

## Biographical Sketch

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1) Experiments with the High-Resolution Spectrometer BIG KARL, Seminar, June 5, 1986, Indiana University Cyclotron Facility.

2) Commissioning of the K600 Spectrometer - A New Magnetic Spectrometer System for Intermediate Energy Physics at IUCF, Seminar, April 27, 1987, University of Maryland.

- 3) High Resolution Experiments with the K600 Magnet Spectrometer at IUCF, Seminar, January 20, 1988, Michigan State University.
- 4) Experimente mit dem hochaufl senden Magnet Spektrographen K600, Seminar, October 5, 1988 Institut f r Kernphysik, Kernforschungsanlage Juelich.
- 5) The High Resolution Magnet Spectrometer K600 and the Focal Plane Polarimeter at IUCF, seminar, January 6, 1989, Intl. Symp. on Heavy Ion Research with Magnet Spectrometers, East Lansing, MI, 5-7 January, 1989.
- 6) Eine Magnetanordnung zur Spektroskopie unter 0 grad am IUCF Cooler Ring, 7. CANU Arbeitstreffen, Datenaufnahme und Instrumentierung an COSY, Seminar, Bad Honnef, 18-19 December, 1989.
- 7) Kleinwinkelspektroskopie am K600 und Spektroskopie unter 0E am IUCF Cooler Ring, Seminar, December 20, 1989, Institut fuer Kernphysik, Kernforschungsanlage Juelich.
- 8) Spectrograph Experiments at a Cooler Ring, Seminar for Future Accelerator Discussion at Michigan State University, October 7, 1991.
- 9) Small Angle Experiments with the K600 Spectrometer, Notre Dame Workshop on Giant Resonances and Related Phenomena, October 21-23, 1991.
- 10) Detector System and Small Angle Modes of the K600 Spectrometer at IUCF, S800 Workshop on Focal Plane Detectors, January 6-7, 1993, MSU-NSCL, East Lansing.
- 11) Magnet Spectrometer for the IUCF Cooler, Invited talk at 105. WE-Heraeus-Seminar, Hadronic Processes at Small Angles in Storage Rings, February 1993, Bad Honnef, Germany.
- 12) Experimental Facilities at the IUCF Cyclotron and Cooler Storage Ring, Seminar, October 18, 1993, MSU-NSCL, East Lansing.
- 13) High Resolution Beam Line and Spectrometer Matching and Feasibility for Grand Raiden, G.P.A. Berg, Dec. 1, 1995, talk at RCNP, Osaka.
- 14) Conference presentation: Nuclear Reactions Near and at  $0^0$  Scattering Angles, G.P.A. Berg, Proc.XIV. RCNP Osaka Intl. Symp. Nuclear Reaction Dynamics of Nucleon-Hadron Manybody System, Dec. 6-9, 1995, Osaka, Japan.
- 15) Invited talk at Workshop on Light Ion Induced Nuclear Reactions and Mechanism, University of Kyushu, Fukuoka, Jan. 6-7, 1997. Title of talk: Nuclear Reaction Experiments at  $0^0$  Scattering Angles.
- 16) Seminar talk at RCNP, Jan. 8, 1997, Title of talk: Matching of Beam Line and Spectrometer for High Performance Nuclear Experiments.
- 17) Seminar talk at HIMAC, Jan. 13, 1997, Accelerator and Experimental Facilities at IUCF.
- 18) Seminar talk at RIKEN, Jan.14, 1997, Experiments at 0E and Accelerator Projects at IUCF.



