

FINDING AID FOR THE JAMES E. MCCOY PAPERS, 1965-2004 (#2015-0003)

Contact Information

University of Houston-Clear Lake Archives
Neumann Library
2700 Bay Area Blvd.
Houston TX 77058
Phone: 281-283-3936
Email: archives@uhcl.edu
URL: www.uhcl.edu/library

Descriptive Summary

Repository: University Archives
Collection #: 2015-0003
Title: James E. McCoy
Creator: James McCoy
Inclusive Dates: 1965-2004
Bulk Dates: 1980-1993
Extent: 38 linear feet (71 document cases; 5 newspaper boxes)
Language:: English

Administrative Information

Restrictions on Access: None
Restrictions on Use: None
Acquisition Information: Donated by Kenneth McCoy / Leslie Murphy, January 2015
Processed by: James Donald Faulkner III
Preferred Citation: James E. McCoy Papers (#2015-0003), University of Houston-Clear Lake Archives.

Biographical/Historical Note

Dr. James Ernest McCoy (who went by "Jim") was born on May 4, 1941, to Amy and Ernest McCoy. McCoy went on to attend college at the California Institute of Technology in Pasadena, California. He would go to work at the new NASA Manned Spacecraft Center campus in Houston, Texas, in 1963. McCoy worked on his PhD in Astrophysics at Rice University while also working at NASA. In his 43 years working at NASA, he worked on virtually every project: Gemini; Apollo, with experiments on Apollo 15 and Apollo 17; the Shuttle program; Space Station; and Variable Specific Impulse Magnetoplasma Rocket (VASIMR), the ion propulsion rocket. Dr. McCoy's work contributes to the understanding of the Earth's ionosphere and the Moon's exosphere. He was an expert in moon dust.

In 1971 Dr. McCoy was part of a team investigating the Earth's electromagnetic field, the Moon's movement through plasma, and the Moon's interaction with plasma. Dr. McCoy in part sought to explain streamers, thin streaks of light rising from the lunar surface observed by Apollo astronauts during sunrise. Dr. McCoy also contributed to the field of electrodynamic tethers, innovative ways to provide power and thrust for spacecraft that were both cheaper and more efficient than current contemporary systems. The tethers are thin insulated wires, varying in length, with a plasma motor generator at the ends. McCoy also worked extensively with the European Space Agency on the Tethered Satellite program and flew his Plasma Motor Generator on the Delta 221 launch. In total, McCoy spent 43 years working for NASA. James McCoy died on November 28, 2014.

[Much of the information for this biographical note was taken from McCoy's online obituary on Peevey Funeral and Cremation's website at <https://peeveyfunerals.com/obits/?p=8278>]

Scope and Content

The documents were produced during Dr. James McCoy's endeavors as a physicist at NASA during his 43-year career at NASA and Johnson Space Center between 1965 and 2004. The bulk of the materials date from 1980 to 1993. The collection contains variety of media including: notes, slides, reports, pictures, negatives, blueprints, notebooks, and journal articles.

Index Terms

Lunar dust
Space plasmas--Experiments.
Tethered satellites
Tethered space vehicles--Dynamics

Inventory

<u>Box</u>	<u>Folder</u>	<u>Title</u>	<u>Date</u>
		Series 1: Tether Applications in Space (TAS)	
1	1	Electrodynamics of long tethers in near earth environment	10/1976
1	2	Colorado state Paul Wilbur-d Siegfied hollow cathodes	1978
1	3	Ball bros tether and PMG	2/1979
1	4	Space plasma interactions program review- high voltage plasma interactions	1980
1	5	Kc 135 zero g test	3/19-20/1981
1	6	US/Italy tethered satellite reports	1981-2
1	7	Tethered satellite system	1981-2
1	8	Tether power generation and alfuen motors	5/26/1982
1	9	p. Nacozy university of Texas at Austin UTA	1982-3
1	10	Smithsonian astrophysical observatory	2/1982-6/1983
1	11	Pat Finnegan fuel cells plasma motor generator reistojet	4/6/1983
1	12	Eh2/ G&N tether work	5/9/1983
1	13	Workshop proceedings applications of tethers in space vol. 1	6/15-17/1983
2	1	Workshop proceedings applications of tethers in space vol. 2	6/15-17/1983
2	2	Applications of tethers in space workshop executive summary	6/15-17/1983
2	3	Applications of tether in space workshop	6/15-17/1983
2	4	Proposal for engineering study of electrodynamic tether as a generator of electricity	6/1982-1/1983
2	5	Applications of plasma electric motor/generator effects	6/15/1983
2	6	Electrodynamic tethers	12/7/1983
2	7	Ivan Becky PMG performance estimates	12/1983
2	8	Rendezvous and proximity meeting electrodynamic tether presentation	12/2/1983
2	9	Tether communications	12/1983
2	10	Tether under electrodynamics interaction model and numerical approach	1983
2	11	Banks and Williamson USU/Stanford tether notes	1983
2	12	Marshall space flight center space tether	1983
2	13	Analytical solution lightly loaded tether	1983
3	1	Applications for tethers in space workshop	1983
3	2	Tether study reports Smithsonian astrophysical observatory	1983-4
	3	Engineering study electrodynamic tether as generator of electrical power	8/1983-4/1984
3	4	LEMSCO weekly budget sheets FY	1983-4
3	5	Hollow cathode camber test data/analysis	1/1984

3	6	Design and evaluation data package	1/30/1984
3	7	Ivan Becky performance estimates copies and working notes	2/1984
3	8	Tethers in space birth and growth	2/1984
3	9	Electrodynamic tether power/thrust performance at 100-1000kw	2/29/1984
3	10	TSS/ TSS core equipment development team (CEDT)	3/14-16/1984
3	11	TSS-system description and payload accommodations handbook	5/1984
3	12	NASA space power workshop LEWIS research center Ohio	4/10-12/1984
3	13	Electrodynamic tether applications massive tether dynamics study	5/3/1984
3	14	Tether day status review papers	5/3-4/1984
3	15	TSS core equipment development team (CEDT)	5-6/1984
4	1	Hollow Cathode failure analysis	6/1984
4	2	Tether task group technology plan	6/1984
4	3	Tether task group study plan	6/1984
4	4	Core equipment spec and development plan draft	6/1/1984
4	5	Langley research center tether	6/4/1984
4	6	Ivan Bekey tether for space station	6/4/1984
4	7	Velonex 250mw Pico pace instruction manual	6/5/1984
4	8	Presentation to Goetz	6/13/1984
4	9	Tether task group final presentation to HQ	6/22/1984
	10	Tether project plan original	6/1984
4	11	Hollow cathode proposal investigation	7/1984
4	12	Experimental investigation of motor generator op. of the TSS	7/20/1984
4	13	Tether server rate	8/21/1984
4	14	Attempt to get LEMSCO responsive to PMG/POF	1984
4	15	TSS – CEDT	1984
4	16	Facsimile XM's	1984
5	1	LERC sow electrodynamic tether	1984
5	2	Preparation for manuscript space power workshop	1984
5	3	Electrodynamic tether electrodynamic tether app. Flight exp.	1984
5	4	IAF congress LERC space workshop 1984	1984
5	5	Communication with LERC	4/1984
5	6	Tether task group verification and demo	6/1984
5	7	California space	1984
5	8	Electrodynamic interactions program plan	1984
5	9	Tether program	1984
5	10	Lockheed contract	1984-5
5	11	Lab data	1/16/1985
	12	TAS group meeting	2/1985
5	13	Phase III final report selected tether applications in space executive summary	2/1985
5	14	FY86 tether project working notes	2-5/1985
5	15	Calculations	3/19-21/1985
5	16	Tether applications in space science and applications	4/1985
5	17	Tether applications in space tether application to transport	4/1985
6	1	Tether application in space tethered space craft constellations	4/1985
6	2	Project plan for electrodynamic tethers electrodynamic interaction of tether(original)	4/1985
6	3	JSC/LERC electrodynamic interactions tether plan	4/18/1985
6	4	George Von Tiesenhausen	4/18/1985
6	5	Verification and demonstration plan	4/22/1985
6	6	Project plan for electrodynamic tethers electrodynamic interaction of tether	4/22/1985
6	7	Tether presentation to HQ	5/1985

