

$^{142}\text{Nd}(^{52}\text{Cr},4n\gamma)$ 2003Va05,2001Ju09

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, ¹ and Jun Chen ²		NDS 169, 1 (2020)	15-Oct-2020

2003Va05, 2001Ju09 (also 2001Ju03, 2002Ju12): E=255 MeV ^{52}Cr beam was produced from the 130-MeV cyclotron at the Accelerator Laboratory of the University of Jyväskylä. Measured E_γ , $\gamma\gamma$ using JUROSPHERE array in conjunction with gas-filled recoil separator RITU. The recoils were implanted into a position-sensitive silicon strip detector. Recoil-decay tagging technique used in which α decays were time and position correlated with recoils and subsequent prompt γ rays from the recoils. Deduced levels, J, π , band structure. Systematics of neighboring Po isotopes.

 ^{190}Po Levels

E(level) [†]	J π [#]
0 [@]	0 ⁺
233 [@]	(2 ⁺)
532 [@]	(4 ⁺)
901 [@]	(6 ⁺)
1338 [@]	(8 ⁺)
1822? ^{‡@}	(10 ⁺)
2376? ^{‡@}	(12 ⁺)

[†] From E_γ data.

[‡] Levels not included in the Adopted Levels, since deexciting γ rays 484 and 554 not confirmed by 2007Wa11 in $^{144}\text{Sm}(^{49}\text{Ti},3n\gamma)$, instead the two corresponding γ rays are reported at 498.5 and 565.0 keV from the two levels.

[#] As proposed by 2003Va05, based on $\gamma\gamma$ coin and relative intensities of γ rays.

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

 $\gamma(^{190}\text{Po})$

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
233	100 20	233	(2 ⁺)	0	0 ⁺
299	89 20	532	(4 ⁺)	233	(2 ⁺)
369	52 25	901	(6 ⁺)	532	(4 ⁺)
437	50 25	1338	(8 ⁺)	901	(6 ⁺)
484 ^{‡#}	35 20	1822?	(10 ⁺)	1338	(8 ⁺)
554 ^{‡#}	26 20	2376?	(12 ⁺)	1822?	(10 ⁺)

[†] From 2003Va05 (also 2001Ju09).

[‡] γ not confirmed by 2007Wa11 in $^{144}\text{Sm}(^{49}\text{Ti},3n\gamma)$, instead 498.5 γ and 565.0 γ are proposed from (10⁺) and (12⁺) levels, respectively.

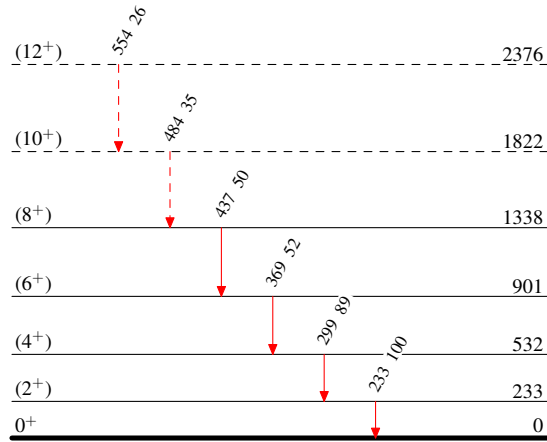
[#] Placement of transition in the level scheme is uncertain.

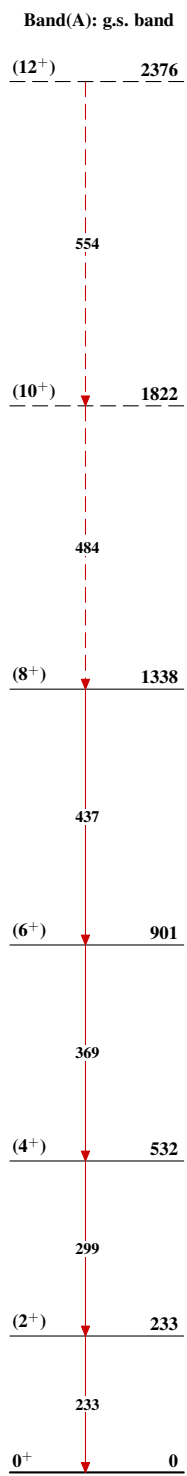
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Legend

Level SchemeIntensities: Relative I_γ

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

 $^{190}_{84}\text{Po}_{106}$

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