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INDC

INTERNATIONAL NUCLEAR DATA COMMITTEE

Compilations and Evaluations
of Nuclear Structure and Decay Data

Issue No. 2

Compiled by A. Lorenz
Nuclear Data Section
International Atomic Energy Agency
Vienna, Austria

March 1977

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Foreword

This is the second issue of a report series on published and to-be-published compilations and evaluations of nuclear structure and decay (NSD) data. This compilation is published and distributed by the IAEA Nuclear Data Section approximately every six months.

This compilation of compilations and evaluations is designed to keep the nuclear scientific community informed of the availability of compiled or evaluated NSD data, and contains references to laboratory reports, journal articles and books containing selected compilations and evaluations. It excludes references to "mass-chain" evaluations normally published in the "Nuclear Data Sheets" and "Nuclear Physics". Current status of these evaluations is available directly from those publications.

The material contained in this compilation is sorted according to eight subject categories:

1. General Compilations
2. Basic Isotopic Properties
3. Nuclear Structure Properties
4. Nuclear Decay Processes: Half-lives, Energies and Spectra
5. Nuclear Decay Processes: Gamma-rays
6. Nuclear Decay Processes: Fission products
7. Nuclear Decay Processes: (Others)
8. Atomic Processes.

The next issue of this compilation will be published on 1 October 1977. All users of this report are encouraged to contribute to the next issue of this compilation, and to send to me new contributions, or corrections to the published material in this issue, between now and August 1977, so as to reach me not later than 1 September 1977.

GENERAL COMPILATIONS

Title	Author(s)	Pub. Date	Comments
Wall Chart of the Periodic System of Isotopes	I.P. Selinov	1962	Published by the Academy of Sciences of the USSR
Trilinear Chart of Nuclides	M. Bruce, MD	1968	Produced by the Mallinckrodt Nuclear Company (St. Louis, Mo. USA)
G.E. chart of the nuclides	N.E. Holden F.W. Walker	1972	11th edition. Cycle time: 4 years.
Trilinear Chart of Nuclides	n. William, H. Sullivan		Published as report by ORNL.
Chart of the Nuclides (Nuklidkarte)	W. Seelmann-Eggebert, G. Pfennig, H. Muenzel	1974	Published by the Kernforschungszentrum Karlsruhe. Cycle time: 4 years.
Chart of Nuclides (wall chart)	A. Hashizume	1970	Next edition to be published in 1977. Cycle time: ~5 years.
Handy Nuclear Chart (folding type)	Y. Yoshizawa, T. Horiguchi, M. Yamada	1976-1977	Scheduled to be published. Will contain nuclear properties and estimated half-lives for nuclides where no measurements have been done.
Tableau des Isotopes (wall chart)	R. Pannetier, P.L. Chevillon	1970	Published by Le Bi-Répertoire Nucléaire, Paris, France.
VADE-MECUM du Technicien Nucléaire	R. Pannetier		Published in two volumes by Ed. Maisonneuve 2-57 Moulins-les-Metz, France
Table of Isotopes (Sixth Edition)	C.M. Lederer, J.M. Hollander and I. Perlman	1967	7th Edition to be published in 1977. Cycle time: 4-6 years.
Isotopy (Isotopes): Reference Tables for Z=1 to Z=105	I.P. Selinov	1970	Published as Book in 3 Volumes by Publishing House NAUKA, Moscow.
Nuclear and Atomic Properties: Chromium-51 Decay	E. Roost, F. Lagoutins	1973	Atomic Energy Review, <u>11</u> , No. 3
Nuclear and Atomic Properties: Cobalt-58 Decay	W. Bambynek, J. Legrand	1973	Atomic Energy Review, <u>11</u> , No. 3
Nuclear and Atomic Properties: Cobalt-60 Decay	H.H. Hansen, J. Legrand	1973	Atomic Energy Review, <u>11</u> , No. 3
Table of Radionuclides	J. Legrand, J.P. Perolat, F. Lagoutine, Y. Le Gallic	1974	100 Radionuclides will be published. 30 are published. 20-30 will be published at the end of 1976. Manpower: 2 men/year. Cycle time: 4 years.
Table of Radioactive Nuclides Arranged in Ascending Order of Half-Life	N.R. Large, R.J. Bullock	1970	Published in NDT <u>A7</u> , 477
Table of Isomeric States of Stable Nuclides	E.A. Uken, T.W. Steele	1966	Published as Report NIM-41 (National Institute of Metallurgy, Johannesburg, South Africa)
Isomeric States ($T_{\text{sub}}(1/2) \geq 10^{-10}$ s) listed According to Increasing Half-life	J. Kantele, O. Tannila	1968	Published in ND <u>A4</u> (1/2), 359-395
Radioactive Atoms, Auger-Electrons, α, β, γ and x-ray Data	M.J. Martin P.H. Blichert-Toft	1970	Published in NDT <u>A8</u> , 1. (Superseded by ORNL-5114)
Table of Calculated Nuclear Properties	P.A. Seeger, W.M. Howard	1974	Published as report LA-5750
Radionuclide Decay Schemes and Nuclear Parameters for Use in Radiation-Dose Estimation	L.T. Dillman, F.C. Von der Lage	1975	Published as NM/MIRD Pamphlet No. 10 by the (US) Society of Nuclear Medicine

