

$^{170}\text{Er}(^{82}\text{Se}, ^{82}\text{Kr}\gamma)$  2010So03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin <sup>1</sup> , E. A. Mccutchan <sup>2</sup> , S. Basunia <sup>1</sup>		NDS 153, 1 (2018)	1-Oct-2018

2010So03:  $E(^{82}\text{Se})=460$  MeV; PRISMA magnetic spectrometer at  $52^\circ$  with position-sensitive microchannel plate at entrance (for beam-like fragment identification); multi-wire parallel-plate avalanche counter and ionization chamber; CLARA  $\gamma$  detector array (23 Compton-suppressed Clover detectors; FWHM=5.8 keV at 542 keV after event-by-event Doppler correction for target-like fragment  $\gamma$ -rays); measured fragment tof, A, Z, and  $E\gamma$ ,  $777\gamma(^{82}\text{Kr})$ - $\gamma$  coin.

 $^{170}\text{Dy}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$	Comments
0.0 <sup>#</sup>	0 <sup>+</sup>	56 s 8	$T_{1/2}$ : From Adopted Levels.
72? <sup>#</sup> CA	(2 <sup>+</sup> )		E(level): estimated value by 2010So03; see comment on 72 $\gamma$ . Note that adopted value is 71.47 keV.
$\approx 235$ ? <sup>#</sup>	(4 <sup>+</sup> )		

<sup>†</sup> From  $E\gamma$ .

<sup>‡</sup> Based on tentative assignment of 163 $\gamma$  as the 4<sup>+</sup> to 2<sup>+</sup> transition in the g.s. band; analogous to g.s. band structure in neighboring lighter even-A Dy isotopes.

<sup>#</sup> Band(A):  $K^\pi=0^+$  g.s. band? (2010So03).

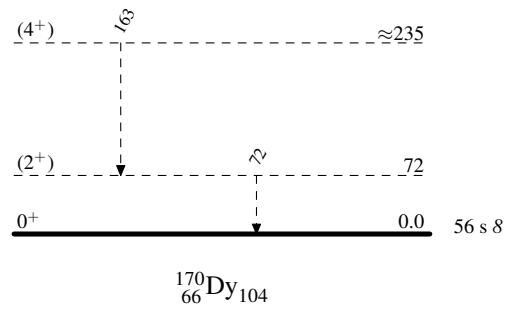
 $\gamma(^{170}\text{Dy})$ 

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
(72 CA)	72?	(2 <sup>+</sup> )	0.0	0 <sup>+</sup>	$E_\gamma$ : $\gamma$ unobserved. $E(2^+ \text{ to } 0^+)=81, 73, 77, 75$ in $^{162}\text{Dy}$ , $^{164}\text{Dy}$ , $^{166}\text{Dy}$ , $^{168}\text{Dy}$ , respectively (2010So03), and projected shell model calculations (2010Zo01) predict $E \approx 72$ for $^{170}\text{Dy}$ . Based on their detector efficiency and the expected large electron conversion coefficient, 2010So03 would not expect to have observed a 72-keV $\gamma$ .
163 <sup>†</sup>	$\approx 235$ ?	(4 <sup>+</sup> )	72?	(2 <sup>+</sup> )	$E_\gamma$ : $\gamma$ from target-like fragment observed in $\gamma$ spectrum gated by $^{82}\text{Kr}$ beam-like fragments (the binary reaction partner of $^{170}\text{Dy}$ ) and in $777\gamma(^{82}\text{Kr})$ - $\gamma$ coin spectrum (2010So03). Uncertainty unstated by authors. Tentatively assigned as 4 <sup>+</sup> to 2 <sup>+</sup> g.s. band transition based on systematics for that $E\gamma$ in lighter even-A Dy isotopes (2010So03).

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

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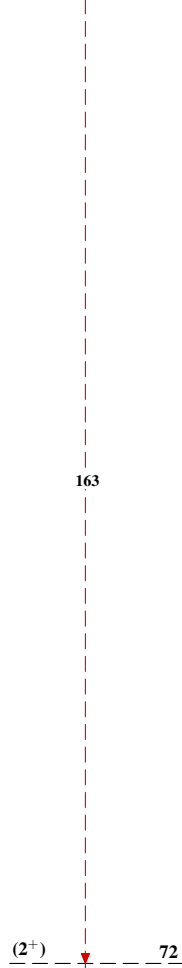
Legend

Level Scheme-----►  $\gamma$  Decay (Uncertain)

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Band(A):  $K^\pi=0^+$  g.s.  
band? (2010So03)

(4<sup>+</sup>) ----- ≈235



$^{170}_{66}\text{Dy}_{104}$