- 19) Seminar talk at RCNP, 3/15/1997, The Grand-Analyzer Project.
- 20) Invited presentation NSCL User's Workshop on Future Experiments and Detectors for Nuclear Structure and Astrophysics at the Upgraded NSCL, MSU-NSCL, Aug. 8-9, 1997, 2Nuclear Reaction and Techniques at 0 Degree Scattering Angles.
- 21) Seminar talk at IKP, FZ Juelich, June 16, 1998, Kernphysik im Wandel der Zeit - ueber die Kernreaktion ( $\alpha$ ,  $^8\text{He}$ ) zur Protonentherapie.
- 22) Invited presentation RCNP WS2000 Scientific Program, March 28-29, 2000, Beam Diagnostics at IUCF for the K600 spectrometer modes.
- 23) Seminar at Wakasa Wan Energy Research Center, Jan. 16, 2001, The IUCF Proton Therapy Project.
- 24) Seminar talks at RIKEN, Japan, February 13, 2002, Electro-magnetic Devices in Nuclear Experiments and Facilites, Seminar in two parts: I) Ion-optics and magnet design for nuclear experiments. II) Experiments at ) degree and magnet separator TRImP.
- 25) Presentation at RCNP, Japan, March 13, 2002, The New TRImP Facility at KVI
- 26) Seminar at the Kyushu University, Fukuoka, Japan, March 1, 2002, High Resolution Particle Spectroscopy in Nuclear Structure and Astrophysics Studies.
- 27) Presentation at RCNP, April 5, 2002, Nuclear Physics with High Resolution Beams
- 28) TRImP - A Radioactive Isotope Trapping Facility, Panic 2002 Sept, Osaka, Japan
- 29) Magnetic Analysis and Matching Techniques in Nuclear Physics, Seminar at the Kyoto University, Dec. 3, 2002
- 30) Possible spectrometer concept for NESR-collider, Workshop Inelastic Scattering with Radioactive Nuclei, KVI, Groningen, Feb. 19 -22, 2003
- 31) Ion Optics - An Introduction for Physicists, NIPNET - HITRAP IONCATCHER, Annual Joint Collaboration Meeting, La Londe-les-Maures, 21-25 May, 2003
- 32) The Current Status of the TRImP Separator, NNV Section K&H Meeting, Lunteren, Oct 10, 2003
- 33) The Current Status of the TRImP Separator, DPG Spring Meeting, Köln Mar. 8-12, 2004.
- 34) An Introduction to Ion-Optics, Series of Five Lectures, JINA, University of Notre Dame, Sept. 30-Dec. 9, 2005
- 35) Experimental Studies for the rp Process, Seminar, Center of Nuclear Study, University of Tokyo, RIKEN Campus, Feb. 20, 2006

- 36) An Introduction of the Ion-Optics of Magnet Spectrometers, Series of Three Lectures, Center of Nuclear Study, University of Tokyo, ICHOR Project/ RIKEN Nuclear Physics Group, The 14<sup>th</sup> RIBF Nuclear Seminar, Feb. 27, 2006
- 37) Status Report e-Spectrometer ELISe at the R3B/EXL/ELISe Collaboration, Apr. 21, 2008 at GSI, Darmstadt, Germany
- 38) Exploring the ap-process with Grand Raiden, Presentation at the XIII. Intl. Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, Aug. 25 - 29, 2008, Cologne, Germany.
- 39) Commissioning of the SHARAQ Spectrometer, Presentation at the NSL meeting, University of Notre Dame, April 20, 2009
- 40) First Experiments with the RIBF Facility at RIKEN, Nuclear Seminar, University of Notre Dame, Dept. of Physics, Nov. 23, 2009
- 41) An introduction to the Ion-Optics of Magnetic Spectrometers and Recoil Separators, Invited series of three lectures and a tutorial, Nov. 15-18,2010, SAHA Institute, Kolkata, India
- 42) When Stars explode – Cataclysmic Binary Systems and the rp-Process, Invited presentation, Nov. 20, 2010, SAHA Institute, Kolkata, India
- 43) Beam Delivery Systems, Sixth Int. Summer School on Particle Accelerators and Detectors, Sept 2–7, 2010 Bodrum, Turkey, Invited talk.
- 44) High precision measurements for the rp-process, Invited talk at the XXXV Symposium on Nuclear Physics, Cocoyoc Jan. 3-6, 2012, Cocoyoc, Mexico
- 45) Nuclear Astrophysics Program at Grand Raiden and Future Need of High-Resolution Spectroscopy, Invited Presentation at the RCNP Long Range Planning Workshop, March 21-23, 2012.
- 46) Status of the SECAR Project, Low Energy Community Meeting, Astrophysics Equipment, Argonne National Laboratory, Aug. 17, 2012.

