

$C(^{37}\text{K},n\gamma),H(^{37}\text{K},n\gamma)$ 2009AmZZ

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh		NDS 113, 1 (2012)	31-Dec-2011

2009AmZZ: ^{40}Ca primary beam at 140 MeV/nucleon bombarded ^9Be target, fragments analyzed by A1900 separator. ^{37}K fragment beam bombarded a reaction target of polypropylene ($[\text{C}_3\text{H}_6]_n$) to get excitations in ^{36}K through one-neutron removal process. Measured $E\gamma$, $I\gamma$, (^{36}K recoil) γ -coin using SeGA array. Reaction rates of astrophysical interest were deduced by **2009AmZZ** for $^{36}\text{K}(p,\gamma)^{37}\text{Ca}$ reaction.

[Additional information 1.](#)

 ^{36}K Levels

E(level)	J^π [†]	Comments
0	2^+	
1618.9 14	1^+	
1706 3	(2^-)	E(p)(c.m.) resonance=47 3 using S(p)=1658.9 8; 2009AmZZ give ≈ 40 keV using S(p)=1666.
1916.4 14	(2^+)	E(p)(c.m.) resonance=257.5 16 using S(p)=1658.9 8; 2009AmZZ give ≈ 250 keV using S(p)=1666.

[†] Inferred by **2009AmZZ** based on the structure of the mirror nucleus ^{36}Cl . The assignments are the same as in Adopted Levels.

 $\gamma(^{36}\text{K})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1618.9 14	1618.9	1^+	0	2^+
1706 3	1706	(2^-)	0	2^+
1916.4 14	1916.4	(2^+)	0	2^+

 $C(^{37}\text{K},n\gamma),H(^{37}\text{K},n\gamma)$ 2009AmZZLevel Scheme