6	8	Project plan for electrodynamic tethers electrodynamic interaction of tether	5/1985
6	9	Electrodynamic interactions of tethers study plan verification and demo	5/3/1985
6	10	Project plan for electrodynamic tether	5-6/1985
6	11	Project plan for electrodynamic tether revised	6/1985
	12	Paper on tethers by Andy Cutler	6/12/1985
6	13	Electrodynamic demo missions	6/27/1985
6	14	TAS program review other presentation	7/17/1985
6	15	Viewgraphs 200kw PMG presentation TAS review	7/17/1985
6	16	TAS program review JSC presentation	7/17-18/1985
7	1	McCoy cathode evaluation	8/1985
7	2	Meeting at LERC	8/2/1985-9/16/1985
7	3	Meeting at southwest research institute (SWRI)	8/15-16/1985
7	4	Meeting hollow cathode based plasma contactors	8/28/1985
7	5	Theoretical basis for a KU-band/TSS math model	10/18/1985
7	6	Application of tethers in space meeting	1985
7	7	Application of tethers in space meeting	1985
7	8	Tether application in space task group	1985
7	9	Tether day	1985
7	10	Verification plan	1985
7	11	TAS plasma contactors test	1985
7	12	TSS requirements	1985
7	13	TSS working group/ experiment score sat potential tether current control	1985
7	14	Supporting study	1985
7	15	Far end package (FEP)/(NEP) near end package overview	1985
7	16	TSS application summary briefing	1985
7	17	TSS concept application	1985
7	18	Cathode evaluation	1985
7	19	RTOP presentation	1985
8	1	TSS notes/ diagrams	1985
8	2	Presentation	1985
	3	Orbit dynamics	1985
8	4	HHG- customer summary	1985
8	5	HHG-2	1985
8	6	Hitchhiker g	1985
8	7	NASA budget summaries	1985
	8	LEMSCO memos	1985
8	9	Interplanetary conquest	1985
8	10	Tether movie	1985
8	11	Space tether study plan	1985
8	12	LERC program electrodynamic interactions of tether	1985
	13	Technology plan	1985
8	14	TSS review 2 nd POWG	1985-6
8	15	Thermal analysis report PMG exp.	1985-6
8	16	Schedule/budget	1985-6
8	17	Joe Carroll	1985-6
9	1	Lockheed engineering and management services weekly budget sheets	1985-6
9	2	FEP assembly	1/17/1986
9	3	Tether simulation	1/29/1986
9	4	Kc 135 "0" g tests	3/1986
	5	Experimental measurement of HCA flow rate	3/10/1986
9	6	Space tether seminar	4/24/1986

9	7	TSS project plan for electrodynamic interactions tether 1984-90	5/1986
9	8	Review with George Levin	5/1986
9	9	Dispersion of plasma funds	6/11/1986
9	10	Lab data @ CSU	7/1986
9	11	Phase III study of selected tether applications in space	7/10/1986
	12	Definition of electrodynamic tether system	8/20/1986
9	13	View graphs for AIAA meeting	9/1986
9	14	NASA/AIAA/ PSN conference on tethers in space	9/17/1986
9	15	PMG reference systems design for power electrodynamic PMG experiment	9/17-18/1986
9	16	NASA/AIAA/PSN	9/17-18/1986
9	17	Plasma motor generator reference system designs for power and propulsion	9/18/1986
9	18	TRW study of PMG system for orbit reboots	9/23/1986
10	1	Meeting with ball notes from bill Marley	11/7/1986
10	2	Lab data	1986
10	3	Hollow cathode info Bill Duncan	1986
10	4	NASA meeting	1986
10	5	Cal Rybak	1986
10	6	Power radiated by large conductor in motion through magnetosphere	1986
10	7	Thermal analysis report for PMG experiment	1986
10	8	Purchase order support contractor job order	1986
10	9	Georg Von Tiesenhausen	1986
10	10	Communications with Georg Tiesenhausen	1986
10	11	TAS Bill Djinis	1986
10	12	Amendment for solicitation modification of contrast TAS	1986-7
10	13	HCA	1986-7
10	14	NEP-N2 power supply failure analysis	1986-7
10	15	Circuit blueprints	1986-7
11	1	AIAA aerospace science meeting	1/1987
11	2	Electrodynamic tether study	1-6, 10-12/1987
11	3	Test at CSU	2/1987
11	4	TAS CSU reports	2-4/1987
11	5	The electrodynamic tether	2/23/1987
11	6	Report on plasma contactor flight simulation	3/6/1987
11	7	Ball deployer drawings	3/10/1987
11	8	Electrodynamic tether system study status reports	5/15/1987
11	9	FEP HCA running data	7/1987
11	10	NEP HCA running data	7/1987
11	11	LERC	7/7/1987
11	12	TRW review	8/7/1987
11	13	TSS	9/1987
11	14	Electrodynamic tether system study final report extended	9/1987
11	15	Electrodynamic tether system study final report	9/1987
11	16	Study of plasma motor generator tether system for orbit reboost	9/1987
11	17	Plasma RF emissions at Plumbrook	9/22-29/1987
11	18	TSS meeting	10/23/1987
11	19	TSS/ELF experiment meeting	11/10/1987
11	20	Hollow cathode fabrication and parts list	12/1987
11	21	Electrodynamic tether system study final review	12/1/1987
12	1	Tethered initiated space recovery system (TISRS) final report	12/4/1987
12	2	TSS investigators meeting	12/9/1987

12	3	FEP testing	5/1987
12	4	Communications from Paul Wilbur CSU	1987
12	5	TMR evaluation summary PMG	1987
12	6	PMG design review	1987
12	7	Test prep sheet 1987	1987
12	8	Research grant award plasma coupling	1987
12	9	Lab data	1987
12	10	Ball communication	1987
12	11	Addendum to statement of work	1987
12	12	TAS group meeting 1987	1987
12	13	Communications with ball	1987
12	14	Tether colloquium	1987
12	15	LEMSC communications	1987
12	16	Tethered satellite system one working group Italy	1987
12	17	Budget	1987
12	18	Notes	1987
12	19	Proposed plasma contactor engineering experiment	1987
12	20	Colorado state research grant progress	1987
12	21	NEP/FEP schematics	1987
12	22	NASA contract #NAG9-266	1987
13	1	Test preparation	1987
13	2	Planning schedule evaluation	1987
13	3	FEP-F2-cathode P/S	1987
13	4	Battery	1987
13	5	Job order reports budgets	1987
13	6	Jerry White TAS paper	1987-8
13	7	Electronics components	1/6/1988
13	8	Electrodynamic tether system progress reports	1-6/1988
13	9	Dcore EMC Specifications	1/29/1988
13	10	Tether letter samples	3/9/1988
13	11	Dcore thermal interface control document	3/31/1988
13	12	PMG/HHG meeting notes	3-4/1988
13	13	Dcore T.E. specification	4/1988
13	14	PDECU simulator specification vol. 1	4/1988
13	15	Facsimile Ed Barzill	4/22/1988
13	16	Deployer vacuum gauge specifications	4/24/1988
13	17	Score ammeter test equipment	4/26/1988
13	18	Meeting with LERC	5/9/1988
13	19	Deployer master switch speciation's	5/18/1988
14	1	Deployer installed core equipment development and qual plan	5/18/1988
14	2	Deployer voltmeter	5/19/1988
14	3	GEHS specifications	5/20/1988
14	4	Letters regarding Marino Proposal	7-9/1988
14	5	Hollow cathode experiment	8-9/1988
14	6	Next quarter meeting of the advanced program dev plan group	8/25/1988
14	7	Electrodynamic tether system study	9/8/1988
14	8	Electrodynamic tether system study extended final report	9/16/1988
14	9	TSS first mission shuttle electrodynamic tether system (SETS) ERD	9/22/1988
14	10	TSS functional objectives	9/30/1988
14	11	Presentation electrodynamic tether system study space station	10/18/1988
14	12	PMG vibration test	10/18-19/1988
14	13	Experiment requirements document	10/26/1988
15	1	TSS flight operations working group (FOWG) Meeting	11/16-18/1988
15	2	Electron collection enhancement arising from natural gas jets on a charged vehicle in the ionosphere	11/29/1988

