschio, Michael, 1993-1999 (2 folders)
BOX 438	"Sa-Sto" miscellaneous, 1993-2009 (5 folders)
BOX 439	“Str-Sz” miscellaneous, 1994-2006 (2 folders)
BOX 439	Taylor, David R., 2011
BOX 439	Taylor, Nick, <i>Laser: The Inventor, the Nobel Laureate, and the Thirty-year Patent War</i> , notes by Townes, 2001
BOX 439	“T” miscellaneous, 2005-2011
BOX 439	United States/Canada Joint Certification Office, application of Townes, 1996
BOX 439	United States Congress, House of Representatives, Committee on Science, 1997
BOX 439	University of Arizona, Tucson, Ariz., 2005

Part II: Alphabetical File, 1948-2014

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BOX 439	University of Central Florida, Orlando, Fla., Townes Laser Institute and Center for Research and Education in Optics and Lasers, 1998, 2006-2014
BOX 439	“U-V” miscellaneous, 1996-1998, 2005-2008 (2 folders)
BOX 439	W. M. Keck Foundation, ten-meter telescope, 1984-1985, undated
BOX 440	Wells, Zan, sculptor of Townes statue, 2005
BOX 440	Wheeler, John Archibald, article inscribed to Townes, 1976
BOX 440	Wheelon, Albert D. (“Bud”), 1997-2007
BOX 440	William Sloan Coffin Award, nomination, 2006-2007
BOX 440	Woods Hole Oceanographic Institution, Woods Hole, Mass., 2005-2009
BOX 440	“W” miscellaneous, 1995-2006, 2012 (3 folders)
BOX 440	“Y-Z” miscellaneous, 2000-2006
BOX 441-442	Part II: Academic File, 1948-2007 Computation notebook, course files, lists of theses and graduate students, photographs, and printed matter. Arranged alphabetically by type of material.
BOX 441	Computation notebook belonging to Townes, 1949
BOX 441	Courses, Physics 250, radioactive physics, notes, 1971 (2 folders)
BOX 441	Graduate students
BOX 441	Applicants, 2006-2007
BOX 441	Remy, Jérôme, dissertation, 2000
BOX 441	Students' theses archives list, 2000
BOX 441	Supervised by Townes, 1953-2007 (3 folders)
BOX 441	Tatebe, Ken, 2014
BOX 441	Miscellany, 2007, undated
BOX 441	Quantum Electronics and Astrophysics Group
BOX 441	Laboratory and other photographs, undated
BOX 442	Publications, 1974-1975
BOX 442-446	Part II: Grants and Projects, 1971-2009 Applications, proposals, contracts, budgets, correspondence, notes, reports, and financial records. Arranged alphabetically by name of organization and therein by project number.
BOX 442	California Space Institute, California University, La Jolla, Calif.
BOX 442	CS-30-88, infrared imaging array design concept, 1988
BOX 442	CS-43-90, newly available components for the infrared spatial interferometer, 1990
BOX 442	CS-45-87, infrared imaging array design, 1987
BOX 442	National Aeronautics and Space Administration
BOX 442	NGL 05-003-272, research on radiation physics, 1974-1987
BOX 442	NGT-50278, training grant, Peter R. McCullough, 1988-1989
BOX 442	National Science Foundation

Part II: Grants and Projects, 1971-2009

Container	Contents
BOX 442	AST-8502401, multichannel Echelle spectrometer for mid-infrared astronomical observations, 1985
BOX 442	AST-8513415, high resolution mid-infrared astronomical spectroscopy and imaging, 1984-1989 (2 folders)
BOX 442	AST-8915648, long baseline infrared interferometry, 1989-1990
BOX 443	AST-89-2418, long baseline infrared interferometry, 1989
BOX 443	AST-9017765, long baseline interferometer observations in the mid-infrared, 1990
BOX 443	Office of Naval Research
BOX 443	N000-85-K0618, high angular resolution imaging with infrared transmission through the Earth's atmosphere, 1985-1989 (3 folders)
BOX 443	N00014-07-1-0424, infrared spatial interferometer, 2009
BOX 443	N00014-82-C-0700, infrared spatial interferometer
BOX 443	General correspondence
BOX 443	1971-1983 (3 folders)
BOX 444	1984-1987 (2 folders)
BOX 444	Proposals, budgets, and awards, 1978-1987, undated <i>See also Oversize</i> (6 folders)
BOX 445	Statements, Space Sciences Laboratory, 1982-1984
BOX 445	N00014-84-C-0140, infrared spatial interferometry, 1981-1990 (5 folders)
BOX 446	(2 folders)
BOX 446	N00014-87-K-2036, unidentified project, 1989
BOX 446-457	Part II: Speech and Engagement File, 1961-2013 Correspondence, schedules, speeches, drafts, photographs, posters, photocopies of transparencies, and printed matter. Arranged chronologically by date of event with miscellaneous speeches filed at the end of each year, with some years only represented by miscellaneous speeches.
BOX 446	Index of speeches, 1948-2013
BOX 446	1961, 1966, 1970-1971 (5 folders)
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BOX 448	1978-1983 (7 folders)
BOX 448	1984 (1 folder)
BOX 449	(1 folder)
BOX 449	1985-1989 (7 folders)
BOX 450	1990-1993 (9 folders)

