Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

Q(β^-)=6660 *SY*; S(n)=4000 *SY*; S(p)=12910 *SY*; Q(α)=−4210 *SY* 2017Wa10

Estimated uncertainties (2017Wa10): ΔQ(β^-)=500, ΔS(n)=280, ΔS(p)=360, ΔS(α)=480.

S(2n)=9830 *200*, S(2p)=24550 *450*, Q(β^-n)=780 *200*, from 2017Wa10 (based on syst).

Data set based on the XUNDL compilation of 2017Wu04 done by F.G. Kondev (ANL) (including *Supplemental Material* table of 94 measured β-decay half-lives).

2017Wu04: The ^{153}Ce nuclide was produced at the RIBF-RIKEN facility using the ^{9}Be(^{238}U,F) reaction at E=345 MeV/nucleon. Two experiments, optimized for the transmission of ^{158}Nd and ^{170}Dy ions, were carried out with average beam intensities of 7 pnA and 12 pnA, respectively. The identification of the nuclide of interest was made in the BigRIPS separator by determining the atomic number and the mass-to-charge ratio of the ion using the tof-Bρ-ΔE method. The reaction products were transported through the ZeroDegree Spectrometer and implanted into the beta-counting system WAS3ABi that was surrounded by the EURICA array comprising of 84 HPGe detectors. The typical implantation rate was about 100 ions/s. Measured: implanted ion-β^--t, implanted ion-β^--γ-t and implanted ions-γ-t correlations. Deduced: $T_{1/2}$.

1997Be12, 1994Be24: ^{153}Ce was observed in projectile fission of ^{238}U at a beam energy of 750 MeV per nucleon with a fragment separator (no decay or structure data were measured).

^{153}Ce Levels

E(level)	$T_{1/2}$	Comments
0.0	0.865 s *25*	%β^-=100; %β^-n=? %β^-: Only β^- decay mode is expected. J^π: (3/2$^-$) can be tentatively quoted from systematics of known quasiparticle states in neighboring nuclei and the proposed configuration (by evaluator). $T_{1/2}$: From a fit to the implanted ion-β^--t spectrum using the least-squares and maximum-likelihood methods. The data analysis included contributions from the parent, daughter and grand-daughter decays, as well as a constant background. configuration: ν3/2[521] Nilsson orbital, based on systematics of known structures in neighboring, well-deformed nuclei. The assignment is tentative.