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OAK RIDGE NATIONAL LABORATORY

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OAK RIDGE, TENNESSEE

EXTERNAL TRANSMITTAL
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ORNL
CENTRAL FILES NUMBER

58-4-25

DATE: April 7, 1958

COPY NO. 36

SUBJECT: Table of Current Values for the Distribution of
Energy Released by the Fission of U^{235} Induced
by Thermal Neutrons, II.

Author: F. C. Maienschein

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TYPE OF RADIATION	ENERGY RELEASE (MEV)	COMMENTS	INVESTIGATOR	METHOD
Fission Fragment	$\bar{E}_k = 167 \pm 2$		Leachman	Calorimeter ^a
	$\bar{E}_k = 168 \pm 2$		Leachman	Time-of-Flight ^b
Prompt Neutron	$\bar{E}_n = 4.87 \pm ?$ $= \bar{\nu} \times \bar{E}$	$\bar{\nu} = 2.46$ $\bar{E} = 1.98 \text{ Mev (from formula fitted to data)}$	Cranberg, Frye Nereson and Rosen	Nuclear Plates ^c and Time-of-Flight
Delayed Neutron	$\bar{E}_n(\text{FP}) = 0.0068$ $= \bar{\nu}_{\text{delay}} \times \bar{E}_{\text{delay}}$	$\bar{\nu}_{\text{delay}} = 0.0173 \pm 0.0007$ $\bar{E}_{\text{delay}} = \frac{\sum_i a_i \Sigma_i}{\sum_i a_i} = 0.43 \text{ Mev}$ $a_i = \text{fraction of neutrons in } i\text{th group}$ $E_i = \text{energy of neutrons in } i\text{th group}$	Keepin and Wimmett Batchelor	Neutron Counting after Godiva Burst ^d He ³ Proportional ^e counter
Prompt Gamma	$\bar{E}_\gamma = 7.5 \pm ?$ $\bar{E}_\gamma = 7.2 \pm 0.8$	(from 0.1 to ~ 10 Mev) (from 0.3 to 10 Mev)	Gamble Maienschein, Peelle and Love	Single-Crystal ^f Gamma-Ray Spectrometer Multiple-Crystal ^g Gamma Ray Spectrometer

- a. Proceedings of the International Conference on the Peaceful Uses of Atomic Energy, Vol. 2, p. 193 (Aug. 1955).
b. Phys. Rev. 87, 447 (1952).
c. Phys. Rev. 103, 669 (1956) and BNL-325.
d. Progress in Nuclear Energy - Physics and Mathematics Vol. 1, Chapt. 7 (1956), also Phys. Rev. 107, 1044 (1957).
e. Progress in Nuclear Energy - Physics and Mathematics Vol. 1, Chapt. 7 (1956).
f. University of Texas Thesis.
g. Preliminary Analysis of Data, 1958 Geneva Paper No. 659.

TYPE OF RADIATION	ENERGY RELEASE (MEV)	COMMENTS	INVESTIGATOR	METHOD
Fission-Product	$\bar{E}_\gamma(\text{FP}) = 4.4 \pm 0.8$	(1 to 1800 sec after fission, $E = 0.28$ to 5.0 Mev)	Zobel, Love and Peelle	Fast Pneumatic ^h and Multiple-Crystal Gamma-Ray Spectrometer
	$\bar{E}_\gamma(\text{FP}) = 4.1 \pm 1.3$	(1.5 sec to 8×10^3 sec, $E = 0.36$ to 5.8 Mev)	Peelle, Zobel Love	LTSF Rotating ^h Belt and Multiple-Crystal Gamma-Ray Spectrometer
	$\bar{E}_\gamma(\text{FP}) = 1.6 \pm ?$	(1.8×10^3 sec to 1×10^8 sec) $E = 0.1$ Mev up)	Perkins and King	Calculation ⁱ from Available Chemical Data
	$\bar{E}_\gamma(\text{FP}) = 5.9 \pm 0.8$	(1 sec to 1×10^8 sec, $E = 0.28$ to 5.0 Mev)		Combination of Above Data
Fission-Product Beta	$\bar{E}_\beta(\text{FP}) = 8.0 \pm 0.7$		Perkins	Calculation ⁱ
Fission-Product Neutrino	$\bar{E}_\nu(\text{FP}) = 10.5 \pm 0.8$		Perkins	Calculation ⁱ
Gross Energy	186 ± 5 (parasitic capture subtracted)	which may be compared with: $\bar{E}_k + \bar{E}_n + \bar{E}_\gamma + \bar{E}_\gamma(\text{FP}) + \bar{E}_\beta(\text{FP})$ $194 = 168 + 4.9 + 7.5 + 5.9 + 8.0$	Meem	BSR Fuel ^j Element Calorimeter
Gross Energy	200 ± 5	which may be compared with: $E_k + E_n + E_\gamma + E_\gamma(\text{FP}) + E_\beta(\text{FP}) + E_\nu(\text{FP})$ $204 = 168 + 4.9 + 7.5 + 5.9 + 8.0 + 10.5$	Turkevich	Mass Spec- ^k trographic Analysis

h. Preliminary Analysis of Data, 1958 Geneva Paper No. 659.

i. Private communication (to be published).

j. Nucleonics 12, 62 (1954).

k. ORNL-CF-54-10-11, Symposium on Fission Physics and Classified Nuclear Physics for Reactors and Shielding, Oct. 13-15, 1954.