^{85}Kr

In 1943, Born and Seelmann-Eggebert were the first to identify ^{85}Kr in Berlin in their paper "Über die Identifizierung einiger Uranspaltprodukte mit entsprechenden durch (nα)- und (np)-Prozesse erhaltenen Isotopen" (1943Bo01). Rubidium and strontium salts were irradiated with neutrons from the high-voltage facility of the Kaiser Wilhelm Institut für Physik and decay curves following chemical separation were measured. "Von diesen sind 83 und 84 stabil, so daß dem 4.6-Std.-Krypton offenbar die Masse 85 zuzuordnen ist. Der Bildung dieses Isotops aus Rubidium würde dann dem Prozeß ^{85}Rb(np)^{85}Kr entsprechen." [Out of these, 83 and 84 are stable, so that the 4.6 h krypton obviously has to be assigned to mass 85. The production of this isotope from rubidium would thus correspond to the reaction ^{85}Rb(n,p)^{85}Kr.] The half-life of 4.6 h corresponds to an isomer. A month earlier the authors detected the 4.6 h activity in the neutron-induced fission of uranium without assigning it to a specific mass (1943Se01). Even earlier, in 1937, Snell (1937Sn02) had also measured a 4.5 h activity, but could not assign it to a specific isotope. It also should be mentioned that Clancy had argued to assign the (^{85}Kr) 4 h activity to ^{87}Kr (1941Cl02, 1940Cl01). The ground state of ^{85}Kr was discovered four years later by Thode and Graham 1947Th06).

Adapted from reference (2010He02)

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