15	3	Data system requirements	12/88
15	4	EVAL/purchase request	1988
15	5	Hollow cathode assembly	1988
15	6	Jupiter tether	1988
15	7	TSS meeting	1988
15	8	Texas A&M hit tether	1988
15	9	TSS group meeting	1988
15	10	Communications	1988
15	11	TSS RID	1988
15	12	RTOP review	1988
15	13	TSS schedule	1988
15	14	Formats task sheets	1988
15	15	RTOP summaries	1988
15	16	Tether applications in space planning group	1988
15	17	Ball electrodynamic tether system reports	1988
16	1	Operations manual hollow cathode plasma source	1988
16	2	TSS advice from D. Grounds	1988
16	3	PDR	1988
16	4	Yearend report hollow cathode plasma wave turbulence experiments	1/2/1989
16	5	Study PMG contract	1/9/1989
16	6	TAS planning group meeting proceedings	3/16-17/1989
16	7	SN accounts	3/21/1989
16	8	Space craft charging	4/1989
16	9	Tether conference	5/16/1989
16	10	Investigation of magneto static plasma current instabilities	5/30/1989
16	11	Tethered satellite system schedule status reports	7/1989
16	12	TAS planning group minutes	10/5/1989
16	13	Laboratory simulation of plasma contactor processes for electrodynamic tether app.	12/14/1989
16	14	Lockheed FY89 weekly budget sheets	1989
16	15	TSS	1989
16	16	LEMSCO job orders	1982-6
16	17	Budget Summaries LEMCO FY 1986-6	1983-6
16	18	LEMSCO purchase request 1983-5	
16	19	LEMSCO quarterly reviews	1983-5
16	20	Disposable tether	1984-6
17	1	TSS core equipment req.	1984-6
17	2	TAS project plan for tethered spacecraft constellations	1984-7
17	3	Ball bros 200kw PMG	1984-6
17	4	Communications from MIT	1985-7
16	5	Memorandums	1986-8
17	6	Hollow cathode plasma brush	9/20/1984-5
17	7	Purchase order budget hours	1988-1993
17	8	TAS	1988-9
18	1	Procedure to set up a program for auto starting	2/8/1990
18	2	PCE	2/12/1990
18	3	Progress report simulatore de plasma extraterrestre	3/1990
18	4	Plasma contactor experiment program	4/3/1990
18	5	Baseline PMG/POF for delta	4/25/1990
18	6	Satellite servicing project description	7/1/1990
18	7	Equations of motion and a solution algorithm for tethers	7/17/1990
18	8	Wobble fix gyro interaction	10-11/1990
18	9	Program operating plan(pop)	1990-1
18	10	Support contract job orders hours	1990-1
18	11	Tether meeting	1990-1

18	12	Reliability preferred practices for design and test	1991
18	13	Budget schedule	1991
18	14	FEP assembly	1991
18	15	Plasma tasks	1991
18	16	Job budget	1991-3
19	1	Manifold assembly PMG delta II	1/21/1992
19	2	TAS meeting	2/4-5/1992
19	3	FEP and SPC HCA in spl	2/26/1992
19	4	TAS meetings	3/12/1992
19	5	FY 92 funding	1992
19	6	PMG delta deployer Joe Carroll	1992
19	7	Delta PMG weights and CGS	1992
19	8	Data acquisition and assurance plan Will Webster GSFC PMG data reductions software	6/1992
19	9	Circuit changes/ ECD's	1992
19	10	Lockheed job order reports	1992
19	11	Quality assurance requirement for PMG experiment memorandum	5/26/1992
19	12	Budget spending plan	1992-3
19	13	LESC test reports failure analyses	1993
19	114	Lockheed internal CDR in PMG software	2/1993
19	15	Test report NEP proto flight LVL shock test	2/3/1993
19	16	Relay test info	3/12/1993
19	17	Eagle Picher acceptance test	3/1993
19	18	Contact evaluation of potter and Brumfield relay FCH11D after ten cycles	3/1993
19	19	Missile system pre-launch safety package for the PMG	3/9/1993
20	1	Test procedures NEP-n2 supply test	3/14/1993
20	2	NEP-n2	3/22-3/1993
20	3	Flight guidelines	4/1993
20	4	Test datasheets	4/23/1993
20	5	Spectrum shock Wyle laboratories	4/23/1993
20	6	Returned failure report	4/24/1993
20	7	MDA drawing 1d60776 compatibility	4/26/1993
20	8	PMG battery vibration test	5/25/1993
20	9	Field effect transistor failure analysis	6/1993
20	10	Failure analysis relay manufactured by potter and Brumfield	6/2/1993
20	11	TPS's YKSC	6/4/1993
20	12	Test preparation sheet	6/11/1993
20	13	Spaceport news	6/23/1993
20	14	Hex conversion	6/23/1993
20	15	Hex conversions background data	5/26/1992
20	16	Italy trip	
20	17	Comparison of theoretical calculation with PMG experiential data	6/26/1993 7/28-8/4/1993
20	18	Proposed preliminary design study update for ISS tether utilization	1/10-13/1994
20	19	Papers by Dr. L. Conde	6/1994
21	1	Viewgraph for flight demo presentation at TAS program review	1994
21	2	Guide for analysis of the tether applications	
21	3	Tether day working notes	
21	4	Tether cutter	
21	5	Gorge Le Vinit HQ/PMG/POF	
21	6	Graph papers shuttle outlines	

21	7	Safety review data package phase o/1 for PMG POF experiment	
21	8	Release failure study	
21	9	Mechanical properties of Teflon and copper wire	
21	10	Argon emissions	
21	11	Flight program	
21	12	Kite STS dynamics	
21	13	TSS simulation	
21	14	Main data from SEDS PMG test	
21	15	NEP-n2 changes since first EMI test	
21	16	Tether script	
21	17	HCA procedure	
21	18	Specs sheets	
21	19	TAS viewgraphs	
21	20	PMG	
21	21	Viewgraphs for presentation	
21	22	Electrodynamic tether publication notes	
21	22	Tether references	
22	1	Electrodynamic interactions with the earth's magnetic field	
22	2	Space charge current limits	
22	3	Reference reprints	
22	4	Presentation material	
		Series 2: Small Expendable Deployer System (SEDS)	
22	5	Small expendable deployer system SEDS project review	3/10/1987
22	6	SEDS	9/15/1987
22	7	Min of SEDS delta II modification CDR	8/28-9/1990
22	8	SEDS doc	1991
22	9	Small expendable deployer system critical review	1991
22	10	SEDS electromagnetic compatibility test	1992
22	11	SEDS/PMG blueprints	1993
22	12	SEDS-1/PMG Joint ops working group meeting	2/11/1993
22	13	SEDS chart	2/25/1993
22	14	SEDS first flight quick look report	4/7/1993
22	15	PMG/SEDS data system	6/1992
		Series 3: Plasma Motor Generator (PMG)	
23	1	PMG test	1983
23	2	Plasma motor generator	1983
23	3	Plasma motor generator presentation RTOP A1AA	6/3/1983
23	4	Plasma motor generator	1981-3
23	5	PMG lab notes Stansbury	1983-4
23	6	PMG 20 watt test presentation	1984
23	7	Plasma motor generator orbital transfer vehicle	6-9/1984
23	8	PMG lab	6/1/1984
23	9	Plasma motor generator presentation to JSC	6/13/1984
23	10	PMG electrodynamic tether applications in space	6/13/1984
23	11	PMG meetings I	8/1984
23	12	TAS/PMG proposal	1/3/1984
23	13	PMG presentation	4/1984
23	14	Beadsim PMG delta deployment calc.	8/1985
23	15	LEMSCO PMG stress test	12/1985
23	16	PMG blueprints	1985-7
24	1	PMG preliminary schedule	4/2/1985
24	2	LEMSCO PMG thermal analysis	11/85-5/1986
24	3	PMG data	1986
24	4	PMG for TSS	2/25/1986
24	5	PMG 037-66-720	5/14/1986