GENERAL COMPILATIONS (cont'd)

Title	Author(s)	Pub. Date	Comments
Nuclear Decay Data for Selected Radionuclides	M.J. Martin (editor)	March 76	Published as report ORNL-5114. To be published also in an NCRP report "Manual of Radioactivity Measurements Procedures".
Radioactive Nuclide Decay Data for ENSDF/B	C.W. Reich, R.G. Helmer M.H. Putmann	Aug. 74	Published as report ANCR-1157
Evaluated Decay Scheme Data	R.G. Helmer, R.C. Greenwood	1975	Published in Nuclear Technology, <u>25</u> , 258-273
The Nuclear Properties of the Heavy Elements. Vol. 1: Systematics of Nuclear Structure and Radioactivity Vol. 2: Detailed Radioactivity Properties Vol. 3: Fission Phenomena	E.K. Hyde, I. Perlman G.T. Seaborg	1964	Published in Prentice Hall International Series in Chemistry, by Prentice Hall, Englewood Cliffs, N.Y.
Properties of Fission Isomers	H.C. Britt	1973	Published in ADNDT <u>12</u> (5), 407-414
Radioactive Decay and Nuclear Level Schemes for Heavy Elements ($Z \geq 90$)	Yu.S. Zamyatnin	1974	Published as Volume 14 of the "Nuclear Constants" report series by the Nuclear Data Centre of the USSR State Committee for the use of Atomic Energy. Original distributed as report INDC(OCF)-55/G (March 1975) by IAEA/NDS
Basic Characteristics of the Isotopes of Heavy Elements	V.M. Gorbachev, Yu.S. Zamyatnin, A.A. Lbov	1975	Published as a book by Moscow Publishing House "Atomizdat"
Decay Data Libraries a) for 628 fission products b) for 1100 other isotopes	J. Blachot, C. Devillers, L. Fiche		The F.P. file has been published in report CEA-N-1882. These libraries are living files and are updated continuously, partly using the ENSDF file.
An Isotope Catalogue for Instrumental Activation Analysis	I.M.H. Pagden, G.J. Pearson, J.M. Bowers	1971	Published in: Part I: J. Radioanal. Chem. <u>8</u> (1971), 127-188 Part II: J. Radioanal. Chem. <u>8</u> (1971), 373-479 Part III: J. Radioanal. Chem. <u>9</u> (1971), 101-189

BASIC ISOTOPIC PROPERTIES

Title	Author(s)	Pub. Date	Comments
A Mass Table for $50 < Z < 118$, and $130 < A < 311$ Derived from Nuclear Energy Systematics	V.E. Viola, J.A. Swant, J. Graber	Jan.74	Published in ADNDT <u>13</u> , 1, 35
The 1971 Atomic Mass Evaluation: Parts I-IV	A.H. Wapstra, N.B. Gove	Jul.71	Published in NDT <u>A9</u> , 265. (Next edition should be sent to the publisher by Fall 1976)
The 1971 Atomic Mass Evaluation Part V: Nuclear Reaction Q-Values	N.B. Gove A.H. Wapstra	1972	Published in NDT <u>A11</u> , 127.
Nuclear Reaction Q-Values	C. Kaples, G.W. Goth, J. Cerny	1966	Published in NDT <u>A2</u> , 429.
Q- Values	K.A. Keller, J. Lange H. Muenzel	1973	Published in Landolt Boernstein, Group I, Vol. 5, Part B, 499 (Springer-Verlag, Berlin)
Topographical Maps of the Nuclear Binding Energy Surface	V.A. Kravtsov, N.N. Skatchkov	1973	Published in ADNDT <u>12</u> , 143-157
Table of Calculated Nuclear Properties	P.G. Seeger, W.M. Howard	1974	Published as report LA-5750
Tables of the Nuclear Binding Energies and the Energies of α and β Decay of the Heavy Element Isotopes	N.N. Kolesnikov, A.G. Domin	1975	Published as report P6-9420 of the Joint Institute for Nuclear Research, Dubna
Shell-independent Systematics S_n (Isotopic) and S_p (Isotopic)	N.B. Gove; M. Yamada	1968	Published in NDT <u>A4</u> , 237.
Nuclear Radii	L.R.B. Elton, R. Hofstadter, H.R. Collard	1967	Published in Landolt Boernstein, Vol. 2, Springer-Verlag, Berlin
The 1973 Least-Squares Adjustment of the Fundamental Constants	E.R. Cohen, B.N. Taylor	1973	Published in J. of Phys. and Chem. Data <u>2</u> , 4, 663
Review of Particle Properties	N. Barash-Schmidt et al.	1974	Published in Phys. Letters, <u>50B</u> , No. 1 Cycle time: 1 year.
Experimental Coulomb Displacement Energies between Analog Energy Levels of Isobaric Nuclei with A=3 to A=238	W.J. Courtney, J.D. Fox	1975	Published in ADNDT <u>15</u> , 141-187

