Michigan State University

National Superconducting Cyclotron Laboratory

APPENDIX A

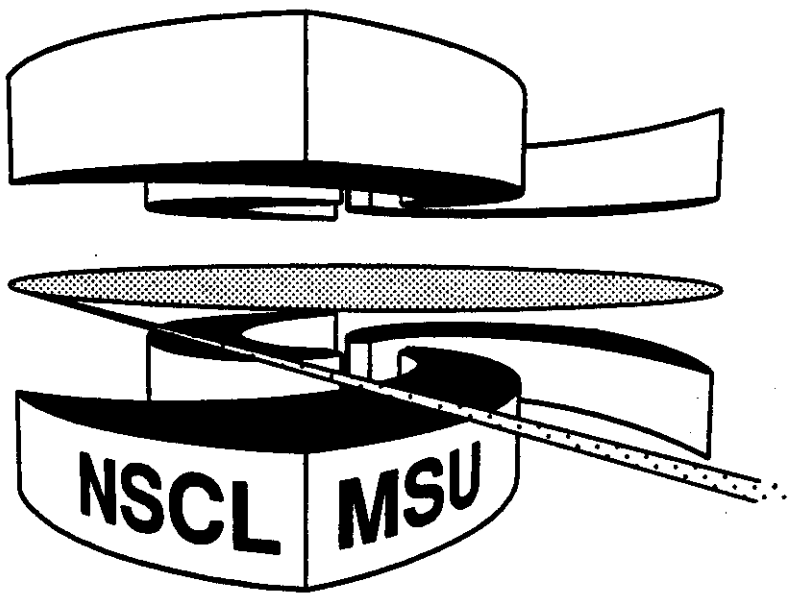
Operating Proposal

for the

NSCL RESEARCH FACILITY

and the

MSU NUCLEAR SCIENCE PROGRAM



MSUCL-823-A

MARCH 1992

APPENDIX TO NSCL OPERATING PROPOSAL

February 1992

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Each category includes work published in the last three-year period (January 1, 1989 to December 31, 1991) and, under a separate heading (for example, Papers - 1992), work submitted so far which will appear in 1992. The submitted papers are included to give a better picture of recent work in the laboratory.

The list includes publications and invited talks by non-NSCL scientists who have informed us that they are based in whole or in part on experimental work performed at the NSCL. These items are tagged with the symbol #.

PAPERS

(a) Physical Review Letters

Fragmentation Products with Non-Statistical Excited State Populations; T.K. Nayak, T. Murakami, W.G. Lynch, K. Swartz, D.J. Fields, C.K. Gelbke, Y.D. Kim, J. Pochodzalla, M.B. Tsang, H.M. Xu, F. Zhu, and K. Kwiatkowski, Phys. Rev. Lett 62(1989)1021

Multifragment Emission Observed for the Reaction $^{36}Ar + ^{238}U$ at E/A=35 MeV; Y.D. Kim, M.B. Tsang, C.K. Gelbke, W.G. Lynch, N. Carlin, Z. Chen, R. Fox, W.G. Gong, T. Murakami, T.K. Nayak, R.M. Ronningen, H.M. Xu, F. Zhu, W. Bauer, L.G. Sobotka, D. Stracener, D.G. Sarantites, Z. Majka, V. Abenante, and H. Griffin, Phys. Rev. Lett. 63(1989)494

Disappearance of Flow in Heavy Ion Collisions; D. Krofcheck, W. Bauer, G.M. Crawley, C. Djalali, S. Howden, C.A. Ogilvie, A. Vander Molen, G.D. Westfall, W.K. Wilson, R.S. Tickle, and C. Gale, Phys. Rev. Lett. 63(1989)2028

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Identification of New Nuclei Near the Proton Drip Line for $31 \leq Z \leq 37$; M.F. Mohar, D. Bazin, W. Benenson, D.J. Morrissey, N.A. Orr, B.M. Sherrill, D. Swan, J.A. Winger, A. Mueller, and D. Guillemaud-Mueller, Phys. Rev. Lett. 66(1991)1571

Time Scale for Emission of Intermediate Mass Fragments in $^{36}Ar + ^{197}Au$ Collisions at E/A = 35 MeV; Y.D. Kim, R.T. de Souza, D.R. Bowman, N. Carlin, C.K. Gelbke, W.G. Gong, W.G. Lynch, L. Phair, M.B. Tsang, F. Zhu, and S. Pratt, Phys. Rev. Lett. 67(1991)14

Multifragment Disintegration of the $^{129}Xe + ^{197}Au$ System at E/A = 50 MeV; D.R. Bowman, G.F. Peaslee, R.T. de Souza, N. Carlin, C.K. Gelbke, W.G. Gong, Y.D. Kim, M.A. Lisa, W.G. Lynch, L. Phair, M.B. Tsang, C. Williams, N. Colonna, K. Hanold, M.A. McMahan, G.J. Wozniak, L.G. Moretto, and W.A. Friedman, Phys. Rev. Lett. 67(1991)1527

(b) Physics Letters B

Non-Equilibrium versus Equilibrium Emission of Complex Fragments Emitted in ^{14}N-Induced Reactions on Ag and Au at E/A=20-50 MeV; D.E. Fields, K. Kwiatkowski, D. Bonser, R.W. Viola, V.E. Viola, W.G. Lynch, J. Pochodzalla, M.B. Tsang, C.K. Gelbke, D.J. Fields, and S.M. Austin, Phys. Lett.

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Longitudinal Collective Motion in Intermediate-Energy Heavy-Ion Collisions; C.A. Ogilvie, D.A. Cebra, J. Clayton, P. Danielewicz, S. Howden, J. Karn, A. Nadasen, A. Vander Molen, G.D. Westfall, W.K. Wilson, and J.S. Winfield, Phys. Lett. B231(1989)35

Two-Proton Correlation Functions for Equilibrium and Non-Equilibrium Emission; W.G. Gong, C.K. Gelbke, N. Carlin, R.T. de Souza, Y.D. Kim, W.G. Lynch, T. Murakami, G. Poggi, D. Sanderson, M.B. Tsang, H.M. Xu, D.E. Fields, K. Kwiatkowski, R. Planeta, V.E. Viola, Jr., S.J. Yennello, and S. Pratt, Phys. Lett. B246(1990)21

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Complex Fragment Emission in the E/A = 60-100 MeV ^{14}N+^{nat}Ag, ^{197}Au Reactions; J.L. Wile, D.E. Fields, K. Kwiatkowski, K.B. Morley, E. Renshaw, S.J. Yennello, V.E. Viola, N. Carlin, C.K. Gelbke, W.G. Gong, W.G. Lynch, R.T. de Souza, M.B. Tsang, and H.M. Xu, Phys. Lett. B264(1991)26

Multifragment Emission in the Reaction ^{36}Ar + ^{197}Au at E/A = 35, 50, 80, and 110 MeV; R.T. de Souza, L. Phair, D.R. Bowman, N. Carlin, C.K. Gelbke, W.G. Gong, Y.D. Kim, M.A. Lisa, W.G. Lynch, G.F. Peaslee, M.B. Tsang, H.M. Xu, F. Zhu, and W.A. Friedman, Phys. Lett. B268(1991)6

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Peripheral Collisions of 40 MeV/u ^{14}N with a ^{197}Au Target; C. Pruneau, L. Potvin, R. Roy, C. St.-Pierre, G.C. Ball, R. Bougalt, E. Hagberg, D. Horn, D. Cebra, D. Fox, and G.D. Westfall, Nucl. Phys. A500(1989)168

#The Level Structure of ^{22}Na and the Impact Upon the Stellar Reaction Rate for ^{19}Ne(p,γ)^{20}Na; L.O. Lamm, C.P. Browne, J. Gorres, S.M. Graff, M. Weischer, A.A. Rollefson, and B.A. Brown; Nucl. Phys. A510(1990)503

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^{18}O+^{58}Ni Reaction at 35 MeV/nucleon; M.C. Etchegoyen, A. Etchegoyen, A.O. Macciavelli, G.M. Crawley, C. Djalali, M. Renteria, A. Szanto de Toledo, and G.D. Westfall, Nucl. Phys. A518(1990)572

The Beta-decay of ^{48}Mn: Improved Data on Gamow-Teller Quenching; J. Szerypo, D. Bazin, B.A. Brown, D. Guillemaud-Mueller, H. Keller, R. Kirchner, O. Klepper, D. Morrissey, E. Roeckl, D. Schardt, and B. Sherrill, Nucl. Phys. A528(1991)203

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Mass Dependence of High-Energy Gamma-Ray Production in Heavy-Ion Reactions; C.L. Tam, J. Stevenson, W. Benenson, J. Clayton, Y. Chen, E. Kashy, A.R. Lampis, D.J. Morrissey, M. Samuel, T.K. Murakami, and J.S. Winfield, Phys. Rev. C39(1989)1371

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Inelastic Scattering of 210 MeV ^{6}Li Ions from ^{12}C, ^{28}Si and ^{58}Ni: Test of Unique ^{6}Li Potentials; A. Nadasen, M. McMaster, M. Fingal, J. Tavormina, J.S. Winfield, R.M. Ronningen, F.D. Becchetti, J.W. Jänecke, P. Schwandt, and R.E. Warner, Phys. Rev. C40(1989)1237

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#Very Hot Nuclear Systems and Their Binary and Multifragment Decay; L.G. Moretto, 21st Mikolajki Summer School on Nuclear Physics, Mikolajki, Poland, August 26 - September 5, 1990.

#Heavy Residue Properties in Intermediate Energy Collisions with Gold; K. Aleklett, International Symposium on Heavy Ion Physics and Its Applications, Lanzhou, People's Republic of China, October 8-12, 1990.

The Philosophy of COSY INFINITY; M. Berz, Workshop on High Order Effects in Accelerators and Beam Optics, East Lansing, Michigan, October 29-31, 1990.

Sextupoles Versus Octupoles for Third Order Corrections, J.A. Nolen, ibid.

Heavy Ion Fragment Separation, B.M. Sherrill, ibid.

Applications of COSY INFINITY to Spectrometer Design; A.F. Zeller, ibid.

Status of the K1200 Cyclotron, P.S. Miller, Eleventh International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 5-8, 1990.