24	6	HHG PMG	1986
24	7	LEMSCO PMG/POF electrical engineer log	1986
24	8	PMG tether for orbit reboost	1986
24	9	PMG exp. Investigation	1986-7
24	10	LEMSCO PMG budget sheets	1986-7
24	11	PMG experiments	1987
24	12	PMG electronics	2/4/1987
24	13	PMG for TSS	2/23/1987
24	14	PMG test procedure	7/31/1987
24	15	Monthly status report for march	1988
25	1	PMG meetings	2/8/1987
25	2	PMG manual	2/25/1987
25	3	PMG tether European retrievable carrier	5/1987
25	4	PMG SR budget and HCA write up	6/9/1987
25	5	Eureca/ PMG	6/10/1987
25	6	PMG study presentation of final results	8/1987
25	7	PMG tether system cost assessment	8/24/1987
25	8	PMG hardware change requirements	8/24/1987
25	9	PMG meetings	8/26/1987
25	10	PMG tether contract extension	9/1987
25	11	Study for PMG for orbit reboost final report	9/1987
25	12	Thermal PMG stress proposal	9/1987
25	13	TAS conference	10/15-17/1987
25	14	PMG notes	1984/1987/ 1988
25	15	PMG presentation	1987
25	16	TRW contract study of PMG	1987
26	1	PMG contract TRW payment	1987-8
26	2	PMG notes	1987-9
26	3	Plasma motor generator engineering evaluation	8/1/1988- 8/3/1988
26	4	PMG test	8/30/1988
26	5	PMG notes	1988-1991
26	6	PMG delta Joe Carroll's Beadsim	1989
26	7	PMG delta communication	6/1990
26	8	PMG design overview review	1/28/1991-2
26	9	PMG delta flight experiment	1991-2
26	10	PMG/delta original package	1991
26	11	PMG Sketches drawings dimension	199126
26	12	Drawings PMG/delta NEP	7/2/1991
26	13	PMG technical interface meeting	1/28/1992
26	14	PMG technical interchange meeting(Tim)	2/24/1992
26	15	PMG electronic items	3-4/1992
26	16	Delta II PMG mission specifications	5/1992
26	17	PMG delta communication	6/3/1992
26	18	PMG wire harness	6/9/1992
26	19	PMG delta mode test	9/1992
27	1	PMG technical design review	9/10/1992
27	2	PMG delta flight data analysis plan	10/28/1992
27	3	PMG flight batteries	10/29/199
27	4	PMG PDP project review	10/29/1992
27	5	PMG data file	1/7/1993
27	6	PMG critical design review	1/12/1993
27	7	PMG flight readiness project review environment testing	3/4/1993
27	8	PMG program support communications messaging service	3/19/1993
27	9	PMG 8a	4/1993

27	10	PMG PIA s/n-002	4/3/1993
27	11	PMG shipping container	4/13/1993
27	12	PMG notes NEP-n2 p1a Lyons Smithson	4-5/1993
27	13	PMG thermal vacuum test procedure	5/1993
27	14	PMG thermal vacuum test procedure	5/1993
27	15	Technical evaluation of PMG EMI test report	5/21/1993
27	16	Naustar11-21 PMG countdown schedule	6/4/1993
27	17	PMG pictures	6/5/1993
27	18	PMG data	6/26/1993
27	19	PMG NEP model test correlation	1992-3
28	1	PMG environmental test	1992-3
28	2	Early PMG drawings	
28	3	Plasma motor generator reference system 2kw, 20kw, 200kw mw	
28	4	PMG TAS drawings	
28	5	PMG bench test functional procedure	
28	6	PMG presentation slides	
28	7	PMG delta pictures	
28	8	PMG revisions	
28	9	PMG description	
28	10	PMG vibration test loose fasteners	
28	11	TAS PMG notes	
28	12	PMG mechanical design and analysis	
28	13	PMG drawings	
28	14	PMG presentation	
29	1	Plasma motor generator proof of concept	10/1983
29	2	Tethers in space PMG/POF	10/21/1983
29	3	Plasma motor generator POF CDR	1/24/1984
29	4	PMG/POF	2/17/1984
29	5	PMG/POF	5/15/1984
29	6	PMG/POF safety review	7/10/1984
29	7	PMG/POF deployment summary	10/24-5/1984
29	8	Plasma motor generator proof of concept briefing for Becky	11/7/1984
29	9	PMG/POF	1984-7
29	10	PMG/POF	1984-7
29	11	PMG/POF sketches and schematic	1/1985
29	12	PMG/POF tracking	2/1985
29	13	PMG/POF lab prototype picture descriptions	4/11/1985
29	14	Hollow cathode assembly HCA	9/20/1985
29	15	PMG POF experiment	12/1985
29	16	HHG customer payload requirement	1985
29	17	PMG POF experiment	1985
29	18	Ni Col battery test PMG/POF	1985
29	19	PMG/POF balance	1985
30	1	PMG/POF	1985-7
30	2	PMG/POF completion plan	2/1987
30	3	PMG/POF status meeting	2/4/1986
30	4	PMG/POF budget review with LEMSCO	3/1986
30	5	PMG/POF drawings	9/16/1986
30	6	PMG/POF HQ JSC GSFC	2/3/1987
30	7	PMG/POF SSED review data package	3/10- 4/3//1987
30	8	Schematic diagrams PMG/POF full size complete	4/23/1987
30	9	PMG/POF experiment review	5/8/1987
30	10	PMG/POF test procedures	8/1987
30	11	PMG/POF swagged heater test	8-9/1987

30	12	PMG/POF	9/30/1987
30	13	PMG/POF parts list	1987
31	1	PMG/POF vol. II notebook	1987
31	2	Notes PMG/HCA	1987-8
31	3	PMG/POF experiment	1-21/1988
31	4	PMG/POF notes	4/21/1988
31	5	PMG/POF safety review data package	6/3/1988
31	6	PMG/POF presentation to Branscam	1/21/1988
31	7	PMG/POF bench test	3/29/1990
31	8	PMG blueprints	1991
32	9	N2s wiring diagram, NEP-n2 PMG/POF	
31	10	N2a parts detail n2-assembly	
31	11	N1-08 mod nep-n1-08 A/D board modification	
31	12	N1-07s level converter PMG/POF	
31	13	N1-07a level converter PMG/POF	
31	14	N1-065 schematic power control and drivers PMG/POF	
31	15	Ps-1 schematic diagram heater power supply board PMG/POF	
31	16	N1-03a expansion board PMG/POF	
31	17	N1-01s schematic diagram NEP-n1 back plane board	
31	18	Electronic box assembly FEP-F1a/fep-f3a PMG/POF	
31	19	Hollow cathode assembly details	
31	20	P2s PMG-p2 rev c ignitor power supply schematic	
31	21	P2a PMG-p2 rev c card mod and component layout	
31	22	N1-064 power control and drivers PMG/POF	
32	1	N1-05a electrometer PMG/POF	
32	2	N1-045 schematic nep-n1 A/D board PMG/POF	
32	3	N1-04a ADC PMG/POF	
32	4	N1 035 schematic diagram expansion cord PMG/POF	
32	5	N1a delta n1a assembly detail	
32	6	N1 BD block diagram NEP-n1 PMG/POF	
32	7	P1-01a dual power supply PMG/POF	
32	8	P1a transformer inductor nep power supply PMG/POF	
32	9	N2-015 f3 power relays far end package PMG/POF	
32	10	N1-085 FEP-F2s	
32	11	FEPS cathode power supply assembly PMG/POF	
32	12	PMG sounding rocket	
32	13	PMG sounding rocket	
32	14	PMG sounding rocket	
32	15	SRI briefing NASA headquarters	
32	16	Colorado university hollow cathode plasma coupling study	1985-7
32	17	Ed Szuszcwicz SRI	
32	18	Hollow cathode planning meeting SRI	1986-8
32	19	Hollow cathode discharge HCD flight demo SRI	1987
		Series 4: Apollo Lunar Particle Satellite/ Particle Fields Satellite (ALPS)/(PFS)	
33	1	Solid state detectors	10/1967
33	2	Test and training satellites for manned space flight network	1968
33	3	ALPS memory technical manual for sems-5 core memory	11/15/1968
33	4	Shadow calculation	1969
33	5	P&F hardware contract with TRW	10/31/1969
33	6	ALPS science requirements	3/6/1970- 5/11/1970
33	7	ALPS memory	6/30/1969- 7/1/1969
33	8	ALPS interface specifications data process	8/26/1969- 10/1970