NUCLEAR STRUCTURE PROPERTIES

Title	Author(s)	Pub. Date	Comments
Energy Levels of Nuclei A=5 to A=257	F. Ajzenberg-Selove, et al.	1961	Published in Landolt-Börnstein, New Series Group 1. Nuclear Physics and Technology, Volume 1, K.H. Hellwege (Editor)
Decay Schemes of Radioactive Nuclei for A < 100	B.S. Dzhelepov L.K. Peker	1966	Published in book form for the Scientific Council for Nuclear Spectroscopy by the Publishing House "NAUKA" (Moscow)
Radiative Processes in Atomic Nuclei	R.B. Begzhanov, V.M. Belonkij, S.R. Abdurakhmanov, V.K. Usharov	1973	Published as a book by Publishing House "FAN" of the Uzbek SSR in Tashkent for the Academy of Sciences of the Uzbek SSR.
Decay Schemes of Radioactive Nuclei A=70 to A=79	B.S. Dzhelepov (editor)	1974	Published by Leningrad Branch of Publishing House NAUKA for the USSR Academy of Sciences.
Systematics of Absolute Gamma-Ray Transition Probabilities in Deformed Odd-Mass Nuclei	K.E.G. Loebner, S.G. Malmskog	1966	Published in Nucl. Phys. <u>80</u> , 505
Compilation of Electromagnetic Transition Rates in Light Nuclei A ≤ 40	S.J. Skorka, J. Hertel, T.W. Retz-Schmidt	1966	Published in NDT <u>A2</u> , 347.
Strengths of Gamma-Ray Transitions between Bound States of A=21-44 Nuclei	P.M. Endt and C. Van der Leun	1974	Published in ADNDT <u>13</u> , 1, 67-88. Also published in Nuclear Physics.
Gamma-ray Transition Strengths in A=45-90 Nuclei	F. le Page C. Van der Leun		In preparation.
Gamma-ray Transition Probabilities in Deformed Nuclei (150 < A ≤ 190)	W. Andrejtscheff K.D. Schilling, P. Manfrass	Dec. 75	Published in ADNDT <u>16</u> , 6
Table of Nuclear Lifetimes	A. Mareljas, P. Sparrman T. Sundstroem	1967	Published in the Proceedings of International Conference on Hyperfine Interactions detected by Nuclear Radiations, Pacific Grove, Calif., August 1967. Proceedings "Hyperfine Structure and Nuclear Radiations", published by North Holland Pub. Co., in 1968. Also published in Report LBL-3450
Table of Lifetimes of Nuclear Levels	Eh.E. Berlovich, L.A. Vajshnene, I.A. Kondurov, Yu.N. Novikov, and Yu.V. Sergeenkov	Apr. 75	Published originally as report LIJaF-145. English translation published as report INDC(CCP)-89/N by IAEA/NDS (April 1976).
Table of Lifetime Measurements of Excited Nuclear States	J. Lindskog et al.	1965	Published in App.3 (Vol.2, p. 1599) of Siegbahn: Alpha-Beta- and Gamma-Ray Spectroscopy. North-Holland Amsterdam.
Table of Nuclear Moments	V.S. Shirley, C.M. Lederer	Dec. 74	Published as report LBL-3450, and as Appendix to Table of Isotopes. Next to be published in 1977.
Table of Nuclear Spins and Moments	Ingvar Lindgren	1965	Published in book "Alpha-, Beta- and Gamma-Spectroscopy", Volume 2, edited by K. Siegbahn, North Holland Publ. Co. (1965) Contains data up to October 1963
Nuclear Spin-Parity Assignments	N.B. Gove and R.L. Robinson (eds.)	1966	Published in Academic Press, New York
Nuclear Spins and Moments	Gladys H. Fuller	1976	Published in Journal of Physical and Chemical Reference Data, Vol. 5, No. 4, pp. 835-1092
Spectroscopic factors	P.M. Endt	1977	A critical evaluation of experimental spectroscopic factors in light nuclei. Submitted and accepted for publication in ADNDT.

NUCLEAR STRUCTURE PROPERTIES (cont'd)

