Coulomb excitation 2000Pr09

History

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

Beam=^{34}P, target=^{197}Au.

2000Pr09 (also 2002Gl01): intermediate energy Coulomb excitation. Fragmentation of ^{40}Ar beam at 90 MeV/nucleon with ^{9}Be target. The ^{34}P beam fragments at 54.5 MeV/nucleon incident on ^{197}Au target. In the middle of the target ^{34}P beam energy was 44.4 MeV/nucleon. Measured particle-γ coin using NaI(Tl) array for γ rays.

^{34}P Levels

E(level)	J$^{\pi}$	Comments
0	1$^+$	
422 *7*	(2$^+$)	B(E2)=0.0020 *10* if directly excited, but 2000Pr09 propose that this state is being indirectly populated via 2225 state. B(E2) assigned to 2235 will account completely for the population of 429 state.
1608	(1$^+$)	
2235? *9*	(2$^+$)	B(E2)↑=0.0026 *12* (2000Pr09) E(level): but 2232 *6* is assigned an unnatural parity, (3$^+$) state in (pol d,α) (1987TrZZ).

γ(^{34}P)

E$_\gamma$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Comments
422 *7*	422	(2$^+$)	0	1$^+$	σ=5.2 mb *24*.
627[†] *9*	2235?	(2$^+$)	1608	(1$^+$)	σ=6.8 mb *30*.
(1178)	1608	(1$^+$)	422	(2$^+$)	
(1608)	1608	(1$^+$)	0	1$^+$	

[†] Placement of transition in the level scheme is uncertain.

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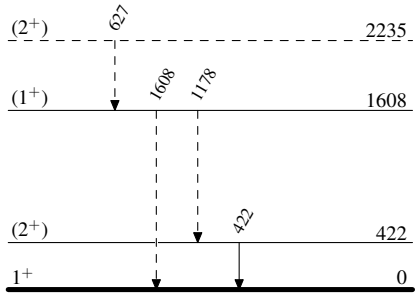
Legend

Level Scheme

γ Decay (Uncertain)



$^{34}_{15}P_{19}$