

NATIONAL AIR AND SPACE ARCHIVES

**Space Astronomy Oral History Project**

Accession No. 1999-0034

National Air and Space Museum  
Smithsonian Institution  
Washington, DC

Mark Kahn

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Space Astronomy Oral History project  
3.59 cu. ft. (19 boxes)

**Historical Note**

This collection contains the interviews for the Space Astronomy Oral History Project. These interviews explore the early use of rockets and satellites over the period 1946 through the early 1960s to investigate the upper atmosphere and space. This project constitutes one of several oral history projects conducted within the National Air and Space Museum's (NASM) Department of Space History. The principal interviewer for this project was David H. DeVorkin and the interview set consists of 225 hours of interviews with 67 individuals. Please note that there are a few instances where audio cassette tapes of the interview subjects exist but without written transcripts while there are also a few cases of existing transcripts of the interviews without any audio cassette tapes. The following were interviewed for this project: Jules Aaron; Frank Bateson; William Alvin Baum; William Behring; Jay Thor Bergstrahl; Richard Bleach; William E. Brunk; Arthur Dodd Code; Jerry Conner; Fred Dolder; Frank Donald Drake; William G. Fastie; Lorence Fraser; Phyllis Freier; Herbert Friedman; Robert Frosch; Reuben H. Gablehouse; R.A. Gaiser; George Gianopolis; Thomas Gold; Leo Goldberg; Martin Otto Harwit; Ralph Havens; Albert Roach Hibbs; Noel Hinners; Hans Erich Hinteregger; Charles Yothers Johnson; Francis S. Johnson; Adolph Simon Jursa; Jerome Kohl; Henry Kondracki; Ernst Henry Krause; R.C. Mercure; Alfred O. Neir; Gerry Neugebauer; Werner Neupert; Ray Leon Newburn; Gordon Allen Newkirk; Edward P. Ney; Charles Robert O'Dell; William Hayward Pickering; Richard W. Porter; James D. Purcell; William A. Rense; Walter Orr Roberts; Nancy Grace Roman; Milton W. Rosen; Dan Schneiderman; Ronald A. Schorn; Martin Schwarzschild; Richard Silberstein; John Simpson; Nelson W. Spencer; Lyman Spitzer, Jr.; Kaj Strand; John Strong; Gerald Tape; Clyde William Tombaugh; Richard Tousey; Mona Tycz; James Van Allen; Gerald Joseph Wasserburg; James Edwin Webb; James A. Westphal; Charles Edward Whitsett; Fred Wilshusen and George Withbroe.

**Scope and Content Note**

The Space Astronomy Oral History Project is arranged alphabetically by interviewee. The audio cassette tapes of these interviews have yet to be remastered and, due to their fragility, are unavailable to researchers. Transcripts are available to researchers though, there are restrictions placed on a number of them. A NASM staff member will advise the patron which transcripts are available for copying or viewing and how to order copies of transcripts and/or CDs.

## CONTAINER LIST

The Space Astronomy Oral History Project interviews are arranged alphabetically by interviewee. Boxes 1-13 contain interviews on audio cassette tapes. These tapes have yet to be remastered and, due to their fragility, are not available to researchers. Boxes 14-19 contain the transcripts for these cassette tapes. Most of these transcripts are available to researchers though, restrictions are placed on a small number of them. Transcripts with user restrictions are highlighted in **bold** type.

### Box

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Aaron, December 12, 1983  
Ball Brothers, January 13, 1982 [tape 1 of 2]  
Ball Brothers, January 13, 1982 [tape 2 of 2]  
Baum, January 12, 1982  
Baum, June 22, 1986 [tape 1 of 2]  
Baum, June 22, 1986 [tape 2 of 2]  
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Behring, April 7, 1983 [tape 2 of 2]  
Bergstrahl, July 13, 1983 [tape 1 of 2]  
Bergstrahl, July 13, 1983 [tape 2 of 2]  
Bergstrahl, August 1, 1983 [tape 1 of 2]  
Bergstrahl, August 1, 1983 [tape 2 of 2]  
Bleach, May 11, 1984 [tape 1 of 2]  
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Brunk, August 9, 1983 [tape 1 of 2]