Title	Author(s)	Pub. Date	Comments
Nuclear Moments and Moment Ratios as Determined by Mössbauer Spectroscopy	J.G. Stevens, B.D. Dunlap	1976	Published in Journal of Physical and Chemical Reference Data, Vol. 5, No. 4, pp. 1093-1119
Reduced Widths of Individual Nuclear Energy Levels	A.M. Lane	1960	Published in Rev. Mod. Phys. <u>32</u> , 519
Stripping Reactions and the Structure of Light and Intermediate Nuclei	M.H. Macfarlane, J.B. French	1960	Published in Rev. Mod. Phys. <u>32</u> , 567
Nuclear Transition Probability, B(E2), for $O^+ \rightarrow 2^+$ Transitions and Deformation Parameter, β_2	P.H. Stelson, L. Grodzins	1965	Published in Nucl. Data <u>A1</u> , 21
Table of Electromagnetic M1 Reduced Transition-Probability Matrix Elements between Nilsson States in Odd-A Nuclei	E. Browne, F.R. Femenia	1971	Published in Nucl. Data Tables <u>10</u> , 81
Matrix Element for penetration Factor in M1 Transitions between Nilsson States in odd-A Nuclei	D.K. Krpic, I.A. Anicin, R.B. Vulkanovic	1973	Published in NDT <u>11</u> , 553-568
Internal Pair Formation and Multipolarity of Nuclear Transitions	R.J. Lombard, G.F. Perdriant, J.H. Brunner	1969	Published in Nucl. Phys. <u>A110</u> , 41
E_0 Transitions in Atomic Nuclei	A.V. Aldushenkov, N.A. Voinova	1973	Published in NDT, <u>A11</u> , 299-325
Electroexcitation of Nuclear Magnetic Dipole Transitions	L.W. Fagg	1975	Rev. Mod. Phys., <u>47</u> , 683-711
The O^+ states and electric monopole transition in even-even atomic nuclei	N.A. Voinova	1976	Published as report LIYaF-210 (in Russian) English translation published by IAEA/NDS as report INDC(OCT)-92/7 (July 1976)
Superaligned $O^+ \rightarrow O^+$ and Isospin-Forbidden $J^{\pi} \rightarrow J^{\pi}$ Fermi Transitions	S. Raman, T.A. Walkiewicz, H. Behrens	Nov. 75	Published in ADNDT <u>16</u> , 5
A Survey of Nonrotational States of Deformed Odd-A Nuclei ($150 < A < 190$)	M.E. Bunker, C.W. Reich	1971 1972	Published in Rev.Mod.Phys. <u>43</u> , 348 and in Rev.Mod.Phys. <u>44</u> , 126.
Nuclear Intrinsic Quadrupole Moments and Deformation Parameters	K.E.G. Leobner, H. Vetter, V. Honig	1970	Published in NDT <u>A7</u> , 495
Quadrupole Moments of Nuclear Excited States Measured by the Reorientation Effect in Coulomb Excitation	A. Christy, O. Haecuser	1972	Published in NDT, <u>A11</u> , 281-298
Orientation Parameters for Low-Temperature Nuclear Orientation	K.S. Krane	1973	Published in NDT <u>11</u> , 407-431
E2, M1 Multipole Mixing Ratios in Even-Even Nuclei, $A \geq 152$	K.S. Krane	Oct. 75	Published in ADNDT <u>16</u> , 383
E2, M1 Multipole Mixing Ratios in Odd-Mass Nuclei, $A > 150$	K.S. Krane	1976	Published in ADNDT <u>18</u> , 137
Tables of Nuclear Level Density Parameters	A. Chatterjee, S.K. Ghosh and H. Majumdar	Mar. 76	Published as report INDC(IND)-20/U by the IAEA/NDS.
Clebsch-Gordan Coefficients for Nuclear Transition Probabilities for Even-A Deformed Nuclei	T. Yamazaki	1966	Published in Nucl. Data Tables <u>A1</u> , 453
Tables of the Clebsch-Gordan Coefficients	I.V. Nikitina, Yu. I. Kharitonov	Feb. 75	Published as report LIYaF-136
Table of Hyperfine Fields	E. Matthias, D.A. Shirley	1968	Published in Hyperfine Structure and Nuclear Radiations, North-Holland Publ., Amsterdam.

NUCLEAR DECAY PROCESSES: HALF-LIVES, ENERGIES, SPECTRA

Title	Author(s)	Pub. Date	Comments
Specific Activities and Half-lives of Common Radionuclides	G. Goldstein, S.A. Reynolds	1966	Published in ND <u>A1</u> (1-6), 435-452
Half-lives of the Most Used Radionuclides	F. Lagoutine B. Grinberg	1976	100 radionuclides
Evaluation of Half-lives of FP Nuclides	A. Hashizume et al.	1973	Unpublished report in Japanese (cycle time approximately 3 years)
Evaluation of Half-lives and Spontaneous Fission Half-lives of Transuranium Nuclides	A. Hashizume et al.	1973	Unpublished report in Japanese (Cycle time approximately 3 years)
Half-lives of Some Actinide	R. Vaninbrouckx	1974	Published in Report EUR-5194 e
α -Decay Data	F.J.G. Rogers		Listing of alpha particle emitting nuclides in order of ascending Z and A and in order of ascending alpha energy. Report AERE-8005, to be published. (Evaluation is now the responsibility of Mrs. K. Glover et al.). Cycle time approximately 2 years.
Half-lives T_{α} and T_{β} of Transuranium Element Isotopes	N.N. Kolesnikov A.G. Demin	1975	Published as report P6-9421 of the Joint Institute for Nuclear Research Dubna
Catalogue of Recommended Alpha Energy and Intensity Values	A. Rytz	1973	Published in ADNDT <u>12</u> , 479-498
Table of α -emitting Nuclides According to α -energy	J.C. Pont	1967	Published in Actinides Revue <u>1</u> , 55-69
Beta-decay Half-lives Calculated on the Gross Theory	K. Takahashi, M. Yamada, T. Kondoh	1973	Published in ADNDT <u>12</u> , 101-142
Systematical Study of Beta delayed Proton Emission Energies	K. Bos, N.B. Gove, A.H. Wapstra	1974	Published in Z. Phys. <u>271</u> , 115-127
Log-f Tables for Beta Decay	N.B. Gove, M.J. Martin	1971	Published in NDT, <u>A10</u> , 205
Tables of the Analysis of Beta Spectra	(Anonymous)	1952	Published as Report: Nat. Bur. Stand., Appl. Math. Ser. Vol. 13 by US NBS
Shapes of Beta Spectra	H. Paul	1966	Published in NDT, <u>A2</u> , 281
Shapes of Beta-Ray Spectra	H. Daniel	1968	Published in Rev. Mod. Phys. <u>40</u> , 659
Numerical Tables for Beta-decay and Electron Capture	H. Behrens	1969	Published in Landolt-Börnstein. New Series Group 1. Nuclear Physics and Technology, K.H. Hellwege (Editor). Springer Verlag, Berlin.
The Beta-Ray Spectrum and the Average Beta Energy of Several Isotopes of Interest in Medicine and Biology	J. Mantel	1972	Published in Int. J. Appl. Radiat. Isot. <u>23</u> , 407-413
Shapes of Beta Spectra	H. Behrens, L. Szybisz	1976	Contains all measured shape factors for allowed and forbidden β -transition in parametrized form. Published as ZAED report 6-1 1976.
Fermi-Function Integrals for Finding Relative Beta-Group Intensities	G.P. Ford, D.C. Hoffmann	1966	Published in Nucl. Data <u>1A</u> , 411