The A1200 Projectile Fragment Separator, B.M. Sherrill, ibid.

Algorithms for Higher Derivatives in Many Variables with Applications to Beam Physics; M. Berz, First SIAM Workshop on Automatic Differentiation, Breckenridge, Colorado, January 6-8, 1991.

Single Particle/Hole Response Functions at High Excitation Energy; G.M. Crawley, XIV Symposium on Nuclear Physics, Cuernavaca, Mexico, January 7-10, 1991.

#Sources and Characteristics of Complex Fragments in La-Induced Reactions; P. Roussel-Chomaz, ibid.

The Properties of Heavy Reaction Residues and the Low Density Equation of State; W.G. Lynch, 29th International Winter Meeting on Nuclear Physics, Bormio, Italy, January 14-19, 1991.

Collective Flow in Intermediate Energy Nucleus-Nucleus Collisions; G.D. Westfall, ibid.

Two-Proton Intensity Interferometric Test of Nuclear Reaction Models; W.G. Gong, ibid.

#Sources of Light Particles in Peripheral Collisions of ^{16}O with Ni; P.L. Gonthier, ibid.

#Excitation Functions for Multifragment Decay in La-Induced Reactions; L.G. Moretto, ibid.

Azimuthal Distributions: A Probe for the Collision Dynamics in ^{40}Ar and ^{12}C Induced Reactions; R.Lacey, 7th Winter Workshop on Nuclear Dynamics, Key West, Florida, January 26 - February 2, 1991.

Intensity Interferometry; C.K. Gelbke, ibid.

Collective Flow in Central and Peripheral Collisions of Intermediate Energy Heavy Ions; G.D. Westfall, ibid.

Positron-Electron Pairs in Heavy Ion Reactions: Status of the APEX Collaboration; E. Kashy, ibid.

Heavy Reaction Residues and the Low Density Nuclear Equation of State; W.G. Lynch, ibid.

Azimuthal Distributions for $^{36}Ar+^{197}Au$ Reaction at E/A = 35 MeV; M.B. Tsang, ibid.

#High Multipole Excitations via Heavy-Ion Inelastic Scattering; U. Garg, Workshop Symposium on Future Directions in Nuclear Physics with 4π Detection Systems of the New Generation, Strasbourg, France, March 4-16, 1991.

#The Use of Radioanalytical Techniques to Study Intermediate-Energy, Relativistic, and Ultrarelativistic Nuclear Collisions; W. Loveland, Methods and Applications of Radioanalytical Chemistry - II, Kona, Hawaii, April 1991.

Single Particle/Hole States Observed in Heavy Ion Transfer Reactions; G.M. Crawley, Conference on High Resolution Physics at Forward Angles, Catania, Italy, April 1991.

Differential Algebraic Methods in Accelerator Physics; M. Berz, Workshop on Nonlinear Problems in Accelerators, Mueden, Germany, April 1991.

Differential Algebraic Computation of Chromaticities and Parameter Tune Shifts; M. Berz, ibid.

Differential Algebraic Normal Form Theory; M. Berz, ibid.

Reconstructive Correction of Aberrations in Spectrographs; M. Berz, ibid.

The Beam Dynamics Code COSY INFINITY; M. Berz, ibid.

#Dissipative Dynamics of Heavy Ion Reactions Between 6 and 30 MeV/nucleon; W.U. Schröder, 29th Spring School on Nuclear Physics, held at Holzhau near

Dresden, April 8, 1991.

#Multifragment Decay of Hot Nuclei: Dynamics or Statistics?; L.G. Moretto, American Chemical Society Award Symposium for Nuclear Chemistry in Honor of J.M. Alexander, 201st National American Chemical Society Meeting, Atlanta, Georgia, April 14-19, 1991.

#Sources of Complex Fragments: Transition from Threshold to Multifragmentation Regimes; V.E. Viola, ibid.

The Evolution of Accelerator Capabilities for Low- to Medium-Energy Heavy-Ion Physics; J.A. Nolen, Spring Meeting of the American Physical Society, Washington, D.C., April 22-25, 1991.

Conceptual Design Study for a Proton Treatment Facility at Princess Margaret Hospital; H.G. Blosser, PTCOG XIV Conference, Cambridge, Massachusetts, May 1991.

#Experimental and Theoretical Characterization of Multifragment Events; L.G. Moretto, Seventh Adriatic International Conference on Nuclear Physics: Heavy Ion Physics - Today and Tomorrow, Island of Brioni, Yugoslavia, May 27 - June 1, 1991.

#Intermediate-Mass-Fragment Emission: Probing Nuclear Dynamics at High Excitation Energies; V.E. Viola, International Symposium NIKKO '91, "Towards a Unified Picture of Nuclear Dynamics", Nikko, Japan, June 6-8, 1991.

Production of Nuclei on the Proton Drip Line for $31 \leq Z \leq 38$; D.J. Morrissey, International Workshop on Unstable Nuclei in Astrophysics, Tokyo, Japan, June 7-8, 1991.

Studies of Exotic Nuclei with the NSCL A1200; D.J. Morrissey, Fourth International Conference on Nucleus-Nucleus Collisions, Kanazawa, Japan, June 10-14, 1991.

Space-Time Evolution of Nucleus-Nucleus Collisions Measured by Intensity Interferometry; C.K. Gelbke, ibid.

#Frictional Processes and Nuclear Disassembly in Very-Heavy-Ion Collisions in the Fermi Energy Regime; W.U. Schröder, ibid.

Two-Proton Correlation Functions and Their Interpretation by Microscopic Theories; C.K. Gelbke, Sixth International Conference on Nuclear Reaction Mechanisms, Varenna, Italy, June 10-15, 1991.

Physics with the A1200 Radioactive Beam Facility at MSU/NSCL; S.M. Austin, International Symposium on Structure and Reactions of Unstable Nuclei, Niigata, Japan, June 17-19, 1991.

Multifragmentation; W.G. Lynch, Gordon Research Conference on Nuclear Chemistry, New London, New Hampshire, June 18-22, 1991.

#Studies of Multifragment Decay in Reverse Kinematics; L.G. Moretto, International Conference on New Nuclear Physics with Advanced Techniques, Ierapetra, Crete, Greece, June 23-29, 1991.

#Recent Results with the Dwarf Ball; D.G. Sarantites, ibid.

The Use of MOTER and COSY INFINITY in Spectrograph Design and Trajectory Reconstruction; J.A. Nolen, PILAC Optics Workshop, Los Alamos, August 12-13, 1991.

Spectrometer Design at Michigan State; A.F. Zeller, ibid.

Optics Using Differential Algebra; M. Berz, ibid.

Radioactive Nuclear Beam Facilities Based on Projectile Fragmentation; B.M. Sherrill, Second International Conference on Radioactive Nuclear Beams, Louvain-la-Neuve, Belgium, August 19-21, 1991.

Synthesis of High-Energy Projectile and Target Fragmentation; D.J. Morrissey, Symposium on Nucleus-Nucleus Collision Mechanisms, Fourth Chemical Congress of North America, New York City, August 25-30, 1991.

The MSU Miniball: A Tool for the Characterization of Nuclear Multifragmentation; R.T. de Souza, ibid.

#Heavy Residue Properties in Intermediate-Energy Nuclear Collisions with Gold; K. Aleklett, ibid.

The Evolution of Recoil Mass Separators; B.M. Sherrill, ibid.

Initial Operating Experience with the A1200 Fragment Separator; B.M. Sherrill, 12th International Conference on Electromagnetic Isotope Separators and Their Uses, Sendai, Japan, September 2-6, 1991.

Tying Up Loose Ends in High Energy Gamma and Subthreshold Pion Production; W. Benenson, Symposium on Nuclear Physics at Storage Rings, Lund, Sweden, September 10-12, 1991.

Multifragment Disintegrations of Hot Nuclear Systems Studied in 4π Geometry; C.K. Gelbke, ibid.

Collective Flow and Z-Distributions in Intermediate Energy Nucleus-Nucleus Collisions; G.D. Westfall, ibid.

The NSCL ECRIS Development Program; T.A. Antaya, Fifth International Symposium on Electron Beam Ion Sources and Their Applications, Dubna, USSR, September 24-27, 1991.

The Present Status of ECRIS Developments World-Wide; T.A. Antaya, Fourth International Conference on Ion Sources, Benheim, Germany, September 30 - October 4, 1991.

Infinitely Small Numbers and Almost Infinitely Large Accelerators; M. Berz, International Symposium on Computer Arithmetic and Scientific Computation, SCAN 91, Oldenburg, Germany, October 1-4, 1991.

Nuclear Dissipation and the Giant Dipole Resonance; M. Thoennessen, Symposium on Reflections and Directions in Low Energy Heavy Ion Physics, Oak Ridge, Tennessee, October 14-15, 1991.

Heavy Ion Reactions as Probes of Isovector Spin Strength; N. Anantaraman, Notre Dame Workshop on Giant Resonances and Related Phenomena, Notre Dame, Indiana, October 21-23, 1991.

High Lying Resonances Observed in Heavy Ion Transfer Reactions; G.M. Crawley, ibid.

The GDR as a Probe for Reaction Dynamical Effects; M. Thoennessen, ibid.

Multifragment Disintegrations of Heavy Systems; D.R. Bowman, 1991 Fall Meeting of the Division of Nuclear Physics, American Physical Society, East Lansing, October 24-26, 1991.

Normal Form Analysis of Weakly Nonlinear Systems; M. Berz, Workshop on Nonlinear Dynamics in Nuclear and Accelerator Physics, East Lansing, October 27, 1991.

#Gain Matching of the Plastic Phoswich Detectors of the MSU 4π Array; J. Farhat, Second Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Argonne, Illinois, November 8-9, 1991.

#Analysis of ^{6}Li Elastic Scattering at 210 and 318 MeV with Double-Folded Potentials; T. Stevens, ibid.

Differential Algebraic Methods in Accelerator Physics and Optics; M. Berz, Workshop on Differential Algebraic Methods, Tokyo, Japan, December 1991.

INVITED TALKS - 1992

Physics with Radioactive Beams; S.M. Austin, XV Symposium on Nuclear Physics, Oaxtepec, Mexico, January 7-10, 1992.