33	9	ALPS proposal	3/10/1969- 9/3/1969
33	10	ALPS experiment implementation plan	9/30/1969
34	1	Budget and purchase request	1969-70
34	2	ALPS notebook journal	1969-70
34	3	P&F	1969-70
34	4	Memoranda outgoing	1969-70
34	5	Cal development ALPS satellite interface control documents	1/22/1970
34	6	ALPS science requirements RFP experiment specs	2/23/1970
34	7	Particles and field sub satellite management meeting presentation charts	4/14-15/1970
34	8	ALPS orbit	4/1969-7/1970
34	9	ALPS magnetometers	6/1970
34	10	AGE requirement	6/9/1970
34	11	Calibration data package c14 mapping and Parylene sample	7/13/1971- 11/1970
34	12	Screening data	8/3/1970
34	13	End item specifications	8/11/1970
35	1	ALPS presentation	8/1970
35	2	ALPS detectors proton energy loss	9/17/1970
35	3	Cal development graphs and Cal. documents	10/14/1970
35	4	Cal development test	10/1970- 12/1970
35	5	Cal development test procedure and data	11/1970- 1/1971
35	6	CDR PFS ALPS I	1970
35	7	CDR PFS ALPS II	1970
35	8	Qualification unit s/n 2-2 calibration data package	1971
35	9	Apollo 16 flight #2 calibration data package	1971
35	10	Flight #1 calibration calculation	1/27/1971
36	1	Flight #1 calibration and test	2-3/1971
36	2	PES qualification unit calibration	2/16/1971
36	3	Calibration data package appendix a calibration report	3/8/1971
36	4	Schedule and progress reports	3/1/1971
36	5	Draft copy calibration data package	4/25/1971
36	6	Flight #1 calibration data package	4/28/1971
36	7	ALPS orbit methodology for altitude determination of the particles and fields sub satellite	7/30/1971
36	8	Parylene N calibration and testing	11/1970- 3/18/1971
36	9	Memoranda incoming	11/12/1971
36	10	ALPS presentation American geophysical union paper	12/1971
36	11	Solar wind interaction with the moon results from the Apollo 15 sub satellite	12/6/1971
36	12	Calibration data package appendix b calibration report	12/8/1970- 6/29/1971
37	1	PFS-2 apparent neutral line side 60re	4/28/1972
37	2	Cross tail electric fields measured by lunar orbiting satellites	9/15/1973
37	3	Magnetotail at 60re	1973-4
37	4	Comparison of simultaneous Magnetotail and polar ionospheric electric fields and energetic particles	2/1974
37	5	RTOP	8/4/1974- 4/11/1974
37	6	Paper on electrical fields PFS draft	6/1974
37	7	Paper on electrical fields PFS revision I and II	9/7/1974
37	8	Paper on electrical fields PFS final version	10/1974

37	9	Comparison of simultaneous polar ionospheric and Magnetotail electric field measurement	10/23/1974
37	12	Apollo 15 film calibration	12/3/1974
37	10	Berkeley ALPS	4/15/1975
37	11	Paper on electrical fields PFS gallery proofs	5/30/1975
37	12	AGU li75	9/1975
37	13	Peer review of comparison of simultaneous Magnetotail	11/1975
37	14	Proposal evaluation for lunar science review panel crisswell	9/10/1975
37	15	Magnetic merging and formation of plasma sheet	10/1976
37	16	PFS electric field sudden increase	
37	17	Original sketches and 8x10's	
37	18	Electric field comparison polar cap final draft	1971-6
38	1	ALPS orbit	7/1969-10/1971
38	2	Cal development ALPS satellite	1969-1971
38	3	PFS notes	1971-3
38	4	Coleman, Russel, and Co (UCLA)	1972-75
38	5	ALPS detectors	
38	6	Computer program RMS	
38	7	Plasma sheet reference	
39	1	ALPS s/n 2-4 calibration data package	
39	2	ALPS planning	1968-1970
39	3	ALPS communications	1969-1972
39	4	Apollo	
		Series 5: Plasma Lab	
39	5	Boeing final report high voltage solar array experiments	3/1974
39	6	Plasma lab	1976
39	7	Plasma lab	1976
39	8	Plasma lab documentation	7-8/1977
39	9	180-002 brackets and spacers, 1800-001 spool electronics, 930-001, 180-0004, 180-003,	8/1977
39	10	Space plasma lab test	9/1977
39	11	Chamber profiles 6in center floor/NW post	10/27-31/1977
39	12	Adaptation of chamber A for plasma physics tests	11/1977
39	13	LERC/ plasma interactions experiment	12/13/1977
39	14	Plasma lab notes	1977
40	1	Environmental interactions program pictures	1977
40	2	Plasma lab memorandums	1977
40	3	Plasma lab pictures and slides	1977
40	4	Data sheets	1977
40	5	Plasma environmental effects chamber experiment	1977
40	6	Photos plasma lab experiments	1977
40	8	Chamber experiment notes	1977
40	9	Chamber profiles mid floor, floor bottom center	10/13-1/11/1977
40	10	SPS notes	4/16/1978
40	11	Space plasma laboratory paper	7/1978
40	12	Space plasma simulation in a ground based laboratory drafts	8/14/1978
40	13	Current leakage paper notes	9/10/1978
40	14	Current leakage for low altitude satellites	1978
40	15	Low light sit camera	1978
40	16	Current leakage paper	7/19/1979
40	17	Current leakage paper with companion paper	7/22/1979
40	18	Current leakage paper companion paper	7/24/1979
40	19	Plasma lab communication	8/2/1979
40	20	Current leakage paper	8/1979

40	21	Chamber A historic	1979
41	1	Chamber instruments	1979
41	2	Current leakage paper correspondence	1979-80
41	3	Current leakage paper for AIAA book	2-3/1980
41	4	Spacecraft environment interactions investigation LERC program	3/4/19880
41	5	March April plasma test	3/12/1980
41	6	Chamber working notes	11/1977-5/1980
41	7	Plasma interactions with particle environment package	6/30/1980
41	8	Plasma lab report description	7/1980
41	9	Plasma lab papers and abstracts	7/1/1980
41	10	Spacecraft charging technology conference III presentation	7/1980
41	11	Correspondence chamber plasma	1/28/1981
41	12	Purchase requests	1981
41	13	Sheath space a 3d generalization of the child-Langmuir	1982
41	14	Vacuum chamber modification	1982
41	15	Sheath shapes a 3d generalization of the child-Langmuir	10/1982
41	15	Spectroscopic investigation of the species emitting diffuse light HBU	1982
42	1	Beam plasma discharge notebook	1982
42	2	Plasma gun lab notebook	1983
42	3	RTOP 1983 for 1984	1984
42	4	Area di Ricerca di Frascati data	1/1986
42	5	Plasma contactor for electrodynamic tether application	6/5/1986
42	6	Plasma lab	8-9/1986
42	7	Colorado state experiment	5/16/1986
42	8	Hollow cathode experiment	8-9/1988
42	9	Stepping motor for plasma chamber	5/11/1989
42	10	Steve Koontz plasma ion surface degradation	1990
42	11	Plasma lab notes data	
42	12	Plasma lab schedule plan	
42	13	High voltage spherical sheath potential profile	
42	14	Plasma lab chamber environment	
42	15	LLTV	
42	16	Solar panel model program	
43	1	Solar panel model 3d	
43	2	Plasma flow measurements in a simulated low earth orbit plasma	
43	3	Spacecraft charging papers notes	
43	4	Double layer Longmuir notes	
43	5	Plasma lab documentation	1977-1980
		Series 6: Hollow Cathode Plasma Bridge (HCPB)	
43	6	TSS-HCPB budget history	1984
43	7	HCPB information requests	9/23/1987
43	8	HCPB budget	1987-8
43	9	TSS-1 HCPB budget	1987-8
43	10	HCPB notes	5-7/1988
43	11	ESL report on TRW electrodynamic tether stability	6/16/1988
43	12	HCPB SRS contactor	7/1988
43	13	Safety compliance data package	11/1988
43	14	HCPB safety compliance data package	11/1988
43	15	Experimental requirement document HCPB	12/5/1988
43	16	HCPB #22	12/5/1988
43	17	Electrical section HCPB	12/30/1988
44	1	TSS HCPB PDR	1988

