^{16}Ne

Holt et al. reported the first observation of ^{16}Ne in the 1977 paper "Pion non-analog double charge exchange: ^{16}O(π^+,π^-)^{16}Ne" (1977Ho13). Pions from the Los Alamos Meson Physics Facility LAMPF bombarded a natural water target having the form of a thick gelatin disk. ^{16}Ne was produced in the double-charge exchange reaction (π^+,π^-). The negative pions were analyzed with a zero degree spectrometer and identified by measuring position, velocity, energy-loss, and time-of-flight. "The spectrum obtained at 0° for the ^{16}O(π^+,π^-)^{16}Ne reaction with incident pion of 145 MeV mean kinetic energy is shown [in the figure]. A distinct peak is observed near the energy predicted on the basis of mass systematics... These are expected inasmuch as ^{16}Ne is approximately 2 MeV unbound with respect to two-proton decay to ^{14}O." Six months later KeKelis et al. measured the mass of ^{16}Ne in the reaction ^{20}Ne(^{4}He,^{8}He) (1978Ke06).

Adapted from reference (2012Th01)

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