Tying Up Loose Ends in Pion and High Energy Gamma Production; W. Benenson, Eighth Winter Workshop on Nuclear Dynamics, Jackson Hole, Wyoming, January 19 - 25, 1992

Intermediate Mass Fragment Production in 50 MeV/A Xe-induced Reactions; G.F. Peaslee, ibid.

Dissipation and the Population of Compound Nuclei; M. Thoennessen, ibid.

The Disappearance of Flow; G.D. Westfall, ibid.

#Light Particle Emission in Peripheral Collisions at 35 and 50 MeV/Nucleon; P.L. Gonthier, ibid.

#Multifragment Emission for Highly Excited Systems Formed in the Reaction ^{36}Ar+^{197}Au at E/A = 35, 50, 80, and 110 MeV; R.T. de Souza, ibid.

Multifragment Disintegration of Heavy Systems: A Signature of Nuclear Expansion?; D.R. Bowman, 30th International Winter Meeting on Nuclear Physics, Bormio, Italy, January 27-31, 1992.

Impact Parameter Dependence of Experimental Observables for ^{36}Ar+^{197}Au at E/A = 35 MeV; M.B. Tsang, ibid.

Simple States at High Excitation from High Energy Heavy Ion Reactions; G.M. Crawley, Tenth National Conference of the Australian Institute of Physics, Melbourne, Australia, February 10-15, 1992.

Multi-Fragmentation in Intermediate Energy Nucleus-Nucleus Collisions; W.G. Lynch, International Workshop on Dynamical Fluctuations and Correlations in Nuclear Collisions, Aussois, France, March 16-20, 1992.

Map/Differential Algebra Methods (two talks); M. Berz, International Workshop on Nonlinear Problems in Accelerator Physics, Berlin, Germany, March 30 - April 2, 1992.

Production and Use of Exotic Nuclear Beams at MSU; D.J. Morrissey, American Chemical Society Symposium on Production and Utilization of Radioactive Nuclear Beams, San Francisco, April 5-10, 1992.

Experiments with ^{11}Li Beams at the NSCL; B.M. Sherrill, ibid.

#Production and Scattering of Isomeric Nuclear Beams; F.D. Becchetti, ibid.

Superconducting Cyclotrons (Tom W. Bonner Prize Award Lecture); H.G. Blosser, Spring Meeting of the American Physical Society, Washington, D.C., April 20-24, 1992.

In Search of ^{65}As; B.M. Sherrill, Symposium on Nuclei in Astrophysics, Columbus Ohio, June 1992.

Multifragmentation as a Probe of the Dynamics and Thermodynamics of Excited Nuclear Matter; D.R. Bowman, 41st Gordon Conference on Nuclear Chemistry, New London, New Hampshire, June 15-19, 1992.

Nuclei at the Limits of Particle Stability; B.M. Sherrill, ibid.

Future Cyclotrons; H.G. Blosser, 13th International Conference on Cyclotrons and Their Applications, Vancouver, Canada, July 6-10, 1992.

Recent MSU Experiments on Nuclei Far from Stability; B.M. Sherrill, Sixth International Conference on Nuclei Far from Stability and Ninth International Conference on Atomic Masses and Fundamental Constants, Bernkastel-Kues, Germany, July 19-24, 1992.

Cyclotrons for ISL; H.G. Blosser, Workshop on IsoSpin Laboratory, Oak Ridge, Tennessee, October 7-10, 1992.

Nonlinear Map Techniques (series of five lectures); M. Berz, 1992-93 U.S. Particle Accelerator Physics Winter School, Tallahassee, Florida, January 1993.

AP-2 List of Advanced Degrees Based on Work Performed at the NSCL

AP-3 Curricula Vitae of Principal Investigators and Other NSCL Senior Research Staff

APPENDIX AP-2: ADVANCED DEGREES IN NUCLEAR SCIENCE*

Name	Degree	Department	University	Year
Mikolas, David	PhD	Physics	MSU	1989
Shaheen, Salem	PhD	Physics	U. of Mich.	1989
Cho, Seung Yeon	PhD	Chemistry	Purdue	1989
Tam, Chui-Ling	PhD	Physics	MSU	1989
Xie, Zu Qi	PhD	Physics	MSU	1989
Seres, Zoltan	DCPS**	Physics	Hungarian Acad. of Sciences	1990
Nayak, Tapan	PhD	Physics	MSU	1990
Cebra, Daniel	PhD	Physics	MSU	1990
Sihver, Lembit	PhD	Chemistry	Uppsala Univ.	1990
Heilbronn, Lawrence	PhD	Physics	MSU	1990
Wu, Xiao-Yu	PhD	Physics	MSU	1990
Xu, Hongming	PhD	Physics	MSU	1991
Wilson, Ken	PhD	Physics	MSU	1991
Clayton, James	PhD	Physics	MSU	1991
Mohar, Michael	PhD	Chemistry	MSU	1991
Gong, Wen Guang	PhD	Physics	MSU	1991
Kim, Yeong Duk	PhD	Physics	MSU	1991
Souliotis, George	PhD	Chemistry	MSU	1991
Harkewicz, Rick	PhD	Chemistry	MSU	1992
Gilbert, Sylvain	MSc	Physics	Univ. Laval	1990
Jeon, Dong-O	MS	Physics	MSU	1990
Zwartz, Gordon	MSc	Physics	Univ. Toronto	1990

*Includes students supported by the NSCL operating grant and those from other Universities who did experimental work for their thesis at the NSCL.

**Dissertation for Candidate of Physical Sciences

APPENDIX AP-3 CURRICULA VITAE

This appendix contains the Curricula Vitae of the Principal Investigators on this proposal and of other senior nuclear research staff. The CV's include only basic biographical data, plus a record of educational experience and of professional appointments held. Memberships in societies, instances of committee service, honors, awards, etc., have been omitted. In "Publication Statistics", the total number of refereed papers includes papers submitted for publication but not yet published; and the total number of invited talks includes those scheduled for 1992.

1. Curricula Vitae of Nuclear Research Staff

2. Curricula Vitae of Operations Staff

SAM M. AUSTIN

DATE OF BIRTH: JUNE 6, 1933

DEGREES AWARDED:

B.S. Physics Univ. of Wisconsin	1955
M.S. Physics Univ. of Wisconsin	1957
Ph.D. Physics Univ. of Wisconsin	1960

APPOINTMENTS:

Research Associate Dept. of Physics Univ. of Wisconsin	1960
Postdoctoral Fellow Clarendon Lab. Oxford Univ.	1960-1961
Assistant Professor Physics, Stanford Univ.	1961-1965
Associate Professor Physics Michigan State Univ.	1965-1969
Professor, Physics Michigan State Univ.	1969-present
University Distinguished Professor Michigan State University	July 1990 - present
Associate Director Cyclotron Lab Michigan State Univ.	1976-1979
Chair Dept. of Physics Michigan State Univ.	1980-1983
Research Director NSCL Michigan State University	1983-1985
Co-Director NSCL Michigan State University	1985 - January 1989

Director NSCL Michigan State University	February 1989 - present
Editor Physical Review C	January 1988 - present
Associate Editor Atomic Data & Nuclear Data Tables	1990 - present
Guest Niels Bohr Inst.	April-Sept. 1970
Gästprofessor Univ. München, Germany	1972-1973
Visiting Scientist CEN Saclay, France	Sept. 1979-May 1980
Visiting Scientist Lab Rene Bernas Orsay, France	June 1980-August 1980
Visiting Staff Member Los Alamos National Lab	Oct. 1981-present

Representative Selection

An Empirical Effective Interaction; S.M. Austin, in the Proceedings of the Conference on the (p,n) Reaction and the Nucleon-Nucleon Force, Telluride, Colorado, March 29-31, 1979, edited by C.D. Goodman, S.M. Austin, S.D. Bloom, J. Rapaport, and G.R. Satchler (Plenum, New York, 1980), p. 203

The Creation of the Rare Light Elements-Cosmic Rays and Cosmology; S.M. Austin, Progress in Particle and Nuclear Physics 7(1981)1

Limit on Charge Symmetry Breaking in the Optical Model and the Coulomb Energy Anomaly; R.P. DeVito, S.M. Austin, W. Sterrenburg, and U.E.P. Berg, Phys. Rev. Lett. 47(1981)628

Gamow-Teller Strength in the ^{26}Mg(p,n)^{26}Al Reaction at 135 MeV and its Fractionation into T = 0, 1 and 2 Isospin Channels; R. Madey, B.S. Flanders, B.D. Anderson, A.R. Baldwin, C. Lebo, J.W. Watson, S.M. Austin, A. Galonsky, B.H. Wildenthal, and C.C. Foster, Phys. Rev. C35(1987)2011; Erratum: C36(1987)1647

One Nucleon Transfer Reactions Induced by ^{20}Ne at 500 and 600 MeV; S. Fortier, S. Gales, S.M. Austin, W. Benenson, G.M. Crawley, C. Djalali, J.S. Winfield, and G. Yoo, Phys. Rev. C41(1990)2689

Recent Work Pertinent to Proposal

The (^{6}Li,^{6}He) Reaction as a Probe of Spin Transfer Strength; N. Anantaraman, J.S. Winfield, S.M. Austin, A. Galonsky, J. van der Plicht, C.C. Chang, G. Ciangaru, and S. Gales, Phys. Rev. Lett. 57(1986)2375

Mechanism of the Heavy-ion Charge Exchange Reaction ^{12}C(^{12}C,^{12}N)^{12}B at 35 MeV/nucleon; J.S. Winfield, N. Anantaraman, S.M. Austin, L.H. Harwood, J. van der Plicht, H.L. Wu, and A.F. Zeller, Phys. Rev. C33(1986)1333; Erratum: C35(1987)1166

Mechanism of the (^{6}Li,^{6}He) Reaction at Intermediate Energies and its Suitability as a Spin Probe; J.S. Winfield, N. Anantaraman, S.M. Austin, Z. Chen, A. Galonsky, J. van der Plicht, H.-L. Wu, C.C. Chang, and G. Ciangaru, Phys. Rev. C35(1987)1734

Low Lying Structures in the Gamow-Teller Strength Functions for the Double Beta Decaying Nuclei ^{76}Ge, ^{82}Se, ^{128}Te and ^{130}T; R. Madey, B.S. Flanders, B.D. Anderson, A.R. Baldwin, J.W. Watson, S.M. Austin, C.C. Foster, H.V. Klapdor, and K. Grotz, Phys. Rev. C40(1989)540

(^{12}C,^{12}B) and (^{12}C,^{12}N) Reactions at E/A = 70 MeV as Spin Probes: Calibration and Application to 1^{+} States in ^{56}Mn; N. Anantaraman, J.S. Winfield, S.M. Austin, J.A. Carr, C. Djalali, A. Gillibert, W. Mittig, J.A. Nolen, Jr., and Zhan Wen Long, Phys. Rev. C44(1991)398

Publication Statistics

Refereed Papers: 83 (total), 5 (1989-91), 2 (1992).
Invited Talks: 35 (since 1976), 3 (1989-91), 1 (1992).