44	2	System requirements system schedule reports HCPB	1988
44	3	Drawings and schematics hollow cathode plasma bridge for TSS	1988
44	4	TSS HCPB	1988
44	5	HCPB	1988-9
44	6	Electrical drawings HCPB	1/20/1989
44	7	Charge 2b test invite	1/16/1989
44	8	HCPB command sequence electrical command processing	3/1989
44	9	HCPB command sequences	3/17/1989
44	10	TSS HCPB instrument interface agreement	4/1989
44	11	HCPB #24 general version plan	5/4/1989
44	12	HCPB #14d instrument requirement document	6/30/1989
45	1	HCPB #14f plan functional engineering unit and test results	1989
45	2	HCPB #15 list of open hardware PDR rid's 1989	1989
45	3	HCPB #14e operation and integration plan	1989
45	4	HCPB/HCA	1989
45	5	HCPB #20 measurement data	1989
45	6	HCPB #23 parts list	1989
45	7	HCPB activity	1989-1990
45	8	Active sketches PMG-d repackaging NEP	1990-1
45	9	PMG battery	1/19/1993
45	10	TAS PMG drawings	1991
45	11	Experimental investigation of the HCPB contacts	5/1991
45	12	PMG tether wire	5/13-14/1993
Series 7: Tethered Satellite System (TSS)-1			
46	1	IWG meetings TSS-1	4/1985
46	2	Presentation to TWG meeting 3 hollow cathode for TSS-1	4/13/1985
46	3	TSS-1 project reports 7/1985	
46	4	TSS IWG	9-10/1985
46	5	TSS-1 IWG meeting #3	10/9-11/1985
46	6	Payload specialist operation and integration plan TSS-1 experiment writing assignments	10-11/1985
46	7	TSS-1 charging	11/25/1985
46	8	TSS-1 IWG meeting #3	12/3-6/1985
46	9	TSS-1 working group	12/20/1985
46	10	Minimum of TSS-1 special issues meeting	5/23/1986
46	11	Adam Drobot from IWG-3 for TSS-1	1/10/1986
46	12	Assessment of the suitability of the HCA for TSS-1	1986
46	13	IFSI visit	11/14-17/1987
46	14	TSS-1 IWG meeting #6 MSFC	12/1987
46	15	IWG TSS-1 Italy	1987
46	16	TSS-1 proposed changes	3/15/1988
46	17	TSS-1 operational modes	3/27/1988
46	18	TSS-1 IWG#7	3/29-31/1988
46	19	Plasma release experiments in space with TSS-1	4/6/1988
46	20	TSS core equipment technical review document	5/9/1988
47	1	Core equipment TSS reports Carlo Gavazzi	5/31/1988
47	2	Minimum of TSS-1 IWG 8	6/6-8/1988
47	3	TSS-1 satellite surface treatment	7/15/1988
47	4	Tethered satellite system schedule status report	7/1988
47	5	Fax from Cralo alberti TSS-1 HCPB	7-9/1988
47	6	TSS submittal of documentation	9/27/1988
47	7	TSS safety	1989
47	8	Instrument interface agreement	4/1989
47	9	TSS-1	1987-9
47	10	TSS-r team members emails training exercise	1995

47	11	ELF experiment TSS-1r	1996
47	12	Tethered satellite system 1 reentry	2/1996
47	13	TSS-1r ground based measurement program VLF station procedure Mona island	2/10/1996
		Series 8: Spear	
48	1	Plasma and wave characteristics produced by hollow cathode discharges	1990
48	2	PMG flow current data notes	1990-1
48	3	Spear III diagrams	4-6/1991
48	4	Summary rationale for spear III HCPC	5/22/1991
48	5	Spear III preliminary design review	6/12/1991
48	6	Spear III preliminary design review package	5-6/1991
48	7	Spear III charged particle detector plasma contactor	6/1991
48	8	Spear III preliminary design review	6/12-14/1991
48	9	Spear III preliminary design review	6/12-14/1991
48	10	Memorandum of agreement for spear III experiment	1991
48	11	Spear III meeting midpoint design review	1/1992
48	12	HCA chamber data for Spear III	5/1992
48	13	Spear III critical design review at Utah state university	1-2/1992
48	14	Spear III high voltage power system performance	1992
48	15	DNA memorandum	1992-3
49	1	Spear III CDR	3/25/1993
49	2	Spear III post flight data review meeting	4/20-1/1993
49	3	Spear post flight data review meeting	4/20-1/1993
49	4	Spear III designs	
49	5	Spear III technical proposal	
49	6	Spear III solar cell system optical spectrometer component	
49	7	Spear III center for atmospheric and space sciences	
49	8	Spear III trajectory performance	
49	9	Spear III actions	1986-1992
49	10	LLTV spear panels	1986
49	11	Spear I	1986
49	12	Raitt S Rocket Sounding	3/1987
49	13	Space power experiment aboard rockets spear I design review	4/7-8/1987
49	14	Spear I	7/31/1987
49	15	RF emissions @ spear mockup testing Plumbrook	9/22-29/1987
49	16	Spear-1 ground observatory meeting	10/16/1987
49	17	High voltage spear 1 hardware test	11/11/1987
		Aurora observatory	
50	1	Space shuttle auroral observatory development plan	8/10/1971
50	2	Auroral observatory	10/27/1972
50	3	Research proposal auroral observatory objects and instrument requirements	2/1972
50	4	Reply to shuttle auroral observatory letter	1972
50	5	Design of auroral and magnetosphere observatory system	2/1973
50	6	Shuttle payloads	1973-1975
50	7	Low current testing of rectifier	5-6/2000
50	8	Auroral observatory paper	
50	9	36 th propulsion conference papers	7/17-19/2000
		Series 9: Variable Specific Impulse Magnetoplasma Rocket VASMIR	
50	10	VASMIR workshop	3/28/2001
50	11	VASMIR review panel	10/30/2002
50	12	VASMIR responses to peer review panel questions	11/14/2002
50	13	ICRF data email	2004
50	14	Photometric quantities unites and standards	

