

$^{89}\text{Y}(\text{}^3\text{He},3\text{n}\gamma)$ **1977Sp03**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 114, 1 (2013)	20-Oct-2012

1977Sp03: $^{89}\text{Y}(\text{}^3\text{He},3\text{n}\gamma)$ E=20-28 MeV. Measured γ , $\gamma\gamma$, $\gamma(\theta)$.

1982Di09: $^{89}\text{Y}(\text{}^3\text{He},3\text{n}\gamma)$ E=33-43 MeV. Measured γ , $\gamma(t)$.

 ^{89}Nb Levels

E(level) [‡]	J ^{π} #	T _{1/2} [†]	Comments
0.0	(9/2 ⁺)		
1003.4	2 (13/2 ⁺)		
1935.1	3 (17/2 ⁺)		
2150.8	4 (17/2 ⁻)	6 ns 4	T _{1/2} : $\gamma(t)$ in ($^3\text{He},3\text{n}\gamma$) (1982Di09).
2192.3	5 (21/2 ⁺)	14 ns 4	T _{1/2} : $\gamma(t)$ in ($^3\text{He},3\text{n}\gamma$) (1982Di09). Other: 15 ns 5 (1977Sp03).
2516.8	7 (21/2 ⁻)		
2521.8	7 (19/2 ⁺)		
2955.1	7 (23/2 ⁺)		
3402.3	8 (25/2 ⁺)		

[†] <4 ns for all prompt γ rays, from $\gamma(t)$ with a pulsed beam (**1982Di09,1977Sp03**).

[‡] From least-squares fit to E _{γ} data.

From Adopted Levels.

 $\gamma(^{89}\text{Nb})$

E _{γ} [†]	I _{γ} [‡]	E _i (level)	J _i ^{π}	E _f	J _f ^{π}	Comments
215.7	5 18.0	1935.1	(17/2 ⁻)	1935.1	(17/2 ⁺)	A ₂ =+0.30 3.
257.2	5 19	2192.3	(21/2 ⁺)	1935.1	(17/2 ⁺)	
329.5	5 7.1	2521.8	(19/2 ⁺)	2192.3	(21/2 ⁺)	Mult.: A ₂ =-0.51 30 suggests $\Delta J=1$, dipole or D+Q.
366.0	5 8.5	2516.8	(21/2 ⁻)	2150.8	(17/2 ⁻)	A ₂ =+0.24 5.
447.2	5 3.6	3402.3	(25/2 ⁺)	2955.1	(23/2 ⁺)	A ₂ =-0.04 13.
762.8	5 4.3	2955.1	(23/2 ⁺)	2192.3	(21/2 ⁺)	A ₂ =-0.04 30.
931.7	2 55	1935.1	(17/2 ⁺)	1003.4	(13/2 ⁺)	A ₂ =+0.33 2.
1003.4	2 100	1003.4	(13/2 ⁺)	0.0	(9/2 ⁺)	A ₂ =+0.28 4.

[†] From **1977Sp03**. Energy uncertainty is 0.2 to 0.5 keV (**1977Sp03**).

[‡] At E(^3He)=28 MeV. Intensities at E(^3He)=20 and 24 MeV are also available from **1977Sp03**.

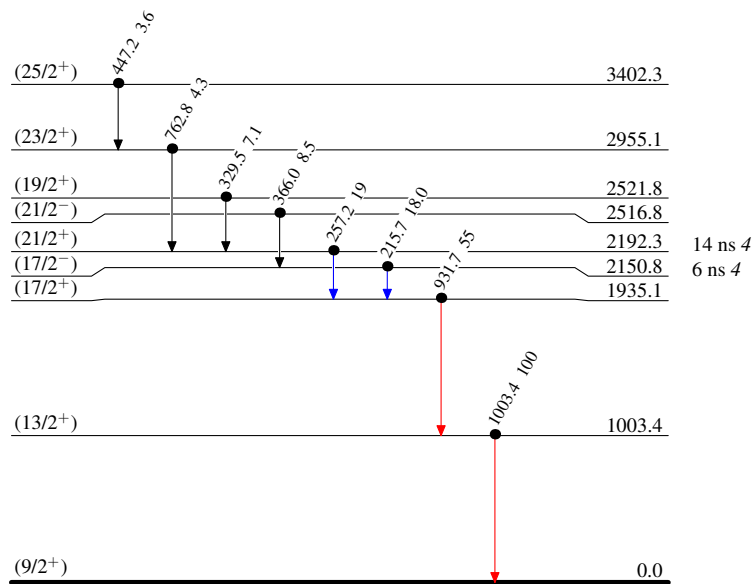
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Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- Coincidence

 $^{89}\text{Nb}_{48}$