WALTER BENENSON

DATE OF BIRTH: APRIL 27, 1936

DEGREES AWARDED:

B.S. Yale	1957
M. Sc. Wisconsin	1959
Ph. D. Wisconsin	1962

APPOINTMENTS:

Research Associate University of Strasbourg	1962-1963
Assistant Professor Michigan State Univ.	1963-1968
Associate Professor Michigan State Univ.	1968-1973
Visiting Fellow Australian National University	1968
Visiting Professor Univ. of Grenoble	1970
Professor Michigan State Univ.	1973-present
Visiting Scientist Lawrence Berkeley Lab.	1978-1979
Associate Director Cyclotron Lab. Michigan State Univ.	1980-1982
A. v. Humboldt Senior Fellow	1989
Associate Director NSCL	1990-Present

Representative Selection

Isobaric Quartets in Nuclei; W. Benenson and E. Kashy, Rev. Mod. Phys. 51(1979)527

Low Energy Pion Production at 0° with Heavy Ions from 125 to 400 MeV/nucleon; W. Benenson, G. Bertsch, G.M. Crawley, E. Kashy, J.A. Nolen, H. Bowman, J.G. Ingersoll, J.O. Rasmussen, J. Sullivan, M. Sasao, and M. Koike, Phys. Rev. Lett. C21(1980)462

Excited State Production and Temperature Measurement in a Heavy Ion Reaction; D.J. Morrissey, W. Benenson, E. Kashy, B. Sherrill, A.D. Panagiotou, R.A. Blue, R.M. Ronningen, J. van der Plicht, and H. Utsunomiya, Phys. Lett. 148B(1984)423

Mass of ^{57}Cu; B. Sherrill, K. Beard, W. Benenson, C. Bloch, B.A. Brown, E. Kashy, J.A. Nolen, Jr., A.D. Panagiotou, J. van der Plicht, and J.S. Winfield, Phys. Rev. C31(1985)875

Observation of High Energy Gamma Rays in Intermediate Energy Nucleus-Nucleus Collisions; K.B. Beard, W. Benenson, C. Bloch, E. Kashy, J. Stevenson, D.J. Morrissey, J. van der Plicht, B. Sherrill, and J.S. Winfield, Phys. Rev. C32(1985)1111

Recent Work Pertinent to Proposal

Mass of ^{39}Sc via the ^{40}Ca(^{7}Li,^{8}He) Reaction; M.F. Mohar, E. Adamides, W. Benenson, C. Bloch, B.A. Brown, J. Clayton, E. Kashy, M. Lowe, J.A. Nolen Jr., W.E. Ormand, J. van der Plicht, B. Sherrill, J. Stevenson, and J.S. Winfield, Phys. Rev. C38(1988)737

Azimuthal Asymmetry in Ar + V Collisions from E/A = 35 to 85 MeV; W.K. Wilson, W. Benenson, D.A. Cebra, J. Clayton, S. Howden, J. Karn, T. Li, C.A. Ogilvie, A. Vander Molen, G.D. Westfall, J.S. Winfield, B. Young, and A. Nadasen, Phys. Rev. C41(1990)R1881

Identification of New Nuclei Near the Proton Drip Line for $31 \leq Z \leq 37$; M.F. Mohar, D. Bazin, W. Benenson, D.J. Morrissey, N.A. Orr, B.M. Sherrill, D. Swan, J.A. Winger, A. Mueller, and D. Guillemaud-Mueller, Phys. Rev. Lett. 66(1991)1571

Response of a BaF_2 Detector to Photons from 75 to 200 MeV; J. Clayton, W. Benenson, N. Lévinsky, J.D. Stevenson, M.F. Mohar, E. Hallin, J.C. Bergstrom, H.S. Caplan, R.E. Pywell, D.M. Skopik, and J.M. Vogt, Nucl. Instr. and Meth. A305(1991)116

Proton-Deuteron Bremsstrahlung at 145 and 195 MeV; J. Clayton, W. Benenson, M. Cronqvist, R. Fox, D. Krofcheck, R. Pfaff, T. Reposeur, J. Stevenson, J.S. Winfield, B. Young, M. Mohar, C. Bloch, and D.E. Fields, MSUCL-801, submitted to Phys. Rev. C (November 1991).

Publication Statistics

Refereed Papers: 107 (total), 12 (1989-91), 5 (1992).
Invited Talks: 33 (total), 4 (1989-91), 1 (1992).

MARTIN BERZ

DATE OF BIRTH: March 19, 1960

DEGREES AWARDED:

Vordiplom Physics University of Giessen	1979
Vordiplom Mathematics University of Giessen	1979
M.S. Mathematics Kansas State University	1981
Diplom Physics University of Giessen	1984
Lehramt an Gymnasien Physics/Mathematics University of Giessen	1984
Ph.D. Physics University of Giessen	1986

APPOINTMENTS:

Fellow SSC Central Design Group	1987-1988
C1 Faculty University of Giessen	1988-1989
Permanent Staff Scientist Lawrence Berkeley Laboratory	1989-1990
Associate Professor of Physics Michigan State University	1990-present

Representative Selection

The Program HAMILTON for the Analytic Solution of the Equations of Motion in Particle Optical Systems Through Fifth Order; M. Berz and H. Wollnik, Nucl. Instr. and Meth. A258(1987)364

Normal Form Methods For Complicated Periodic Systems: A Complete Solution Using Differential Algebra and Lie Operators; E. Forest, M. Berz, and J. Irwin, Particle Accelerators 24(1989)91

Differential Algebraic Description of Beam Dynamics to Very High Orders; M. Berz, Particle Accelerators 24(1989)109

The Description of Particle Accelerators Using High Order Perturbation Theory on Maps, M. Berz, in "Physics of Particle Accelerators", AIP Conference Proceedings Number 184, edited by M. Month and M. Dienes (American Institute of Physics, New York, 1989), p. 961

High-Order Computation and Normal Form Analysis of Repetitive Systems; M. Berz, in "Physics of Particle Accelerators", edited by M. Month (American Institute of Physics, New York, 1992), in press.

Recent Work Pertinent to Proposal

Arbitrary Order Description of Arbitrary Particle Optical Systems; M. Berz, Nucl. Instr. and Meth. A298(1990)426

Computational Aspects of Design and Simulation: COSY INFINITY; M. Berz, Nucl. Instr. and Meth. A298(1990)473

COSY INFINITY, An Arbitrary Order General Purpose Optics Code; M. Berz, Computer Codes and the Linear Accelerator Community, Los Alamos National Laboratory Report LA-11857-C, (1990), p. 137

High Order Calculation of the Multipole Content of Three Dimensional Electrostatic Geometries; M. Berz, W.M. Fawley, and K. Hahn, Nucl. Instr. and Meth. A307(1991)1

Automatic Differentiation as Nonarchimedean Analysis; M. Berz, in IMACS Annals of Computing and Applied Mathematics, in print (1991)

Publication Statistics

Refereed Papers: 35 (total), 16 (1989-91), 4 (1992).
Invited Talks: 35 (total), 25 (1989-91), 3 (1992).

HENRY G. BLOSSER

DATE OF BIRTH: MARCH 16, 1928

DEGREES AWARDED:

B.A. Math Univ. of Virginia	1951
M.S. Physics Univ. of Virginia	1952
Ph.D. Physics Univ. of Virginia	1954

APPOINTMENTS:

NSF Predoctoral Fellow University of Virginia	1953-1954
Physicist Oak Ridge National Laboratory	1954-1958
Group Leader Cyclotron Analogue Project	1956-1958
Associate Professor Physics Michigan State Univ.	1958-1961
Professor, Physics Michigan State Univ.	1961-present
University Distinguished Professor Michigan State Univ.	1991-present
Director Cyclotron Lab. Michigan State Univ.	1958-1966 1969-1985
Co-Director Cylotron Lab. (NSCL) Michigan State Univ.	1985 - January 1989
NSF Senior Postdoctoral Fellow	1967
Visiting Scientist CERN	1966-1967
Guggenheim Fellow	1973-1974

Representative Selection

Four-Sector Azimuthally Varying Field Cyclotron; H.G. Blosser, R.E. Worsham, C.D. Goodman, R.S. Livingston, J.E. Mann, H.M. Moseley, G.T. Trammel, and T.A. Welton, Rev. Sci. Inst. 29(1958)819

Performance Estimates for Injector Cyclotrons; H.G. Blosser and M.M. Gordon, Nucl. Instr. 13(1961)101

Experimental Facilities and Resolution Capability of the MSU Cyclotron; H.G. Blosser, and J.W. Butler, Proc. of 1963 CERN Conf. on Sector-Focused Cyclotrons and Meson Factories, CERN 63-19(1963)138

The MSU 53 MeV Cyclotron; H.G. Blosser and A. Galonsky, IEEE Trans. on Nucl. Sci. 13(1966)466

Ultra-High Resolution System for Charged Particle Studies of Nuclei; H.G. Blosser, G.M. Crawley, R. deForest, E. Kashy, and B.H. Wildenthal, Nucl. Instr. and Meth. 91(1971)61

Work Pertinent to Proposal

Focusing Properties of Superconducting Cyclotron Magnets, H.G. Blosser and D.A. Johnson, Nucl. Instr. and Meth. 121,301(1974).

