^{29}Al

Bethe and Henderson correctly identified ^{29}Al in the 1939 paper "Evidence for incorrect assignment of the supposed Si^{27} radioactivity of 6.7-minute half-life" (1939Be04). The Purdue cyclotron was used to irradiate magnesium with 16 MeV α-particles. Photographs were taken with a Wilson cloud chamber after the irradiation. Previously there had been some uncertainties about the assignment of a 6−7 min half-life to either ^{27}Si or ^{29}Al. "We have therefore repeated the experiment with the 16-Mev α-particles furnished by the Purdue cyclotron. The result is that there is no positron activity, but only negative electrons. This proves that the previous assignment was incorrect and that the 6.7-min. period is almost certainly Al^{29}, formed by the reaction $Mg^{26}(\alpha,p)$." The previous measurements with the uncertain assignment were 7.5(15) min (1935Ec01), 6.7(10) min (1935Fa01), 6−7 min (1936El01), and 6.6(3) min (1937Me02).

Adapted from reference (2012Th10)

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