50	15	Spectroscopic measurements on VX-10	
50	16	VASMIR and near term plans presentation	
		Series 10: Lunar Sciences	
51	1	Notebook surface electric field detector	1966-9
51	2	Evidence for a high altitude distribution of lunar dust draft	4/29/1974
51	3	5 th lunar science conference streamers	1974
51	4	Evidence for a high altitude distribution of lunar dust	5/24/1974
51	5	Lunar remnant magnetic field mapping orbital observation mirrored electron	1974-5
51	6	Solar corona photo analysis for light scattering above lunar terminator	1975
51	7	Lunar surface remnant magnetic fields	4/1976
51	8	Photometric studies of light scattering above lunar terminator	6/3/1976
51	9	Abstract magnetic dike model for source of RIMA	1976
51	10	Lunar science 8	3/14-18/1977
51	11	Review of lunar dust observation form CZL photos notes	11/21/1990
51	12	Large scale lunar flow and a high altitude lunar dust drafts	1991
51	13	5 th lunar conference paper final draft and proofs	
51	14	Lunar dust paper reviews	
51	15	Volts/hertz graphs	
51	16	RIMA SIRSALIS	
51	17	Magnetic modeling of RIMA SIRSALIS	
51	18	Magnet model sea mounts	
52	1	Lunar surface electric field proposal with rice	1968-70
		Series 11: Generalized Tethered Object Simulation System (GTOSS)	
52	2	TOSS/GTOSS reference manual volume I	5/1/1985
52	3	PMG GTOSS and SOW	1986
52	4	Generalized threshold object simulation system GTOSS	
52	5	PMG GTOSS dynamic analyses	
		Series 12: Arecibo	
52	6	Arecibo data ELF	2/1986
52	7	Arecibo observatory trip	2/1-11/1986
52	8	Arecibo	1987
52	9	Arecibo	1988
52	10	Arecibo ELF experiment	1989
52	11	ELF experiment	
		Series 13: Travel	
53	1	Trips	1984
53	2	Travel	1985
53	3	Proceedings of the lunar and planetary science conference	1986
53	4	Travel	1987
53	5	Venice trip	10/6-8/1987
53	6	World space congress	1992
53	7	Travel approval	1993
53	8	Trip advisor report	4/21/1993
53	9	Travel request and authorization	1/1996
53	10	NASA employee performance communication system	1996-7
53	11	Boarding pass brochure	1997
53	12	Travel voucher trip report	
		Series 14: NASA Documents Non Mission Specific	
54	1	Travel voucher	1971-4
54	2	3 rd solar wind conference	1974
54	3	Trips	1982
54	4	June meeting travel orders voucher	1983
54	5	GSE data sheets	1965

54	6	Electron optics lectures	4-5/1967
54	7	High altitude ionization spikes observed by POGO ion chamber experiment for AGU	1968
54	8	Hollow cathode wave turbulence experiments	1968-88
54	9	US/UK polar satellite particle experiment proposal	4/30/1969
54	10	Electron gun design drawings	1969
54	11	Shuttle simulation	12/15/1969
54	13	Stellar evolution and nucleo system	
55	1	Purchase request	1970
55	2	Frederick j rich national research council NRC	1974
55	3	Mariner Jupiter study midterm review	3/6/1974
55	4	UCLA position	1974
55	5	Reprint requests USSR	1975-6
55	6	Faculty summer research fellowship Jim Sharber	1977
55	7	Standford study very low frequency depopulation of radiation belts	1977
55	8	NRC post doc's	1977
55	9	Magneto plasma dynamic thruster development	1978
55	10	McCoy opinion requested vxb power extraction sky hook	1978
55	11	Quality assurance support olan for the solar system exploration division	1978
55	12	Sky hook orbit boost	6/1977-7/1978
55	13	SPS space transportation scenario results	4/271/1979
55	14	Personal appointment	1980
55	15	3d space charge model for large high voltage satellites	1980
55	16	The peculiar case of soviet space objects	1982
55	17	50mhz radar notebook	1982
55	18	Lee parker communications	1982
55	19	Sahara radar profile	1983
55	20	Notebook space station CLPH plasms	1982-4
56	1	Get away special GAS reentering debris experiment	1984
56	2	Power management and distribution PMAD workshop	4/24-6/1984
56	3	Plasma experiment for space station	8/30/1984
56	4	Frederick s carper compliant about integrated computer system course taught by McCoy and his rebuttal	1984
56	5	Hitch hiker notes	1985
56	6	Peer review circuit transients due to negative bias arcs	1985
56	7	Biography	1985-95
56	8	HHG-1 mission debrief tether	1986
56	9	Critical velocity experiment(CRIT) radar	1986
56	10	Evaluation of oxygen interactions with material experiment	1986
56	11	NASA equipment management system transaction document	1986
56	12	Extreme violet explorer mission tether	1986-7
56	13	Quality provisions and commendation	9/8/1986-2/13/1987
56	14	Proposed investigation of plasma turbulence	1987
56	15	Get away tether experiment	9/14/1987
56	16	Plasma turbulence	1988
56	17	Environmental effects of space craft material	5/1988
56	18	SN monthly activity report	7/1988
56	19	Payload flight assignment NASA mixed flight	8/1988
56	20	SAIC	1988
56	21	Notes phone messages	1988-9
56	22	HF side band generation in the ionosphere	1989
56	23	Follow on lap experiment dealing with hollow cathode plan	3/22/1989
56	24	Solar system exploration division weekly activity summary	9/12/1990

56	25	Skylab	1991
56	26	University of Houston communication	1991
56	27	Data remote interface cable	1992
57	1	Alpha with Russian sequence	1993
57	2	Data from Frascati	10/13/1993
57	3	UH loan	1994
57	4	t-57205 naval post graduation school	1995
57	5	FPP verification protocols and responsibilities	3/20/2001
57	6	Alternate plasma emitter APE feasibility study presentation	3/20/2001
57	7	Diamond small x120	2002-2003
57	8	Columbia investigation	2003
57	9	Interferometer	2003
57	10	Time probe one shot	9/9/2003
57	11	Spread spectrum techniques	
57	12	Panel current distribution in following plasma	
57	13	Final report a computer model of solar panel plasma interaction	
57	14	Shuttle potential and return election experiment	
57	15	Hand written notes	
57	16	Correlate strip chard with July 3-5operation 53-pc	
57	17	Kinematic of rigid bodies	
57	18	MSC correspondence	1968-1972
57	19	Last vibration test at JSC	6/15 6/20 12/13
57	20	NASA documents	
57	21	NASA documents	
58	1	General correspondence 1968-1979	
58	2	Phased array notes	
58	3	High latitude ionization spikes observed by pogo ion chamber experiment	
58	4	Pictures	
58	5	Hand written notes	
		Series 15: McCoy Authored Publications	
58	6	Thesis drafts	1968
58	7	Thesis	
58	8	Thesis and reference materials	
58	9	Bibliographies	
59	1	Symposium of physics of the magnetosphere folder I	1968
59	2	Symposium on the physics of the magnetosphere folder II	1968
59	3	Thesis for JGR and AGU	1968
59	4	Lunar particle shadow and boundary layer paper	3/29/1969
59	5	Apollo 16 preliminary science report Apollo sub sat supporting studies I,II,III FPS	1970-1972
59	6	Solar wind interactions with the moon	9/6/1971
59	7	Plasma and energetic particles in the magneto tail at 60re	9/1973
59	8	Lunar particle shadow and boundary layer experiment final report	1974
59	9	Description of the lunar particle shadows boundary layer experiment	2/1/1974
59	10	Proposal lunar magnetic mapping from orbital electron data	2/11/1977
59	11	Hollow cathode coupling	1986
59	12	Plasma turbulence enhanced current collection	2/1/1995
		Related publications reports non McCoy authored	
60	1	Co rotation transition paper	1967-8
60	2	High voltage solar array study	3/1970

60	3	Scientific design of a manned aurora and magnetosphere observatory	2/1973
60	4	Spacelab tech summary of phase b studies presentation to NASA part I	3/18-22/1974
60	5	Satellite positive ion beam system final report	10/1978
60	6	USAF NASA spacecraft charging technology conference abstracts	1978
60	7	Orbiting tethers electrodynamic interactions	4/1979
60	8	Tethered satellite system facility requirements definition team report	4/1980
60	9	Hitch hiker Johnson space center	5/9/1983
60	10	Geodynamics branch annual report	1984
61	1	Announcement of opportunity TSS	4/15/1984
61	2	System description and payload accommodations handbook	5/1984
61	3	Proposal for a study of an electrodynamic tether system	1/26/1985
61	4	Payload integration plan space transportation system and hitchhiker g-2	9/20/1985
61	5	Generation of x rays and neutrons with a RF discharge	6/1986
61	6	Peer review for William j Webster	6/16/1986
61	7	Critical space technology needs for the tether applications	9/1986
61	8	Tethered satellite system capabilities	9/1986
61	9	System study of a 100kw electrodynamic tether	9/1986
61	10	The RETE and Temag experiments for the TSS missions	9/1986
61	11	Japanese concepts of tether applications	9/1986
61	12	Bridge to space plasma experiments in the future	1986
61	13	Electrodynamic tether system study status review	5/15/1986
61	14	NASA tether applications in space summer review part a	8/5-6/1987
61	15	NASA tether applications in space summer review part b	8/5-6/1987
62	1	Physics and associated spacecraft electrodynamic space plasma coupling	2/17/1988
62	2	Papers for comment space system environment interacts	7/7/1988
62	3	Final report metallized Kevlar space tether system	7/15/1988
62	4	Space power experiments aboard rockets	10/1988
62	5	Cosmic dust analyzer volume I	1989
62	6	Final report on NASA SBIR	12/1987
62	7	The definition of the low earth orbital environment and its effects	1987
62	8	Delta II tether dynamic explorer flight experiment	9/1987
62	9	TSS current study	6/1987
63	1	Papers for review	4/24/1989
63	2	Tethers in space handbook second addition	5/1989
63	3	Summary and principle recommendations of the advisory committee on the future of the us space program	12/10/1990
63	4	Delta follow on missions concepts	12/20/1990
63	5	Preliminary design review data package	6/3/1991
63	6	Program requirements doc SEDS	
63	7	6a EVA array feathering plan	3/20/2001
63	8	Appendix one scientific objective for atmospheric physics from amps	
63	9	Space shuttle payload design and development	
63	10	A design concept for the cluster satellites TRW	
63	11	Payload design requirements review PDRR overview	
Series 16: Martin Marietta			
64	1	TSS Safety Compliance Data (SCD) volume I deployer part I	9/1988
64	2	TSS SCD volume I payload design and ground operation	4/1989