Application of Superconductivity in Cyclotron Construction; H.G. Blosser, Ninth International Conference on Cyclotrons and Their Applications, (Courteboeuf, Les Wis. France, 1981), p. 147

Superconducting Cyclotrons at Michigan State University; H.G. Blosser, Nucl. Instr. and Meth. B24/25(1987)752

Magnetic Structure for a Superconducting Variable Frequency Electron Cyclotron Resonance Ion Source; T.A. Antaya, A.F. Zeller, J.M. Moskalik, H.G. Blosser, J.A. Nolen, and K.A. Harrison, IEEE Trans. on Magnetics 25(1989)1671

Applications of Superconducting Cyclotrons; H.G. Blosser, in Proceedings of the 12th International Conference on Cyclotrons and Their Applications, Berlin, May 8-12, 1989, edited by B. Martin and K. Ziegler (World Scientific Publishing Co., Singapore, 1991), p. 137

Publication Statistics

Refereed Papers: 39 (total), 4 (1989-91), 0 (1992).
Invited Talks: 49 (total), 4 (1989-91), 3 (1992).

GERARD MARCUS CRAWLEY

DATE OF BIRTH: April 10, 1938

DEGREES AWARDED:

B.Sc. (1st Class Hons. in Physics) Melbourne University	1959
M.Sc. (Hons. in Physics) Melbourne University	1961
Ph.D. Princeton University	1965

APPOINTMENTS:

Research Associate Michigan State University	1965-1966
Fellow (Hon.) Nuclear Physics Department Australian National University	1966-1968
Visiting Assistant Professor Michigan State University	1967
Assistant Professor Michigan State University	1968
Associate Professor Michigan State University	1970
Professor Michigan State University	1974-Present
Visiting Fellow Australian National Univ.	1974-1975
Program Officer, Nuclear Physics, National Science Foundation	1975-1976
Visiting Scientist, Institute de Physique Nucleaire Orsay, France	May 1979
Professeur d'echange University of Paris XI France	June-July 1981

Visiting Fellow University of Melbourne	October 1982 - March 1983
Professeur d'echange University of Paris XI France	March-September 1983
Associate Director for Nuclear Science NSCL, Michigan State University	October 1985 - September 1987
Director, Physics Division U.S. National Science Foundation, Washington, D.C.	October 1987 - September 1988
Chairperson Dept. of Physics & Astronomy Michigan State Univ.	September 1988 - present
Vice-Chair Division of Nuclear Physics American Physical Society	April 1990 - April 1991
Chair Division of Nuclear Physics American Physical Society	April 1991 - April 1992

Representative Selection

High Resolution Studies of the Particle-Hole Multiplets in ^{208}Bi; G.M. Crawley, E. Kashy, W. Lanford, and H.G. Blosser, Phys. Rev. C8(1973)2477

The Observation of Hole States at High Excitation in (p,t) Reactions; G.M Crawley, W. Benenson, D. Weber, and B. Zwieglinski, Phys. Rev. Lett. 39(1977)1451

Observation of M1 Strength by the Inelastic Scattering of 200 MeV Protons; N. Anantaraman, G.M. Crawley, A. Galonsky, C. Djalali, N. Marty, M. Morlet, A. Willis, and J.C. Jourdain, Phys. Rev. Lett. 46(1981)1318

Neutron-Hole Strength Distributions in Heavy Nuclei (I): The Reactions ^{124,130}Te(^{3}He,α)^{123,129}Te and ^{122,124,130}Te(p,d)^{121,123,129}Te; S. Gales, G.M. Crawley, D. Weber, and B. Zwieglinski, Nucl. Phys. A381(1982)173

Observation of ℓ=0, Spin-Flip Transitions in ^{48}Ca; G.M. Crawley, N. Anantaraman, A. Galonsky, C. Djalali, N. Marty, M. Morlet, A. Willis, and J.C. Jourdain, Phys. Lett. 127B(1983)322

Recent Work Pertinent to Proposal

Search for High Excitation Energy Structures in ^{90}Zr and ^{208}Pb via ^{20}Ne Inelastic Scattering; S. Fortier, S. Gales, S.M. Austin, W. Benenson, G.M. Crawley, C. Djalali, J.H. Lee, J. van der Plicht, and J.S. Winfield, Phys. Rev. C36(1987)1830

Energy Dependence of ^{12}C + ^{12}C Single-Neutron Transfer Cross Sections; J.S. Winfield, S.M. Austin, G.M. Crawley, C. Djalali, C.A. Ogilvie, R.J. Smith, Z. Chen, and M. Torres, Phys. Lett. B203(1988)345

Isovector and Isoscalar Spin-Flip Excitations in Even-Even sd-Shell Nuclei Excited by Inelastic Proton Scattering; G.M. Crawley, C. Djalali, N. Marty, M. Morlet, A. Willis, N. Anantaraman, B.A. Brown, and A. Galonsky, Phys. Rev. C 39(1989)311

^{12}C-Induced Single Particle Transfer Reactions at E/A = 50 MeV; J.S. Winfield, E. Adamides, S.M. Austin, G.M. Crawley, M.F. Mohar, C.A. Ogilvie, B. Sherrill, M. Torres, G. Yoo, and A. Nadasen, Phys. Rev. C39(1989)1395

One Nucleon Transfer Reactions Induced by ^{20}Ne at 500 and 600 MeV; S. Fortier, S. Gales, S.M. Austin, W. Benenson, G.M. Crawley, C. Djalali, J.S. Winfield, and G. Yoo, Phys. Rev. C41(1990)2689

Publication Statistics

Refereed Papers: 100 (total), 7 (1989-91), 0 (1992).
Invited Talks: 17 (total), 3 (1989-91), 1 (1992).

AARON GALONSKY

DATE OF BIRTH:	APRIL 18, 1929
DEGREES AWARDED:	
A.B. Brooklyn College	1950
M.S. University of Wisconsin	1951
Ph. D. University of Wisconsin	1954
NSF Graduate Fellowship	1952-53
APPOINTMENTS:	
Physicist, Physics Division Oak Ridge National Lab.	1954-59
Group Leader, Midwestern Universities Research Assn.	1959-64
Associate Professor, Mich. State University	1964-66
Professor, Mich. State University	1966-present
Acting Director, MSU Cyclotron Lab.	1966-67
Director, MSU Cyclotron Lab.	1967-69
Associate Director, MSU Cyclotron Lab.	1979-80
Guest Professor, Institute for Nuclear Physics, Julich, W. Germany	1975-76
Senior Referee for Physical Review Letters	1980-81
Member of Physical Review C Editorial Board	1982-85
Senior Fellow, Japan Society for the Promotion of Science, Tokyo Inst. of Technology	September-December, 1988

Representative Selection

Energy Levels of Li^6 from the Deuteron-Helium Differential Cross Sections; A. Galonsky and M.T. McEllistrem, Phys. Rev. 98(1955)590

S-Wave Detector of Deuteron Polarization and 14-MeV Polarized Neutron Source; A. Galonsky, H.B. Willard, and T.A. Welton, Phys. Rev. Lett. 2(1959)349

A_2 Precision Measurement of the Longitudinal Polarization of Betas following P^{32} Decay; A.R. Brosi, A.I. Galonsky, B.H. Ketelle, and H.B. Willard, Nucl. Phys. 33(1962)353

Observation of Gamow-Teller Strength in (p,n) Reactions; R.R. Doering, A. Galonsky, D.M. Patterson, and G.F. Bertsch, Phys. Rev. Lett. 35(1975)1691

Observation of ℓ=0, Spin-Flip Transistions in ^{48}Ca; G.M. Crawley, N. Anantaraman, A. Galonsky, C. Djalali, N. Marty, M. Morlet, A. Willis, and J.C. Jourdain, Phys. Lett. 127B(1983)322

Recent Work Pertinent to Proposal

Neutron-Fragment Coincidence Measurements in ^{14}N + Ho and ^{14}N + Ni Reactions at 35 MeV/nucleon; B.A. Remington, G. Caskey, A. Galonsky, C.K. Gelbke, L. Heilbronn, J. Heltsley, M.B. Tsang, F. Deak, A. Kiss, Z. Seres, J. Kasagi, and J.J. Kolata, Phys. Rev. C34(1986)1685

Temperatures Determined from Neutron Emission in Nucleus-Nucleus Collisions; A. Galonsky, G. Caskey, L. Heilbronn, H. Schelin, B. Remington, F. Deak, A. Kiss, Z. Seres, and J. Kasagi, Phys. Lett. B197(1987)511

Dependence of ^{12}B Excitation Energy on its Kinetic Energy in the ^{14}N + Ag Reaction at E/A = 35 MeV; F. Deak, A. Kiss, Z. Seres, A. Galonsky, C.K. Gelbke, L. Heilbronn, W. Lynch, T. Murakami, H. Schelin, M.B. Tsang, B.A. Remington, and J. Kasagi, Phys. Rev. C39(1989)733

Production of Neutron-Unbound States in Intermediate-Mass Fragments from ^{14}N + Ag Reactions at E/A = 35 MeV; L. Heilbronn, A. Galonsky, C.K. Gelbke, W.G. Lynch, T. Murakami, D. Sackett, H. Schelin, M.B. Tsang, F. Deák, A. Kiss, Z. Seres, J. Kasagi, and B.A. Remington, Phys. Rev. C43(1991)2318

Neutron Inclusive Measurements of ^{36}Ar + Ag Reactions at 35 MeV/nucleon; D. Sackett, A. Galonsky, C.K. Gelbke, H. Hama, L. Heilbronn, D. Krofcheck, W.G. Lynch, H.R. Schelin, M.B. Tsang, X. Yang, F. Deák, A. Horváth, A. Kiss, Z. Seres, J. Kasagi, and T. Murakami, Phys. Rev. C44(1991)384

Publication Statistics

Refereed Papers: 118 (total), 14 (1989-91), 3 (1992).
Invited Talks: 13 (total), 0 (1989-91), 0 (1992).

