# $^{156}$Ta

Page et al. discovered $^{156}$Ta as reported in the 1992 paper "Discovery of new proton emitters $^{160}$Re and $^{156}$Ta" (1992Pa05). A 300 MeV $^{58}$Ni beam from the Daresbury tandem accelerator bombarded an enriched $^{106}$Cd target forming $^{160}$Re in the fusion-evaporation reaction $^{106}$Cd($^{58}$Ni,p3n) and $^{156}$Ta was populated by subsequent $\alpha$-decay. Residues were separated using the Daresbury Recoil Mass Separator and charged particles were measured with a double-sided silicon strip detector. "The half-life of this correlated decay line was determined as $165^{+165}_{-55}$ ms which is significantly shorter than the value of 1 s predicted for beta decay, the principal competing decay mode for $^{156}$Ta. This new decay line is therefore assigned to the proton decay of $^{156}$Ta and a $Q$ value of 1028±13 keV was deduced for these correlated proton decays." In 1989, Hofman et al. reported a lower limit of 10 ms for the $\beta$-decay half-life of a high-spin state of $^{156}$Ta (1989Ho12).

Adapted from reference (2012Ro36)


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