

Michael K. Craddock fonds

Compiled by Syr Reifsteck (2017)



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Fonds Description

Michael K Craddock fonds. - 1958-2015.

42.15 m of textual records.

Biographical Sketch

Michael Craddock (1936-2015) was born in the United Kingdom. He received his bachelor's, master's and PHD from Oxford in the respective fields of mathematics, physics, and nuclear physics. Before coming to UBC's Physics department, he was also a scientific officer at Rutherford-Appleton Laboratory.

Once at UBC, Craddock was pivotal in the department's work to build a new accelerator at the UBC Campus – exploring many options, recommending designs, and managing the specifications. This work led to the 1968 federal approval of the TRIUMF proposal.

TRIUMF is a consortium, now featuring 20 member universities, originally started by Simon Fraser University, the University of British Columbia, and University of Victoria. Its original aim was to conduct research not possible by a single university in the area of nuclear physics. TRIUMF is located at the south campus of UBC in Vancouver.

For the first 10 years Craddock was TRIUMF's beam-dynamics group leader. He was at TRIUMF for 50 years, and spent 33 years as TRIUMF's head accelerator physicist, with various titles, before retiring in 2001. During that time, he was chief architect for TRIUMF's attempt to build the Kaon Factory project through acquiring federal funding for a suite of synchrotron-type proton accelerators. After failing to receive funding, Craddock worked projects related to the Large Hadron Collider accelerator injector chain at CERN. Throughout his career he supervised many graduate students, taught undergraduate and graduate courses, and was TRIUMF's Correspondent for the *CERN Courier*.

After retirement, he joined the Accelerator Development group at TRIUMF and worked on fixed-field alternating gradient accelerators (FFAGS) from 2004-2012, remaining a constant presence at the lab, organizing conferences, presenting introductory accelerator physics lectures, workshops and acting as TRIUMF's historian. At the end of his life he also made a financial gift to TRIUMF, establishing the Michael Craddock Fund for Accelerator students.

Scope and Content

The fonds consists of Craddock's professional papers in the form of textual records (including correspondence, reports, minutes, course materials, interviews), published

materials, technical research notes, presentation slides and reference materials. The records primarily chronicle Craddock's work and role at TRIUMF, particularly TRIUMF's attempt to build a Kaon Factory particle accelerator. Many other aspects of TRIUMF are documented in these papers including- administration, various committees, workshops, published reports and research, various particle physics projects, physics reference files, and collaborations with other organizations. Craddock's work on recording TRIUMF's origins and history is also represented.

Outside of Craddock's involvement with TRIUMF, other professional papers reflect his teaching career, talks, presentations, and correspondence with colleagues graduate students, and the public.

Notes

Donated to the University Archives by Craddock's family in 2017 after being stored in Craddock's offices at TRIUMF.

File list available.

Series Descriptions

Kaon Factory series. - 1971-2003.

2.67 m of textual records.

This series consists of records documenting TRIUMF's attempt to design, build, and fund the development of a Kaon Factory particle accelerator in Vancouver at the TRIUMF facility. Materials include meeting minutes, research, outside evaluations, fundraising campaigns, news clippings, physics research, finances, contracts, and notes.

Campaign and Promotions sub-series. – 1980-2003.

1.43 m of textual records.

This sub-series consists of letters and correspondence with various governments and organizations in pursuit of funding and support for the Kaon Factory. It also contains correspondence in favor of the accelerator, pamphlets and community outreach records, news-clippings and other materials produced in the course of trying to promote, fund, and actualize the accelerator.

Boxes 1-8

Logistics and Proposals sub-series. - 1971-2003.

1.24 m of textual records.

This sub-series consists of meeting minutes, design proposals, outside reports, consultations with other labs, financial considerations, budgets, and other research records related to the material design, financing and creation of the Kaon Factory.

Boxes 8-12

School, Coursework and Students series. - 1966-2015.

86.5 cm of textual records.

This series contains records related to Craddock's role at the University of British Columbia and as a teacher of various institutes and outside seminars. It includes course syllabi, slides and presentation materials, registration forms, and administration records related to graduate students.

Boxes 12-16

TRIUMF Steering, Review and Planning Committees series. - 1971-2003.

63 cm of textual records.

This series consists of the meeting notes, minutes, agendas and shared materials of various TRIUMF committees including the long range planning committee, the accelerator review committee, the steering committee and the computing committee.

Boxes 16-18

Conferences and Workshops series. - 1965-2013.

1.66 cm of textual records.

This series consists of records related to attending, planning, hosting and managing various conferences including various particle accelerators Conferences, Cyclotrons conference, SNOWMASS and others. It also includes records related to TRIUMF workshops for the public as well as those offered at scientific conferences.

Boxes 18-27

Talks and Related Materials series. - 1979-2014.

30 cm of textual records.

This series includes notes, slides, and presentation materials for talks Craddock gave at various conferences, workshops, and symposiums on various particle physics topics.

Boxes 27-28

Publications, Papers and Reports series. - 1958-2015.

1.02m of textual records.

This series consists of various publications, papers and reports either which Craddock contributed to or has contributions from other researchers associated with TRIUMF.

Boxes 29-31

TRIUMF Administration and Finances series. - 1968-2015.

1.34 cm of textual records.

This series includes records produced in the course of TRIUMF administration, particularly quarterly reports, cost analysis, budgets and financial records.

Boxes 31-36, [52](#)

TRIUMF Outreach, Promotions and Media series. - 1965-2015.

23.5 cm of textual records.

This series consists of TRIUMF outreach and promotion records including brochures, annual reports, interviews, and related correspondence.

Boxes 37

CERN series. - 1985-2008.

26 cm of textual records.

This series consists of records related to Craddock and TRIUMF's partnerships, correspondence, funding from, research published with and consultation with CERN, the European Organization for Nuclear Research.

Boxes 37-38

Collaboration series. - 1984-2013.

34 cm of textual records.

This Series consists of records related Craddock and TRIUMF's visits to and from as well as consultation with other physics facilities and accelerator programs. Records include programs, queries, research notes, and correspondence.

