

$^{244}\text{Pu}(^{18}\text{O}, ^{16}\text{O}\gamma)$  2007Ma82,2007Is11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 198,449 (2024)	31-Jul-2022

2007Ma82,2007Is11:  $^{18}\text{O}$  beam with E=162 MeV from JAEA-Tokai tandem accelerator bombarded an enriched  $^{244}\text{Pu}$  target.  $^{16}\text{O}$  particles detected with four Si $\Delta$ E-E telescopes, and  $\gamma$ -rays were measured using six Ge detectors. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$ , (particle) $\gamma$  coin.

Other: 2008MaZO.

 $^{246}\text{Pu}$  Levels

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	Comments
0.0 <sup>#</sup>	0 <sup>+</sup>	
(46.7 <sup>#</sup> calc)	2 <sup>+</sup>	Additional information 1. E(level): From a fit of kinetic moment of inertia to rotational frequencies (2007Ma82).
154.50 <sup>#</sup> 10	4 <sup>+</sup>	
321.10 <sup>#</sup> 14	6 <sup>+</sup>	
543.50 <sup>#</sup> 17	8 <sup>+</sup>	
818.10 <sup>#</sup> 20	10 <sup>+</sup>	
1140.8 <sup>#</sup> 4	12 <sup>+</sup>	

<sup>†</sup> Deduced by evaluator from  $\gamma$ -ray energies.

<sup>‡</sup> From 2007Ma82.

<sup>#</sup> Band(A):  $K^\pi=0^+$  g.s. rotational band.

 $\gamma(^{246}\text{Pu})$ 

R(asymmetry)= $I_\gamma(\text{in-plane})/I_\gamma(\text{out-of-plane})$ . Expected ratio is >1 for  $\Delta J=2$ , quadrupole and <1 for  $\Delta J=1$ , dipole.

$E_\gamma$	$I_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>‡</sup>	$\alpha$ <sup>#</sup>	Comments
(46.7)		(46.7)	2 <sup>+</sup>	0.0	0 <sup>+</sup>			$E_\gamma$ : Not observed by 2007Ma82 due to large internal conversion coefficient.
107.8 1	11.2 7	154.50	4 <sup>+</sup>	46.7?	2 <sup>+</sup>	Q	11.14	R(asymmetry)=1.61 17.
166.6 1	37.1 20	321.10	6 <sup>+</sup>	154.50	4 <sup>+</sup>	Q	1.741	R(asymmetry)=2.34 12.
222.4 1	33.4 18	543.50	8 <sup>+</sup>	321.10	6 <sup>+</sup>	Q	0.578	R(asymmetry)=2.27 13.
274.6 1	11.6 8	818.10	10 <sup>+</sup>	543.50	8 <sup>+</sup>	Q	0.280	R(asymmetry)=2.2 3.
322.7 3	3.1 6	1140.8	12 <sup>+</sup>	818.10	10 <sup>+</sup>	(Q)	0.1693	R(asymmetry)=0.95 35.

<sup>†</sup> From e-mail reply of March 5, 2008 from the first author of 2007Ma82 to B. Singh.

<sup>‡</sup> Stretched quadrupole ( $\Delta J=2$ ) transition deduced from anisotropy data.

<sup>#</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

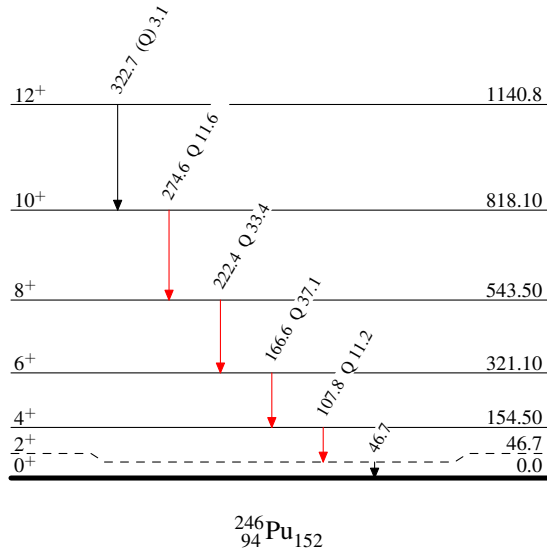
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Legend

## Level Scheme

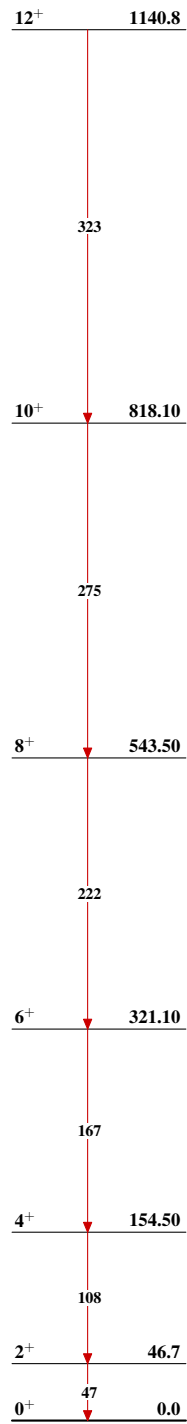
Intensities: Relative  $I_\gamma$ 

- ▶  $I_\gamma < 2\% \times I_\gamma^{max}$
- ▶  $I_\gamma < 10\% \times I_\gamma^{max}$
- ▶  $I_\gamma > 10\% \times I_\gamma^{max}$
- - - -▶  $\gamma$  Decay (Uncertain)



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Band(A):  $K^\pi=0^+$  g.s.  
rotational band

 $^{246}_{94}\text{Pu}_{152}$