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* This chemical method is not original with the author but its development was due to the efforts of many individuals on several branches of the Manhattan Project.
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The Gamma-Rays of W^{187} in the Low Energy Region*

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THE use of a very thin window g-m tube detector in a small 180° spectrometer has made it possible to extend our study of W^{187} to energies of about 3 kev. The beta-ray source consisted of a thin deposit of finely divided WO_3 about one mg/cm² thick backed by a 0.06 mg/cm² Zapon film. The 24-hour W^{187} was obtained from Oak Ridge. Figure 1 shows the electron spectrum in the low energy region. Conversion lines are found at 7, 66, 127, and 136 kev. The first of these appears low in intensity since it is close to the window cut-off and corresponds to a gamma-ray at 0.078 Mev, if it is assumed to be a *K*-line. The remaining three lines are found to be the *K*, *L*, and *M* components associated with the conversion of a gamma-ray at 0.138 Mev. Using photographic plate detection, Valley[1] has found conversion lines in this region which he attributes to three gamma-rays at 0.086, 0.135, and 0.101 Mev. Our results are in accord with the assignment of two of these, with somewhat different energy values, but the presence of a gamma-ray at 0.101 Mev cannot be inferred from our data.

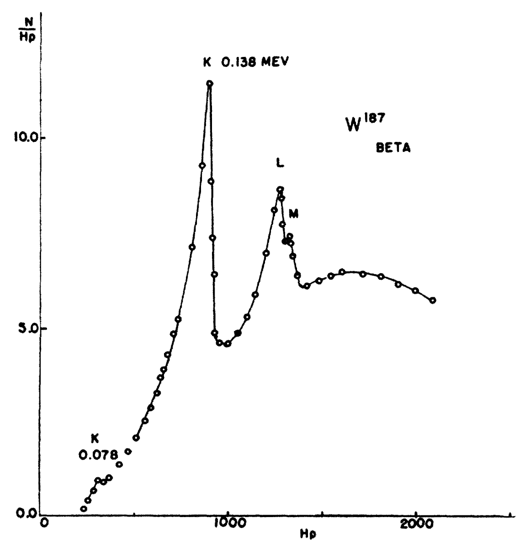

FIG. 1. Low energy electron spectrum of W^{187}.

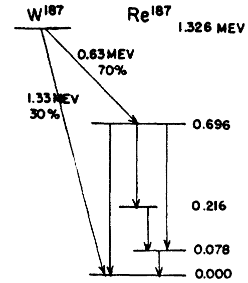

FIG. 2. Decay scheme of W^{187}.

From a study of the photoelectrons ejected from a thin lead radiator, gamma-rays at 0.14 and 0.21 Mev have been previously suggested.[2] The photoelectron line caused by the 0.14-Mev gamma-ray was very close to window cut-off and the energy assignment in doubt. It would now appear that the photoelectron line previously ascribed to a 0.21-Mev gamma-ray is really the *L* line of the 0.138-Mev gamma-ray. This correction makes the decay scheme previously given more consistent.[2] Figure 2 shows the decay scheme which is consistent with our earlier studies and the present low energy measurements. In addition, coincidence studies and an analysis of the relative intensities support this picture. However, since the decay is complex and cannot be inferred directly from the data, it is perhaps best to regard the scheme as a tentative one. In any case, Fig. 2 may be regarded as a summary of the radiations of W^{187} and their energies which we have obtained.

* Assisted by the joint program of the Office of Naval Research and Atomic Energy Commission.
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The Possible Magnetic Field of a Rotating Metallic Body Containing a Stress Gradient

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IN view of the recent interest in the magnetic fields of the earth, the sun and other astronomical bodies, and in mechanisms for producing magnetic fields by rotation,[1]