Boxes 38

Career series. - 1964-2003.

10 cm of textual records.

This series contains records of Craddock's career including CVs, resumes, and webpage print outs.

Boxes 39

TRIUMF History, Origin and Texts series. - 1975-2015.

42 cm of textual records.

This series contains records related to TRIUMF documenting its history – including Craddock's interviews with various key figures, drafts of and correspondence related to TRIUMF book, obituaries, and records of the TRIUMF Retiree's Association.

Boxes 39-41

TRIUMF Projects, Notes and Research series. - 1961-2013.

1.78 m of textual records.

This series consists of TRIUMF project documentation and planning other than the Kaon Factory accelerator. It includes handwritten research notes, research on planned projects, numbers generated by projects, and related records. Projects include FFAG, Courier, ISAC facilities for rare isotope beams (particularly EMMA), and other cyclotron related experiments.

Boxes 41-47

Correspondence series. - 1966-2014.

88 cm of textual records.

This series consists of Craddock's correspondence with other physicists, students, friends and organizations.

Boxes 47-51

File List

KAON FACTORY SERIES

Campaign And Promotions Sub-Series

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- 1-1 Letter to PM 1988
- 1-2 Thank You PM 1991
- 1-3 Access Payments 1990
- 1-4 Klohn Leonoff 1990
- 1-5 J Phy's Letter
- 1-6 Rally Sept 24
- 1-7 Rally Attendees
- 1-8 Presentation/Press Conference 1990
- 1-9 Kaon Press Releases 1989
- 1-10 Replies 1992
- 1-11 K Campbell 1993
- 1-12 May 28 Announcement 1992
- 1-13 News Releases Sept 20
- 1-14 Press Release Ottawa 5/90
- 1-15 Campaign 1992
- 1-16 Political Letters 1991
- 1-17 Kaon Manpower 1988-1991
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- 1-21 EHF Contacts
- 1-22 Friends of K Letters 1990
- 1-23 Kaon PR 1990
- 1-24 KAON Cancellation 1994
- 1-25 KAON Factory participation summary [finances]
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- 1-27 Letter Writers

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- 2-3 [Press on KF] 1987-1988
- 2-4 KAON Campaign 1984-1985
- 2-5 KAON Factory Exec Committee 1983-1989
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- 2-7 KAON Committee
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- 2-10 KF 1987 Support Letters
- 2-11 March 12th Celebration

BOX 3

- 3-1 KAON Campaign 1987

BOX 4

- 4-1 KAON Campaign 1989
- 4-2 Prime Minister Kaifu's Visit 1989
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- 6-53 A Review of the Technology Commercialization Potential fro Triumf-KAON
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19-48 All union conference 90
19-49 Accelerator WS Program
19-50 epac abstracts

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20-1 Accelerator Control Conference 89
20-2 SSC Leb workshop 89
20-3 International HE accel. conference japan 89
20-4 japan abstracts
20-5 iee pac 89 abstract

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21-1 pac org comm
21-2 APS Abstracts
21-3 Los Alamos Workshop 88
21-4 Nov Workshop
21-5 PPAC 91
21-6 Visitors
21-7 Post222324

21-8 Pac local committee reports
21-9 PAC thanks
21-10 PAC congrats
21-11 PAC proc first pag
21-12 PAC current
21-13 PAC org comm may 85
21-14 PAC program committee intl cyclotron conf org committee
21-15 "particle acclerators" tues room 203
21-16 charged particle optics conference committee
21-17 linac 86 advisory committee
21-18 PAC organizing committee
21-19 reception
21-20 PAC posters
21-21 PAC speakers
21-22 PAC social
21-23 PAC companions
21-24 PAC local minutes
21-25 PAC local arrangements
21-26 PAC withrdawn papers

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22-1 PAC post deadline papers
22-2 pate papers
22-3 PAC aps abstracts
22-4 PAC budget update
22-5 PAC ministers
22-6 prog committee 2nd meeting prog ctte lists
22-7 chairmen
22-8 PAC contributed papers
22-9 PAC invitations to speakers
22-10 PAC 85 limited speakers
22-11 PAC prog comm other confgs
22-12 laser accelerators
22-13 PAC prog cttee denver arrangements
22-14 PAC program cottee members
22-15 PAC Publicity 1985 [particle accelerator conference]
22-16 2nd Call for Papers 1983
22-17 PAC Invitations 1984-1985
22-18 First Call 1984

- 22-19 PAC – Requests for Info, Travel Expenses,, etc 1984-85
- 22-20 China 1985
- 22-21 USSR 1985
- 22-22 Org Com 84 Members
- 22-23 Documents for Pac Org 1984
- 22-24 1985 Particle Accelerator Conference 1984-85

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- 23-1 PAC-Historical 1982-83
- 23-2 PAC Organizing Committee 1982
- 23-3 Calls for Papers 81/83
- 23-4 IEEE 83 Prog Committee
- 23-5 Oct 1980 Particle Accelerator Conference 1981
- 23-6 Particle Accelerator Conference 81 May 1980
- 23-7 TRIUMF Diaspora 1986
- 23-8 KF Magnet Workshop 1988 [2 folders]
- 23-9 Workshop on Intensity Frontier Physics 1989 **box 23**
- 23-10 FFAG Talks: FFAG 2003, FFAG 2004, FFAG 2005, PAC'05

BOX 24

- 24-1 KAON Beam Dynamics [workshop]
- 24-2 Cyc -'04 [Conference Summary] [2 folders]
- 24-3 Snowmass '88 Summary + KF
- 24-4 FFAG '15 box 24
- 24-5 PAC Local Committee 1997
- 24-6 Late Papers 1997 [pac]
- 24-7 PAC-Thanks 1997
- 24-8 Copyright 1997
- 24-9 PAC Preparations 1997
- 24-10 Report: Appendices 1997
- 24-11 PAC Report Extras 1997
- 24-12 PAC Report – Integrated 1997
- 24-13 PAC Budget 2000