#### D. Selected Design Notes

- 1) Search for Fragmented M1 Strength in the  $^{48}\text{Ca}(p,p)$  Reaction, D.J. Mercer, G.M. Crawley, S. Danczyk, A. Galonsky, J. Wang, A. Bacher, G.P.A. Berg, A.C. Betker, W. Schmidt, E. Stephenson, IUCF Sci. and Tech. Report 1994-1995, 20
- 2) Measurement of High Momentum Transfer Reactions on the Indiana Cooler by Recoil Detection, R.D. Bent, C. Sun, G.P.A. Berg, J. Blomgren, H. Nann, T. Rinckel, M. Saber, R.E. Segel, F.-J. Chen, P. Heimberg, Z. Yu, J.D. Brown, R. Jacobsen, G. Hardie, P. Pancella, R. Schneider, J. Homolka, K.E. Rehm, A. Zhuravlev, A. Kurepin, IUCF Sci. and Tech. Report 1994-1995, 32

- 3) CE46: Skimmer Targets for the Cooler, P.V. Pancella, J. Wernau, A.D. Bacher, G.P.A. Berg, J. Cameron, W.A. Dezarn, J. Doskow, W. Lozowski, H.O. Meyer, D. Miller, B. Von Prewoski, T. Rinckel, P. Schwandt, F. Sperisen, P. Heimberg, IUCF Sci. and Tech. Report 1994-1995, 146
- 4) Magnet Mapping at IUCF, G.P.A. Berg, T. Hall, T. Rinckel, IUCF Sci. and Tech. Report 1994-1995, 177
- 5) Beam Transport System for High Resolution Experiments, M. Sato, K. Hatanaka, K. Hosono, T. Noro, K. Tamura, Y. Fujita, and G.P.A. Berg, RCNP Annual Report 1995, RCNP Osaka University, April 1, 1995 - March 31, 1996, p 162.
- 6) Possible observation of the  $1/2^+[880]$  orbital in  $^{249}\text{Cm}$ . I. Ahmad, B.B. Back, R.R. Chasman, J.P. Greene, T. Ishii, L.R. Morss, G.P.A. Berg, A. Bacher, C.C. Foster, W.R. Lozowski, W. Schmitt, E.J. Stephenson, IUCF Sci. and Tech. Report 1995-1996, p 18.
- 7) The First ( $t, {}^3\text{He}$ ) Measurement at Intermediate Energy at NSCL. I. Daito, H. Akimune, S. Austin, D. Bazin, G. Berg, J. Brown, B. Davids, H. Ejiri, Y. Fujita, M. Fujiwara, R. Hazama, T. Inomata, J. Jänecke, S. Nakayama, K. Pham, D. Roberts, B. Sherrill, M. Steiner, A. Tamii, M. Tanaka, H. Toyokawa, M. Yosoi, RCNP Annual Report 1995, RCNP Osaka University, April 1, 1995 - March 31, 1996, p 22.
- 8) The ( $t, {}^3\text{He}$ ) Charge-Exchange Reaction at  $E(t) = 127$  A MeV,  $\Theta = 0$  degree; J. Jänecke, H. Akimune, S.M. Austin, G.P.A. Berg, J.A. Brown, I. Daito, Y. Fujita, M. Fujiwara, R. Hazama, T. Inomata, K. Pham, D.A. Roberts, B.M. Sherrill, A. Tamii, M. Tanaka, Bull. Am. Phys. Soc. 40 (1995) 977.
- 9) Proton unbound states in  $T=3/2$  and  $T=2$  nuclei and the reaction rates for sequential two-proton capture reactions in the rp-process. H. Schatz, J. Görres, H. Herndl, N. Kaloskamis, E. Stech, P. Tischhauser, M. Wiescher, A. Bacher, G.P.A. Berg, T.C. Black, S. Choi, C.C. Foster, K. Jiang, W. Schmitt, E.J. Stephenson, IUCF Annual Report 1995-1996, p. 36
- 10) Calculation of the Vacuum Chamber Eddy Current, G.P.A. Berg, X. Kang, and S.Y. Lee, CIS Design Note 5/4/96
- 11) Concept of CIS LEBL and TRANSPORT Parameters. Georg Berg, CIS Design Note 6/26/96
- 12) Self-correcting Coils for Vacuum Chamber in CIS Main Dipole. G.P.A. Berg, CIS Design Note 8/26/96
- 13) CIS Kicker Design. G. P.A. Berg, CIS Design Note 10/4/96
- 14) Calculation and Measurement of CIS Dipole Field, X. Kang, G.P.A. Berg, D. Friesel, and S.Y. Lee, CIS Design Note 11/19/96
- 15) CIS Dipole Ramp Procedure, G.P.A. Berg, CIS Design Note 9/10/1997
- 16) Report of Magnet Design of MELCO Main Dipole Magnets, G.P.A. Berg, MELCO Design Note 11/25/1997