NUCLEAR DECAY PROCESSES: GAMMA-RAYS

Title	Author(s)	Pub. Date	Comments
Compendium of Thermal-Neutron-Capture γ -ray Measurements Part I: $Z \leq 26$, Part II: 447-57 Part III: Z=68-94	G.A. Bartolomew et al. and L.V. Groshev et al.	1967 1968 1969	Published in: ND Section A, <u>3</u> , 367-650, ND Section A, <u>4</u> , 1-242, and ND Section A, <u>5</u> , 243-431. (Effort discontinued)
Thermal Neutron Capture Gamma-Ray Spectra for the Elements $Z=1-93$	H.G. Rasmussen et al.	1969	Published as report AFCL-69-007 by Cambridge Research Laboratory
Gamma-Ray Spectra and Sensitivities for 14 MeV-Neutron Activation Analysis	M. Cuypers, I. Cuypers	1968	Published in J. Radio nucl. Chem. <u>1</u> , 243
Analytical Sensitivities and Energies of Thermal Neutron Capture Gamma Rays	D. Duffy, A. El-Kady, F.E. Senftle	1970	Published in Nucl. Instr. and Methods <u>80</u> , 149-171
Analytical Sensitivities and Energies of Thermal Neutron Capture Gamma Rays II	F.E. Senftle, et al.	1971	Published in Nucl. Instr. and Methods <u>93</u> , 425-459
Compilation of KeV Neutron-Capture Gamma-ray Spectra	J.R. Bird, B.J. Allen, I. Bergquist, J.A. Biggerstaff	1973	Published in NDT, <u>11</u> , 433
Scintillation Spectrometry Gamma Ray Catalog	R.L. Heath	1964	Published as report IDO-16880-1
Gamma-ray Spectrum Catalogue for Ge(Li) and Si(Li) Spectrometry	R.L. Heath	Mar. 74	Third edition published as report ANCR-1000
Catalogue of Ge(Li)- γ Spectra	G. Zaddach	1973 and 1974	Published as Report Juel-914-DE plus Supplement by the Kernforschungsanlage Juelich
Tables of γ -Rays from (n, γ)-produced Nuclides	R.A. Creig, R.E.J. Porritt, S.J. Bone	1971	Published as report AASC/TM 585
Spectra of Electromagnetic Transitions and Level Schemes Following Thermal Neutron Capture by Nuclides with $A=143-193$	P.T. Prokofiev et al.	1973	Published as a book by Publishing House "Zinatne", Riga
List of recommended γ -ray Energy Calibration Standards	R.G. Helmer P. van Assche C. van der Leun		Task-group of the IUPAP committee on atomic masses and fundamental constants. (To be published).
Gamma-Ray Calibration Energies	J.B. Marion	1968	Published in NDT <u>4</u> , 301
Table of Specific Gamma Ray Constants	D. Nachtigall, W. Hanle, M. Pollermann	1969	Published as Pocketbook by Thiemeig Taschenbuecher, Munich
Catalogue of γ -Rays Emitted by Radionuclides	M.A. Wakat	1971	Published in NDT <u>8</u> , 445
Radioactive Decay Gammas (ordered by energy and nuclide)	W.W. Bowman K.W. Mac Murdo	Feb. 74	Published in ADNDT <u>13</u> , 89-292
Compilation of Gamma-transition Energies of Radionuclides Produced by Reactor Irradiation	R. Dams and F. Adams	1971	Published in J. of Radioanal. Chem. <u>7</u> , 127-160
Two-dimensional ($\gamma_{1/2}$, E_{γ}) Mapping of Short-lived Nuclides	A.Z. Nagy, A. Gsoek, E. Szabo	1971	Published in J. of Radioanal. Chem. <u>7</u> , 181-365
Evaluation of Gamma-ray Intensities Nuclear Data for Safeguards Techniques	Y. Yoshizawa, H. Inone, M. Hoshi and K. Shizuma	Mar. 76	Published by the Faculty of Science of Hiroshima University (Japan) as an internal report. (Text in Japanese). Cycle time: 2 years
Gamma Decay of Analogue Resonances	Yu.V. Naumov, O.E. Kraft	1975	Published in EhChYA (Elementary Particles and the Atomic Nucleus ?)
Die γ -Linien der Radionuklide (The γ -ray Lines of Radionuclides)	G. Erdtmann W. Soyka	1973	Published by Kernforschungsanlage Juelich in report Jul-1003-AC in three volumes. Data also available on tape. Cycle time: 4 years
Gammaenergien. (Gamma-ray Energies)	Chr. Meixner	Jul. 74	Published by Kernforschungsanlage Juelich in report Jul-1087-RX in two volumes. (Effort discontinued).
The Gamma-ray Lines of Radionuclides ordered by Atomic and Mass Number: Part 1: $Z=2-57$ (Helium-Lanthanum) Part 2: $Z=58-100$ (Cerium-Fermium)	G. Erdtmann, W. Soyka	1975	Published in J. Radioanal. Chem., Part 1 in Volume <u>26</u> , 375-495 Part 2 in Volume <u>27</u> , 137-286

