$$^{208}\text{Pb}(^{36}\text{S},\text{X}\gamma)\quad\textbf{2007Ho08}$$

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	John Cameron, Jun Chen and Balraj Singh, Ninel Nica	NDS 113, 365 (2012)	15-Jan-2012

Quasi-elastic and deep-inelastic reactions.

$E(^{36}S^{9+})$=215 MeV. Projectile-like fragments were detected with PRISMA magnetic spectrometer and in coincidence with γ rays using CLARA array of 25 Euroball escape-suppressed HPGe 'Clover' detectors. Time-of-flight method used to determine velocity of fragments and apply correction for Doppler shift. Measured $E\gamma$, $\gamma\gamma$, $I\gamma$, γ(fragment) coin. Comparisons with shell-model calculations using sdpf effective interaction.

Additional information 1.

^{37}P Levels

E(level)[†]	J^{π}[‡]
0[@]	$(1/2^+)$
861 1	$(3/2^+)$[#]
1300[@] 1	$(5/2^+)$
2481[@] 1	$(9/2^+)$
3350[@] 2	$(13/2^+)$
4395?[@] 2	
6052?[@] 2	
7897?[@] 2	

[†] From $E\gamma$'s.
[‡] From comparisons with shell-model predictions.
[#] Configuration=$\pi 2s^1_{1/2}\otimes\nu(2^+) + \pi 1d^1_{3/2}\otimes\nu(0^+)$.
[@] Band(A): γ cascade. Configuration=$\pi 2s^1_{1/2}\otimes\nu(0^+, 2^+, 4^+, 6^+$ states in ^{36}Si core$)$.

$\gamma(^{37}$P$)$

E_γ	I_γ	E_i(level)	J^{π}_i	E_f	J^{π}_f
439 1	37.8[†]	1300	$(5/2^+)$	861	$(3/2^+)$
861 1	74.8	861	$(3/2^+)$	0	$(1/2^+)$
869 1	41.8	3350	$(13/2^+)$	2481	$(9/2^+)$
1045[‡] 1	22.8	4395?		3350	$(13/2^+)$
1181 1	94.7	2481	$(9/2^+)$	1300	$(5/2^+)$
1300 1	100	1300	$(5/2^+)$	0	$(1/2^+)$
1657[‡] 1	20.6	6052?		4395?	
1845[‡] 1	12.6	7897?		6052?	

[†] $I\gamma(439)/I\gamma(1300)$=27 3/73 3 (2007Ho08).
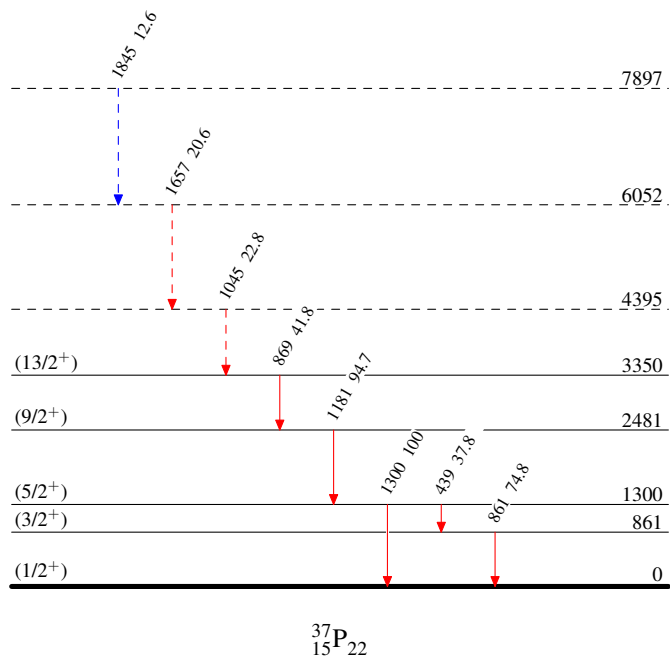[‡] Placement of transition in the level scheme is uncertain.
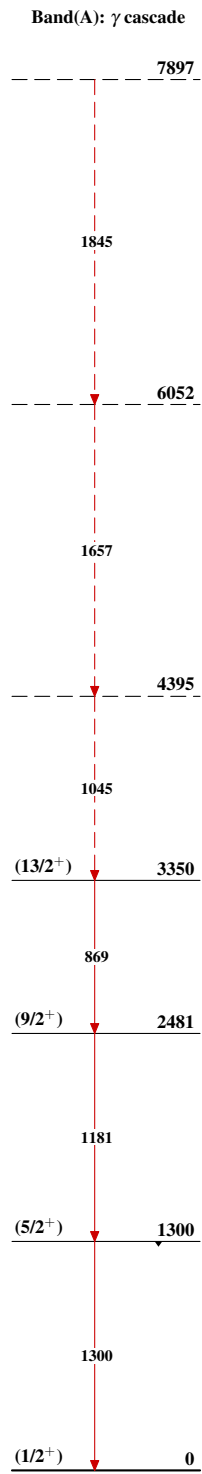
^{208}Pb(^{36}S,Xγ)   **2007Ho08**

Legend

Level Scheme

Intensities: Relative I$_\gamma$

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$
γ Decay (Uncertain)

$^{37}_{15}$P$_{22}$

^{208}Pb(^{36}S,Xγ)　　2007Ho08

Band(A): γ cascade

7897	
1845	
6052	
1657	
4395	
1045	
(13/2$^+$) 3350	
869	
(9/2$^+$) 2481	
1181	
(5/2$^+$) 1300	
1300	
(1/2$^+$) 0	

$^{37}_{15}P_{22}$