64	3	TSS SCD phase II volume I payload design and ground operation	6/1989
64	4	TSS SCD data phase II volume I payload design and flight operation part II	9/1988
65	1	TSS SCD volume II satellite part I	9/1988
65	2	TSS SCD volume II satellite part III	9/1988
65	3	TSS SCD volume II satellite payload design and flight operations part I	4/1989
65	4	TSS SCD volume II satellite payload design and flight operations part II	4/1989
66	1	TSS SCD volume II payload design and ground operations	9/1989
66	2	TSS SCD volume III satellite	9/1988
66	3	TSS SCD volume IV	9/1988
66	4	TSS SCD volume V	9/1988
66	5	TSS SCD volume VI HCPB safety data package	9/1988
66	6	TSS payload data package annex one	8/1988
66	7	Integrated payload requirements	8/1988
66	8	TSS mass properties report	8/1988
66	9	TSS preliminary deployer verification plan	8/1988
66	10	TSS integrated payload generation breakdown	9/1988
66	11	TSS shuttle potential and return electron experiment	9/1988
66	12	TSS integrated payload configuration drawings	9/1988
66	13	TSS TV photographic integration requirement document	9/1988
66	14	TSS design and performance specification mission peculiar equipment	9/1988
66	15	TSS integrated payload verification plan Mission-001	9/1988
66	16	TSS electrical cable interconnect diagrams	9/1988
66	17	TSS usage agreements status summary	9/1988
66	18	TSS instrument interface agreement shuttle electrodynamic tether	9/1988
66	19	TSS mechanical interconnect diagrams	9/1988
66	20	TSS shuttle satellite system to shuttle electrodynamic tether	9/1988
67	1	TSS ground integration requirement document annex 8	9/1988
67	2	TSS material usage agreements	9/1988
67	3	TSS software requirements document	9/1988
67	4	TSS shuttle potential and return electron experiment	9/1988
67	5	TSS deployer safety critical structures data	9/1988
67	6	TSS materials usage list individual payload element developer data	9/1988
67	7	TSS integrated mechanical interconnect diagram	4/1989
67	8	TSS payload operation guidelines flight supplement	4/1989
67	9	Mass properties report	4/1989
67	10	TSS fracture control requirements and implementation	4/1989
67	11	TSS deployer operation and integration agreement O&IA	9/1988
67	12	TSS theory modeling in support of tether O&IA	9/1988
67	13	TSS theoretical and experimental investigation O&IA	9/1988
67	14	TSS investigation of electromagnetic emissions in TSS O&IA	9/1988
68	1	TSS observation at the earth's surface of EM emissions O&IA	9/1988
68	2	TSS HCPB O&IA	9/1988
68	3	TSS deployer core O&IA	9/1988
68	4	Deployer core O&IA	3/1989
68	5	TSS HCPB O&IA	4/1989
68	6	TSS volume II appendices O&IA	4/1989
68	7	TSS to satellite O&IA	4/1989
68	8	TSS to deployer core O&IA	4/1989
68	9	TSS schedule status report	6/1988

69	1	TSS schedule status report	8/1988
69	2	TSS schedule status report	9/1988
69	3	TSS schedule status report	10/1988
69	4	TSS schedule status report	11/1988
69	5	TSS schedule status report	1/1989
69	6	TSS schedule status report	2/1989
69	7	TSS schedule status report	4/1989
69	8	TSS schedule status report	5/1989
69	9	TSS schedule status report	6/1989
69	10	TSS schedule status report	8/1989
69	11	TSS schedule status report	11/1989
70	1	TSS system and subsystem analyses volume I system design	4/1989
70	2	TSS system and subsystem analyses volume II launch mission operation	4/1989
70	3	TSS system and subsystem analyses volume II command telemetry	4/1989
70	4	TSS system and subsystem analyses volume IV electrical	4/1989
70	5	TSS system and subsystem analyses volume V EMI EMC	4/1989
70	6	TSS system and subsystem analyses volume VI thermal	4/1989
70	7	TSS system and subsystem analyses volume VIII dynamics	4/1989
70	8	TSS system and subsystem analyses volume IX venting contamination	4/1989
		Series 17: Personal	
70	9	Assigning gap terms for geomagnetism and Aeronomy journal	1978-80
70	10	Pipe line leak consult	1994
71	1	Personal aircraft operating instructions	
71	2	Personal aircraft finances	
71	3	Personal aircraft	
71	4	Personal finance	
71	5	Sliding door	
71	6	Post flight testing	2/20/1993
71	7	Personal finance	
71	8	Funeral pamphlet	
71	9	Official personal folder left side	
71	10	Magnetometers for Petro Konsult	1994
		Series 18: Drawings/Plans (Oversized)	
72	1	Hollow cathode	
72	2	Plasma chamber	
72	3	SEDS (Small Expendable Deployer System)	
72	4	Base assembly	
72	5	Langmuir probes	
72	6	Manifold	
72	7	P2A assembly	
72	8	Bracket	
72	9	Connector	
72	10	Clamp	
73	1	NEP (Near End Package)	
73	2	Latch	
73	3	Layout, envelope, secondary payload	
73	4	Bench test, test fixture, heat test	
74	1	PMG (Plasma Motor Generator)	
74	2	FEP (Far End Package)	
74	3	FEP/NEP extension cable	
75	1	Spree support structure	
75	2	MPE HEX bonding block	
75	3	Adapter plate Dcore	

75	4	MPE Dcore tent bracket and FRM DTLS A	
75	5	MPRESS electrical adapter plate details	
75	6	Sets adapter plate assembly	
75	7	Adapter plate assembly	
75	8	Adapter plate Dcore 1	
75	9	MPE connector bracket	
75	10	PME EM detail CB104	
75	11	MPE Dcore plate adapter bracket detail	
75	12	PME EM detail CB103	
75	13	Adapter plate spree	
75	14	PME EM ground block	
75	15	Mission peculiar equipment layout	
75	16	PME EM detail CB100	
75	17	PME EM detail Freon panel	
76	1	Clamp assembly payload attach	
76	2	Science package separation assembly	
76	3	Adapter assembly science package	
76	4	S/C installation piggyback payload	
76	5	Strap assembly payload attach	
76	6	Mount assembly science package	
76	7	HCPB wiring diagrams	
77	1	McCoy PMG deploy;2	9/15/1993
77	2	McCoy PMG edit;2	9/3/1993
77	3	Langmuir probe ICD	
77	4	Chamber A variation	
77	5	Solar elongation angle paste up	
77	6	Solar elongation angle paste up NASA-S-76-10178	
77	7	Lunokhod-2, Severny et al	1973
77	8	Solar elongation angle paste up NASA-S-76-10173	
77A	OS	Hollow cathode inserts; unidentified non-functional equipment parts; GTOSS print outs	