

SECTION III

EXPERIMENTS APPROVED AT  
PROGRAM ADVISORY COMMITTEE MEETINGS  
(PAC-4 AND PAC-5)

PAC4 AND THE EXPERIMENTAL PROGRAM

The fourth meeting of the NSCL Program Advisory Committee (PAC4) was held January 13-14, 1985. The Committee consisted of:

1. W. Benenson, NSCL
2. D. Cline, Rochester
3. J. Cramer, Washington
4. S. Koonin, Caltech
5. V. Viola, Indiana
6. S. Austin, NSCL, Convenor

The Committee considered 22 proposals for 2985 hours from 91 individual scientists from 23 institutions and 7 countries. The committee recommended to the Research Director, allocation of 1582 hours. This amount of beam time, with addition of Research Director's discretionary time, is estimated to represent about six months of real time. A list of the approved experiments and a statistical summary of them is given below.

APPROVED EXPERIMENTS NSCL PAC4

Experiment Number	Title and Authors (Spokesperson Underlined)	Hours	
		Apvd	Resvd
85002	<sup>22</sup> Al Mass Measurement - <u>W. Benenson</u> , J.S. Winfield, C. Bloch, E. Kashy, J.A. Nolen, Jr., B. Sherrill, J. Stevenson, J. Vanderplicht, NSCL	102	0
85003	Associated Neutron Multiplicities in Intermediate Energy Collisions - <u>W. Benenson</u> , D.J. Morrissey, C. Bloch, E. Kashy, G. Caskey, A.I. Galonsky, B. Remington, J. Heltsley, L. Hellbronn, NSCL	164	0
85004	Forward Angle Measurements of Projectile Fragmentation - <u>G. Crawley</u> , G. Westfall, R. Ronningen, S. Angius, V. Rotberg, D. Fox, D. Cebra, Pereira, Sala, Szanto de Toledo, A. Menchaca-Rocha, M. Brandan, M. and A. Etchegoyen, NSCL; USP, Brazil; Univ. of Chile; CNEA, Buenos Aires	72	0
85005	Production of Unstable Nuclear Resonances - <u>G.D. Westfall</u> , D. Cebra, R.S. Tickle, D. Fox, Z. Koenig, NSCL; Univ. of Michigan	100	0
85007	Nucleus-Nucleus Photon Bremsstrahlung - <u>J. Stevenson</u> , W. Benenson, K. Beard, C. Bloch, E. Kashy, D.J. Morrissey, B. Sherrill, J.S. Winfield - NSCL	130	0
85008	Beta Decay of <sup>9</sup> C - <u>R. Sherr</u> , J.A. Nolen Jr., Z.Q. Xie, E. Kashy, W. Benenson, B.A. Brown, D. Mikolas, J. Stevenson, L.H. Harwood, J.D. Brown, Princeton; NSCL	72	0
85009	Structures at Very High Excitation Energy Observed in Heavy Ion Inelastic Scattering - <u>S. Gales</u> , S. Austin, W. Benenson, G.M. Crawley, H. Vanderplicht, J. Winfield, H. Wu, Z. Chen, V. Borel, S. Fortier, IPN, Orsay; NSCL	120	0

