

¹⁵⁰Nd(d,d'γ) 1980Ka24

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, A. A. Sonzogni		NDS 114, 435 (2013)	1-Apr-2013

¹⁵⁰Nd (d,d'γ), E=10 MeV; Self-supporting, metallic, enriched (96%) ¹⁵⁰Nd; An 80mm² x 7mm intrinsic germanium detector (FWHM=0.65 keV at 121.8 keV) and a coaxial 60 cm³ Ge(Li) detector (FWHM=2.3 keV at 1.33 MeV) were used; Three parameter γγ(t) measurements.

¹⁵⁰Nd Levels

E(level)	J ^π &	Comments
0 [†]	0 ⁺	
130.2 [†] 3	2 ⁺	
381.4 [†] 4	4 ⁺	
676.5 [‡] 4	0 ⁺	
720.3 [†] 4	6 ⁺	
850.3 [‡] 4	2 ⁺	
851.6 [#] 4	1 ⁻	
934.5 [#] 4	3 ⁻	
1062.5 [@] 4	2 ⁺	
1129.0 [#] 4	5 ⁻	J ^π : from comparison of expected relative cross section, intensity of 747.6 keV γ ray, and also decay to 4 ⁺ and 6 ⁺ levels.
1137.8 [‡] 5	4 ⁺	
1200.2 [@] 4	3 ⁺	
1353.4 [@] 11	4 ⁺	

- † Band(A): g.s. rotational band.
- ‡ Band(B): K=0 β band.
- # Band(C): K=0 octupole band.
- @ Band(D): γ-vibrational band.
- & Adopted values, unless otherwise stated.

γ(¹⁵⁰Nd)

E _γ [‡]	E _i (level)	J _i ^π	E _f	J _f ^π	E _γ [‡]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π
130.2 3	130.2	2 ⁺	0	0 ⁺	720.1 3	100	850.3	2 ⁺	130.2	2 ⁺
251.2 3	381.4	4 ⁺	130.2	2 ⁺	721.4 3	142	851.6	1 ⁻	130.2	2 ⁺
338.9 3	720.3	6 ⁺	381.4	4 ⁺	747.6 3		1129.0	5 ⁻	381.4	4 ⁺
408.6 3	1129.0	5 ⁻	720.3	6 ⁺	756.4 3		1137.8	4 ⁺	381.4	4 ⁺
418 [#]	1137.8	4 ⁺	720.3	6 ⁺	804.4 3		934.5	3 ⁻	130.2	2 ⁺
468.9 3	850.3	2 ⁺	381.4	4 ⁺	932.3 3		1062.5	2 ⁺	130.2	2 ⁺
546.3 3	676.5	0 ⁺	130.2	2 ⁺	972		1353.4	4 ⁺	381.4	4 ⁺
552.9 3	934.5	3 ⁻	381.4	4 ⁺	1070 3		1200.2	3 ⁺	130.2	2 ⁺

- † Normalized to 100 for 720.1 keV γ ray.
- ‡ ΔEγ from statement that ΔEγ=0.1-0.3 keV.
- # Placement of transition in the level scheme is uncertain.

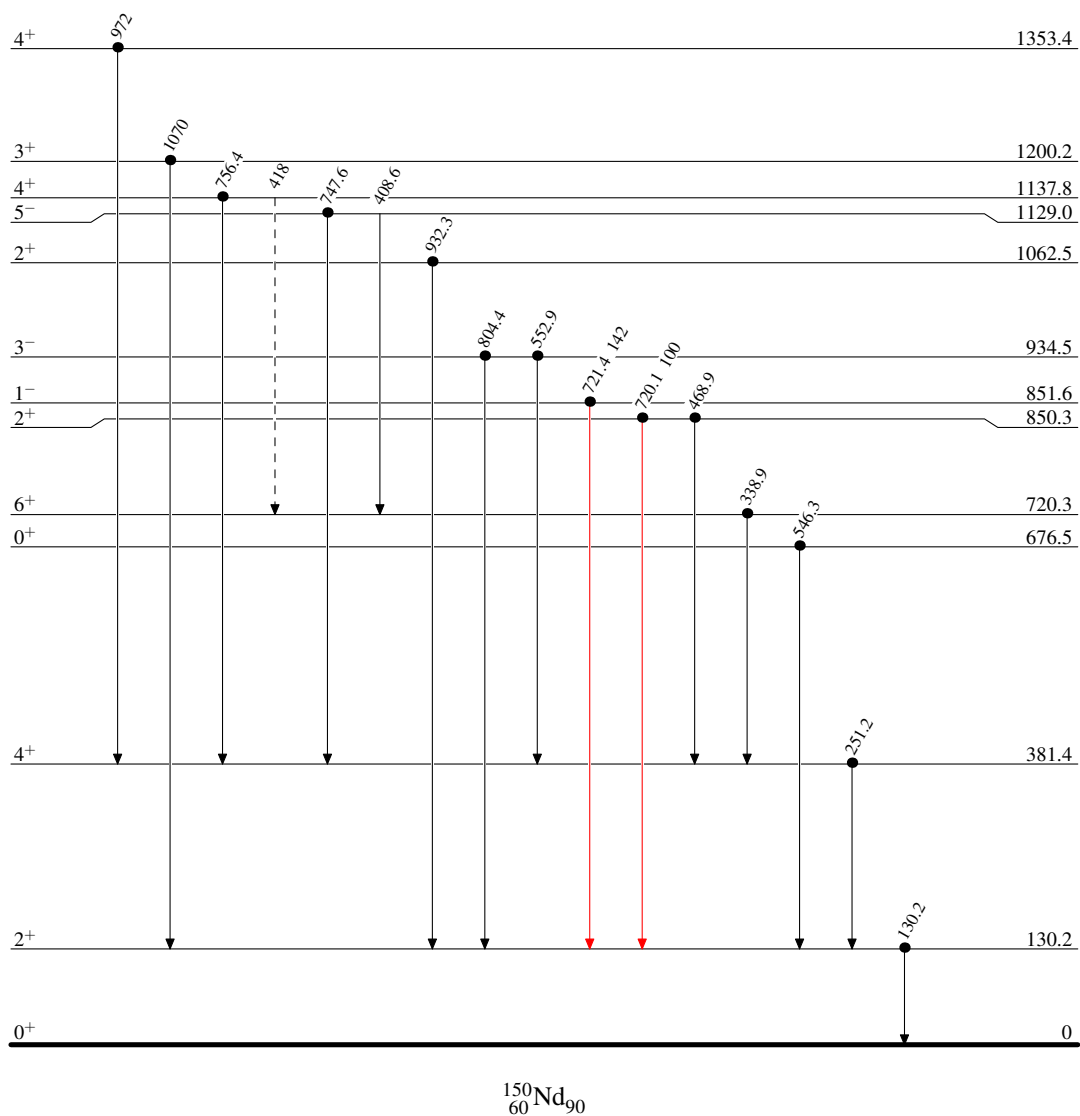
$^{150}\text{Nd}(\text{d,d}'\gamma)$ 1980Ka24