NUCLEAR DECAY PROCESSES: GAMMA-RAYS (cont'd)

Title	Author(s)	Pub. Date	Comments
Tables of Specific Activities of the Nuclides with $Z=88$ to $Z=104$	W. Schirmer, N. Waechter	1967	Published in Actinides Rev. <u>1</u> , 125-134
Tables of γ -Rays	V. Sangiust M. Terrani	1971	Published by the CENEF, Politecnico di Milano (Italy) as a book in two volumes.
Low-energy Gamma rays from Isotopes Produced by (n,γ) Reactions	M. de Bruin, P.J.M. Korthoven	1972	Published in J. Radioanal. Chem. <u>10</u> , 125
Semiconductor Gamma Ray Spectra for Neutron Activation Analysis	H. Vogg	1971	Published as Vol. 6 of the Atomkernenergie Book Series, by Thieme, Munich
Gamma-ray Quanta of Isotopes used in Neutron Activation Analysis	B.S. Dzheleпов S.F. Koksharova	1974	Published as a soft-cover booklet by Atomizdat (Moscow).
Neutron Activation Analysis Tables - Analyse par Activation	J.C. Leclerc, A. Cormu (and A. Ginier-Gillet)	1974	Published as book by Heyden (London, New York, Rheine)
Tables for Reaction Gamma-Ray Spectroscopy. Part I. $A=6$ to $A=20$	R.J. De Meijer, H.S. Plendl and R. Holub	1974	Published in ADNDT <u>13</u> , 1-33
Tables for Reaction Gamma-Ray Spectroscopy. Part II $A=21-32$	R.J. De Meijer, A.G. Drentje and H.S. Plendl	1975	Published in ADNDT <u>15</u> , 391-442
Tables for Reaction Gamma-ray Spectroscopy. Part III. $A=33$ to $A=44$	R.J. De Meijer, A.G. Drentje	1976	Published in ADNDT <u>17</u> , 211
Tables of Coefficients for Angular Distribution Analysis	W.T. Sharp, et al.	1954	Published as Reports AECL-97 and CRT-556 by the Atomic Energy of Canada Ltd. at Chalk River, Ontario
Tables of Directional Correlation Attenuation Coefficients for Combined Magnetic Dipole and Randomly Oriented Electric Quadrupole Interactions: Part 1: Spin of Intermediate Nuclear State $I=1$ and $I=2$ Part 2: Spin of Intermediate Nuclear State $I=3/2$ and $5/2$	R.M. Steffen, E. Matthias, W. Schneider	1962	Published in Report by USAEC
Angular Distributions of Gamma Rays in Terms of Phase-Defined Reduced Matrix Elements	H.J. Rose, D.M. Brink	1967	Published in Rev. Mod. Phys. <u>39</u> , 306
Directory to Tables and Reviews of Angular-Momentum and Angular-Correlation Coefficients	K. Way, F.W. Hurley	1966	Published in Nucl. Data <u>1A</u> , 473
Tables of Coefficients for Angular Distributions of Gamma Rays from Aligned Nuclei	T. Yamazaki	1967	Published in Nucl. Data <u>3A</u> , 1
Tables of Coefficients for Angular Correlations of Radiative Transitions from Aligned Nuclei	D.D. Watson, G.I. Harris	1967	Published in Nucl. Data <u>3A</u> , 25
Numerical Tables for Angular Correlation Computations in α -, β - and γ -Spectroscopy: $3j$ -, $6j$ -, $9j$ -Symbols, F- and Gamma-Coefficients	H. Appel	1969	Published in Landolt-Börnstein. New Series Group 1. Nuclear Physics and Technology, K.H. Hellwege (Editor). Springer Verlag, Berlin.
Tables of the $3-j$, $6-j$, $F_{\text{sub}(k)}$ -, $A_{\text{sub}(k)}$ - and $A_{\text{sub}(kk)}$ -Coefficients for Angular Correlation Measurements Involving Half Integer Spins up to $15/2$ and Transitions up to $L=3$	H.H. Gueven, B. Kardon, H. Seyfarth	1975	Published as Report JUEL-1217 by the Kernforschungsanlage Juelich, Institut of Nuclear Physics
Table of Angular Distribution Coefficients for (Gamma-Particle) and (Particle-Gamma) Reactions	R.W. Carr, J.E.E. Baglin	1972	Published in Nucl. Data Tables <u>10</u> , 143

