

³⁶S(pol d,αγ) 1987TrZZ

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, Balraj Singh		NDS 113, 1563 (2012)	28-May-2012

1987TrZZ: E=6-16 MeV. Measured E_γ, I_γ, αγ(θ). Enriched (81.1%) target. The α particles were analyzed using an Enge split-pole spectrograph and detected in a focal-plane position-sensitive delay-line counter. The γ rays were measured using a Ge detector. The (particle)γ(θ) measurements were performed using five large NaI(Tl) detectors.

³⁴P Levels

E(level)	J ^π †	Comments
0	1 ⁺	
429.1 1	2 ⁺	
1607.6 5	1 ⁺	J ^π : from α(1607.6γ)(θ).
2225 2	(3 ⁺)	J ^π : 1 ⁺ and 2 ⁻ are inconsistent with αγ(θ) results, 3 ⁺ is in marginal agreement.
2299 3	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)	
2675 3	(1 ⁺ ,2 ⁻ ,3 ⁺)	
4302 6	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)	
4434 10		
4725 12	(1 ⁺ ,2 ⁻ ,3 ⁺)	

† Spin and parity determined in (pol d,α) and (pol d,αγ) experiments by 1987TrZZ. Only the 429 and 1608 levels have been assigned definite J^π in this work.

γ(³⁴P)

E _i (level)	J _i ^π	E _γ [†]	I _γ	E _f	J _f ^π	Mult.	Comments
429.1	2 ⁺	429.1		0	1 ⁺	(M1+E2)	δ: -0.52 10 or +1/(0.01 8).
1607.6	1 ⁺	1178.5	61 7	429.1	2 ⁺	(M1+E2)	δ: +0.96 64 or +0.96 26.
		1607.6	39 5	0	1 ⁺	(M1+E2)	δ: -0.13 6 or -1/(0.13 6).
2225	(3 ⁺)	1796		429.1	2 ⁺		
		2225‡		0	1 ⁺		
2299	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)	1870‡		429.1	2 ⁺		
2675	(1 ⁺ ,2 ⁻ ,3 ⁺)	376‡	<9	2299	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)		
		1068	23 9	1607.6	1 ⁺		
		2246	50 13	429.1	2 ⁺		
		2675‡	18 10	0	1 ⁺		
4302	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)	1627‡		2675	(1 ⁺ ,2 ⁻ ,3 ⁺)		
		2695		1607.6	1 ⁺		
4434		2135‡		2299	(1 ⁺ ,2 ⁻ ,3 ⁺ ,4 ⁻)		
4725	(1 ⁺ ,2 ⁻ ,3 ⁺)	4296		429.1	2 ⁺		

† From level-energy differences.

‡ Placement of transition in the level scheme is uncertain.

$^{36}\text{S}(\text{pol } d, \alpha\gamma)$ 1987TrZZ

Legend

Level Scheme

Intensities: % photon branching from each level

-----► γ Decay (Uncertain)