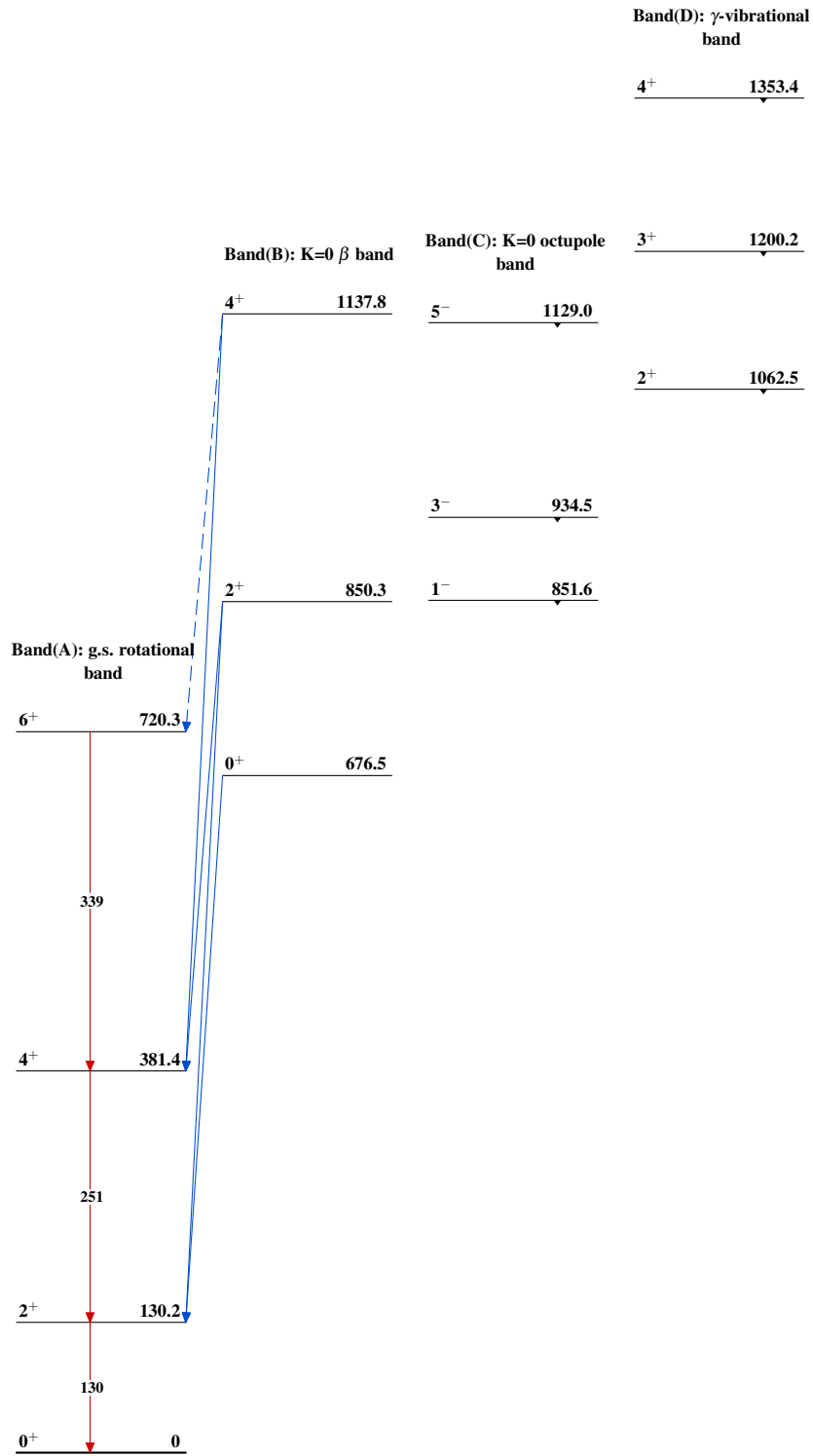
Level Scheme

Intensities: Type not specified

Legend

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



$^{150}\text{Nd}(d,d'\gamma)$ 1980Ka24 $^{150}_{60}\text{Nd}_{90}$