

¹⁶B

Kalpakchieva et al. observed ¹⁶B for the first time as reported in the 2000 paper “Spectroscopy of ¹³B, ¹⁴B, ¹⁵B and ¹⁶B using multi-nucleon transfer reactions” (2000Ka21). A 336.6 MeV ¹⁴C accelerated by the heavy-ion accelerator at the Hahn Meitner Institut in Berlin bombarded a ¹⁴C target and ¹⁶B was produced in the reaction ¹⁴C(¹⁴C,¹²N). The ejectiles were detected with the Q3D magnetic spectrometer and the isotopes were identified by energy loss and time-of-flight measurements. “Between the two ¹⁴B-states at 8.03 MeV and 10.15 MeV the lowest-lying ¹⁶B peak can be identified. It is found at a position which corresponds to a value of $Q_0 = -48.38(6)$ MeV. Thus, a mass excess of 37.08(6) MeV can be determined for this ¹⁶B-peak.”

In 1973, Bowman et al. had shown that ¹⁶B was unbound with respect to neutron emission (1973Bo30).

Adapted from reference (2012Th01)

- 1973Bo30 J. D. Bowman, A. M. Poskanzer, R. G. Korteling, and G. W. Butler, Phys. Rev. Lett. **31**, 614 (1973).
2000Ka21 R. Kalpakchieva, H. G. Bohlen, W. von Oertzen, B. Gebauer *et al.*, Eur. Phys. J. A **7**, 451 (2000).
2012Th01 M. Thoennessen, At. Data Nucl. Data Tables **98**, 43 (2012).

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