

¹⁸⁷Re(p,2n γ) 1973Ya05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia		NDS 183, 1 (2022)	1-Mar-2022

1973Ya05: E(p)=14 MeV; enriched target; measured E γ , I γ (prompt and delayed spectra).

No change compared to previous evaluation (2003Ba44), except correction of the dataset ID.

¹⁸⁶Os Levels

E(level) [†]	J π [‡]	T _{1/2}	Comments
0.0 [#]	0 ⁺		
137.1 [#] 4	2 ⁺		
434.0 [#] 5	4 ⁺		
767.7 [@] 4	2 ⁺		
869.2 [#] 6	6 ⁺		
911.6 [@] 5	3 ⁺		
1071.5 [@] 5	4 ⁺		
1275.3 [@] 6	5 ⁺		
1352.9 ^{&} 5	4 ⁺		
1421.6 [#] 8	8 ⁺		
1491.4 [@] 8	6 ⁺		
1560.7 ^{&} 6	5 ⁺		
1629.1 6	5 ⁻		
1775.0 12	7 ⁻	12.5 ns 25	T _{1/2} : a 10-15 ns half-life was assigned to the 1629 level by 1973Ya05. The evaluators reassign this value to the 1775 level because the 146-keV transition connecting the 1775 and 1629 levels was shown in (α ,2n γ) (1974Ya03) to be delayed and to possess a similar half-life.

[†] From least-squares adjustment of E γ .

[‡] From 1973Ya05.

[#] Band(A): g.s. band.

[@] Band(B): γ band.

[&] Band(C): K=4 $\gamma\gamma$ band.

γ (¹⁸⁶Os)

E γ	I γ	E _i (level)	J π _i	E _f	J π _f	E γ	I γ	E _i (level)	J π _i	E _f	J π _f
137.2 [†] 5	88 7	137.1	2 ⁺	0.0	0 ⁺	552.4 5	6.0 5	1421.6	8 ⁺	869.2	6 ⁺
145.9 [#]		1775.0	7 ⁻	1629.1	5 ⁻	557.0 [†] 5	5.2 4	1629.1	5 ⁻	1071.5	4 ⁺
276.9 [†] 5	12.5 10	1629.1	5 ⁻	1352.9	4 ⁺	585.1 [†] 5	21.0 17	1352.9	4 ⁺	767.7	2 ⁺
297.1 [†] 5	100 8	434.0	4 ⁺	137.1	2 ⁺	622.2 5	0.80 5	1491.4	6 ⁺	869.2	6 ⁺
353.5 [†] 5	3.3 3	1629.1	5 ⁻	1275.3	5 ⁺	630.8 [†] 5	25 2	767.7	2 ⁺	137.1	2 ⁺
365.16 [‡] 5	2.60 21	1275.3	5 ⁺	911.6	3 ⁺	637.4 [†] 5	17.8 14	1071.5	4 ⁺	434.0	4 ⁺
435.3 [†] 5	34 3	869.2	6 ⁺	434.0	4 ⁺	648.4 [@] 5	≈6	1560.7	5 ⁺	911.6	3 ⁺
442.0 [†] 5	10.0 8	1352.9	4 ⁺	911.6	3 ⁺	^x 713.8 5	15.0 12				
477.0 [†] 5	7.9 6	911.6	3 ⁺	434.0	4 ⁺	760.0 [†] 5	4.1 3	1629.1	5 ⁻	869.2	6 ⁺
489.8 5	4.2 3	1560.7	5 ⁺	1071.5	4 ⁺	767.6 [†] 5	24.0 19	767.7	2 ⁺	0.0	0 ⁺

Continued on next page (footnotes at end of table)

$^{187}\text{Re}(\text{p},2\text{n}\gamma)$ 1973Ya05 (continued) $\gamma(^{186}\text{Os})$ (continued)

<u>E_γ</u>	<u>I_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
774.4 [†] 5	40 3	911.6	3 ⁺	137.1	2 ⁺
842.1 5	14.5 12	1275.3	5 ⁺	434.0	4 ⁺
934.5 [†] 5	13.1 11	1071.5	4 ⁺	137.1	2 ⁺

[†] Present in delayed spectrum for $E_\alpha=30$ MeV (1973Ya05).

