^{13}B

In 1956, Allison et al. reported the first observation of ^{13}B in "Mass of B^{13} from the Nuclear Reaction $Li^7(Li^7,p)B^{13}$" (1956Al60). A 1.61 MeV ^{7}Li beam was accelerated by a Van de Graaff accelerator of the Enrico Fermi Institute for Nuclear Studies a the University of Chicago, and bombarded a LiF target. Charged particles emitted at 90° were detected with a CsI(Tl) scintillating crystal. "Using published mass values, it results that the Q-value of the new $Li^7(Li^7,p)B^{13}$ reaction is 5.97±0.03 Mev, giving B^{13}, presumably in its ground state, a value of (M−A) equal to 20.39±0.03 Mev, or a physical atomic weight of 13.02190±0.00003." A previous attempt to measure neutron activity from ^{13}B as a delayed neutron emitter was unsuccessful (1953Hu89).

Adapted from reference (2012Th01)

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