話　題

ワシントン中性子断面積テクノロジー会議論文集について

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１０月中旬，ワシントン会議（March　22−24，1966 ）の議事録がJNDC に到着したことをお知らせします。全部で1097頁，１巻と２巻に分れています。その詳細については各分野の専門の方々，および興味のある方々による紹介を期待することにします。

ここでは論文題目，著者名，頁を再録して，便宜上全論文に番号をつけ，利用される方の参考，索引に役立つように一覧表を作りました。（第１表参照）

第１表のA，B，C，D，E，F，Gは各セッション毎による分類で，

A：０－１００eVにおける断面積の必要，測定，および批判

B：断面積の計算，評価および収集

C：１００eV−１００keV における断面積の必要，測定および批判

D：１００KeV以上における断面積の必要，測定，および批判

E：投稿論文による特別セッション

F：核分裂断面積の測定と利用における特別な問題

G：将来の要求と可能性

に対応します。表内の番号は論文番号，丸印は招待論文を表します。

中性子断面積の分野を，H.Goldstein がのべているように，核データのuser，measurer，およびevaluatorにしたがつて分類してみました。これは原子炉関係，核物理的測定，およびデータの評価，収集にそれぞれ対応するものと考えてもいいと思います。

すなわちuser とは原子炉の感度，燃焼度，反応度，臨界性，スペクトラム等の計算，積分測定を含みます。Measurer は主として核データの測定，解析に関するもの，またevaluatorは理論的計算，モデル，プログラム等も含んでいます。

この分類によると，全論文90のうちuser 関係23 件，measurer 関係50 件，evaluator関係16 件の論文になり，これらの数字がこの会議の性格を反映しているものと思われます。

なおコピー御希望の方は，論文番号名をお知らせ下されば，お送りします。

第　1　表

	User	Measurer	Evaluator
A	②, 6 , 7 , 8 , 9 , 12 , 13 , 16	③, 4 , 5 , 10 11 , 14 , 15	
B	22 , 26	21 , 24 ,	⑰, ⑱, ⑲, 20 , 23 , 25 , 27 , 28 , 29 , 30
C	㉛, ㉞	㉜, ㉝, ㉟, 38 40	36 , 37 , 39
D	㊶, 50	㊷, ㊸, 44 , 46 , 47 48 , 49 , 51 , 52 , 53 54 , 55 , 56 , 57 , 58 59	45
E	63 , 64 , 66	60 , 61 , 62	65
F	⑥⑦, 75 , 76 , 79	⑥⑧, 70 , 71 , 72 , 73 74 , 77 , 78 , 80 , 81 82	⑥⑨
G	⑧③, 90	⑧④, ⑧⑤, ⑧⑥, 87 , 88 89	

List of Reports submitted to Conference on
Nuclear Cross Section Technology
(March 1966, Washington)

1. (Keynote Address)
H. Goldstein, Columbia University;

Neutrons, Nuclei and Oyster Creek

Session A: Cross Section Needs, Measurements and Critique in the Neutron Energy Range 0 - 100 eV

2. R. L. Hellens, Brookhaven National Laboratory;

Sensitivity of Reactor Characteristics to Cross Section Uncertainties Below 100 eV

3. J. A. Harvey, Oak Ridge National Laboratory;

Measurements of Low Energy Neutron Cross Sections on Non-Fissile Nuclides and Their Interpretation

4. F.H.Fröhner, E.Haddad, W.M.Lopez, and S.J.Friesenhahn, General Atomic/Division of General Dynamics;

Accuracy of Neutron Resonance Parameters from Combined Area dnd Self-Indication Ratio Measurements

5. Ferrol B. Simpson, Phillips Petroleum Company;

Problems Associated with the Analysis of Total Cross Section Data of Radioactive Samples

6. R.C.Liikala, W.L.Purcell, and J.Robert Worden, Pacific Northwest Laboratory;

Sensitivity of Reactor Multiplication Values to Cross Section Uncertainties for Thermal Systems

7. Eric H. Ottewitte, Atomics International;

The Sensitivity of SNAP Reactor Calculations to ncertainties in the Zirconium Absorption Cross Section

8. J.R.Beyster and J.M.Neill, General Atomic/Division of General Dynamics;

The Influence of Neutron Cross Sections on Thermal Reactor Spectra

9. S.Weinstein,F.Feiner,K.V.Cooper, and S.I.Armstrong, Knolls Atomic Power Laboratory;

Cross Section Sensitivity Calculations for Small Hydrogen Moderated Systems

10. G.L.Kirouac, W.E.Moore,M.W.Seemann, and M.L.Yeater, Rensselaer Polytechnic Institute;

Polyethylene Double Differential Inelastic Scattering Cross Section for Epithermal Neutrons

