^{170}Os ε decay 1995Hi02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin[1], E. A. Mccutchan[2], S. Basunia[1]	NDS 153, 1 (2018)	1-Oct-2018

Parent: ^{170}Os: E=0.; $J^\pi=0^+$; $T_{1/2}$=7.37 s *18*; Q(ε)=4987 *25*; %ε+%$β^+$ decay=90.5 *10*

Other: 2001Ki10.

The strong 162γ and 216γ are coincident with K x ray(Re) and 511γ, but not with each other; 1995Hi02, therefore, postulate that each populates the same level. That level is unlikely to be the (5^+) g.s., since log *ft*≤5.9 from 0^+ for any ε+$β^+$ branch which exceeds about 1%, implying $J^\pi=1^+$ for the populated level and, hence, a greatly hindered γ-ray de-excitation to the (5^+) g.s. Consequently, the evaluator introduces a low-spin level at 0+z, which also may be populated by ε decay. Q(ε) is large (so the decay scheme is probably incomplete) and mult is not known for the two γ-rays observed, so the decay scheme has not been normalized.

^{170}Re Levels

E(level)†	Jπ‡
0+z	
161.8+z *4*	
216.3+z *4*	(≤2)

† From Eγ.
‡ From Adopted Levels.

γ(^{170}Re)

If internal conversion of the 162γ and 216γ is neglected, 1995Hi02 deduce %α(^{170}Os)=9 *2* (cf. adopted value of 9.5 % *10*); if mult=M1 is assumed for both gammas, %α drops to 5 *1*. This favors low multipolarity for both transitions.

E_γ	I_γ†	E_i(level)	J_i^π	E_f
161.8‡ *4*	35 *3*	161.8+z		0+z
216.3‡ *4*	100	216.3+z	(≤2)	0+z

† Relative photon intensity.
‡ Coincident with K x ray(Re) and with 511γ.

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Decay Scheme

Intensities: Relative I_γ