CLAUS-KONRAD GELBKE

DATE OF BIRTH:	MAY 31, 1947
DEGREES AWARDED:	
Vordiplom für Physik University of Heidelberg	1968
Diplom für Physik University of Heidelberg	1970
Dr. rer. nat., (Summa cum laude) University of Heidelberg	1973
APPOINTMENTS:	
Wissenschaftlicher Assistant Max-Planck-Institut für Kernphysik, Heidelberg	1973-1976
Summer Visitor, Brookhaven National Laboratory, USA	1974
Summer Visitor, University of Washington, Seattle, USA	1975
Physicist, Lawrence Berkeley Laboratory, Berkeley, USA	1976-1977
Associate Professor Michigan State University East Lansing, Michigan, USA	1977-1981
(September 1978-February 1979): Leave of absence to Lawrence Berkeley Laboratory, USA [Supported by Michigan State University and Lawrence Berkeley Laboratory]	1978
Alfred P. Sloan Fellow	1979-1983
Professor, Michigan State University	1981-present
Associate Director for Nuclear Science, NSCL, Michigan State University	1987-1990
University Distinguished Professor Michigan State University	1990-present

Representative Selection

Production of Neutron-Rich Nuclides by Fragmentation of 212 MeV/amu ^{48}Ca; G.D. Westfall, T.J.M. Symons, D.E. Greiner, H.H. Heckman, P.J. Lindstrom, J. Mahoney, A.C. Shotter, D.K. Scott, H.J. Crawford, C. McParland, T.C. Awes, C.K. Gelbke, and J.M Kidd, Phys. Rev. Lett. 43(1979)1859

Enhanced Emission of Nonequilibrium Light Particles in the Reaction Plane; M.B. Tsang, C.B. Chitwood, D.J. Fields, C.K. Gelbke, D.R. Klesch, W.G. Lynch, K. Kwiatkowski, and V.E. Viola, Jr., Phys. Rev. Lett. 52(1984)1967

Population of Particle Unbound States for the Reaction ^{16}O + Au at E/A = 94 MeV; Z. Chen, C.K. Gelbke, W.G. Gong, Y.D. Kim, W.G. Lynch, W.R. Maier, J. Pochodzalla, M.B. Tsang, F. Saint-Laurent, D. Ardouin, H. Delagrange, H. Doubre, J. Kasagi, A. Kyanowski, A. Peghaire, J. Péter, E. Rosato, G. Bizard, F. Lefèbvres, B. Tamain, J. Quèbert, and Y.P. Viyogi, Phys. Lett. B199(1987)171

Intensity-Interferometric Test of Nuclear Collision Geometries Obtained from the Boltzmann-Uehling-Uhlenbeck Equation; W.G. Gong, W. Bauer, C.K. Gelbke, N. Carlin, R.T. de Souza, Y.D. Kim, W.G. Lynch, T. Murakami, G. Poggi, D.P. Sanderson, M.B. Tsang, H.M. Xu, S. Pratt, D.E. Fields, K. Kwiatkowski, R. Planeta, V.E. Viola, Jr., and S.J. Yennello, Phys. Rev. Lett. 65(1990)2114

Time Scale for Emission of Intermediate Mass Fragments in ^{36}Ar + ^{197}Au Collisions at E/A = 35 MeV; Y.D. Kim, R.T. de Souza, D.R. Bowman, N. Carlin, C.K. Gelbke, W.G. Gong, W.G. Lynch, L. Phair, M.B. Tsang, F. Zhu, and S. Pratt, Phys. Rev. Lett. 67(1991)14

Recent Work Pertinent to Proposal

Multifragment Emission in the Reaction ^{36}Ar + ^{197}Au at E/A = 35, 50, 80, and 110 MeV; R.T. de Souza, L. Phair, D.R. Bowman, N. Carlin, C.K. Gelbke, W.G. Gong, Y.D. Kim, M.A. Lisa, W.G. Lynch, G.F. Peaslee, M.B. Tsang, H.M. Xu, F. Zhu, and W.A. Friedman, Phys. Lett. B268(1991)6

Space-Time Evolution of Nuclear Reactions Probed by Two-Proton Intensity Interferometry; W.G. Gong, W. Bauer, C.K. Gelbke, and S. Pratt, Phys. Rev. C43(1991)781

Space-Time Evolution of the Reactions ^{14}N + ^{27}Al, ^{197}Au at E/A = 75 MeV and ^{129}Xe + ^{27}Al, ^{122}Sn at E/A = 31 MeV Probed by Two-Proton Intensity Interferometry; W.G. Gong, C.K. Gelbke, W. Bauer, N. Carlin, R.T. de Souza, Y.D. Kim, W.G. Lynch, T. Murakami, G. Poggi, D.P. Sanderson, M.B. Tsang, H.M. Xu, D.E. Fields, K. Kwiatkowski, R. Planeta, V.E. Viola, S.J. Yennello, and S. Pratt, Phys. Rev. C43(1991)1804

Reaction Plane Determination for ^{36}Ar + ^{197}Au Collisions at E/A = 35 MeV; M.B. Tsang, R.T. de Souza, Y.D. Kim, D.R. Bowman, N. Carlin, C.K. Gelbke, W.G. Gong, W.G. Lynch, L. Phair, and F. Zhu, Phys. Rev. C44(1991)2065

Final-State Coulomb Interactions for Intermediate-Mass Fragment Emission; Y.D. Kim, R.T. de Souza, C.K. Gelbke, W.G. Gong, and S. Pratt, Phys. Rev. C45(1992)387

Publication Statistics

Refereed Papers: 143 (total), 28 (1989-91), 7 (1992).
Invited Talks: 47 (total), 10 (1989-91), 0 (1992).

MORTON M. GORDON

DATE OF BIRTH: NOVEMBER 8, 1924

DEGREES AWARDED:

Ph.D. Washington University	1950

APPOINTMENTS:

Instructor University of Florida	1950-1952
Asst. Professor University of Florida	1952-1954
Associate Professor University of Florida	1954-1957
Professor University of Florida	1957-1959
Associate Professor Michigan State Univ.	1959-1962
Professor Michigan State University	1962-present
Consultant Oak Ridge National Lab	6-9, 1953 6-9, 1956 June 1957-Sept. 1958
Cyclotron Consultant University of Maryland	July 1966
Cyclotron Consultant Oak Ridge National Lab	August 1966
Cyclotron Consultant Indiana University	July 1967
Cyclotron Consultant Univ. of British Columbia	August 1971
Cyclotron Consultant Indiana University	1972-1973
Cyclotron Consultant TRIUMF Cyclotron	August 1983; August 1991

Representative Selection

Effects of Field Imperfections on Radial Stability in a Three-Sector Cyclotron; M.M. Gordon and W.S. Hudec, Nucl. Instr. and Meth. 18-19(1962)243

Design Considerations for a Separated Turn Isochronous Cyclotron; M. Gordon, Nucl. Instr. and Meth. 58(1968)245

Orbit Properties of the Isochronous Cyclotron Ring with Radial Sectors; Ann. Phys. (N.Y.) 50(1968)571

Improving the Energy Resolution Duty Factor of Isochronous Cyclotrons; M.M. Gordon, Particle Accelerators 2(1971)203

Migma Distribution Functions and Fusion Rates; M.M. Gordon and F. Marti, Nucl. Instr. and Meth. 135(1976)369

Work Pertinent to Proposal

Effects of Spiral Electric Gaps in Superconducting Cyclotrons; M.M. Gordon, Nucl. Instr. and Meth. 169(1980)327

Electric Focusing in Cyclotrons with Unusual Dees; M.M. Gordon and F. Marti, Particle Accelerators 11(1981)161

Radial-Longitudinal Coupling in Cyclotrons and Focusing Complementarity; M.M. Gordon and F. Marti, Particle Accelerators, 12(1982)13

Computation of Closed Orbits and Basic Focusing Properties for Sector-Focused Cyclotrons and the Design of "Cyclops"; M.M. Gordon, Particle Accelerators 16(1984)39

The Z^4 Orbit Code and Focusing Bar Fields Used in Beam Extraction Calculations for Superconducting Cyclotrons; M.M. Gordon and V. Taivassalo, Nucl. Instr. and Meth. A247(1986)423

Publication Statistics

Refereed Papers: 30 (total), 1 (1989-91), 0 (1992).
Invited Talks: 4 (total), 0 (1989-91), 0 (1992).

EDWIN KASHY

DATE OF BIRTH: JULY 8, 1934

DEGREES AWARDED:

B.A. Rice University	1956
Ph.D. Rice University	1959

APPOINTMENTS:

Postdoctoral Fellow Massachusetts Institute of Technology	1959-1960
Instructor Massachussetts Institute of Technology	1960-1962
Assistant Professor Princeton University	1962-1964
Associate Professor Michigan State University	1964-1967
Professor Michigan State University	1967-present
Visitor Niels Bohr Institute Copenhagen	1970-1971
Guggenheim Fellowship	1970-1971
Acting Director Cyclotron Lab.	1972-1973
Visiting Scientist University of Paris, Orsay	Dec. 1976 - Feb. 1977
Visiting Professor University of Paris, Orsay	Jan.-June 1979
Visiting Professor University of Paris, Orsay	Sept. 1990 - Jan. 1991

Representative Selection

Level Structure of Ar^{41} form the $Ar^{40}(d,p)Ar^{41}$ Reaction; E. Kashy, A.M. Hoogenboom, and W.W. Buechner, Phys. Rev. 124(1961)1917

Shell Model States and Configuration Mixing in the Ti Isotopes by the (p,d) Reaction; E. Kashy and T.W. Conlon, Phys. Rev. 135(1964)B389

First Excited A=9 Quartet; E. Kashy and W. Benenson, Phys. Rev. C10(1974)2633

Isobaric Quartets in Nuclei; W. Benenson and E. Kashy, Revs. Mod. Phys. 51(1979)527

Nuclear Temperatures in the Reaction of ^{14}N with Ag at 35 MeV/nucleon; D.J. Morrissey, W. Benenson, E. Kashy, C. Bloch, M. Lowe, R.A. Blue, R.M. Ronningen, B. Sherrill, H. Utsunomiya, and I. Kelson, Phys. Rev. C32(1985)877

Recent Work Pertinent to Proposal

Superconducting Cyclotrons for Neutron Therapy; H. Blosser, D. Johnson, E. Kashy, B. Milton and J. Riedel, in Tenth International Conference on Cyclotrons, IEEE Publ., New York, 1984, p. 436.

