Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Q(β^-)=5558 *4*; S(n)=5003 *10*; S(p)=9340 *7*; Q(α)=−2041.7 *16* 2021Wa16
S(2n)=11372.1 *16*, S(2p)=20406.2 *24* (2021Wa16).
Additional information 1.
Measured Q(β^-): 5577 *35* (2014Ha38), 5585 *60* (2010Ha38), 5575 *60* (2007Ha57).
For unplaced γ's see ^{162}Sm β^- decay dataset.

^{162}Eu Levels

Cross Reference (XREF) Flags

A ^{162}Sm β^- decay
B ^{162}Eu IT decay

E(level)	J^{π} †	$T_{1/2}$	XREF	Comments
0.0	(6$^+$)	11.4 s *6*	AB	%β^-=100 $T_{1/2}$: Unweighted average of 10.6 s *10* (1987Gr12), 11.8 s *14* (2017Wu04) and 11.78 s *16* (2021Wa04), based on the assumption that all values are from the decay of ^{162}Eu β^- g.s. However, not knowing that the $T_{1/2}$ of the 158.5 isomer ^{162}Eu β^- significantly differs from this value, the adopted $T_{1/2}$ for g.s. is highly hypothetical. 1987Gr12 (see also, 1990An31, 1988GrZY and 1987An03 (preliminary value), all by the same authors): measured the decay of the Gd K x-rays in an isotope-separated source from the spontaneous fission of ^{252}Cf. 2017Wu04: see description in ^{162}Sm Adopted Levels. 2021Wa04: weighted average of the following values: 12.3 *6* (205γ(t) and 330γ(t)), 12.0 *2* (165γ(t)), 11.6 *4* (254γ(t)), 11.7 *12* (863γ(t)), 10.8 *5* (72γ(t)) and 11.6 *3* (K_α(t)). Other: ≈6 s from 1986Ma12 (based on tentative assignment from isotope-separated source from neutron-induced fission of ^{235}U).
158.4 *24*	(3$^-$)		B	%β^-=?; %IT=? E(level): Weighted average of 160.2 *24* (2020Or03) and 156.0 *28* (2020Vi04, quoted as weighted average of 155.9 *30* and 156.8 *94*). $T_{1/2}$: 15.0 s *5* adopted by 2018Ha19 for this isomeric state from fit of summed background-subtracted time spectrum produced by gating on the 165γ+254γ is contradictied by 12.0 s *2* from 165γ decay and 11.6 s *4* from 254γ decay, rather associated with ^{162}Eu g.s. β^- decay.

† Adopted values proposed by 2021Wa16 (in order to explain the relatively strong β feeding of the 2$^+$, 3$^+$, 4$^+$, 6$^+$ and 6$^-$ levels) to be: 6$^+$, ν5/2[413]⊗ν7/2[633] for g.s. and 3$^-$, ν5/2[413]⊗ν1/2[521] for 158.4 isomer, respectively, by comparing with neghboring nuclei (see 2021Wa04 for the list of them). 2018Ha19 proposed (1$^+$), π5/2[413]⊗ν7/2[633] for g.s. and (6$^+$), π5/2[413]⊗ν7/2[633] for isomer assuming that they separated the β decay of the isomer based on $T_{1/2}$, which was contradicted by 2021Wa04 $T_{1/2}$ measurements.