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Brunk, May 25, 1984  
Brunk, September 28, 1984  
Code, September 30-October 1, 1982 [tape 1 of 3]  
Code, September 30-October 1, 1982 [tape 2 of 3]  
Code, September 30-October 1, 1982 [tape 3 of 3]  
Conner, April 24, 1984  
Drake, December 9, 1983 [tape 1 of 2]  
Drake, December 9, 1983 [tape 2 of 2]  
Fastie, February 4, 1983 [tape 1 of 2]  
Fastie, February 4, 1983 [tape 2 of 2]  
Fastie, June 6, 1986 [tape 1 of 2]  
Fastie, June 6, 1986 [tape 2 of 2]  
Fraser, March 9, 1983 [tape 1 of 3]  
Fraser, March 9, 1983 [tape 2 of 3]  
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Freier, March 1, 1984  
Friedman, June 7, 1983  
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Friedman/Johnson, December 17, 1986  
Frosch, July 10, 1981 [tape 1 of 2]  
Frosch, July 10, 1981 [tape 2 of 2]  
Frosch, July 23, 1981 [tape 1 of 2]  
Frosch, July 23, 1981 [tape 2 of 2]  
Frosch, August 19, 1981 [tape 1 of 2]  
Frosch, August 19, 1981 [tape 2 of 2]  
Frosch, September 15, 1981 [tape 1 of 2]  
Frosch, September 15, 1981 [tape 2 of 2]  
Frosch, October 6, 1981  
Granopolis, August 11, 1983  
Gold, September 30, 1983

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Goldberg, February 23, 1983 [tape 1 of 3]  
Goldberg, February 23, 1983 [tape 2 of 3]  
Goldberg, February 23, 1983 [tape 3 of 3]  
Goldberg, September 8, 1983 [tape 1 of 2]  
Goldberg, September 8, 1983 [tape 2 of 2]  
Goldberg, October 10, 1983 [tape 1 of 2]  
Goldberg, October 10, 1983 [tape 2 of 2]  
Harwit, February 9, 1983  
Harwit, April 19, 1983 [tape 1 of 2]  
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Harwit, June 20-22, 1983 [tape 1 of 4]  
Harwit, June 20-22, 1983 [tape 2 of 4]  
Harwit, June 20-22, 1983 [tape 3 of 4]  
Harwit, June 20-22, 1983 [tape 4 of 4]  
Havens, October 6, 1983  
Hinnners, July 31, 1981

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Hinnners, October 17, 1984  
Hinteregger, December 13, 1983 [tape 1 of 3]  
Hinteregger, December 13, 1983 [tape 2 of 3]  
Hinteregger, December 13, 1983 [tape 3 of 3]  
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Johnson, March 3, 1982 [tape 2 of 2]  
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Johnson, June 23, 1982 [tape 1 of 2]  
Johnson, June 23, 1982 [tape 2 of 2]  
Jursa, December 13, 1983  
Krause, August 10, 1982 [tape 1 of 3]  
Krause, August 10, 1982 [tape 2 of 3]  
Krause, August 10, 1982 [tape 3 of 3]

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5 Krause, July 1, 1983 [tape 1 of 2]  
Krause, July 1, 1983 [tape 2 of 2]

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6 Krause, November 26, 1984  
Krause, April 29, 1986 [tape 1 of 2]  
Krause, April 29, 1986 [tape 2 of 2]  
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Nier, March 1, 1984 [tape 2 of 2]  
Nier, [n.d.]  
Neugebauer, August 12, 1982 [tape 1 of 2]  
Neugebauer, August 12, 1982 [tape 2 of 2]  
Neupert, July 9, 1982 [tape 1 of 2]  
Neupert, July 9, 1982 [tape 2 of 2]  
Newburn, March 31, 1983 [tape 1 of 3]  
Newburn, March 31, 1983 [tape 2 of 3]  
Newburn, March 31, 1983 [tape 3 of 3]  
Ney, February 29, 1984  
O'Dell, April 12, 1982 [tape 1 of 3]  
O'Dell, April 12, 1982 [tape 2 of 3]  
O'Dell, April 12, 1982 [tape 3 of 3]

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7 O'Dell, December 15, 1982  
O'Dell, May 21, 1985 [tape 1 of 8]  
O'Dell, May 21, 1985 [tape 2 of 8]  
O'Dell, May 21, 1985 [tape 3 of 8]  
O'Dell, May 21, 1985 [tape 4 of 8]  
O'Dell, May 21, 1985 [tape 5 of 8]  
O'Dell, May 21, 1985 [tape 6 of 8]  
O'Dell, May 21, 1985 [tape 7 of 8]  
O'Dell, May 21, 1985 [tape 8 of 8]  
O'Dell, June 25, 1986 [tape 1 of 2]  
O'Dell, June 25, 1986 [tape 2 of 2]  
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Pickering, December 12, 1982 [tape 2 of 2]  
Pickering, August 4, 1983  
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Porter, April 16, 1984 [tape 3 of 4]

