$^{34}S(\alpha,\alpha),(\alpha,\alpha'),(\alpha,\alpha'\gamma)$ 1974Gr15,1980Ba40,1984Sa11

History

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

1974Gr15: $^{34}S(\alpha,\alpha')$ E=16.0, 16.5, 17.0, 17.5, and 18.0 MeV, target of CdS (of natural and enriched ^{34}S) on C backing. Used Si surface barrier detector At 180° relative to beam direction.

1980Ba40: $\alpha(^{32}S,\alpha)$ E=70 MeV (inverse kinematics); $^{208}Pb(^{34}S,^{34}S')$ E=122 MeV (inverse kinematics). Used enriched targets and Ge(Li) detector and measured $\sigma(\theta,E(^{34}S))$, Coulomb excitations. Determined Q, B(E2)↑.

1984Sa11: $^{34}S(\alpha,\alpha),(\alpha,\alpha')$ E=120 MeV, 94.3%-enriched ^{34}S target on ^{12}C backing. Measured angular distribution for g.s. and first two 2^+ states, did DWBA and CCBA analyses, and showed that the relative sign of neutron to proton matrix elements is positive for both first and second 2^+ states.

Others: 1994Br19 ($^{34}S(\alpha,\alpha)$ E=20 MeV, $\sigma(\theta)$), 1979Za01 ($^{34}S(\alpha,\alpha'\gamma)$ E=8.90 MeV, measured g-factor for first 2^+), 1979DaZV (superseded by 1980Ba40) 1973An24 ($^{34}S(\alpha,\alpha),(\alpha,\alpha')$ E=24.2 MeV),

^{34}S Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
2127.564 *13*	2^+	306 fs *17*	B(E2)↑=0.0203 *13* (1980Ba40) E(level),J^π: from Adopted Levels. $T_{1/2}$: mean lifetime τ in fs, from B(E2)↑ (extracted by evaluators with data shown here): 442 *25*. g-factor=+0.50 *8* (1979Za01).
3304	2^+		
3920			
4120			
4690			
4890			
5230			
5320[†]	2^-[†]		
5690[†]	5^-[†]		
6010			
6130			
6640[†]	4^-[†]		

[†] Statement of 1974Gr15: based on ^{34}S results the following assignments are done: 2^- for 5320 level, 5^- for 5690 level, and 4^- for 6640 level.

$\gamma(^{34}S)$

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	Comments
2127.564	2^+	2127.499 *20*	100	0.0	0^+	E2	E_γ,I_γ,Mult.: from Adopted Gammas.

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Level Scheme

Intensities: Relative photon branching from each level

$^{34}_{16}S_{18}$

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