BOX 25

- 25-1 PAC – Financial Report 99
- 25-2 PAC Parasite Meetings 1997

- 25-3 PAC Help 1997
- 25-4 PAC Enquires 1997-1999
- 25-5 PAC Booklet 1997
- 25-6 PAC Pub Web 1997-2000
- 25-7 PAC – Bulletin of APS 1997

BOX 26

- 26-1 Problem Abstracts 1997
- 26-2 PAC Posters 1997
- 26-3 PAC – APS Meeting Notes 1997
- 26-4 Special Invited 1997
- 26-5 Session Chairmen 1997
- 26-6 PAC Sessions 1997
- 26-7 PAC Org Meeting May 97
- 26-8 PAC Organizng Committee 5/96-11/96
- 26-9 PAC 07 Org Com May 96
- 26-10 PAC OC Docket 5/96
- 26-11 PAC Docket 1/96
- 26-12 PAC 97 Org Committee Jan 1996
- 26-13 IUPAP 96
- 26-14 PAC Prog Committee 1996
- 26-15 PAC Prog Committee Pre-May
- 26-16 PAC Prog Committee J. Cary
- 26-17 PAC Prog Committee 1/97
- 26-18 PAC Overheads '85
- 26-19 1987 Particle Accerlator Conference Organizing Committee 1986
- 26-20 PAC '85 Program Committee
- 26-21 PAC '99 Prog. Cttee.
- 26-22 PAC '97 [2 folders]
- 26-23 PAC '97 Budget + Reg
- 26-24 CYCLOTRONS10
- 26-25 FFAG 2011

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- 27-1 ICFA Beam Dynamics Panel 1990

27-2 ANL [Argonne National Lab]
27-3 NSERC CMRF Talks
27-4 ICANS 12 talk
27-5 ERICE-Talk 2009
27-6 FFAG '08 Intro
27-7 FFAG '08 Orbit Tracking Talk
27-8 ICFA Beam Dynamics FFAG 2007
27-9 Reverse BENDS PAC '09
27-10 Fermilab Talk 4/05
27-11 CYC '04 Summary Talk
27-12 FFAG '03 Talk
27-13 Blosser Talk 1958
27-14 Talk Pyscholotron Cyclotron – what's in a name?
27-15 FFAG' 13 TALK
27-16 Psi Talk 2014 (An external view of the psi proton accelerator)
27-17 CAP Talk 2014 (Canadian Association of Physicists)
27-18 CAP Memorial Session 2014
27-19 EWV Talk at Los Alamos 2011
27-20 Brain Boost 2011
27-21 CYC'LO History Talk 2010
27-22 Nishina Talk 2011
27-23 FFAG '09 Talks
27-24 TUG Talks December 09
27-25 CYc'07/PAC'07 Slides
27-26 PAC Poster
27-27 K+p factories talk 1979
27-28 Kaon and Antiproton factories 1979 abstract
27-29 Polarization Conference Diagrams for Base Talk
27-30 Poster Session
27-31 Washington Illustrations
27-32 Western Regional Nuclear Conference 1969
27-33 Tokyo Talk and Papers 86
27-34 Can Accelerator Conference 86
27-35 Moscow Paper
27-36 poster-mag form
27-37 lampf town meeting talks
27-38 jpapan apr 89 overview
27-39 phys soc talk mar 89
27-40 mkc's paper chicago 89

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- 28-1 mag workshop paper
- 28-2 cost v e snowmass
- 28-3 cap 88
- 28-4 Depolarizaiton talks
- 28-5 Cyclotron Talks 1998
- 28-6 SNOWMASS '88 Summary Talks [2 folders]
- 28-7 Talks 2014

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- 29-1 RPAC Paper 1994
- 29-2 RPAC LEAVE 1994
- 29-3 ICAN Summer Paper
- 29-4 ICANS XI Paper
- 29-5 CYC 92 Paper
- 29-6 Final PDS Report
- 29-7 PDS PERTS
- 29-8 Racetrack D Lattice 1988 [paper]
- 29-9 Beam Instabilities [paper]
- 29-10 Neutrons [paper]
- 29-11 ENV^L Study 1989
- 29-12 CERN PAPERS
- 29-13 EPAC 08 Paper
- 29-14 CYC '07 Paper
- 29-15 PAC ' 07 Paper
- 29-16 EPAC 06 Paper
- 29-17 EPAC 06 Paper Background
- 29-18 CYC'04 Summary Paper
- 29-19 EPAC '04 FFAG Paper
- 29-20 PAC'03 Paper
- 29-21 IPNS papers
- 29-22 CYC 01 Paper
- 29-23 MCGH Encyclopedia 2003
- 29-24 1st Beam Distribution 2000
- 29-25 First Beam Paper 2000

29-26 IPNS Report
29-27 EMMA Acell Paper [Electron Model for Many Applications] 2011
29-28 EMMA Paper 5/2010
29-29 EMMA Paper – Referees
29-30 EMMA Paper – Current
29-31 Paper-PAC '03
29-32 Cyclotron Paper 2013
29-33 HyperTime Interactions 2014
29-34 CYCTO Paper FFAG 2009
29-35 Nishina Paper 2012
29-36 IPAC10 Paper
29-37 Emma-NIM Paper 2010
29-38 McGraw Hill 2010
29-39 MGrwHill Access Science
29-40 Accel H'Book FFAG 2010
29-41 Accel Cyclyotron Handbook 2010
29-42 Accel Handbook Strippers
29-43 Accel Handbook 2006
29-44 Rast 7 [Review of Accelerator Science and Technology] 2014
29-45 H Stripping RAST 6
29-46 RAST v6
29-47 RAST v5
29-48 RAST v4
29-49 RAST v3
29-50 RAST v2 Medical Cyclotrons
29-51 RAST General v2
29-52 RAST cycFFAG [Fixed Field Alternating-Gradient Accelerators]
29-53 RAST Resources
29-54 RAST General
29-55 RAST Editors
29-56 RAST Poster
29-57 EMMA GOBLIN 2010
29-58 FFAGS – COMMERCIAL 2014
29-59 EMMA-KEIL Comparison 2010
29-60 REES NON ISOC FFAG 2010