NUCLEAR DECAY PROCESSES: GAMMA-RAYS (cont'd)

Title	Author(s)	Pub. Date	Comments
Angular Correlation Methods in Gamma-Ray Spectroscopy	A.J. Ferguson	1965	Published by North-Holland Publ., Amsterdam
A Tabulation of Gamma-Gamma Directional Correlation Coefficients	H.N. Taylor, B. Singh, F.S. Prato, R. McPherson	1971	Published in Nucl. Data Tables <u>9</u> , 1
A Tabulation of Gamma-Gamma Directional Correlation Coefficients for States of High Angular Momenta	P.E. Haustein, H.W. Taylor, R. McPherson, R. Fairchild	1972	Published in Nucl. Data Tables <u>10</u> , 321
Directional Correlations of Gamma Radiations Emitted from Nuclear States Oriented by Nuclear Reactions or Cryogenic Methods	K.S. Krane, R.M. Steffon, R.M. Wheeler	1973	Published in NDT, <u>11</u> , 351-406
Extended Table of Angular Distribution Coefficients for (gamma-particle) and (particle-gamma) Reactions	R.E. Maute, D.P. D'Amato, S.L. Blatt	1974	Published in ADNDT <u>13</u> , 499-624
Tables of X-Coefficients and Λ - Factors for Triple Angular Correlation Analysis	J.J. Singh, C. Cross	1964	Published as Report NASA-TN-D-2454 by NASA, Langley Station, Va.
Tables of Coefficients for the Analysis of Triple Angular Correlations from Aligned Nuclei	G. Kays, E.J.O. Read, J.C. Willmott	1968	Published by the Chadwick Phys. Lab., Univ. of Liverpool, England
β - γ (CP)-asymmetry coefficients in isospin forbidden allowed mixed β -transitions	H. Behrens	1970	Proceedings of "International Conference on Angular Correlation in Nuclear Disintegration", Delft, Netherlands (August 1970)

NUCLEAR DECAY PROCESSES: FISSION PRODUCTS

Title	Author(s)	Pub. Date	Comments
Fission Product Chain Yields from Experiments in Thermal Reactors	E.A.C. Crouch	1973	Published in report AERE-R-7209. Next round of evaluations to be completed by June 1976. Cycle time: 2 years.
Fission Product Chain Yields from Experiments in Reactors and Accelerators Producing Fast Neutrons of Energies up to 14 MeV	E.A.C. Crouch	1973	Published in report AERE-R-7394. Next round of evaluations to be completed by June 1976. Cycle time: 2 years.
Fission Yields to Obey Conservation Laws	E.A.C. Crouch	1976	Chain and independent fission product yields adjusted to conform with physical conservation laws. Part 1 published in report AERE-R-7785, Feb. 1975. Part 2 published in report AERE-R-8152.
Radiation Characteristics of Fission Products	N.G. Gusev, P.M. Rubtsov, V.V. Kovalenko, V.M.M. Kolobashkin	1974	Published by Atomizdat, Moscow (224 pages).
Evaluation of Important Fission Product Nuclides	S. Iijima et al.		(To be published in 1978).
ENDF/B-IV Fission Product Files: Summary of Major Nuclide Data	T.R. England R.E. Shenter	Oct. 75	Published as report La-6116-MS
ENDF/B Fission Product Decay Data	P.F. Rose, T.W. Burrows	1976	Published as report ENL-NCS-50545, ENDF-243 (in press)
Fission Product Yield and Decay Data Library	C. Devillers, et al.		Continuously updated file on magnetic tape in ENDF/B format. (See also under Section on General Compilations).
Estimation of Decay Data for Short-lived Fission Products	T. Yoshida	1975	Theoretical data compared to preliminary experimental results. Published in report NEACRP-A-241 (also JAERI-M-6313).