11. C.R.Adkins, P.J.Persiani, R.N.Hwang, J.J.Kaganove, Argonne National Laboratory;

    The Chemical Binding Effects on the Resonance Line Shapes of Uranium-238 in a UO_2 Lattice

12. J.Robert Worden,W.L.Purcell and R.C.Liikala, Pacific Northwest Laboratory;

    Sensitivity of Thermal Reactor Parameters to Scattering Model

13. J. E. Suich, DuPont-Savannah River;

    The Sensitivity of D20 Moderated Reactor Parameters to Thermal Neutron Scattering Law

14. R. A. Karam and T. F. Parkinson, University of Florida;

    The Resonance Absorption Integral of Rhenium

15. S.J.Friesenhahn, E.Haddad, F.H.Fröhner, and W.M.Lopez, General Atomic/Division of General Dynamics;

    The Neutron Capture Cross Sections for the Tungsten Isotopes from .01 to 10 eV

16. K.R.Birney, J.P.Hawley, and D.J.McGoff, Atomics International

Session B; Calculation, Evaluation, and Compliation of Cross Sections

17. C. Lubitz, Knolls Atomic Power Laboratory;

    Theory and Experiment in the Construction of Reactor Cross Section Libraries

18. M. D. Goldberg, Brookhaven National Laboratory

    Cross Section Data Compiling - Present and Future

19. F. Perey, Oak Ridge National Laboratory;

    Filling in Gaps with Cross Sections Calculated from Theory

20. K. Parker, A.W.R.E., Aldermaston, U.K.;

    Mechanised Evaluation of Neutron Cross Sections

21. Sol Pearlstein, Brookhaven National Laboratory;

    Differential and Integral Cross Sections for the Transuranium Elements

22. E. U. Vaughan, Atomics International;

    Perturbation Theory in Burnup Calculations

23. B. J. Lemke, Atomics International;

    Neutron Cross-Section Evaluation by AIDA, Automated Inspection of Data

24. S. Wynchank, Columbia University;

    Correlating the Energy Calibration of Neutron Velocity Spectrometers

25. A. Horsley, A.W.R.E., Aldermaston, U.K.;

    Computer Evaluation of Neutron Scattering Angular Distribution Data

26. Gideon Rakavy, California Institute of Technology;

    Use of Integral Measurements as Supplementary Data for Determining Neutron Cross-Sections

27. D. A. Klopp, IIT Research Institute;

    A Comprehensive Computer Library of Neutron Activation Cross Sections

28. D. A. Klopp, IIT Research Institute;

    Cross Section Calculations Throughout the Periodic Table

29. D.C.Irving, R.R.Coveyou, and R.D.MacPherson, O. R. N. L.;

    Impossible Legendre Coeffficients

30. S. K. Davis, Atomics International;

    Compilation, Evaluation, and Reduction of Neutron Differential Scattering Data

Session C: Cross Section Needs, Measurements, and Critique in the Neutron Energy Range from 100 eV to 100 keV

31. P. Greebler, General Electric;

    User Requirements for Cross Sections in the Energy Range from 100 eV to 100 keV

32. J. Rainwater, Columbia University;

    Capabilities and Limitations of Time-of-Flight Neutron Spectroscopy between 100 eV and 100 keV

33. J. Gibbons, Oak Ridge National Laboratory;

    Cross Section Measurements in the 100 eV to 100 keV Range: Accomplishments, Capabilities, and Limitations

34. D. Okrent, Argonne National Laboratory;

    Cross Section Uncertainties and Reactor Safety

35. G. Bell, Los Alamos Scientific Laboratory;

    Cross Sections for Nucleosynthesis in Bombs and Stars

36. T. E. Stephenson, Brookhaven National Laboratory;

The Neutron Cross Section of Sodium below 40 keV

37. Donald Bogart, NASA-Lewis Research Center;

Boron Cross Sections as a Source of Discrepancy for Capture Cross Sections in the keV Region

38. Donal Bogart and Thor T. Semler, NASA-Lewis Research Center;

A Monte Carlo Interpretation of Sphere Transmission Experiments for Average Capture Cross Sections at 24 keV

39. M.R.Bhat, R.E.Chrien, and I.W.Cole, Brookhaven National Laboratory;

Numerical Analyses of Neutron Resonances by Use of Computer Programs

40. W.N.McElroy, S. Berg, G.Gigas, Atomics International;

Neutron Flux Spectral Determination by Foil Activations

Session D: Cross Section Needs, Measurements, and Critique in the Neutron Energy Range above 100 keV