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30-1 PAC Pollinator Paper 97
30-2 7-37 IPNS Report [Intense pulsed neutron source] 1997

30-3 EPAC Paper
30-4 Injector
30-5 Rings
30-6 PAC Paper
30-7 PAC'99 Optics Paper
30-8 PAC '99 Error Paper
30-9 M3U Report 199
30-10 Momentum Col. Paper 1999
30-11 Hicyc's paper 98
30-12 LAMMF Paper 88
30-13 TRIUMF Papers 88
30-14 Various TRIUMF member publications 1968-1992
30-15 Book Review: Physics in Canada 1989
30-16 Nature Gaulets
30-17 BC Engineer- The Orbiting Ion Beam
30-18 Theory of the Lamb Shift Polarized Ion Source 1972
30-19 Ellipse Matching with Doublet or Triplet thin quadrupole lenses 1968
30-20 Publications on other cyclotrons
30-21 HESC Cyclotron Paper 81
30-22 CAEN report
30-23 CAEN Depolⁿ Paper 1981
30-24 Washington Paper
30-25 Geneva K Paper 1980
30-26 LAMPF Report 1979
30-27 66 Other SF Papers 1979
30-28 SF Beam Paper 1979
30-29 Houston Paper 79
30-30 KAOn Paper 1978
30-31 BEAM Paper 1978
30-32 Intenstiy Paper
30-33 Uppsala Notes
30-34 Chicago Papers
30-35 Beam Paper
30-36 Chicago Gen Paper
30-37 Phase Acceptance [paper]
30-38 Dees Misalignment [paper]
30-39 Central Region Orbit Dynamics in the TRIUMF Cyclotron
30-40 Cyclotrons Papers 1969
30-41 Rarified Gas Dynamics
30-42 Van de graaff

- 30-43 Pol³ He⁺ Paper
- 30-44 Review of Scientific Instruments 1972
- 30-45 [Lauval Nozzle] 1968

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- 31-1 Wash Review Paper
- 31-2 SFE Paper
- 31-3 Pitlochry corrections
- 31-4 Pitlorchy xerox
- 31-5 Pac 91 Paper 91
- 31-6 Iche acel tsuknnka paper
- 31-7 Rome paper
- 31-8 Gordon + Marti R-0 Coupling
- 31-9 Kendrew Report 1985
- 31-10 Temple Report 1992
- 31-11 Craddock Publications 190-1975
- 31-12 RAST v 8 2015
- 31-13 RAST UBC+TRIUMF 2008
- 31-14 Baumgarten 2013 [papers]
- 31-15 UBC Poster 2013 [first beam article poster]
- 31-16 TRIUMF Publications Database 2012
- 31-17 *The Nuclear Interactions of High Energy Particles* 1964
- 31-18 TRIUMF Proposals, etc 1958-2011
- 31-19 Originals of Papers [2 folders]
- 31-20 RAST Manitoba
- 31-21 RAST CLS 2015
- 31-22 RAST SASKATOON
- 31-23 RAST UwO
- 31-24 RAST Alberta 2015
- 31-25 RAST AECL Laser 1999
- 31-26 RAST AECL Electrons 2015
- 31-27 RAST AECL Hi Protons 2015
- 31-28 RAST AECL SCC
- 31-29 AECL-RAST Tandem
- 31-30 RAST AECL 2015
- 31-31 RAST NRC 2015
- 31-32 A Form Smashing /McGill 2015
- 31-33 RAST QUEEN's 2015
- 31-34 RAST Toronto 2015

- 31-35 RAST INRS [near montreal] 2006
- 31-36 RAST CAP

TRIUMF ADMINISTRATION AND FINANCES SERIES

- 31-37 5 year plan 90
- 31-38 TRIME Infrastructure Support / RAL 90
- 31-39 Ottawa NSERC Materials Reg Free 10/93
- 31-40 ABOT 5 year plan 90
- 31-41 American Physics Society Physics Beams 1990-2105
- 31-42 Ann Rep 08-9
- 31-43 5 Year Plan 2005-2010
- 31-44 UBC PHAST WEB Group 2003
- 31-45 UBC SUBAT[Sub Atomic Site Visit] 2003
- 31-46 Reorg 1994
- 31-47 Reorg 1994
- 31-48 Engineering Division 92
- 31-49 New Positions 92
- 31-50 5 YEAR PLAN 2005-2010
- 31-51 6 year schedule 1994
- 31-52 Cost Update 93
- 31-53 Q Report 96
- 31-54 Q Report 96
- 31-55 Quarterly Report Forms 1986
- 31-56 Quaterly Report Forms 1982
- 31-57 Five Year Plan 2000-2005
- 31-58 DPB Exec 98
- 31-59 Div Heads 1993
- 31-60 Division Heads Meeting 1993
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- 31-65 5 year plan [1989-1994] 1988
- 31-66 TRIUMF Funding 66-94
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- 31-68 Employment and immigration Canada Information 1979
- 31-69 Computer Facility 9885 73-74
- 31-70 ORB DYN 9864 (73-74) Orbit Dynamics Budget

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- 31-72 9885 (72-73) computer facilities budget
- 31-73 Costs 68-73

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- 32-2 TRICCS Replies 1977
- 32-3 TRIUMF Specs 1969-198
- 32-4 Commissioning 1974
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- 33-15 quarterly progress reports 82/3 7
- 33-16 quarterly report 2-82 7
- 33-17 quarterly report 1/82 7
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- 33-19 quarterly report 3/81 7
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- 34-1 Accounts [Budgets + requisitions] 2011
- 34-2 Budget 2001-2
- 34-3 TRIUMF Reorganization 2005
- 34-4 5 year plan BD
- 34-5 Budget

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- 35-1 Progress Reports 74 [on TRIUMF]