A Method for the Uniform Irradiation of Large Targets; E. Kashy and B. Sherrill, Nucl. Instr. and Meth. B26(1987)610

High-Energy Gamma-Ray Production in Light-Ion Induced Reactions; C.L. Tam, J. Stevenson, W. Benenson, J. Clayton, Y. Chen, E. Kashy, A.R. Lampis, D.J. Morrissey, M. Samuel, T.K. Murakami, and J.S. Winfield, Phys. Rev. C38(1988)2526

Particle Stability of the Isotopes ^{26}O and ^{32}Ne in the Reaction 44 MeV/nucleon ^{48}Ca + Ta; D. Guillemaud-Mueller, J.C. Jacmart, E. Kashy, A. Latimier, A. Mueller, F. Pougheon, A. Richard, Yu.E. Penionzhkevich, A.G. Artuhk, A.V. Belozyorov, S.M. Lukyanov, R. Anne, P. Bricault, C. Detraz, M. Lewitowicz, Y. Zhang, Yu.S. Lyutostansky, M.V. Zverev, D. Bazin, and W.D. Schmidt-Ott, Phys. Rev. C41(1990)937

Positron-Electron Pairs in Heavy Ion Reactions: Status of the APEX Collaboration; E. Kashy, I. Ahmad, S.M. Austin, R.R. Betts, F.P. Calaprice, F. Chan, P. Chowdhury, R. Dunford, J.D. Fox, S. Freedman, S. Gazes, J.S. Greenberg, A.L. Hallin, T. Happ, N. Kaloskamis, C.J. Lister, J. Last, M.R. Maier, D. Mikolas, J.P. Schiffer, T. Trainor, P. Wilt, J.S. Winfield, F.L.H. Wolfs, A. Wuosmaa, and J.E. Yurkon, in Proceedings of the 7th Winter Workshop on Nuclear Dynamics, Key West, Florida, January 26 - February 2, 1991, edited by W. Bauer and J. Kapusta (World Scientific Publishing, Singapore, 1991), p. 320.

Publication Statistics

Refereed Papers: 113 (total), 9 (1989-91), 0 (1992).
Invited Talks: 7 (total), 1 (1989-91), 0 (1992).

WILLIAM GREGORY LYNCH

DATE OF BIRTH: JUNE 1, 1950

DEGREES AWARDED:

Bachelor of Arts, Physics Phi Beta Kappa, Sigma Pi Sigma University of Colorado	1973
Ph.D., Nuclear Physics University of Washington	1980

APPOINTMENTS:

Research Associate National Superconducting Cyclotron Laboratory Michigan State University	1980-1984
Assistant Professor Department of Physics/Astronomy Michigan State University	1984-1987
Associate Professor Department of Physics/Astronomy Michigan State University	1987-Present
NSF Presidential Young Investigator	1985 Recipient

Representative Selection

Relativity, Nuclear Polarizability and Screening in Sub-Coulomb Elastic Scattering; W.G. Lynch, M.B. Tsang, H.C. Bhang, J.G. Cramer, and R.J. Puigh, Phys. Rev. Lett. 48(1982)979

Statistical Formalism for Particle Emission; W.A. Friedman and W.G. Lynch, Phys. Rev. C28(1983)16

Deflection of Non-equilibrium Light Particles By the Nuclear Mean Field; M.B. Tsang, R.M. Ronningen, G. Bertsch, Z. Chen, C.B. Chitwood, D.J. Fields, C.K. Gelbke, W.G. Lynch, T. Nayak, J. Pochodzalla, T. Shea, and W. Trautmann, Phys. Rev. Lett. 57(1986)559

Transverse Momentum Distributions in Intermediate Energy Heavy-Ion Collisions; G.F. Bertsch, W.G. Lynch, and M.B. Tsang, Phys. Lett. B189(1987)384

Fragmentation Products with Non-Statistical Excited State Populations; T.K. Nayak, T. Murakami, W.G. Lynch, K. Swartz, D.J. Fields, C.K. Gelbke, Y.D. Kim, J. Pochodzalla, M.B. Tsang, F. Zhu, and K. Kwiatkowski, Phys. Rev. Lett. 62(1989)1021

Recent Work Pertinent to Proposal

Multifragment Disintegration of the $^{129}Xe + ^{197}Au$ System at E/A = 50 MeV; D.R. Bowman, G.F. Peaslee, R.T. de Souza, N. Carlin, C.K. Gelbke, W.G. Gong, Y.D. Kim, M.A. Lisa, W.G. Lynch, L. Phair, M.B. Tsang, C. Williams, N. Colonna, K. Hanold, M.A. McMahan, G.J. Wozniak, L.G. Moretto, and W.A. Friedman, Phys. Rev. Lett. 67(1991)1527

Light Particle Correlations for the ^{3}He + Ag Reaction at 200 MeV; F. Zhu, W.G. Lynch, T. Murakami, C.K. Gelbke, Y.D. Kim, T.K. Nayak, R. Pelak, M.B. Tsang, H.M. Xu, W.G. Gong, W. Bauer, K. Kwiatkowski, R. Planeta, S. Rose, V.E. Viola, Jr., L.W. Woo, S. Yennello, and J. Zhang, Phys. Rev. C44(1991)R582

Emission Temperatures from the Decay of Particle Unstable Complex Nuclei; T.K. Nayak, T. Murakami, W.G. Lynch, K. Swartz, D.J. Fields, C.K. Gelbke, Y.D. Kim, J. Pochodzalla, M.B. Tsang, H.M. Xu, F. Zhu, and K. Kwiatkowski, Phys. Rev. C45(1992)132

Residue Temperatures and the Nuclear Equation of State; H.M. Xu, P. Danielewicz, and W.G. Lynch, MSUCL-816, submitted for publication (1991).

Thermalization in Nucleus-Nucleus Collisions; F. Zhu, W.G. Lynch, D.R. Bowman, R.T. de Souza, C.K. Gelbke, Y.D. Kim, L. Phair, M.B. Tsang, C. Williams, H.M. Xu, and J. Dinius, submitted for publication (1992).

Publication Statistics

Refereed Papers: 79 (total), 27 (1989-91), 6 (1992).
Invited Talks: 20 (total), 7 (1989-91), 1 (1992).

DAVID JOSEPH MORRISSEY

DATE OF BIRTH: DECEMBER 7, 1953

DEGREES AWARDED:

B.S. Chemistry Pennsylvania State Univ.	1975
Ph.D. Chemistry Univ. of California at Berkeley	1978

APPOINTMENTS:

Post-Doctoral Research Fellow Lawrence Berkeley Lab	1978-1979
Post-Doctoral Research Fellow Lawrence Berkely Lab	1979-1981
Assistant Professor Michigan State Univ.	1981-1986
Associate Professor Michigan State Univ.	1986-1991
Professor Michigan State Univ.	1991-present
Visiting Scientist Gesellschaft fur Schwerionenforschung Darmstadt, West Germany	1987-1988

Representative Selection

Microscopic and Macroscopic Model Calculations of Relativistic Heavy-ion Fragmentation Reactions; D.J. Morrissey, L.F. Oliveira, J.O. Rasmussen, G.T. Seaborg, Y. Yariv, and Z. Fraenkel, Phys. Rev. Lett. 43(1979)1139

Superheavy Elements: A Crossroads; G.T. Seaborg, W. Loveland, and D.J. Morrissey, Science 203(1979)711

Excited State Production and Temperature Measurement in a Heavy-Ion Reaction; D.J. Morrissey, W. Benenson, E. Kashy, B. Sherrill, A.D. Panagiotou, R.A. Blue, R.M. Ronningen, J. van der Plicht, and H. Utsunomiya, Phys. Lett. 148B(1984)423

Thermal Population of Nuclear Excited States; D.J. Morrissey, C. Bloch, W. Benenson, E. Kashy, R.A. Blue, R.M. Ronningen, and R. Aryaeinejad, Phys. Rev. C34(1986)761

Identification of New Nuclei Near the Proton Drip Line for $31 \leq Z \leq 37$; M.F. Mohar, D. Bazin, W. Benenson, D.J. Morrissey, N.A. Orr, B.M. Sherrill, D. Swan, J.A. Winger, A. Mueller, and D. Guillemaud-Mueller, Phys. Rev. Lett. 66(1991)1571

Recent Work Pertinent to Proposal

Target Fragmentation of Au and Th by 2.6 GeV Protons; K. Sümmerer, W. Brüchle, D.J. Morrissey, M. Schädel, B. Szweryn, and Yang Weifan, Phys. Rev. C42(1990)2546

Beta-Decay Branching Ratios of the Neutron-Rich Nucleus ^{15}B; R. Harkewicz, D.J. Morrissey, B.A. Brown, J.A. Nolen, N.A. Orr, B.M. Sherrill, J.S. Winfield, and J.A. Winger, Phys. Rev. C44(1991)2365

The Beta-decay of ^{48}Mn: Improved Data on Gamow-Teller Quenching; J. Szerypo, D. Bazin, B.A. Brown, D. Guillemaud-Mueller, H. Keller, R. Kirchner, O. Klepper, D. Morrissey, E. Roeckl, D. Schardt, and B. Sherrill, Nucl. Phys. A528(1991)203

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Publication Statistics

Refereed Papers: 67 (total), 18 (1989-91), 4 (1992).
Invited Talks: 14 (total), 6 (1989-91), 1 (1992).

