^{18}B

An unbound state of ^{18}B was first reported in 2010 by Spyrou et al. in "First Evidence for a Virtual ^{18}B Ground State" (2010Sp02). A secondary beam of 62 MeV/u ^{19}C produced by the Michigan State Coupled Cyclotron Facility and the A1900 fragment separator bombarded a beryllium target and ^{18}B was produced in a one-proton knockout reaction. The excitation energy spectrum of ^{18}B was reconstructed by measuring neutrons in coincidence with ^{17}B fragments. "An s-wave line shape was used to describe the experimental spectrum resulting in an upper limit for the scattering length of -50 fm which corresponds to a decay energy <10 keV."

The particle instability of ^{18}B was demonstrated independently by Musser and Stephenson (1984Mu27) and Langevin et al. (1985La03). The two papers were submitted within about two months of each other. Langevin's paper was submitted (October 15, 1984) before the result by Musser and Stephenson were published (December 31, 1984).

Adapted from reference (2012Th01)

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