41. G. Hansen, Los Alamos Scientific Laboratory;

Critical Dependence on Neutron Cross Sections above 100 keV

42. H. Newson, Duke University;

Resonance Structure above 100 keV

43. A. B. Smith, Argonne National Laboratory;

Inelastic Scattering, A Compendium

44. I.L.Morgan, S.C.Mathur, and D.O.Nellis, Texas Nuclear Corporation;

Gamma Ray Production Cross Sections in $(n,n'\gamma)$ Reactions by Satchler Theory Calculations

45. P. A. Moldauer, Argonne National Laboratory;

Effects of $(n,\gamma n)$ Processes on Fast Neutron Capture and Inelastic Neutron Spectra

46. W. E. Stein, R. K. Smith, and J. A. Grundl, Los Alamos Scientific Laboratory;

Relative Fission Cross Sections of U^{238}, Np^{237}, and U^{235}

47. John C. Hopkins, Los Alamos Scientific Laboratory;

Elastic and Inelastic Scattering of Fast Neutrons from Li^6 and Li^7

48. H.F.Lutz and J.D.Anderson, Lawrence Radiation Laboratory;
Neutron Cross Sections Inferred from Charged Particle Data

49. J.L.Fowler, C.H.Johnson, and R.L.Kernell, Oak Ridge Nat.Lab.;
Differential Elastic Scattering of Neutrons from Nitrogen

50. S.H.Levine and R.E. Fortney, Northrop Space Laboratories;
Effect of Threshold Cross Section Errors on the Derivation of Fast Neutron Spectra

51. J.R.Williams and H.G.Carter, General Dynamics;
The 14 MeV Differential Cross Section of Nb^{93}

52. H. G. Carter, General Dynamics;
Discrepancy between Experimental and Predicted Cross Sections for $Nb^{93}(n,2n)Nb^{92}$ Reaction

53. P.F.Yergin, R.C.Martin, E.J.Winhold, H.A.Medicus, W.R.Moyer, R.H.Augustson, N.N.Kaushal, and R.R.Fullwood, Rensselaer Polytechnic Institute;
MeV Total Cross Sections with the Rensselaer Linac

54. S. A. Cox, Argonne National Laboratory;
Measurement of the Li^6 and B^{10} Neutron Absorption Cross Sections by the Shell Transmission Method

55. D. G. Gardner, Lawrence Radiation Laboratory;
The (n,2n) Reaction Induced by 14.5-MeV

56. S.Wilensky, L.E.Beghian, F.Hofmann, Massachusetts Institute of Technology;
Measurement of the Nonelastic Cross Section for Lead at 2.1 and 1.7 MeV

57. Henri Condé, D. M. Drake, and John C. Hopkins, Los Alamos Scientific Laboratory;
Gamma-Ray Production Cross Sections of Fast Neutron-Induced Reactions in Al, Fe, Nb, W, U, and Pu

58. H.A.Grench, K.L.Coop, H.O.Menlove, and F.J.Vaughn, Lockheed Palo Alto Research Laboratory;
Isomeric Cross-Section Ratios for Fast-Neutron Capture

59. H.O.Menlove, K.L.Coop, and H.A.Grench, Lockheed Palo Alto Research Laboratory, and R. Sher, Stanford University;
Fast Neutron Cross Sections for the $Na^{23}(n,\gamma)Na^{24}$, $Mn^{55}(n,\gamma)Mn^{56}$, $In^{115}(n,\gamma)In^{116m}$, and $Ho^{165}(n,\gamma)Ho^{166}$ Reactions

Session E: Special Session of Contributed Papers

60. F. Poortmans, H. Ceulemans, M.Neve de Mevergnies, S.C.K.-C.E.N., Mol, Belgium;

Spin Measurements of the 8.8 eV Neutron Resonance in U^{235} by Means of the Resonant Scattering Method

61. J. F. Barry, A.W.R.E., Aldermaston, U. K.;

Cross Section of the Reaction $Li^{6}(n\alpha)T$

62. N.W.Glass, J.K.Theobald, A.D.Schelberg, J.H.Warren and L.D.Tatro, Los Alamos Scientific Laboratory;

Measurements of the Capture Cross-Section of U^{238} with Bomb Source Neutrons

63. J. J. Scoville and Edwin Fast, Phillips Petroleum Company;

The Interpretation and Evaluation of Integral Cross Sections by Reactivity Measurements

64. J.L.Russell, Jr. and A.E.Profio, General Atomic/ Division of General Dynamics;

Adequacy of Fast and Intermediate Cross Section Data from Measurement of Neutron Spectra in Bulk Media