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- 36-1 K Lacey costing
- 36-2 magnet costs
- 36-3 K factory cash flow
- 36-4 kf operating costs
- 36-5 synchrotron costs
- 36-6 synch magnet costs 7
- 36-7 KFP [costs]
- 36-8 Stewart eba 7
- 36-9 Progress Report 1983
- 36-10 Lists Visiting Scientists 1985-1987 [at triumph]
- 36-11 Quarterly Progress Summaries 1980
- 36-12 Quarterly Progress Summaries 1981
- 36-13 Quarterly Progress Summaries 1982
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- 36-18 Quarterly Progress Summaries 1987
- 36-19 Monthly Progress Reports and Quarterly Reports 1977
- 36-20 Monthly Progress Reports and Quarterly Reports 1978
- 36-21 Monthly Progress Reports and Quarterly Reports 1979
- 36-22 Monthly and Quarterly Reports Beam Dynamics + Accelerator Research 1968-1980

- 36-23 Monthly and Quarterly Reports Beam Dynamics + Accelerator Research 1981-1984
- 36-24 Monthly and Quarterly Reports Beam Dynamics + Accelerator Research 1985-1988
- 36-25 RAC review of Triumf 1994 [2 folders]
- 36-26 Library Discards 2015
- 36-27 Office 2011-2013 [literal office space]
- 36-28 5 Year Plan 2015-2020
- 36-29 Public Enquires 2011

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TRIUMF OUTREACH PROMOTIONS AND MEDIA SERIES

- 37-1 Scientists in Schools 1989
- 37-2 UBC Speaker's Bureau
- 37-3 ICFA Newsletter 91
- 37-4 TUEC AGM 1994
- 37-5 TR 65 Newsletter
- 37-6 Nature Cover
- 37-7 EMMA-Proofs
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- 37-9 1965
- 37-10 IEEE Press 1996
- 37-11 Ann Rep 94
- 37-12 Annual Report 93
- 37-13 Annual Report 96
- 37-14 Annual Report 95
- 37-15 Press Release + Responses 95
- 37-16 Ann Rep 98
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- 37-19 Press Cuttings 1979
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- 37-22 May 1965 Tour
- 37-23 NRC BROCHURE

- 37-24 Summer Visitors
- 37-25 Visitors 88
- 37-26 Visitors 86
- 37-27 Bao Visit
- 37-28 annual report 82 8
- 37-29 annual report 1979 8
- 37-30 Cuttings II 1988-1990
- 37-31 Cuttings 1988-1990
- 37-32 Measday 2015 [dead, obit]
- 37-33 John Fraser 2015 [obit]
- 37-34 TRIUMF Tours 2015
- 37-35 Tour Guide 2004
- 37-36 APS/DPB Brochure [Dision of physics of beams of the American physical society] 2013
- 37-37 Pryce 2011 [obit]
- 37-38 Stafford 2013 [obit]
- 37-39 Tour Guide 2009
- 37-40 TRIUMF Notes + Memos 1965-66 Newsletters 1968-74 [2 folders]

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- 37-41 CERN COURIER Delivery

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- 38-1 Courier TRUMF/CERN Collab 1998
- 38-2 Courier Particle Accelerator Conference 1996-1998
- 38-3 CERN/TRIUMF Publication
- 38-4 Courier-CSB 2003
- 38-5 CERN-PS/PSB 1999
- 38-6 CERN Task Sheets + Agreements 1996
- 38-7 CERN Tasks 2004
- 38-8 CERN Tasks 6 Since 1998
- 38-9 CERN Tasks 6 to 1997
- 38-10 TASK 7 1998-2000
- 38-11 CERN Cooperation Committee 1997
- 38-12 CERN Early Memos 1995
- 38-13 CERN Collab 95
- 38-14 CERN REF 94

38-15 CERN LHC 94
38-16 CERN 94
38-17 CERN TALKS 94
38-18 CERN October 95
38-19 TRUMF CERN Collab Meeting 95
38-20 Economic Spin off from CERN CERN Courier Jan/Feb 85
38-21 CERN Courier Industrial Impact Nov 85
38-22 CERN Visitors
38-23 CERN User Stats 1991
38-24 CERN CollabN General 2008
38-25 CERN – TRIUMF COLLab Minutes 1997-2001
38-26 IR3 + IR7 2002
38-27 CERN TASK1 -06 1/01
38-28 CERN PDR Z 2000
38-29 CERN-TAQ 1998-2001
38-30 CERN LHC Start UP 2008

COLLABORATION SERIES

38-31 Canada-SSC Oct 90
38-32 LHC-CERN Visit 10/90
38-33 LHC Workshop 4/91
38-34 LHC TECH Reports 1991
38-35 IPP (SSC/CERN/B Report) 1991
38-36 LEP '91 [large collider]
38-37 RAL Collaboration
38-38 Bulgaria Collab 1991
38-39 Poland
38-40 Sachay Exchange 1990
38-41 Russian Collab
38-42 SAL Proposal 1996 [Sask. Accelerator]
38-43 Report SAL 1994
38-44 JHF Talk [Japan Hadron Facility]
38-45 JHF 12/98
38-46 JHF Technical
38-47 JHF Notes/Report
38-48 JHF Collaboration
38-49 LANL info [Los Alamos Meson Physics Facility 88]
38-50 Oak Ridge National Laboratory

- 38-51 General AGOR news 93
- 38-52 MSU Michigan State University 1988
- 38-53 SSC lab 12/89
- 38-54 Codes los alamos jan 90
- 38-55 Sofia U
- 38-56 EHF Rome
- 38-57 Italy EHF 98
- 38-58 Trip Reports 1983
- 38-59 European Hadron Facility Chap. 12 1987
- 38-60 Superconducting Super Collidor 1984-1991
- 38-61 SSC Cyclotron 1989
- 38-62 SSC-RF 1990
- 38-63 SSC-Info on BC 1987
- 38-64 LampF II Review 86 [Los Alamos Medium Energy Physics]
- 38-65 LampF II Committee Report 1984

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- 39-1 LampF Talks August 1984
- 39-2 LampF II Linac 1984-1985
- 39-3 LampF Lether 4/93
- 39-4 HERA 1987-91
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- 39-6 Oxford Internships 2014
- 39-7 FFAG-KURRI Collaboration 2013
- 39-8 US-UK FFAG R&D 2012
- 39-9 LHC Meeting 2004