NUCLEAR DECAY PROCESSES

Title	Author(s)	Pub. Date	Comments
Tables of Internal Conversion Coefficients	L.A. Sliv, I.M. Band	1965	Published in book "Alpha-, Beta- and Gamma-Spectroscopy", Volume 2, edited by K. Siegbahn, North Holland Publ. Co. (1965). Reprinted from book "Gamma-Rays" (Acad. Sci. USSR, Moscow-Leningrad, 1961)
Tables of the Conversion Matrix Elements and Phases	I.M. Band, M.A. Listengarten L.A. Sliv	1965	Published in book "Alpha-, Beta- and Gamma-Spectroscopy", Volume 2, edited by K. Siegbahn, North Holland Publ. Co. (1965)
Particle Parameters for Angular Correlations of Conversion Electrons	I.M. Band, M.A. Listengarten I.A. Sliv, J.E. Thun	1965	Published in book "Alpha-, Beta- and Gamma-Spectroscopy", Volume 2, edited by K. Siegbahn, North Holland Publ. Co. (1965)
Tables of Integral Conversion Coefficients and Particle Parameters	H.C. Pauli	1967	Published as Report CCO-1420-137, USAEC Chicago Operations Office, Ill.
Internal Conversion Tables:			
Part I: K-, L-, M-Shell Conversion Coefficients for Z=30 to Z=103	R.S. Hager, E.C. Seltzer	1968	Published in NDT <u>A4</u> , 1-235
Part II: Directional and Polarization Particle Parameters for Z=30 to Z=103	R.S. Hager, E.C. Seltzer	1968	Published in NDT <u>A4</u> , 397-641
Part III: Coefficients for Analysis of Penetration Effects in Internal Conversion and E_0 Internal Conversion	R.S. Hager, E.C. Seltzer	1969	Published in NDT <u>A6</u> , 1
Internal Conversion Coefficients for Atomic Numbers $Z \leq 30$	I.M. Band et al.	Apr. 76	Published as report LIYaF-235 (in Russian), English translation published by IAEA/NDS as report INDC(CCP)-92/N (July 76)
A Survey on Internal Conversion	H. Hansen, B. Martin, et al.		This work is just starting, and will be published as a ZAED report.
Contribution of Outer Atomic Shells to Internal Conversion Coefficients	O. Dragoun, Z. Flajner and F. Schmutzler	1971	Published in NDT <u>A9</u> , 119
Experimental Values of Internal-Conversion Coefficients of Nuclear Transitions: Total and K-Shell Coefficients and L-Subshell Coefficient Ratios	J.H. Hamilton et al.	1966	Published in NDT <u>A1</u> , 521
Internal Conversion Coefficients at Gamma-Ray Threshold Energies	R.F. O'Connell and C.O. Carroll	1967	Published in NDT <u>A3</u> , 287
Tables of Internal Conversion Coefficients for N-Subshell Electrons	O. Dragoun, H.C. Pauli F. Schmutzler	1969	Published in NDT <u>A6</u> , 235
Tables of Approximate Internal Conversion Coefficients for K_6 - K_7 , O_1 - O_7 , F_1 - F_5 and Q_1 Atomic Subshells	O. Dragoun, Z. Flajner and F. Schmutzler	1969	Published as report MPIH-1969-V5, of the Max-Planck-Institut fuer Kernphysik, Heidelberg
Internal Conversion Coefficients for High-energy Transitions	V.F. Trusov	1972	Published in NDT <u>10</u> , 477-510
Orbital electron capture by the nucleus	W. Bambynek, H. Behrens et al.		Submitted to Rev. Mod. Physics

ATOMIC PROCESSES

Title	Author(s)	Pub. Date	Comments
X-Ray Wavelengths	J.A. Bearden	1967	Published in Rev. Mod. Phys. <u>39</u> , 78
X-Ray Atomic Energy Levels	J.A. Bearden, A.F. Burr	1967	Published in Rev. Mod. Phys. <u>39</u> , 125
K X-Ray Transition Probabilities	G.C. Nelson, B.G. Saunders, S.I. Salem	1970	Published in At. Data <u>1</u> , 377
L X-Ray Transition Probabilities	S.I. Salem, G.W. Schultz	1971	Published in At. Data <u>3</u> , 215
X-ray Fluorescence Yields, Auger and Coster-Kronig Transition Probabilities	W. Bambynek et al.	1972	Published in Rev. Mod. Physics <u>44</u> , 716 (1972) will be updated, especially for the L-shell fluorescence, this work is just starting, and will be published as ZAED report.
Auger Catalog: Calculated Transition Energies listed by Energy and Element	W.A. Coghlan, R.E. Clausing	1973	Published in AD <u>5</u> , 317-469
Directory to Auger Electron Data-1973		1973	Published in AD <u>5</u> , 471
Non-relativistic K-shell Auger Rates and Matrix Elements for $4 \leq Z \leq 54$	D.L. Walters, C.P. Bhalla	1971	Published in AD <u>3</u> , 301
Calculated K Auger-Electron and K X-Ray Transition Energies for the Multiply Ionized Neon Atom	D.L. Mathews, B.M. Johnson and C.F. Moore	1975	Published in ADNDT <u>15</u> , 41
Numerical Values of the K-Electron Functions Determining the Probability of Allowed and Forbidden K-Capture	I.M. Band, L.N. Zyrianova, C.Z. Tsin	1956	Published in the Bull. Acad. Sci. USSR, Phys. Sect. <u>20</u> , 1269
Tables of Functions Needed for Determining the Probability of Allowed and Forbidden L-Capture	I.M. Band, L.N. Zyrianova, Y.P. Suslov	1958	Published in the Bull. Acad. Sci. USSR, Phys. Sect. <u>22</u> , 943
Response of Silicon Detectors to Mono-Energetic Electrons with Energies between 0.15 and 5.0 MeV	M.J. Berger et al.	1969	Published in Nucl. Instrum. Methods <u>69</u> , 181 (An expanded version of this paper is: "Tables of Response Functions for Silicon Electron Detectors", Published in NBS Tech. Note 489 (1969)).