65. W. G. Davey, Argonne National Laboratory;

A Critical Evaluation of Fast Fission Cross Sections

66. Harry H. Hummel, Argonne National Laboratory;

Sensitivity of Fast Reactor Parameters to Cross Section Uncertainties

Session F: Special Problems in the Measurement and Utilization of Fission Cross Sections

67. D. R. Harris, Bettis Atomic Power Laboratory;

Fission Resonance Cross Section Requirements for Reactor Design

68. M. Moore, Phillips Petroleum Company;

Measurement and Analysis of the Cross Sections of Fissile Nuclides

69. F. T. Adler, University of Illinois;

Theoretical Interpretations of Neutron Cross Section Measurements of the Fissionable Materials: Correlation between Theoretical Models for the Resolved Resonance Region

70. D.W.Bergen, M.G.Silbert, and R.C.Perisho,
Los Alamos Scientific Laboratory;

Fission Cross Section of U^{233}, 20 eV - 5 MeV

71. D.H.Byers, B.C.Diven, and Myron G.Silbert, L.A.S.L.;

Capture and Fission Cross Section of Pu^{240}

72. O.D.Simpson, Rex G.Fluharty, M.S.Moore, and N.H.Marshall,
Phillips Petroleum Company, and
B.C.Diven and Arthur Hemmendinger, Los Alamos Scientific Lab.;

The Fission Cross Section of Pu^{241} from 20 - 200 eV as Determined from a Nuclear Explosion

73. J. Richard Smigh and Edwin Fast, Phillips Petroleum Company;

Comparison of Techniques for Determining Eta for the Thermally Fissionable Isotopes

74. J.L.Perkin, P.Fieldhouse, A.Brickstock, and A.R.Davies,
A.W.R.E., Aldermaston, U. K.;

Measurements of the Doppler Effect on the Reactions $U^{238}(n\gamma)$, $U^{235}(nf)$, and $Pu^{239}(nf)$ with Neutrons in the Energy Range 5 to 25 keV

75. D.W.Drawbaugh and Gordon Gibson, Westinghouse Astronuclear Lab.;

Preparation of Microscopic Cross Sections of U^{235} for Reactor Calculations

76. E.H.Ottewitte and Vahé Keshishian, Atomics International;

Need for Pu^{238} and Cm^{244} Cross Section Data

77. W.K.Brown, D.W.Bergen, and J.D.Cramer , L.A.S.L.;

Fission Cross Section of U^{235}, 20 eV - 5 MeV

78. E.R.Shunk, W.K.Brown, and R.LaBauve, L.A.S.L.;

Fission Cross Section of Pu^{239}, 20 eV - 5 MeV

79. R.G.Fluharty, N.H.Marshall, and O.D.Simpson, Phillips Pet.Co.;

Analytical Descriptions of the Sub-Cadmium Cross Sections of U^{233}, U^{235}, Pu^{239}, and Pu^{241}

80. E. M. Pennington, Argonne National Laboratory;

A Comparison of Multilevel and Single Level Effects for a Fissionable Isotope

81. C.D.Bowman, G.F.Auchampaugh, and S.C.Fultz, Lawrence Rad.Lab.,and
F.B.Simpson and M.S.Moore, Phillips Pet. Co.;

The Epithermal Fission Cross Section of U^{235}

82. H. Louise Smith and John P. Balagna, Los Alamos Sci. Lab.;
A Method of Assay of U^{235}, U^{238}, and Np^{237} Fission Foils

Session G: Future Requirements and Capabilities

83. T. Snyder, General Electric;
Future Cross Section Needs of the Nuclear Power Industry

84. E. Rae, Harwell - Rensselaer Polytechnic Institute;
Future Trends in Cross Section Work with Electron Linacs

85. B. Diven, Los Alamos Scientific Laboratory;
Use of Nuclear Explosions as a Pulsed Neutron Source

86. A. Zucker, Oak Ridge National Laboratory;
High Energy Proton Accelerators as Sources of Slow Neutrons

87. L. M. Bollinger, Argonne National Laboratory;
A New Approach to Neutron Resonance Spectroscopy

88. T.F.Parkinson, J.J.Woods, and T.Yang, Univ. of Florida;
The Neutron Decay Spectrometer - A New Tool for Neutron Spectrometry and Cross-Section Measurements

89. R.E.Benenson, City University of New York and Columbia Univ., W. Patton, Columbia University;
Proposed Technique for Neutron Recoil Angular Distribution Measurements

90. W. C. Redman and M. M. Bretscher, Argonne National Laboratory;
Low Flux Determination of Capture-to-Fission Ratio