

$^{122}\text{Te}(\gamma, \gamma')$ **1997Sc15**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. Tamura	NDS 108, 455 (2007)	30-Sep-2006

1964Pa17, **1963Sh17**, **1963Zi02**: resonance fluorescence of 564.0 γ from $^{122}\text{Sb} \beta^+$ decay, deduced Γ ; gaseous source of ^{122}Sb in the form of SbH_3 .

1997Sc15, **1997Sc25**: resonance fluorescence with 4.1 MeV unpolarized, 10 MeV unpolarized and 12 MeV linearly polarized bremsstrahlung; enriched target; measured γ , $\gamma'(90^\circ)/\gamma'(127^\circ)$, asymmetry; deduced integrated cross sections; discussed 1^- state from the coupling of the first quadrupole and the first octupole, and 1^+ state from the coupling of the first quadrupole and the second quadrupole phonon.

 ^{122}Te Levels

E(level) [#]	J π [†]	T _{1/2} [@]	$g\Gamma(\gamma_0)^2/\Gamma$ (meV) [‡]	Comments
0.0	0 ⁺			
564.0	2 ⁺	8.4 ps 8		T _{1/2} : weighted average of half-lives (calculated values from total Γ): 7.3 ps 11 (1964Pa17), 9.2 ps 3 (1963Zi02), 8.3 ps 21 (1963Sh17), 10.4 ps 16 (^{122}Sb source, 1963Sh17).
1257.0 1	2 ⁺			
2592.2 2	1	17 fs 4	56 7	T _{1/2} : $\Gamma_0=18.4$ 23 from integrated scattering cross section in 1997Sc15 .
				T _{1/2} : $\Gamma_0/\Gamma=0.84$ 11 from adopted gammas.
2915.0 2	1,2 ⁺		15 5	
2918.4 6	1,2 ⁺		38 6	
3207.2 4	1,2 ⁺		67 11	
3288.9 4	1,2 ⁺		84 14	
3483.3 6	1,2 ⁺		95 6	

[†] From Adopted Levels.

[‡] From **1997Sc15**.

[#] E(level) is corrected for recoil and Doppler-shift (for E>2592.3 keV).

[@] Calculated from Γ_0 and Γ_0/Γ from Adopted Levels. Uncertainty of Γ_0/Γ includes both $\Delta I\gamma$ and measurement error due to unobserved transition to 564.1-keV level in **1997Sc15**.

 $\gamma(^{122}\text{Te})$

E _i (level)	J π_i	E γ [†]	I γ [‡]	E _f	J π_f	Mult. [#]	Comments
564.0	2 ⁺	564.1 1	100	0.0	0 ⁺	E2	
1257.0	2 ⁺	692.8 1	100 3	564.0	2 ⁺	M1+E2	
		1256.9 1	20.1 7	0.0	0 ⁺	E2	
2592.2	1	2028.7 6	19.6 22	564.0	2 ⁺		
		2592.2 2	100 10	0.0	0 ⁺	D	Mult.: from $\gamma'(90^\circ)/\gamma'(130^\circ)$ and asymmetry measured by 1997Sc15 .
2915.0	1,2 ⁺	2351.8 2	100 5	564.0	2 ⁺	(D,Q)	
		2915.0 2	96 5	0.0	0 ⁺	(D,Q)	
2918.4	1,2 ⁺	2918.3 6	100 15	0.0	0 ⁺	(D,Q)	
3207.2	1,2 ⁺	1950.9 2	58.7 18	1257.0	2 ⁺		
		3207.2 4	100 10	0.0	0 ⁺	(D,Q)	
3288.9	1,2 ⁺	3288.9 4	100 10	0.0	0 ⁺	(D,Q)	
3483.3	1,2 ⁺	2226.6 1	93 7	1257.0	2 ⁺		
		2919.4 2	100 6	564.0	2 ⁺		
		3483.2 6	78 11	0.0	0 ⁺	(D,Q)	

Continued on next page (footnotes at end of table)

$^{122}\text{Te}(\gamma, \gamma')$ [1997Sc15](#) (continued)

$\gamma(^{122}\text{Te})$ (continued)

[†] Rounded value from adopted gammas.

[‡] Photon branching from each level (adopted gammas).

[#] From [1997Sc15](#).

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Level Scheme

Intensities: Relative photon branching from each level