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- 39-10 Retirement 2002
- 39-11 Sabbatical 98-9
- 39-12 MVC Web Page 2003
- 39-13 Web Page 2008
- 39-14 Appointment at UBC 1964
- 39-15 CV – Current 2001
- 39-16 CVs – Old
- 39-17 Personal [cover letters for Craddock]

TRIUMF HISTORY, ORIGIN AND TEXTS SERIES

- 39-18 TRGB Reunion 2006
- 39-19 TRIUMF 1965 Anniversary
- 39-20 Physics in Canada 2014
- 39-21 TRIUMF-IERE Milestone 2010
- 39-22 TRIUMF Retiree's Alumni Association
- 39-23 Open House Invitations 2009
- 39-24 TRIUMF Plaque 2009
- 39-25 TOCC 2009 TRIUMF Outreach and communications committee
- 39-26 Image Gallery 2009
- 39-27 Monument 2009
- 39-28 TRIUMF LOGO
- 39-29 UBC PHAST TIMELINE 2011
- 39-30 TRIUMF Milestones 2010
- 39-31 EW Early History of TRIUMF 2003
- 39-32 TRIUMF History 2014
- 39-33 Reg Physics in Canada 1999
- 39-34 TRIUMF Review Report
- 39-35 TRIUMF Volume 1 Management Control History and Evaluation 1976
- 39-36 TRIUMF Official Opening 1975
- 39-37 [TRIUMF 40th Anniversary materials 2009]
- 39-38 TRIUMF History 2009
- 39-39 The TRIUMF Project: A Report Prepared by the TRIUMF Study Group 1966
- 39-40 TRIUMF Timelines, Promotion Materials, Ephemera,
- 39-41 TRIUMF Proposals
- 39-42 Early TRIUMF Correspondence e.g Direction selection, 1874-1975
- 39-43 [TRIUMF Book Correspondence] 2001

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- 40-1 Bromley Book Contributions 2001
- 40-2 [Bromley Feedback on Draft 2001]
- 40-3 Bromley: From West to the Whitehouse
- 40-4 Bromley 1993 [2 folders]
- 40-5 Post222324
- 40-6 TRIUMF Diaspora 1986

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- 41-1 Henry Blosser 75
- 41-2 Interview 2005
- 41-3 Lorna 2015
- 41-4 Karl Erdman 2015
- 41-5 UBC Science History 2015
- 41-6 TRIUMF History – Webpages 2015 [emails about]
- 41-7 (Still River) Mevion 2013
- 41-8 Vogt 2015 [interviews]
- 41-9 Vogt Tributes

TRIUMF PROJECTS, NOTES AND RESEARCH SERIES

- 41-10 Beam Transfer 1993
- 41-11 A Injection Insertion 1990
- 41-12 45 Gev [a piece of notebook paper with equations]
- 41-13 Magnet Apertures
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- 41-15 A-B-C Synchronization

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- 42-1 Courier ISAC , FIRST Beam, IOMA 1999
- 42-2 MUON Kicker 1999
- 42-3 Courier & Misc 2003
- 42-4 Courier – FFAG 2004
- 42-5 LHC Kicker 2006
- 42-6 Courier – 5 Year Plan 2004
- 42-7 Courier West Grid 2004
- 42-8 Courier LHC Quads 02004
- 42-9 Courier – Gcampbell 2003
- 42-10 Courier Change Symmetry Breaking 2003
- 42-11 Courier Hi Speed Data Xchange 2003
- 42-12 Courier TRIUMF REVIEW 2003
- 42-13 Courier / Thin Quad 2002
- 42-14 Courier-Gillies Visit 2001
- 42-15 Isotope Separator and Accelerator For Courier 2001
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43-1 Safety Radiation and Shielding 1966-1973
43-2 Safety 1968-1982
43-3 Radiation and SHielding 1961-1980
43-4 H⁰ Beam Blockers 1985-1986
43-5 Radiation Dose & Health 1979-1986
43-6 Emittance Determination 1981
43-7 Superconducting Magnet Technology 1972
43-8 Beam Line Optics 1961-1970
43-9 Beam Lines Techie 1968-1970
43-10 BL1 1980-1989 Beamline 1a
43-11 BL1 Optics 1988
43-12 Double Beam 1981-1982
43-13 Peanuts. Line 81-87
43-14 BL 1C
43-15 BL 2A 80-86
43-16 Low Energy Extraction 1987
43-17 BL4A
43-18 Long Pol^N 4R Longitudinally Polarized Proton Beams 1988
43-19 BL 4P 1980
43-20 16-22 BL5 1982
43-21 BL4B 1982-1987
43-22 M8 Upgrade Magnet Upgrades 1983
43-23 M8 1982-1986
43-24 M9 1977-1979
43-25 M11 1979-1985
43-26 T2 Upgrade
43-27 SC M Channel Solienoid Channel 1985
43-28 M13 1981
43-29 M15 1985
43-30 M20 Muon Channel
43-31 Misc Channels
43-32 RF Separator 1976 -1982
43-33 u channel 1978-1980
43-34 Lobb Channel 1980
43-35 Los Alamos Notes
43-36 HRS 1980-1982 High Resolution Studies

- 43-37 Spectrometers 1971-1976
- 43-38 PION Spectrometers 1981
- 43-39 MRS Computer 1973-1977 Medium Resolution Spectrometer
- 43-40 Scintillation Counter Service 1980
- 43-41 TPC Time Projection Chamber 1978
- 43-42 EQPT + Instrument 1972-1977
- 43-43 Targets 1984
- 43-44 Polarized Targets 1982
- 43-45 Exptl evaluation 1976-1979
- 43-46 a bibliography and summary of data for P, pi reaction: $p + a \rightarrow \pi + (A+1)$
- 43-47 proton-proton bremsstrahlung at 200 MeV 1980

