

## $^{24}\text{Si}$

In the 1979 paper “Decay of a new isotope,  $^{24}\text{Si}$ : A test of the isobaric multiplet mass equation” Äystö et al. described the first observation of  $^{24}\text{Si}$  (1979Ay01). A 70 MeV  $^3\text{He}$  beam from the Berkeley 88-in. cyclotron bombarded magnesium targets and  $^{24}\text{Si}$  was produced in the reaction  $^{24}\text{Mg}(^3\text{He},3n)$ . Beta-delayed protons from the recoil products were measured at the on-line mass separator system RAMA. “The proton spectrum arising from the decay of  $^{24}\text{Si}$  after bombardment for 560 mC is shown in [the figure]. Only one peak is evident in the spectrum; it occurs at a laboratory energy of  $3914 \pm 9$  keV. Possible lower energy groups arising from positron decay to  $1^+$  states were not observed, a result partly due to the low detection efficiency of the telescope below 3 MeV. A half-life of  $100^{+90}_{-40}$  ms was estimated for the observed peak by comparing the  $^{24}\text{Si}$  focal plane yield to the yields of  $^{20}\text{Na}$  ( $t_{1/2} = 446$  ms),  $^{24}\text{Al}$  (2.07 s),  $^{24}\text{Al}^m$  (129 ms) and  $^{25}\text{Si}$  (220 ms).”

Adapted from reference (2012Th10)

1979Ay01 J. Aysto, D. M. Moltz, M. D. Cable, R. D. Von Dincklage *et al.*, Phys. Lett. B **82**, 43 (1979).

2012Th10 M. Thoennessen, At. Data Nucl. Data Tables **98**, 933 (2012).

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