

$^{160}\text{Gd}(^{34}\text{S},5n\gamma):\text{SD}$  **1992Be18,1991Dr04**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, Balraj Singh		NDS 142, 1 (2017)	15-Apr-2017

**1992Be18, 1991Dr04** (also **1990Ja13**):  $^{160}\text{Gd}(^{34}\text{S},5n\gamma), E=167, 172 \text{ MeV}$ ; 0.5 mg/cm<sup>2</sup> self-supporting target, >97% enriched. Argonne-Notre Dame BGO  $\gamma$ -ray facility. SD band deduced from  $\gamma$  and  $\gamma\gamma$  data.

 $^{189}\text{Hg}$  Levels

E(level) <sup>†</sup>	J <sup>π</sup>	Comments
y <sup>‡</sup>	J≈(29/2,31/2)	<b>Additional information 1.</b> J <sup>π</sup> : from fitting by <b>1992Be18</b> and <b>1992Be25</b> . The procedure, as described in <b>1992Be18</b> , involves fitting of the experimental dynamic moments of inertia with rotational frequencies $\hbar\omega$ . Other: J=31/2 from fitting by <b>1994Zh40</b> and <b>1998Li54</b> .
366.4+y <sup>‡</sup> 2	J+2	
774.5+y <sup>‡</sup> 3	J+4	
1223.2+y <sup>‡</sup> 4	J+6	
1711.7+y <sup>‡</sup> 4	J+8	
2239.7+y <sup>‡</sup> 5	J+10	
2806.6+y <sup>‡</sup> 5	J+12	
3410.5+y <sup>‡</sup> 6	J+14	
4050.8+y <sup>‡</sup> 6	J+16	
4726.7+y <sup>‡</sup> 6	J+18	
5434.3+y <sup>‡</sup> ? 9	J+20	

<sup>†</sup> From E<sub>γ</sub> values.

<sup>‡</sup> Band(A): SD band (**1992Be18**). Population of this band is 0.5% of total yield for  $^{189}\text{Hg}$ . The SD band was identified from  $\gamma\gamma$  coin with known transitions in  $^{189}\text{Hg}$ .

 $\gamma(^{189}\text{Hg})$ 

E <sub>γ</sub> <sup>†</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	I <sub>(γ+ce)</sub> <sup>‡</sup>
366.4 2	366.4+y	J+2	y	J≈(29/2,31/2)	1.00 10
408.1 2	774.5+y	J+4	366.4+y	J+2	1.00 15
448.7 2	1223.2+y	J+6	774.5+y	J+4	0.86 19
488.5 2	1711.7+y	J+8	1223.2+y	J+6	0.89 16
528.0 2	2239.7+y	J+10	1711.7+y	J+8	0.62 11
566.9 2	2806.6+y	J+12	2239.7+y	J+10	0.58 11
603.9 2	3410.5+y	J+14	2806.6+y	J+12	0.53 14
640.3 2	4050.8+y	J+16	3410.5+y	J+14	0.58 11
675.9 2	4726.7+y	J+18	4050.8+y	J+16	
707.6 <sup>#</sup> 6	5434.3+y?	J+20	4726.7+y	J+18	

<sup>†</sup> From **1992Be18**.

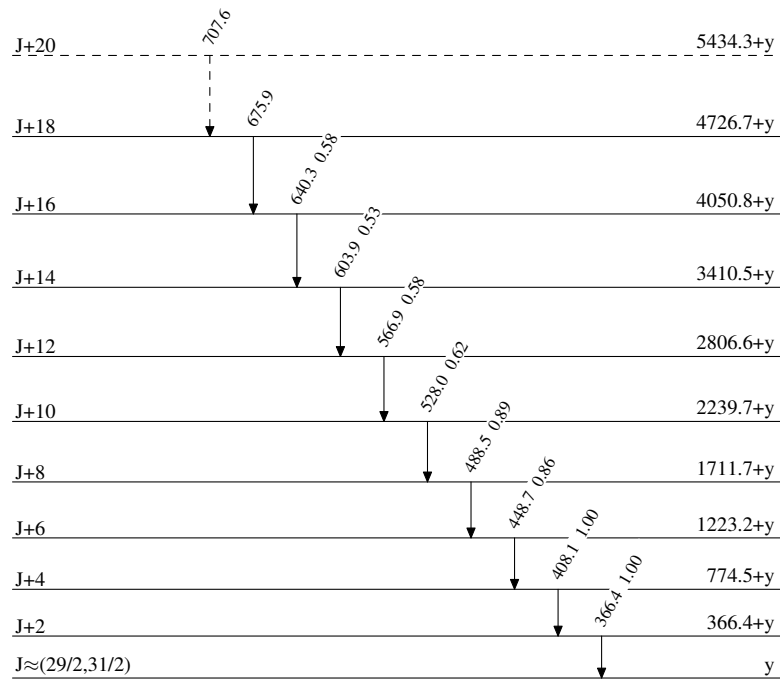
<sup>‡</sup> Relative I(γ+ce) values within the band (**1991Dr04**).

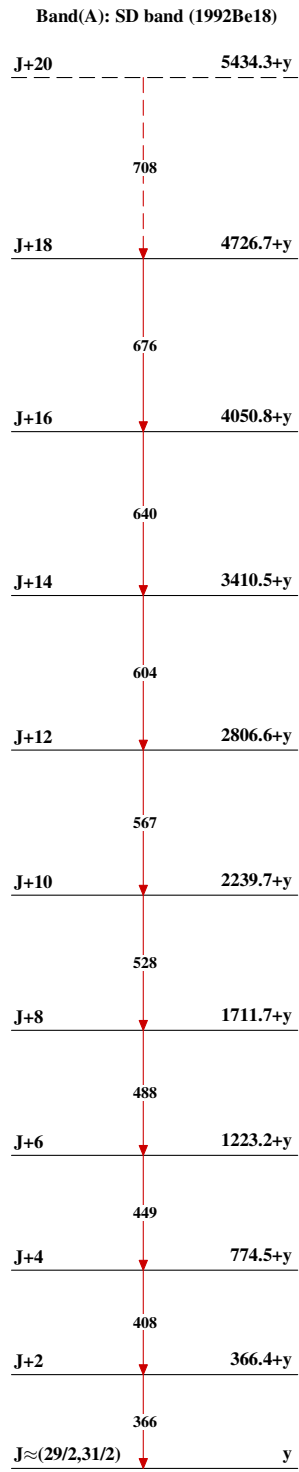
<sup>#</sup> Placement of transition in the level scheme is uncertain.

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Legend

## Level Scheme

----->  $\gamma$  Decay (Uncertain) $^{189}_{80}\text{Hg}_{109}$

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