85010	Measurement of Total Reaction Cross Sections in Nucleus-Nucleus Collisions - <u>J.G. Cramer</u> , R.A. Loveman, D.D. Leach, W.G. Lynch, T. Murakami, D.R. Tieger, M.Y. Tsang, H. Vanderplicht, Univ. of Wash; Univ. of Colo; NSCL	140	0
85012	Target dependence of $^{22}\text{Ne}$ projectile dissociation at 25 MeV/nucleon - <u>H. Utsunomiya</u> , D.J. Morrissey, L.H. Harwood, E.C. Deci, NSCL; Alma College	0	40
85015	Particle Response Function to High Excitation Energy - <u>G.M. Crawley</u> , J.E. Duffy H. Vanderplicht, R. Tickle, S. Gales, E. Gerlic, C.P. Massolo, J.E. Finck, NSCL; Univ. of Michigan; IPN, Orsay; Central Michigan University	60	0
85016	In-Beam Gamma-Ray Spectroscopy of Odd-Odd Deformed Nuclei in the Re Region - W.C. <u>McHarris</u> , W. Olivier, Wen-Tsae Chou, J. <u>Kupstas-Guido</u> , D. Mason, NSCL	96	0
85018	Survey of the Production of Intermediate Mass Fragments - <u>S.M. Austin</u> , Z. Chen, C.K. Gelbke, W.G. Lynch, J. Pochodzalla, D.K. Scott, M.B. Tsang, J.S. Winfield, H. Wu, K. Kwiatkowski, V.E. Viola, NSCL; Indiana University	150	0
85019	Study of Spin Transfer Strength with the ( $^6\text{Li}, ^6\text{He}$ ) Reaction - <u>J.S. Winfield</u> , S.M. Austin, N. Anantaraman, Z.P. Chen, A. Galonsky, H. Vanderplicht, H.L. Wu, C.C. Chang, G. Ciangaru, NSCL; Maryland; Schlumberger Well Services, TX	72	0
85020	Lifetime Measurements of Neutron-Rich Light Isotopes - <u>J.A. Nolen</u> , L.H. Harwood, M.S. Curtin, Z.Q. Xie, B. Sherrill, B.A. Brown, J. Stevenson, NSCL; KMS Fusion	72	0
85021	Fragmentation and the Emission of Particle Unstable Complex Nuclei - <u>W.G. Lynch</u> , C.B. Chitwood, D.J. Fields, C.K. Gelbke, J. Pochodzalla, M.B. Tsang, NSCL	168	0
85022	Investigation of Soil Nitrogen Transformations Using $^{13}\text{N}$ - <u>J.M. Tiedje</u> , D. Morrissey, J.A. Nolen Jr., G.P. Robertson, C. Rice, E. Aerssens, S.N. Huang, P. Groffman, U. Ronner, M. Klug, G. Walker, Dept. of Crop and Soil Sciences, MSU; NSCL; Kellogg Biological Station	24	0

SUMMARY OF APPROVED AND RESERVED TIME (PAC 4)

No. of Proposals	Category	Hours	(approved/reserved)
8	Nuclear Structure	734	0
7	Heavy Ion Reactions	784	40

1	Applied	24	
7	Inside NSCL	732	40
9	Mixed Inside Outside	810	0

All of the beam lines except the Enge line will be used to perform these experiments with the S320 and the Scattering chamber having the heaviest use with six and four experiments, respectively. Beam time will usually be scheduled by alternating between the north and south vaults, the respective locations of these two devices.

PAC5 AND THE EXPERIMENTAL PROGRAM

The fifth meeting of the NSCL Program Advisory Committee (PAC5) was held July 28-29, 1985. The Committee consisted of:

1. W. Benenson, NSCL
2. D. Cline, Rochester
3. J. Cramer, Washington
4. S. Koonin, Caltech
5. V. Viola, Indiana
6. P. Siemens, Texas
7. S. Austin, NSCL, Convenor

The Committee considered 22 proposals for 2449 hours from 66 individual scientists from 15 institutions and 5 countries. The committee recommended to the Research Director, allocation of 1624 hours. This amount of beam time, with addition of Research Director's discretionary time, is estimated to represent about six months of real time. A list of the approved experiments and a statistical summary of them is given below.