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8 Porter, April 16, 1984 [tape 4 of 4]  
Purcell, October 28, 1982 [tape 1 of 2]  
Purcell, October 28, 1982 [tape 2 of 2]  
Rense, July 27, 1983 [tape 1 of 2]  
Rense, July 27, 1983 [tape 2 of 2]  
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Roberts, July 28, 1983 [tape 1 of 6]  
Roberts, July 28, 1983 [tape 2 of 6]  
Roberts, July 28, 1983 [tape 3 of 6]  
Roberts, July 28, 1983 [tape 4 of 6]

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Roberts, July 28, 1983 [tape 5 of 6]  
Roberts, July 28, 1983 [tape 6 of 6]  
Roman, August 19, 1980 [tape 1 of 4]  
Roman, August 19, 1980 [tape 2 of 4]  
Roman, August 19, 1980 [tape 3 of 4]  
Roman, August 19, 1980 [tape 4 of 4]  
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Box

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Roman, February 2, 1983  
Rosen, March 25, 1983 [tape 1 of 3]  
Rosen, March 25, 1983 [tape 2 of 3]  
Rosen, March 25, 1983 [tape 3 of 3]  
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Schwarzchild, June 18, 1982 [tape 1 of 3]  
Schwarzchild, June 18, 1982 [tape 2 of 3]  
Schwarzchild, June 18, 1982 [tape 3 of 3]  
Schwarzchild, August 3, 1991 [tape 1 of 2]  
Schwarzchild, August 3, 1991 [tape 2 of 2]  
Schwarzchild, August 26, 1991 [tape 1 of 4]  
Schwarzchild, August 26, 1991 [tape 2 of 4]  
Schwarzchild, August 26, 1991 [tape 3 of 4]  
Schwarzchild, August 26, 1991 [tape 4 of 4]  
Simpson, July 28, 1983 [tape 1 of 2]  
Simpson, July 28, 1983 [tape 2 of 2]

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Simpson, August 28, 1983 [tape 1 of 2]  
Simpson, August 28, 1983 [tape 2 of 2]  
Spitzer, June 17, 1982 [tape 1 of 3]  
Spitzer, June 17, 1982 [tape 2 of 3]  
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Spitzer, November 27, 1991 [tape 2 of 2]  
Strand, December 8, 1983 [tape 1 of 3]  
Strand, December 8, 1983 [tape 2 of 3]  
Strand, December 8, 1983 [tape 3 of 3]  
Strand, January 3, 1984 [tape 1 of 2]  
Strand, January 3, 1984 [tape 2 of 2]  
Strong, April 20, 1984 [tape 1 of 3]  
Strong, April 20, 1984 [tape 2 of 3]  
Strong, April 20, 1984 [tape 3 of 3]  
Tape, December 19, 1983

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Tombaugh, February 17, 1982 [tape 1 of 2]  
Tombaugh, February 17, 1982 [tape 2 of 2]  
Tousey, November 17, 1981 [tape 1 of 2]  
Tousey, November 17, 1981 [tape 2 of 2]  
Tousey, January 8, 1982 [tape 1 of 2]  
Tousey, January 8, 1982 [tape 2 of 2]  
Tousey, April 6, 1982 [tape 1 of 3]  
Tousey, April 6, 1982 [tape 2 of 3]  
Tousey, April 6, 1982 [tape 3 of 3]

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Van Allen, June 12, 1981 [tape 1 of 2]  
Van Allen, June 12, 1981 [tape 2 of 2]  
Van Allen, June 18-22, 1982 [tape 1 of 4]  
Van Allen, June 18-22, 1982 [tape 2 of 4]  
Van Allen, June 18-22, 1982 [tape 3 of 4]  
Van Allen, June 18-22, 1982 [tape 4 of 4]

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Van Allen, July 15-16, 1981 [tape 1 of 3]  
Van Allen, July 15-16, 1981 [tape 2 of 3]  
Van Allen, July 15-16, 1981 [tape 3 of 3]  
July 28, 1981 [tape 1 of 2]  
July 28, 1981 [tape 2 of 2]  
Van Allen, August 6, 1981 [tape 1 of 2]  
Van Allen, August 6, 1981 [tape 2 of 2]  
Van Allen, March 4, 1986 [tape 1 of 2]  
Van Allen, March 4, 1986 [tape 2 of 2]  
Van Allen, March 6, 1986  
Wasserburg, December 16, 1982 [tape 1 of 2]  
Wasserburg, December 16, 1982 [tape 2 of 2]  
Wasserburg, December 22, 1982  
Webb, July 22, 1983  
Westphal, August 9, 1982 [tape 1 of 2]  
Westphal, August 9, 1982 [tape 2 of 2]  
Westphal, August 10, 1982 [tape 1 of 3]

