^{29}P

White et al. described the observation of ^{29}P in 1941 in the paper "Positrons from light nuclei" (1941Wh02). Protons from the Princeton cyclotron bombarded silicon targets. Beta-rays were measured in a cloud chamber and the half-life was recorded by taking photographs of a stop watch dial and the image of the fiber of a projection-type Lauritsen electroscope. "A large number of targets were used in rotation so that the P^{30} activity would not build up after repeated short exposures to the beam. It was hoped that the energy of P^{29} would be sufficiently higher than that of P^{30} so it could be distinguished. That this was possible may be seen from [the figure], where the momentum spectrum of all positrons from the two reactions $Si^{29,30}(p,n)P^{29,30}$ is plotted as well as the upper end of the spectrum of positrons from P^{30} alone, the latter being obtained when the proton energy was below the threshold for production of P^{29}." The reported half-life was 4.6(2) s.

Adapted from reference (2012Th10)

1941Wh02 M. G. White, E. C. Creutz, L. A. Delsasso, and R. R. Wilson, Phys. Rev. **59**, 63 (1941).

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

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