[‡] This datum appears to contain a typographical error; authors' level energy difference is 365.2, as is adopted E_γ for this transition.

From fig. 1 of 1973Ya05.

@ Possible doublet. Could not have been resolved from a 10⁺ to 8⁺ g.s. band transition had that transition been present.

^x γ ray not placed in level scheme.

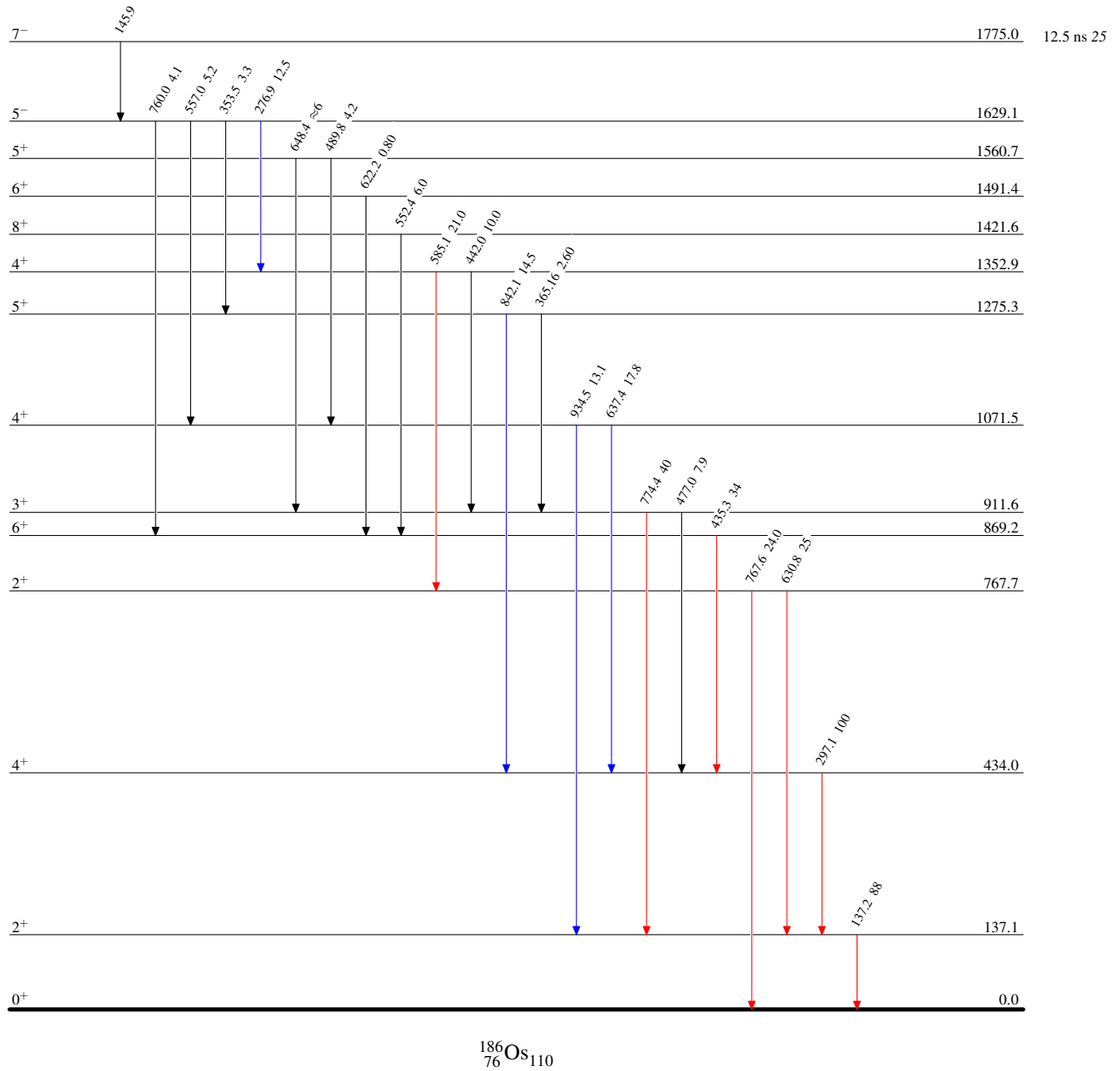
$^{187}\text{Re}(p,2n\gamma)$ 1973Ya05

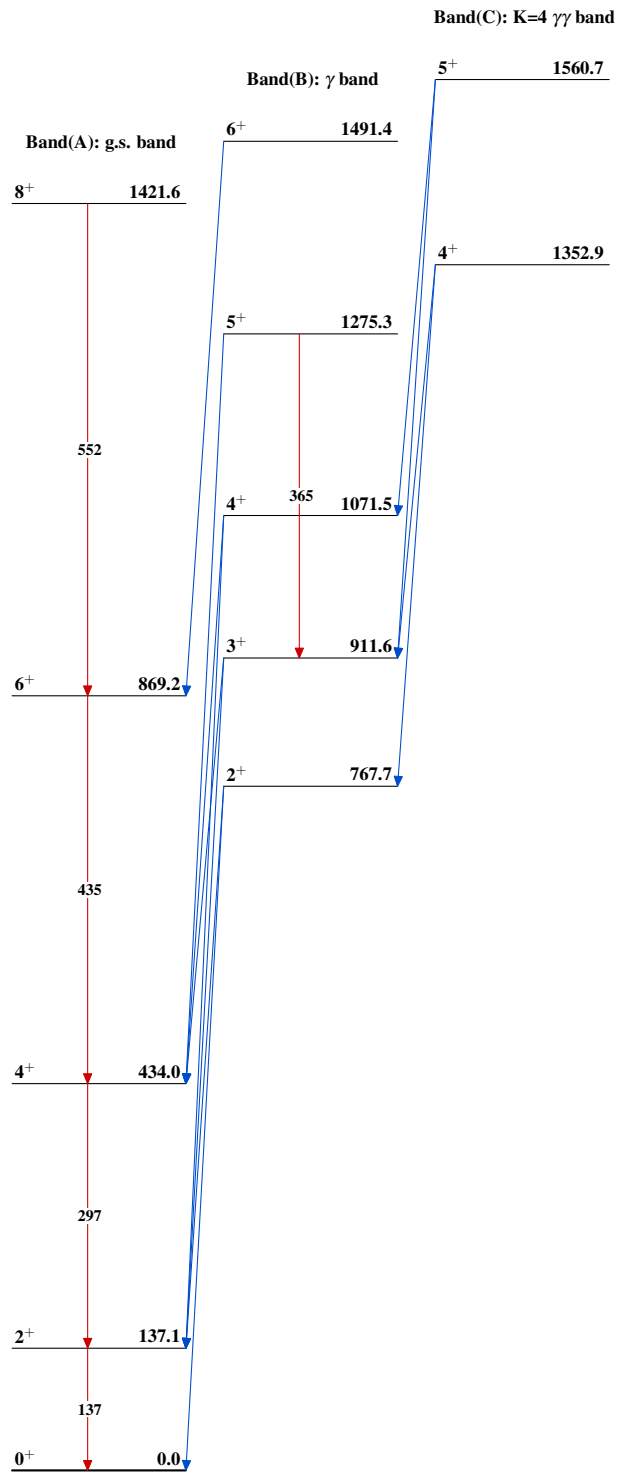
Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$



$^{187}\text{Re}(p,2n\gamma)$ 1973Ya05 $^{186}_{76}\text{Os}_{110}$