^{38}Ar(^{3}He,d) 1974Kn07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 149, 1 (2018)	1-Jan-2018

1974Kn07: E=24 MeV ^{3}He beam was produced from the Heidelberg MP-Tandem Van de Graaff. Target was ^{38}Ar gas (99.9% enriched). Reaction products were detected with counter telescopes (FWHM=120 keV) of ΔE and E surface-barrier detectors. Measured $\sigma(\theta)$, θ=15°−65°. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis. Comparisons with available data.

All data are from 1974Kn07.

^{39}K Levels

Spectroscopic factor C^2S is defined by $(2J+1)C^2S=[d\sigma/d\Omega(exp)]/[N\times(d\sigma/d\Omega)(DWBA)]$, where N is the normalization factor with N=4.6 in 1974Kn07.

E(level)	J^π	L	$(2J+1)C^2S$[†]	Comments
0		2	1.98	
2519 *10*		0	0.13	
2814 *10*		3	3.1	
3013 *15*		1	0.056	
3588 *20*				
3883 *15*				
4083 *10*		1	0.74	
4482 *15*		1	0.12	
4686 *15*		3	0.26	
4977 *15*		3	0.40	
5285 *30*				
5626 *20*		3	0.43	
5827 *10*		1	0.67	
5899 *20*		1	0.28	
6113 *20*		1	0.26	
6331 *20*		1	0.32	
6547 *15*	$(7/2)^-$	3	1.96	E(level),J^π: proposed as T=3/2 analog of the ^{39}Ar g.s ($J^\pi=7/2^-$).

[†] For J=L+1/2, except L-1/2 for g.s.