^{34}S(^{7}Li,t) 2005Fu03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

2005Fu03: E=26 MeV ^{7}Li beam was produced from the Peletron accelerator at Kyoto University. Target was Pb^{34}S (99.4% enriched in ^{34}S). Tritons were detected with two sets of ΔE-E telescopes of silicon detectors (FWHM≈150 keV) and alpha particles from ^{38}Ar decay were detected with eight silicon photo-diode detectors. Measured E(t), t-α-coin, t-$\alpha(\theta)$. Deduced α-cluster (^{34}S+α) states, J, π, L-transfers.

^{38}Ar Levels

E(level)[†]		Jπ[‡]	L	Comments
0		0^+		
3377[a]		0^+[@]		
3937[a]		2^+[@]		
5349[a]		4^+[@]		
7288[a]		6^+[@]		
9339[a]		(8^+)[@]		
10.2×10^3[&]	*1*	(2^+)	2	
10.8×10^3[&]	*1*	(2^+)	2	
11.4×10^3[&]	*1*	3^-[#]	3	
12.2×10^3[&]	*1*	3^-[#]	3	
12.7×10^3[&]	*1*	3^-[#]	3	
14.3×10^3[&]	*1*	(3^-)[#]	3	
15.0×10^3[&]	*1*	$(4^+,5^-)$	(4,5)	Jπ: the angular correlation function is best fitted in forward angles with L=4, but L=5 cannot be excluded due to the rising pattern in the function at backward angles (2005Fu03).

[†] Rounded values from Adopted Levels up to 9338 and from 2005Fu03 above that.
[‡] From L-transfer deduced from theoretical fit to measured angular correlation function in 2005Fu03, unless stated otherwise.
[#] Possible fragment from $K^\pi=0^-$ band states resulting from coupling between relative motion and spin of excited states of ^{34}S core (2005Fu03).
[@] From Adopted Levels.
[&] Band(A): Possible $K^\pi=0^-$ parity-doublet with ^{34}S+α cluster (2005Fu03).
[a] Band(B): $K^\pi=0^+$ band (2005Fu03).

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Band(A): Possible $K^{\pi}=0^{-}$ parity-doublet with ^{34}S+α cluster (2005Fu03)

$(4^{+},5^{-})$	15000
(3^{-})	14300
3^{-}	12700
3^{-}	12200
3^{-}	11400
(2^{+})	10800
(2^{+})	10200

Band(B): $K^{\pi}=0^{+}$ band (2005Fu03)

(8^{+})	9339
6^{+}	7288
4^{+}	5349
2^{+}	3937
0^{+}	3377

$^{38}_{18}Ar_{20}$