¹⁷⁰Os 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^{π} =0+; $T_{1/2}$ =7.37 s 18; $Q(\varepsilon)$ =4987 25; $\%\varepsilon+\%\beta^+$ 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 $\log ft \le 5.9$ from 0^+ for any $\varepsilon + \beta^+$ 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. $Q(\varepsilon)$ 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.

¹⁷⁰Re Levels

E(level)[†]
$$J^{\pi \ddagger}$$

0+z
161.8+z 4
216.3+z 4 (\leq 2)

$$\gamma$$
(170Re)

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

$$\frac{E_{\gamma}}{161.8^{\ddagger}} \frac{I_{\gamma}^{\dagger}}{4} \frac{E_{i}(\text{level})}{35 \ 3} \frac{J_{i}^{\pi}}{161.8+z} \frac{E_{f}}{0+z}$$

 $\frac{216.3^{\ddagger}}{4} \frac{4}{100} \frac{216.3+z}{216.3+z} (\leq 2) \frac{0+z}{0+z}$

[†] From E*γ*.

[‡] From Adopted Levels.

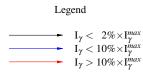
[†] Relative photon intensity.

[‡] Coincident with K x ray(Re) and with 511 γ .

170 Os ε decay 1995Hi02

Decay Scheme

Intensities: Relative I_{γ}



$$\%\epsilon + \%\beta^{+} = 90.5$$
 0^{+}
 $Q_{\epsilon} = 4987.25$
 170_{76}Os_{94}
 $7.37 \text{ s } 18$