Box

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Westphal, August 10, 1982 [tape 2 of 3]  
Westphal, August 10, 1982 [tape 3 of 3]  
Westphal, August 12, 1982 [tape 1 of 2]  
Westphal, August 12, 1982 [tape 2 of 2]  
Westphal, August 14, 1982  
Westphal, September 14, 1982  
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Wilshusen, December 7, 1983 [tape 2 of 2]  
Withbroe, May 2, 1984 [tape 1 of 2]  
Withbroe, May 2, 1984 [tape 2 of 2]

Boxes 14-19 contain transcripts for these cassette tapes. Most of these transcripts are available to researchers though, restrictions are placed on a small number of them. Transcripts with user restrictions are highlighted in **bold** type.

Box

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**Aaron, December 12, 1983** (restricted)  
Ball Brothers [Gablehouse and Dolder], January 13, 1982  
**Ball Brothers [Bartoe, Dolder, Gablehouse, Gaiser and Mercure], July 26, 1983** (restricted)  
Bateson, May 16, 1985  
Baum, January 12, 1982  
Behring, April 7, 1982  
Bergstrahl, July 13, 1983  
Bergstrahl, August 1, 1983  
**Bleach, May 11, 1984** (restricted)  
**Brunk, July 21, 1983** (restricted)

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Code, September 30, 1982  
**Drake, December 9, 1983** (restricted)  
Fastie, February 4, 1983  
Fraser, March 9, 1983  
Freier, March 1, 1984  
Friedman, June 7, 1983  
Friedman, September 2, 1983

Box

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**Frosch, July 10, 1981, July 23, 1981, August 19, 1981, September 15, 1981 and October 6, 1981** (restricted)  
**Gianopolis, August 11, 1983** (restricted)  
Gold, September 30, 1983  
Goldberg, February 22, 1983  
Goldberg, August 9, 1983  
Goldberg, October 10, 1983  
Harwit and Kondracki, February 9, 1983, April 19, 1983, June 20, 1983 and June 22, 1983  
Havens, October 6, 1983  
Hibbs, December 9, 1982  
**Hinners, July 31, 1981** (restricted)  
**Hinteregger, December 13, 1983** (restricted)  
Johnson, March 3, 1982

Box

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Johnson, April 21, 1982  
**Johnson, June 23, 1982** (restricted)  
Jursa, December 13, 1983  
**Kohl, July 29, 1985** (restricted)  
Krause, August 10, 1982  
Krause, July 1, 1983  
Neir, March 1, 1984  
Neugebauer, August 12, 1982  
Neupert, July 9, 1981  
Newburn, March 31, 1983  
Newkirk, June 1, 1983  
Ney, February 29, 1984  
**O'Dell, April 12, 1982 and April 14, 1982** (restricted)  
**O'Dell, December 15, 1982** (restricted)  
Pickering, December 14, 1982  
Pickering, August 4, 1983  
Porter, April 16, 1984  
Purcell, October 28, 1982

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Rense, July 27, 1983  
Roberts, July 26, 1983, July 27, 1983 and July 28, 1983  
Roman, January 28, 1983 and February 2, 1983  
**Rosen, March 25, 1983** (restricted)  
**Schneiderman, July 17, 1982** (restricted)  
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Schwarzschild, June 18, 1982  
Schwarzschild, April 20, 1983  
Silberstein, July 28, 1983

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Simpson, July 28, 1983  
Spencer, December 22, 1986  
Spitzer, June 17, 1982  
Spitzer, November 27, 1991  
Strand, December 8, 1983

Box

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Strand, December 8, 1983 and January 3, 1984  
Strong, April 20, 1984  
Tape, December 19, 1983  
Tombaugh, February 17, 1982  
Tousey, November 17, 1981  
Tousey, January 8, 1982 and April 6, 1982  
**Tycz, September 16, 1982** (restricted)  
Van Allen, February 18, 1981, June 12, 1981, June 18, 1981, June 22, 1981,  
July 15, 1981, July 16, 1981, July 28, 1981 and August 6, 1981

Box

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**Wasserburg, December 16, 1982 and December 22, 1982** (restricted)  
Webb, July 22, 1983  
Westphal, August 9, 1982, August 12, 1982 and September 14, 1982  
**Whitsett, April 9, 1982** (restricted)  
**Withbroe, May 2, 1984** (restricted)