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- 44-1 EMMA – Acceleration 3/2011
- 44-2 EMMA-Upgrade 12/3/10
- 44-3 EMMA 11+18/Nov 2010
- 44-4 EMMA Commissioning 2010
- 44-5 EMMA in MAD-X and Comparison with Other Programs June 2010
- 44-6 EMMA 18/310 (correspondence, meeting materials)
- 44-7 EMMA 4/7 Commissioning (Meeting material, wiki, whatever)
- 44-8 EMMA 24/1/08 Simulation of the injection section into EMMA using Zgoub,
meeting, meeting materials
- 44-9 EMMA Collab-Mas June 19 June 24
- 44-10 EMMA April 07-May 07
- 44-11 EMMA 13 March 07
- 44-12 EMMA May 06
- 44-13 Eng Physics Project Lab 2014
- 44-14 Magnet Opera Poisson 2012
- 44-15 EMMA BFIELD 2009
- 44-16 EMMA 2 GOUBI 2012
- 44-17 NSFFAG Theory
- 44-18 FFAG recent 2009
- 44-19 CYCLOPS Radial Sectors Sep 07
- 44-20 Radial Sectors Matrix
- 44-21 Synchrotron Research Memo 1991
- 44-22 Formula for finding energy level of upsilon particles
- 44-23 Unified Theory of Elementary Particle Forces 1980
- 44-24 High Energy Scattering 1962
- 44-25 Sub Symmetry and Particle Physics 1964

44-26 Unitary Symmetry 1963
44-27 Maglih-Migma 1987
44-28 Physics Rev 1994
44-29 Particle Accelerators Shapiro 1970
44-30 Gao's New Cyclotron 1987-1991
44-31 Particle Accelerators Fall '88
44-32 Keeven '88
44-33 "Particle Accelerators" 1978-1987
44-34 Photo Ionization
44-35 H Ions 1980
44-36 Gas Stripping Data 1999
44-37 Instruction Manual 1974
44-38 Multiple Scattering
44-39 Polarized H⁻ vs H⁰ + Cs⁰
44-40 LASL Polarized Source
44-41 Optically Pumped Polarized Source
44-42 Polarized Ion Source
44-43 ISIS Task Force
44-44 Space Charge Effects
44-45 3rd Ion Source Terminal
44-46 Beam Requirements

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45-1 Basque 1971-1988
45-2 Nuc. Chem. 1979-1982
45-3 P, pi 78
45-4 Alberta 77
45-5 Charge Symmetry Breaking 81
45-6 mu fission 1981
45-7 T scattering 1983
45-8 TPC Time Projection Chamber 1981-1982
45-9 Mu → eV
45-10 T thing to ev
45-11 V_m Mass 1975
45-12 Radiative Capture in P 1983
45-13 TINA 1980
45-14 mu SR 1982
45-15 Mu - and T - X-Rys 1980-1983
45-16 M8 Biomed 1976-1985

45-17 Applied Programme 84
45-18 Isotope Production 1979-182
45-19 Isotope Cyclotron 1980-1983
45-20 Accelerators for UBC 1955
45-21 An increase of the internal beam current of jinr synchro cyclotron by
additional electrostatic focusing 1970
45-22 Accelerator 1963
45-23 Separated Orbit Cyclotron 1973
45-24 Los Alamos notes 1981
45-25 Calorimeter
45-26 Choppers
45-27 Filament Field
45-28 Solenoid & Search Coil [60s all handwritten notes]
45-29 [T(He³,d He⁴ Reactions)]
45-30 Polarized Ion Sources Reviews 1965
45-31 Rutherford Production of Polarized Ions 1961
45-32 Metastables 1965-2005
45-33 Low energy Polⁿ Analysis
45-34 Beam Design Notes and Time Allocation 1978
45-35 LAMPF 2 Proposal
45-36 Leece notes
45-37 Pulsed Neutrons
45-38 H- Extraction Project
45-39 Rf knockout
45-40 Coax De/accelerating Cavities
45-41 Phase Compression
45-42 Coils and magfield
45-43 12 GeV Cyclotron
45-44 Phase Prob Positions
45-45 intelligent control
45-46 operations
45-47 beam dvpt planning
45-48 horiz polarization 13
45-49 Depol magnets 400-480 mev 13
45-50 poln magnets 470 mev 13
45-51 synchrotron depol 13

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46-1 Depol resonance theory 13

46-2 depolarization atomic processes 13
46-3 depog magnets 1979 13
46-4 Polarization Measmts 13
46-5 Depolarzation 300 mev 81 13
46-6 Poln mgmts 81 13
46-7 depolarization 13
46-8 centring 13
46-9 Resonance Plots
46-10 Synch Design Pre August 84
46-11 Bucket 84 [both of these 2 are notes]
46-12 Synchron RF 1984
46-13 Extraction 1987
46-14 Trins – Neutron Source 1984-86
46-15 Intersecting Storage Ring General [Magnets] 1981-1983
46-16 Teng Design Notes 1982
46-17 Synchotrons 1981-1982 [design notes]
46-18 Synchrotrons 1968-1977
46-19 Magnetic Switching 1982
46-20 Swinger
46-21 Intersecting Storage Ring 1980-1983
46-22 Dispersion Supressor + Straight
46-23 EHF Injection 1986 [lots of numbers and charts]
46-24 ADRIA 1991 [proposal]
46-25 Cyc Res[Cyclotron Resonance Curves Beam Dynamics] 1977-1983
46-26 Resonance Curves Beam Dynamics [4 folders]
46-27 [EM Stripping]
46-28 Ring Cyclotron [2 folders]
46-29 New π^- - Biomedical Channel [3 folders]
46-30 Beam + RF Stability Lecture Notes May 1985
46-31 Light Source + Neutron Source [2 Folders]
46-32 Beamtime Profile 2015
46-33 Beamtime 5-12 /74
46-34 CYCLOPS Dispute 2013 [part of the way the accel. Works]
46-35 Rick – ISSIS Transotr 2010
46-36 [4 Notebooks with Handwritten Notes]
46-37 Strong Interactions (Woodhouse & Morgan) [notebook]
46-38 Tri20 Trade 2004 [trade cyclotron]
46-39 Neutron Stars 2000 [some sort of class thing?]
46-40 Pi Driver Group 2001
46-41 Mu Scattering Experiment E875 2000