Part II: Speech and Engagement File, 1961-2013

Container	Contents
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BOX 451	1996 (4 folders)
BOX 452	(1 folder)
BOX 452	1999-2003 (15 folders)
BOX 453	2005-2006 <i>See also Digital Files</i> (15 folders)
BOX 453	2007 <i>See also Digital Files</i> (9 folders)
BOX 454	(2 folders)
BOX 454	2008 <i>See also Digital Files (September)</i> <i>See also Digital Files (October)</i> (10 folders)
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BOX 455	2009 (7 folders)
BOX 455	2010 (2 folders)
BOX 456	(18 folders)
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BOX 457	Miscellaneous photocopied transparencies, 2010, undated
BOX 457-468	Part II: Writings, 1921-2011 Correspondence, articles, books, speeches, interviews, lectures, editorials, drafts, notes, calculations, contracts, background information, illustrations, photographs, and printed matter. Arranged into writings by Townes and by others and therein alphabetically by type of material and title of work with the numbered works largely arranged by Townes in chronological order.
BOX 457	By Townes
BOX 457	Articles
BOX 457	"Astronomical Masers," unfinished and unpublished, 1972-1974 (3 folders)
BOX 457	"The Birth of the Laser," 1999
BOX 457	"Considerations on Allocation of Money with Application to Research, Development and Production," unpublished, circa 1960s
BOX 457	Foreword to <i>Masers and Lasers</i> by M. Brotherton, 1964
BOX 457	"Fundamental Limitations on the Use of Maser Amplification for Image Intensification," technical note number 61-20, 1961
BOX 457	"Masers," draft on astronomical masers for inclusion in <i>Encyclopedia of Science and Technology</i> , 2000

Part II: Writings, 1921-2011

Container	Contents
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BOX 458	"Radio Spectroscopy," 1946
BOX 458	Books, unpublished
BOX 458	"Maser History," 1967
BOX 458	"Selected Papers on Masers and Lasers," 1962-1963
BOX 458	Miscellaneous abstracts, 1980-1984, 1991
BOX 458	Numbered, 1939-2011
BOX 458	Index
BOX 458	Nos. 3-5, 7-18, 20-24, 26-29
BOX 458	Nos. 6, 30, 32, 64, 67, 75, 93, 102 (8 folders)
BOX 458	No. 135 (2 folders)
BOX 459	(1 folder)
BOX 459	No. 139 (5 folders)
BOX 460	(7 folders)
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BOX 462	(2 folders)
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BOX 463	(1 folder)
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BOX 464	Nos. 399-410 (14 folders)
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BOX 467	Chiao, Raymond Y., ed.
BOX 467	<i>Amazing Light: A Volume Dedicated to Charles Hard Townes on his 80th Birthday</i> , 1996
BOX 467	<i>Visions of Discovery: New Light on Physics, Cosmology, and Consciousness</i> , dedicated to Townes for his ninetieth birthday
BOX 467	2005-2008 (4 folders)

Part II: Writings, 1921-2011

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BOX 468	List, undated
BOX 468	Casimir, H. G. B., 1936
BOX 468	Everett, Hugh, III, 1957
BOX 468	Herzberg, G., and L. L. Howe, circa 1960
BOX 468	Michaelson, A. A., 1921, 1927
BOX 468	Miscellany, 1925
BOX 468	Purcell, Edward, 1960
BOX 468	Van Vleck, J. H., 1942
BOX 468	Weber, J., 1953
BOX 468	Wesson, L. G., 1947
BOX 468	Wichmann, Eyvind, and Norman M. Kroll, 1956
BOX CL 2	Part II: Classified, 2002 Charter. Arranged and described according to the series, container, and folder from which the item was removed.
BOX CL 2	Alphabetical File
BOX CL 2	Institute for Defense Analyses, Washington, D.C., JASON Defense Advisory Group, 2000-2002
BOX CL 2	JASON Defense Advisory Group charter attached to email of 30 July 2002 (Container 428)
BOX OV 4	Part II: Oversize, 1982-2010 Posters and a blueprint. Arranged and described according to the series, containers, and folders from which the items were removed. Alphabetical File Masers and lasers History and the future, 2010
BOX OV 4	Posters of timelines (Container 431) Grants and Projects Office of Naval Research N00014-82-C-0700, infrared spatial interferometer Proposals, budgets, and awards, 1982 Folder 1 of 3
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DF	Part II: Digital Files, 1995-2008 Text files and audiovisual files relating to Townes's speeches and engagements and text files of draft chapters of his book <i>How the Laser Happened: Adventures of a Scientist</i> . Arranged and described according to the series, containers, and folders from which the items were removed. Speech and Engagement File

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