BRADLEY M. SHERRILL

DATE OF BIRTH:

DEGREES AWARDES:

B.A. Coe College, Cedar Rapids, Iowa	1980
M.S. Michigan State University	1982
Ph.D. Michigan State University	1985

APPOINTMENTS

Specialist NSCL, Michigan State Univ.	January-June 1985
Visiting Scientist GSI, Darmstadt, West Germany	1985-1986
Physicist NSCL, Michigan State Univ.	1986-1989
Staff Physicist NSCL, Michigan State Univ.	1990-1991
Assistant Professor Michigan State Univ.	1991-present

Representative Selection

Mass of ^{59}Zn; B. Sherrill, K. Beard, W. Benenson, B.A. Brown, E. Kashy, W.E. Ormand, H. Nann, J.J. Kehayias, A.D. Bacher, and T.E. Ward, Phys. Rev. C28(1983)1712

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Recent Work Pertinent to Proposal

The First Excited State in ^{23}Al and the Astrophysical rp-Process; M. Wiescher, J. Görres, B. Sherrill, M. Mohar, J.S. Winfield, and B.A. Brown, Nucl. Phys. A484(1988)90

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Identification of New Nuclei Near the Proton-Drip Line; M.F. Mohar, D. Bazin, W. Benenson, D.J. Morrissey, N.A. Orr, B.M. Sherrill, D. Swan, J.A. Winger, A. Mueller, and D. Guillemaud-Mueller, Phys. Rev. Lett. 66(1991)1571

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The GSI Projectile Fragment Separator (FRS) - A Versatile Magnetic System for Relativistic Heavy Ions; H. Geissel, P. Armbruster, K.H. Behr, A. Brünle, K. Burkard, M. Chen, H. Folger, B. Franczak, H. Keller, O. Klepper, B. Langenbeck, F. Nickel, E. Pfeng, M. Pfützner, E. Roeckl, K. Rykaczewski, I. Schall, D. Schardt, C. Scheidenberger, K.-H. Schmidt, A. Schröter, T. Schwab, K. Sümmerer, M. Weber, G. Münzenberg, T. Brohm, H.-G. Clerc, M. Fauerbach, J.-J. Gaimard, A. Grewe, E. Hanelt, B. Knödler, M. Steiner, B. Voss, J. Weckenmann, C. Ziegler, A. Magel, H. Wollnik, J.P. Dufour, Y. Fujita, D.J. Vieira, and B. Sherrill, Nucl. Instr. and Meth. (1992), in press.

Publication Statistics

Refereed Papers: 29 (total), 10 (1989-91), 3 (1992).
Invited Talks: 12 (total), 6 (1989-91), 4 (1992).

MICHAEL THOENNESSEN

DATE OF BIRTH: AUGUST 23, 1959

DEGREES AWARDED:

Diplom Physics Universität zu Köln	1985
Ph.D. Physics SUNY at Stony Brook	1988

APPOINTMENTS:

Research Associate Oak Ridge National Laboratory	1988-1990
Assistant Professor Michigan State University	1990-present

Representative Selection

Evidence for Prolate Deformation in Highly Excited Neutron-Deficient Pb Isotopes; D.R. Chakrabarty, M. Thoennessen, N. Alamanos, P. Paul, and S. Sen, Phys. Rev. Lett. 58(1987)1092

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Giant Dipole Resonances in Excited Er Isotopes; D.R. Chakrabarty, M. Thoennessen, S. Sen, P. Paul, R. Butsch, and M.G. Herman, Phys. Rev. C37(1988)1437

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Recent Work Pertinent to Proposal

Nuclear Deformation in Excited Pb Isotopes from Giant Dipole Y-ray--Fission Angular Correlations; R. Butsch, M. Thoennessen, D.R. Chakrabarty, M.G. Herman, and P. Paul, Phys. Rev. C41(1990)1530

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Nuclear Dissipation and the Feeding of Superdeformed Bands; M. Thoennessen and J.R. Beene, Phys. Rev. C45 (1992), in press

Publication Statistics

Refereed Papers: 17 (total), 7 (1989-91), 4 (1992).
Invited Talks: 5 (total), 4 (1989-91), 1 (1992).

GARY D. WESTFALL

DATE OF BIRTH: JUNE 10, 1950

DEGREES AWARDED:

B.S. University of Texas Arlington, Texas	1972
Ph.D. University of Texas Austin, Texas	1975

APPOINTMENTS:

Postdoctoral Fellow Lawrence Berkeley Lab	1975-1977
Staff Scientist Lawrence Berkeley Lab.	1977-1981
Scientific Coordinator Bevalac	1978-1981
Liaison Officer Bevalac Users Assoc.	1979-1981
Assistant Professor Nat. Super. Cyclotron Lab. Michigan State University	1981-1984
Associate Professor Nat. Super. Cyclotron Lab. Michigan State University	1984-1987
Associate Professor Dept. of Physics & Astronomy Michigan State Univ.	1987-1991
Professor Dept. of Physics & Astronomy Michigan State University	1991-present

Representative Selections

A Nuclear Fireball Model for Proton Inclusive Spectra from Relativistic Heavy Ion Collisions; G.D. Westfall, J. Gosset, P.J. Johansen, A.M. Poskanzer, W.G. Meyer, H.H. Gutbrod, A. Sandoval, and R. Stock, Phys. Rev. Lett. 37(1976)1202

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Production of Neutron-Rich Nuclides by Fragmentation of 212 MeV/amu ^{48}Ca; G.D. Westfall, T.J.M. Symons, D.E. Greiner, H.H. Heckman, P.J. Lindstrom, J. Mahoney, A.C. Shotter, D.K. Scott, H.J. Crawford, C. MacParland, T.C. Awes, C.K. Gelbke, and J.M. Kidd, Phys. Rev. Lett. 42(1979)1859

Coalescence of Complex Fragments; B.V. Jacak, D. Fox, and G.D. Westfall, Phys. Rev. C31(1985)704

Disappearance of Flow in Heavy Ion Collisions; D. Krofcheck, W. Bauer, G.M. Crawley, C. Djalali, S. Howden, C.A. Ogilvie, A. Vander Molen, G.D. Westfall, W.K. Wilson, R.S. Tickle, and C. Gale, Phys. Rev. Lett. 63(1989)2028

Recent Work Pertinent to Proposal

Event Shape Analysis: Sequential Versus Simultaneous Multifragment Emission; D.A. Cebra, S. Howden, J. Karn, A. Nadasen, C.A. Ogilvie, A. Vander Molen, G.D. Westfall, W.K. Wilson, J.S. Winfield, and E. Norbeck, Phys. Rev. Lett. 64(1990)2246

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Mean Field Deflection in Peripheral Heavy-Ion Collisions; W.K. Wilson, D. Cebra, S. Howden, J. Karn, D. Krofcheck, R. Lacey, T. Li, A. Nadasen, T. Reposeur, A. Vander Molen, C.A. Ogilvie, G.D. Westfall, and J.S. Winfield, Phys. Rev. C43(1991)2696

Publication Statistics

Refereed Papers: 68 (total), 20 (1989-91), 4 (1992).
Invited Talks: 27 (total), 11 (1989-91), 1 (1992).

RICHARD AU

DATE OF BIRTH: NOVEMBER 29, 1940

DEGREES AWARDED:

B.S.
Michigan State Univ.

APPOINTMENTS:

Cyclotron Nuclear Data Data Manager Cyclotron Lab, M.S.U.	1969-1970
Scientific Computer Systems Systems Programmer Cyclotron Lab, M.S.U.	1970-1973
Specialist Cyclotron Lab, M.S.U.	1973-1984
Senior Physicist NSCL, M.S.U.	1984-present

Representative Selection

Overview of the Data Acquisition System at NSCL; R. Au, W. Benenson, R. Fox, and D. Notman, IEEE Trans. Nucl. Sci. NS-30(1983)3808

Fast Harmonic Field Mapper; R. Au, M. Fowler, H. Hanawa, F. Marti, J. Riedel, and Z.G. Qua, in Proceedings of the Tenth International Conference on Cyclotrons, IEEE Publ., New York, 1984, p. 104.

Progress on the Data Acquisition System at NSCL; R. Fox, R. Au, A. Vander Molen, B. Pollack, and T. Glynn, IEEE Trans. Nucl. Sci. NS-32(1985)1286

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Recent Work Pertinent to Proposal

A Fast Intelligent Data Acquisition System; A. Vander Molen, R. Au, R. Fox, and T. Glynn, Nucl. Instr. and Meth. A236(1985)359

Status of the NSCL 4π Data Acquisition System; A. Vander Molen, R. Au, R. Fox, M. Maier and M. Robertson, IEEE Transactions on Nuclear Science 36(1989)1559

A Multitasking, Multisinked, Multiprocessor Data Acquisition Front End; R. Fox, R. Au, and A. Vander Molen, IEEE Transactions on Nuclear Science 36(1989)1562

A Network Protocol for Data Acquisition at NSCL; R. Fox, R. Au, and A. Vander Molen, IEEE Transactions on Nuclear Science 36(1989)1608

PETER S. MILLER

DATE OF BIRTH: MARCH 19,1942

DEGREES AWARDED:

B.A. Physics Swarthmore College	1964
Ph.D. Physics Princeton Unversity	1969

APPOINTMENTS:

Instructor Department of Physics Princeton University	1968
Research Associate MSU Cyclotron Lab.	1969
Specialist MSU Cyclotron Lab.	1973
Senior Physicist NSCL Michigan State University	1984-present

Representative Selection

Widths of Analog States in Bi and Po from (p,n) Spectra;G.M. Crawley, P.S. Miller, A. Galonsky, T. Amos, and R. Doering, Phys. Rev. C6(1972)1890

Fast Resolution Optimization in a Magnetic Spectrograph; E. Kashy, P.S. Miller, and J.A. Nolen, Jr., Nuc. Instrum. and Meth. 156(1978)591

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Radioactivation of a Heavy Ion Cyclotron Central Region; M.L. Mallory, T. Antaya, F. Marti, and P. Miller, Nuc. Instr. and Meth. 222(1984)431

Work Pertinent to Proposal

Neutron Angular And Energy Distributions from 710-MeV Alphas Stopping in Water, Carbon, Steel and Lead, and 640-MeV Alphas Stopping in Lead; R.A. Cecil, B.D. Anderson, A.R. Baldwin, R. Madey, A. Galonsky, P. Miller, L. Young, and F.M. Waterman, Phys. Rev. C21(1980)2471

K-500 Superconducting Cyclotron Deflector High Voltage Tests; T. Antaya, P. Miller, and D. Poe, IEEE Trans. on Nuc. Sci. NS-28(1981)2982

Superconducting Cyclotron Magnet Coil Short; M.L. Mallory, H.G. Blosser, D.J. Clark, H. Laumer, D. Lawton, P. Miller, and F. Resmini, Proc. 9th International Conference on Cyclotrons and their Applications, Caen, p. 391 (1981)

Magnetic Field Imperfections in the K500 Superconducting Cyclotron; F. Marti and P. Miller, in Tenth International Conference on Cyclotrons, IEEE Publ., New York, 1984, p. 107.

Status of the K1200 Cyclotron; P.S. Miller, Nucl. Instr. and Meth. B56/57(1991)1029

Publication Statistics

Refereed Papers: 14 (total), 1 (1989-91), 0 (1992).
Invited Talks: 2 (total), 1 (1989-91), 0 (1992).