^{31}P(γ,pγ′) 1972Th15

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia, A. Chakraborty	NDS 197,1 (2024)	31-May-2024

$J^\pi(^{31}P)=1/2^+$.

1972Th15: A cylindrical sample of the target material was bombarded with bremsstrahlung E < 30 MeV; deexcitation γ rays were detected in well-shielded Ge(Li); measured $\sigma(\gamma')$; deduced transitions, γ-branching.

1968Ab12: E=21.5 and 27 MeV; measured proton spectra, reported g.s. γ transitions of 11.3, 12.1, 13.0, 14.5, 14.7, 15.1, 15.7, 16.0, 17.0, 18.5, 19.2, 19.8, and 20.6 MeV in the 21.5 MeV spectrum and around 6.65, 8.1, 9.55, 10.2, 11.0, 11.55, 12.0, 12.85, and 13.35 MeV in the 27 MeV spectrum. FWHM=45 keV.

^{30}Si Levels

E(level)†	Jπ†	Comments
0	0^+	
2235.325 *24*	2^+	Estimated σ (at 150°)=5.2 MeV mb/sr *2*.
3498.49 *3*	2^+	Estimated σ (at 150°)=0.2 MeV mb/sr *2*.
3769.48 *4*	1^+	Estimated σ (at 150°)=1.1 MeV mb/sr *3*.
3787.72 *4*	0^+	Estimated σ (at 150°)=0.4 MeV mb/sr *1*.
6744.06 *4*	1^-	Estimated σ (at 150°)=0.2 MeV mb/sr *5*.
8953.4 *5*	(1,2)	Estimated σ (at 150°)=0.2 MeV mb/sr *5*.

† From the Adopted Levels.

γ(^{30}Si)

E_γ†	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
1263.13 *3*	6	3498.49	2^+	2235.325	2^+	
1534.12 *4*	13	3769.48	1^+	2235.325	2^+	
1552.36 *4*	7	3787.72	0^+	2235.325	2^+	
2235.23 *2*	100	2235.325	2^+	0	0^+	
3498.33 *5*	7	3498.49	2^+	0	0^+	
3769.22 *5*	8	3769.48	1^+	0	0^+	
6743.22 *4*	3	6744.06	1^-	0	0^+	
8951.9 *5*	3	8953.4	(1,2)	0	0^+	I_γ: Relative branching assumed for the g.s. by the evaluators.

† From the Adopted Gammas.

‡ From 1972Th15 (relative yield 1.00 listed as 100 here).

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Level Scheme

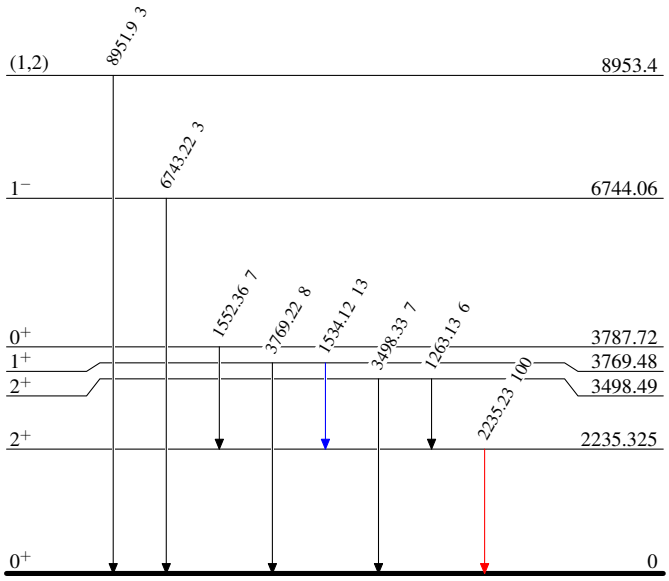
Intensities: Relative I_γ

Legend

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

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

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



$^{30}_{14}Si_{16}$