Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 112,2497 (2011)	1-Jun-2011

S(p)=6.×10^2 *syst*; Q(α)=7066 *13* 2012Wa38

Note: Current evaluation has used the following Q record 7066 *12*.

Q(α): Computed from Eα=6890 *12*, as reported by 2010Bi03, assuming that the α transition connects the two ground states. Note that 2003Au03 (and 2009AuZZ) list no Q values for ^{161}Os.

Additional information 1.

All data are from the study reported by 2010Bi03. The evaluator has assumed that this is a subsequent version of the information presented in 2008PaZV, which has most of the same authors.

^{161}Os produced via the ^{106}Cd(^{58}Ni,3n) reaction, with values of E(^{58}Ni)=290, 300 and 310 MeV. Enriched (96.5%) self-supporting target of thickness 1.1 mg/cm^2. Reaction products were separated in-flight in a gas-filled separator and implanted into double-sided silicon-strip detectors. Measured $T_{1/2}$, Eα and generic relations among members of the decay chain.

2010Bi03 report α peaks having energies of 6890 *12* and 6580 *30*, with the latter having a branching ratio=5.5 *31*–22%. These authors assign these as transitions to the ^{157}W g.s. and an excited state at 318 *30*, respectively. With this identification, Q(α)=7066 *12* is implied.

^{161}Os Levels

E(level)	J$^\pi$	$T_{1/2}$	Comments
0	(7/2$^-$)	0.64 ms *6*	%α≈100 E(level): assumes that the observed activity represents the ^{161}Os g.s. %α: The theoretical calculations of 1997Mo25 give a value of 167 ms for the β decay halflife of ^{161}Os, suggesting that α decay is the dominant decay mode for this nuclide. J$^\pi$: proposed configuration is $\nu f_{7/2}$, proposed by 2010Bi03 based on an analysis of the α branching to the ^{157}W levels, assumed to Be (7/2$^-$) and (9/2$^-$) for the g.s. and 318-keV, respectively. The ^{157}W g.s. assignment was proposed by 2008PaZV based on the observation that, among the expected available orbitals, only $\nu f_{7/2}$ accounts for the ε feeding with comparable intensities to the 11/2$^-$ and 1/2$^+$ levels in the daughter nucleus, ^{161}Ta. $T_{1/2}$: from analysis of the decay of the α peaks using the method of maximum likelihood, 2010Bi03 deduce $T_{1/2}$=640 μs *60*. 2008PaZV report $T_{1/2}$=590 μs.