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Assignment of 48 min. and 2 min. Isomers of Cd

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Authors

Helmholz, A.C.
McGinnis, C.L.

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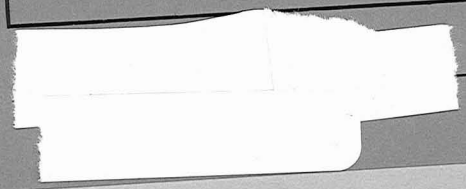
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“ Date

ASSIGNMENT OF 48 MIN. AND 2 MIN. ISOMERS OF Cd.

By
 A. C. Helmholtz and C. L. McGinnis
 University of California
 Radiation Laboratory
 Department of Physics
 Berkeley, California
 April 19, 1948

~~RESTRICTED~~

The assignment of the 48 minute isomerism to Cd¹¹¹ by Goldhaber⁽¹⁾ has been verified by bombardment of enriched isotopes with fast neutrons. The activity has also been produced by high energy alphas (> 20 Mev) on Ag (Ag(α , pn)), and Pd¹⁰⁸ (α , n). Attempts to separate this activity from the 2.7 d. In¹¹¹ have failed, showing that the two γ -rays of energy 173 and 247 Kev observed in its decay⁽²⁾ are not the same as the two of energy 145 and 230 Kev reported in the 48 min. isomerism by Hole⁽³⁾. Further work on these γ -rays will be reported.

The 2 minute isomerism in Cd has been assigned to Cd¹¹³ also by bombardment of separated isotopes with fast neutrons. Initial measurements have given 2.3 min. as the half-life.

This paper is based on work performed under contract W-7405-eng-48 with the Atomic Energy Commission in connection with the Radiation Laboratory, University of California, Berkeley, California.

- (1) Abstracts of Washington Meeting.
- (2) J. L. Lawson, J. M. Cork. Phys. Rev. 57, 982, 1940.
- (3) Hole, N. Ark. Mat. Ast. Fys. 345 #19, 1947.