

^{23}Al

The first observation of ^{23}Al was described by Cerny et al. “New nuclides ^{19}Na and ^{23}Al observed via the (p, ^6He) reaction” in 1969 ([1969Ce01](#)). A natural silicon target was bombarded with 54.7 MeV protons from the Berkeley 88-in. cyclotron. ^{23}Al was produced in the reaction $^{28}\text{Si}(p,^6\text{He})$ and identified by measuring the ^6He in a two counter telescope. “The mass excess of ^{23}Al is determined to be 6.766 ± 0.080 MeV. (The data in [the figure] also show the presence of ^7B ground state from reactions on a ^{12}C target impurity.) Therefore, ^{23}Al is bound to $^{22}\text{Mg}+p$ by 146 ± 82 keV and is nucleon stable.” Previously a 130 ms activity was assigned to either ^{23}Al or ^{22}Mg ([1954Ty33](#)).

Adapted from reference ([2012Th10](#))

- [1954Ty33](#) H. Tyren and P. A. Tove, Phys. Rev. **96**, 773 (1954).
[1969Ce01](#) J. Cerny, R. A. Mendelson Jr., G. J. Wozniak, J. E. Esterl, and J. C. Hardy, Phys. Rev. Lett. **22**, 612 (1969).
[2012Th10](#) M. Thoennessen, At. Data Nucl. Data Tables **98**, 933 (2012).

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