46-42 Beam-Beam 2000-2005

BOX 47

47-1 Collision Errors 1999
47-2 Resonance Free LHC 2001
47-3 JACOW-Origins 2008
47-4 Cheer [Canadian High Energy Electron Ring] 2007
47-5 Polarization errors 13
47-6 depolarization 473 nev 13
47-7 wien filter 13

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47-8 CISR Edmonton Memos 92
47-9 Wilkinson 2002
47-10 Thomas 2008
47-11 Accelerator Words 2002
47-12 MUON Kicker 199
47-13 Joop's Video 2011
47-14 Best Cyclotrons 2014
47-15 MURA Innovation Not Enough 2010
47-16 Engines of Discovery 2008
47-17 World Scientific 2014
47-18 Cyclops-CAROL 2011
47-19 Vertical FFAG 2013
47-20 CYCLOPS Tracking 2009
47-21 C REES 2008
47-22 FFAGS Commercial 2014
47-23 Emma Keil Comparison 2010
47-24 NSNS Doe Review General 97
47-25 Reg + Louise 2010
47-26 Federal Display 2002
47-27 March 12th Celebration
47-28 Edcom Particle Accelerators 1991-2003

BOX 48

48-1 Intl Cyclotron centre 1982-1984
48-2 Nature Correspondence 14

48-3 Camoys 2014
48-4 JBW Replacement 1980
48-5 Craddock Correspondence 1966
48-6 Novosibirsk
48-7 Orlov
48-8 Ottawa (Ruba) 91
48-9 Batty
48-10 Blosser
48-11 Boussard
48-12 Baramkante Citron
48-13 D Bug
48-14 Cho
48-15 Chou
48-16 Collins
48-17 Colton
48-18 Crawford
48-19 Dehnel
48-20 Depbenev
48-21 Edgecock
48-22 Essin
48-23 Forest
48-24 Gordon fraser
48-25 Garren

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49-1 Nina
49-2 Golubeva/Balandin
49-3 Gordon
49-4 Griffin
49-5 Guignard
49-6 Haines
49-7 M Harold
49-8 Hereward
49-9 Heighway
49-10 Hofman
49-11 Hojvat
49-12 Noelle Ibrahim
49-13 Iliev
49-14 Joho

49-15 Joho Visit
49-16 Eifian Jones
49-17 Katz
49-18 Katayama
49-19 Koch
49-20 Kheifets
49-21 Koziol
49-22 Kuzwetzov
49-23 Laberge
49-24 DSMA Lacey
49-25 Lindau
49-26 Lustig
49-27 Machida
49-28 Mai
49-29 Martin Lee
49-30 M. Mallory
49-31 Mao
49-32 N Marks
49-33 Masvillo (IAIA)
49-34 T Mattison
49-35 G MCMichael
49-36 P Meads
49-37 P Meads II
49-38 Meot
49-39 S Milton
49-40 Moehl
49-41 D Mossdrop
49-42 Myers
49-43 Ng
49-44 Saewong Oh
49-45 Owillon
49-46 Paramonov
49-47 Pashenkov
49-48 Pasini
49-49 Pederson
49-50 Planner
49-51 Polanyi
49-52 Piekarz
49-53 Praeg
49-54 Pusteria

49-55 Jim Rae
49-56 U Raich
49-57 Riese
49-58 Riech
49-59 Reiser
49-60 Volker Rodel
49-61 Roy PDF
49-62 Ruggiero F
49-63 W Scharf
49-64 Schoivzer
49-65 Monica
49-66 Schott
49-67 P Schwandt
49-68 Serre
49-69 Senichev
49-70 IVR Visitors 90
49-71 Shaposhnikova
49-72 V Shestalk
49-73 Yi Shi
49-74 Stewart Smith
49-75 R Smythe
49-76 Stapleton
49-77 Susini
49-78 Suzuki

BOX 50

50-1 takayama
50-2 teng-retirment
50-3 teng feb 84
50-4 teng oct 82
50-5 teng 81-2
50-6 teng 82-25
50-7 LH Thomas
50-8 Tokuda
50-9 TRBojevic
50-10 S volin
50-11 J Wei
50-12 Wei Visit
50-13 Weng

- 50-14 Wilson
- 50-15 Mahlon Wilson Yamagwehi Zhoo ying
- 50-16 Zozka
- 50-17 B Zotter
- 50-18 Zupranski
- 50-19 Nina Shack [Magnet Storage] 1984
- 50-20 Nina Shack 2007

BOX 51

- 51-1 JRR-Wilson Prize 1988 [nominating somewhere for prize]
- 51-2 JRR Letters 1991 [Dr J Reginald Richardson, for nomination]
- 51-3 JRR – Honorary Doctor of Science 1979
- 51-4 T-Siddon 1987-188
- 51-5 JBW Chair 1995
- 51-6 Sy Lee 2012 [citation corrections]
- 51-7 Meads 2011 [citation corrections]
- 51-8 CHEM World 2007 [correspondence]

BOX 52

TRIUMF ADMINISTRATION AND FINANCE SERIES (continued)

- 52-1 User's Group 1972-2006
- 52-2 Protons 1969-1971 proton users group
- 52-3 PPR 00 Performance Reviews 2000
- 52-4 PPR 99
- 52-5 Minutes of Meson Users Group 1969-71
- 52-6 Campus ABO Computing 1987
- 52-7 Supercomputer 1986-1988
- 52-8 Coaxial Quotes 1982-1983
- 52-9 Terminal 2 1979-1982
- 52-10 BC Net 1987-1990
- 52-11 VAX Proposals 84-5
- 52-12 SCI Computer Proposal 84
- 52-13 Hi-Speed Link 1982-1985
- 52-14 Computing Policy 1984
- 52-15 Computing Charge Reduction 81-82
- 52-16 VAX vs Exp Fac 1981

- 52-17 Comp Costs 78/79
- 52-18 Computing Rate 1977
- 52-19 Computing Allocations 1986
- 52-20 TRIUMF Computing Misc 1968-1977
- 52-21 UNIX 1980
- 52-22 Computing Centre 1977-187
- 52-23 Computer Terminal Plans 1979