

^{132}Pm ε decay (6.3 s) [1990Ko25](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh		NDS 104, 497 (2005)	10-Feb-2005

Parent: ^{132}Pm : $E=0.0$; $J^\pi=(3^+)$; $T_{1/2}=6.3$ s 7; $Q(\varepsilon)=9710$ SY; $\% \varepsilon + \% \beta^+$ decay=100.0

^{132}Pm - $Q(\varepsilon)$: 9710 200 (syst,[2003Au03](#)).

[1990Ko25](#) (also [1987Ko24](#)): Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, $T_{1/2}$ of ^{132}Nd isotope. Comparison with Interacting Boson Model calculations.

Others:

[1977Bo02](#) (isotopic identification, $T_{1/2}$), [1985Wi07](#) (delayed protons and $T_{1/2}$), [1988BeYG](#) ($T_{1/2}, E\gamma$), [1989McZU](#) ($T_{1/2}$).

 ^{132}Nd Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$
0.0	0^+
213.10 18	2^+
610.1 3	4^+
823.50 22	(2^+)
1117.60 25	(3^+)
1388.0 4	(4^+)

† From least-squares fit to $E\gamma$'s.

‡ From Adopted Levels.

 ε, β^+ radiations

$E(\text{decay})$	$E(\text{level})$	$I\beta^+^\ddagger$	$I\varepsilon^\ddagger$	$\text{Log } f t^\dagger$	$I(\varepsilon + \beta^+)^\dagger^\ddagger$	Comments
(8322 SY)	1388.0	<2.2	<0.090	>6.5	<2.3	av $E\beta=3401$ 97; $\varepsilon K=0.033$ 3; $\varepsilon L=0.0046$ 4; $\varepsilon M+=0.00131$ 11
(8592 SY)	1117.60	<6.0	<0.22	>6.1	<6.2	av $E\beta=3532$ 97; $\varepsilon K=0.0298$ 23; $\varepsilon L=0.0042$ 4; $\varepsilon M+=0.00118$ 10
(8886 SY)	823.50	<17.4	<0.6	>5.8	<18	av $E\beta=3675$ 97; $\varepsilon K=0.0268$ 20; $\varepsilon L=0.0037$ 3; $\varepsilon M+=0.00106$ 8
(9099 SY)	610.1	<20.4	<0.6	>5.7	<21	av $E\beta=3778$ 98; $\varepsilon K=0.0249$ 18; $\varepsilon L=0.0035$ 3; $\varepsilon M+=0.00099$ 8
(9496 SY)	213.10	<52	<1.4	>5.4	<53	av $E\beta=3971$ 98; $\varepsilon K=0.0218$ 16; $\varepsilon L=0.00303$ 21; $\varepsilon M+=0.00086$ 6

† Only limits are given since the decay scheme is not considered as complete, there is a large gap of about 8 MeV between the highest known populated level in ^{132}Nd and $Q(\varepsilon)$ value.

‡ Absolute intensity per 100 decays.

 $\gamma(^{132}\text{Nd})$

$I\gamma$ normalization: $\Sigma(I(\gamma + \text{ce}) \text{ of } \gamma\text{'s to g.s.})=100$, assuming No feeding to g.s.. The delayed proton branch is $\approx 5 \times 10^{-5}$ (see ^{132}Pm Adopted Levels).

E_γ	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	$a^\#$
213.1 2	100 10	213.10	2^+	0.0	0^+	E2	0.161
294.1 4	1.0 5	1117.60	(3^+)	823.50	(2^+)		
397.0 2	26 3	610.1	4^+	213.10	2^+	E2	0.0225
564.5 3	3 1	1388.0	(4^+)	823.50	(2^+)		
610.4 3	14 2	823.50	(2^+)	213.10	2^+		
823.5 3	13 2	823.50	(2^+)	0.0	0^+		
904.5 2	7 1	1117.60	(3^+)	213.10	2^+		

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^{132}Pm ε decay (6.3 s) [1990Ko25](#) (continued)

$\gamma(^{132}\text{Nd})$ (continued)

[†] From adopted gammas.

[‡] For absolute intensity per 100 decays, multiply by ≈ 0.78 .

[#] Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend

→ $I_{\gamma} < 2\% \times I_{\gamma}^{max}$

→ $I_{\gamma} < 10\% \times I_{\gamma}^{max}$

→ $I_{\gamma} > 10\% \times I_{\gamma}^{max}$

• Coincidence