APPROVED EXPERIMENTS NSCL PAC5

Experiment Number	Title and Authors (Spokesperson Underlined)	Hours Apvd	Hours Resvd
85023	High Spin Spectroscopy in Neutron Rich Rare Earth Nuclei Using Heavy Ion Induced Transfer Reactions. <u>J.X. Saladin</u> , D. Morrissey, R. Blue, R. Ronningen, E. Deci, C. Baktash, I. Lee, C. Knott, M. Kaplan, M. Metlay; NSCL, Alma College, ORNL, U. of Pittsburgh.	120	0
85024	Decay of a High Spin Isomer in $^{17}\text{W}$ and the Question of Triaxial Behavior. <u>J.X. Saladin</u> , C. Baktash, I.Y. Lee, R. Blue, R. Ronningen, C. Knott, M. Kaplan, M. Metlay; University of Pittsburgh, ORNL, NSCL.	0	120
85026	Lifetime Measurements of Neutron-Rich Light Isotopes. <u>J. Nolen</u> , J. Stevenson, J. Winfield, Z.Q. Xie, D. Mikolas, L. Harwood, M.S. Curtin, S. Heckman, B. Sherrill, B.A. Brown; NSCL, KMS Fusion.	72	0
85027	Search for $^{12}\text{C}$ Clusters in $^{28}\text{Si}$ via $^{12}\text{C}-^{12}\text{C}$ Quasi-Elastic Scattering. <u>A. Nadasen</u> , R.E. Warner, A. Galonsky, F.D. Becchetti, J.W. Janecke, K.T. Hecht; University of Michigan, Oberlin College.	48	0
85029	Very-High Energy Light-Particle Production $\theta = 0^\circ$ . <u>F. Becchetti</u> , J. Janecke, P. Schulman, P. Lister, R. Stern, D. Kovar; University of Michigan.	120	0
85030	A Test for Statistical Equilibrium in Binary Reactions of $^{14}\text{N}$ with $^{12}\text{C}$ . <u>D.J. Morrissey</u> , W. Benenson, C. Bloch, R. Blue, E. Kashy, R.M. Ronningen, A. Tam; NSCL.	96	0
85031	Systematics of Single-Nucleon Transfer Cross-Sections for $^{12}\text{C} + ^{208}\text{Pb}$ . <u>J.S. Winfield</u> , S.M. Austin, G.M. Crawley, Z.P. Chen, H.L. Wu, C.C. Chang; NSCL, U. of Maryland	84	0

85032	Charged Particle Multiplicities Associated with High Energy Gamma Emission. <u>E. Kashy</u> , J. Stevenson, C. Bloch, W. Benenson, D.J. Morrissey, G. Westfall, J. Winfield, A. Tam, A. Lampis, D. Cebra, D. Fox; NSCL.	144	0
85033	Large Angle Correlations of Light Particles. <u>D. Fox</u> , G.D. Westfall, D. Cebra, J. van der Plicht D. Horn; NSCL, Chalk River.	92	0
85034	Transition from Bound to Unbound Systems. <u>D. Cebra</u> , G. Westfall, D. Fox, J. van der Plicht, S. Angius, G. Crawley, S. Tanaka; NSCL.	120	0
85036	Nucleus-Nucleus Photon Bremsstrahlung (Renewal of 85007). <u>J. Stevenson</u> , W. Benenson, K. Beard, C. Bloch, E. Kashy, A. Lampis, D.J. Morrissey, M. Samuel, A. Tam, J.S. Winfield; NSCL.	60	0
85037	Determination of the Circular Gamma-Ray Polarization Associated with the Emission of Intermediate Mass Fragments. <u>M.B. Tsang</u> , D.J. Fields, C.K. Gelbke, H.M. Xu, W.G. Lynch, T. Nayak, R. Ronningen, T. Shea, W. Trautmann, W. Dunnweber; NSCL, GSI, U. of Munchen.	200	0
85038	Search for $^3\text{He}$ . <u>J. Stevenson</u> , J. Nolen, W. Benenson L. Harwood, S. Heckman, E. Kashy, A. Lampis, D. Mikolas, M. Samuel, A. Tam, J.S. Winfield, Z.Q. Xie; NSCL.	48	0
85039	High-Spin Particle-Hole Stretched States with the ( $\alpha$ , $^3\text{He}$ ) & ( $\alpha$ , t) Reactions. <u>C.C. Chang</u> , J.S. Winfield, N. Anantaraman, A. Galonsky, J. van der Plicht, F. Khazaie, D.H. Zhang, P. Bonerg, G. Ciangaru; University of Maryland, Schlumberger Well Services.	60	0
85040	Feasibility of Exciting $\Delta T=1$ , $\Delta S=1$ Transitions by the ( $^6\text{Li}$ , $^6\text{Li}^*$ [3.56 MeV]) Reaction. <u>N. Anantaraman</u> , S.M. Austin, D.J. Morrissey, R.M. Ronningen, J.S. Winfield, Z. Chen, H.L. Wu; NSCL	48	0