- 17) Design of Dipole Magnet L91 for CIS Beam Injection into Cooler, G.P.A. Berg, CIS Design Note 2/2/1998
- 18) Cross Sections and Polarization Transfer Observables in  $^{12}\text{C}(p,p')$  Reaction around 0Degrees, A.Tamii, M.Yosoi, H.Sakaguchi, M.Nakamura, H.Takeda, M.Itho, T.Kawabata, T.Taki, T.Noro, M.Fujiwara, K.Hatanaka, H.Akimune, M.Yoshimura, M.Kawabata, I.Daito, F.Ihara, H.Yoshida, K.Ishibashi, Y.Fujita, T.Inomata, H.Toyokawa, K.Hosono, G.P.A.Berg, and Y.Sakemi, RCNP Annual Report 1996, RCNP Osaka University, April 1, 1996 - March 31, 1997, p 31.
- 19) Design of a 30 Degree Standard Dipole Magnet for the IUCF Proton Therapy Facility, G.P.A. Berg, MPRI Note 12/2/98.
- 20) WS beam-line Project - physics and technical study. K. Hatanaka, Y. Fujita, T. Wakasa, H. Fujita, T. Noro, H. Ueno, H. Sakaguchi, T. Kawabata, J. Kamiya and G.P.A. Berg, Collaboration of the RCNP Osaka, Dept. of Phys. Osaka, Dept. of Phys. Kyoto and IUCF Indiana, RCNP Internal Report Dec. 1998
- 21) Quadrupole Assignment for the Trunk Line and Energy Selection System, MPRI Technical Note 3/10/99.
- 22) Progress in the Beam Line Design and Ion-Optics of the IUCF Proton Therapy Facility (Ion-optical Matching of Energy Selection System and Single Plane Gantry), G.P.A. Berg, IUCF Proton Therapy Note 5/19/99.
- 23) Ion Optics for the Fixed Beam Line, G.P.A. Berg, IUCF Proton Therapy Note 5/20/99.
- 24) Beam Diagnostic for the IUCF Proton Therapy Facility, G.P.A. Berg, IUCF Proton Therapy Note 7/23/99.
- 25) Modified Beam Line 3 Design to Accommodate Recently Measured Cyclotron Phase Space Parameters. G.P.A. Berg, IUCF Proton Therapy Note 9/02/99.
- 26) Design of the Energy Selection System E1 for the Proton Therapy Eye Line, G.P.A. Berg, IUCF Proton Therapy Note 9/07/99.
- 27) Updated Design of the Energy Selection System E1 for the Proton Therapy Eye Line, G.P.A. Berg, IUCF Proton Therapy Note 9/21/99.
- 28) Updated Design of the Energy Selection System E2 for the Proton Therapy Fixed Beam Line, G.P.A. Berg, IUCF Proton Therapy Note 9/28/99.
- 29) Updated Design of the Energy Selection Systems E3 and E4 for the Proton Therapy Gantry Lines, G.P.A. Berg, IUCF Proton Therapy Note 11/01/99.
- 30) A New Energy Selection System for the First Treatment Room, G.P.A. Berg, IUCF Proton Therapy Note 12/08/99.
- 31) Update of the CE78 Magnetic Channel, G.P.A. Berg, CE78 Design Note 2/01/2000.

32) Update of Beam Line BL3 for the Proton Therapy Gantry Lines, G.P.A. Berg, Proton Therapy Note 2/02/2000

33) A New Analyzing Magnet for the KN van de Graaff Accelerator, L.O. Lamm, E. Stech, G. Berg, M. Couder, Design Report, Dept. of Physics, University of Notre Dame, Dec. 12, 2005.

34) Design Study of a New Dipole Magnet D2 for the SHARAQ Spectrometer, Georg Berg, Center of Nuclear Study, University of Tokyo, October 30, 2005.

35) Evaluation of SMART Dipole for SHARAQ D1, Georg Berg, Center of Nuclear Study, University of Tokyo, January 23, 2006

36) End Profile of SHARAQ Dipoles D1 and D2, Georg Berg, Center of Nuclear Study, University of Tokyo, February 1, 2006

37) Fringe Field Design for SHARAQ Dipole D2, Georg Berg, Center of Nuclear Study, University of Tokyo, March 6, 2006