

## $^{113}\text{Cs}$

Faestermann et al. published “Evidence for proton radioactivity of  $^{113}\text{Cs}$  and  $^{109}\text{I}$ ” in 1984 describing the first observation of  $^{113}\text{Cs}$  (1984Fa04). Enriched  $^{58}\text{Ni}$  targets were bombarded with a 250 MeV  $^{58}\text{Ni}$  beam from the Munich MP Tandem-linear accelerator combination. Evaporation residues were collected on a catcher foil and charged particles were measured with a parallel plate avalanche counter and a Bragg curve spectroscopy ionization chamber. “With this in mind we can conclusively assign the 0.98 MeV proton radioactivity to  $^{113}\text{Cs}$  populated with the  $^{58}\text{Ni}(^{58}\text{Ni},p2n)$  reaction.” The reported half-life of  $0.9_{-0.4}^{+1.3} \mu\text{s}$  was later corrected to  $33(7) \mu\text{s}$  (1987Gi02): “The half-life of  $^{113}\text{Cs}$  of the order of  $1 \mu\text{s}$ , which was observed in our first measurement, could not be confirmed by measurements with improved statistics. The limited statistics of the first measurement however had left a finite probability that the half-life was long compared to the  $1.4 \mu\text{s}$  long interval subtended by the time spectrum.” The proton energy was measured correctly and these data were accepted as the first observation of  $^{113}\text{Cs}$  in the subsequent literature (1994Pa12, 1998Ba13). Earlier searches for  $^{113}\text{Cs}$  were unsuccessful (1978Da07).

Adapted from reference (2012Ma48)

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