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TABLE OF FISSION PRODUCT NUCLIDES

Yields, Single Particle Model States,
Observed Spins and Parities, Decay
Modes and Half-lives for Products of
Thermal Neutron Fission of ^{235}U

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PREPARED FOR THE U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
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Products of Thermal Neutron Fission of ^{235}U

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ABSTRACT

The fission product chains resulting from thermal neutron fission of ^{235}U are given as compiled from the latest tabulated data. Included are the calculated absolute cumulative yields, single particle model states for protons and neutrons and experimental values when known for decay modes, spins, parities and half-lives.

Sources of data:

Chain yields: R. Vandenbosch and J. R. Huizenga, "Nuclear Fission", Academic Press, New York, 1973, pp. 309-311.

Fractional cumulative yields: E. A. C. Crouch, UKAEA Report AERE-R-6056.

Decay Data: Nuclear Data Sheets,
Academic Press, New York, to Vol. 19, No. 4,
December 1976.

C. M. Lederer, J. M. Hollander and I. Perlman,
"Table of Isotopes", 6th edition,
Wiley, New York, 1967.

G. E. Chart of Nuclides, April 1972.

LEGEND

The mass number of each chain is given at left margin. The data for each nuclide are displayed as indicated below:

$$\begin{array}{c} 1 \\ 2 \\ 3p \ 3n \\ 4 \\ 5 \xrightarrow{6} \\ 4 \end{array}$$

1. Absolute cumulative yield in percent; $1.6(-5) \equiv 1.6 \times 10^{-5}$
2. Nuclide: $z^{Sy}N$ Sy = symbol.
3. Single particle model proton and neutron states.
4. Observed ground state spin and parity, () = quite uncertain.
5. Symbol
6. Half-life; branching ratio if followed by %; delayed neutron emission indicated as "also n".

90

91

92

160	3.5(-5)	7.6(-5)	4(-6)	4(-6)
	Eu	Gd	Tb	Dy
	63 97	64 96	65 95	66 94
	$(d_{5/2})^5 (h_{9/2})^7$	$(d_{5/2})^6 (h_{9/2})^6$	$(h_{11/2}) (h_{9/2})^5$	$(h_{11/2})^2 (h_{9/2})^4$
	(0-)	0+	3-	0+
	Eu $\xrightarrow{50s}$	Gd(st)	Tb $\xrightarrow{72.3d}$	Dy(st)

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