

$^{36}\text{Ar}(\text{d},\text{n}\gamma)$  1979SoZT

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

1979SoZT: E=4.64 MeV (also used  $^{36}\text{Ar}(\text{p},\gamma)$ ); measured  $\gamma(\theta)$  At several angles, DSAM. See  $^{36}\text{Ar}(\text{d},\text{n})$  dataset for complementary data from this reference.

1968Ch42: E=2.8 to 3.5 MeV; used Ge(Li) and measured  $\gamma(\theta)$ ,  $\theta=30,90^\circ$ .

1967Go18: E=8.8 MeV; used Si surface-barrier detector; deduced level energies.

Most of the level scheme is from 1979SoZT completed with some data from 1968Ch42.

 $^{37}\text{K}$  Levels

E(level)	$J^\pi$	$T_{1/2}^\dagger$	Comments
0	$3/2^+$		$J^\pi$ : from Adopted Levels, Gammas dataset; this value was used by 1979SoZT to assign other $J^\pi$ values in this level scheme.
1369 2	$(1/2^+)$	<104 ps	E(level): also 1371 (1979SoZT); 1368 (1967Go18). $J^\pi$ : from 1979SoZT: from L=0 (provided L=3 for 1378).
1378 2	$(7/2^-)$	>8.3 ns	E(level): also 1381 (1979SoZT); 1380 (1967Go18). $J^\pi$ : from 1979SoZT: 5/2,7/2 from $\gamma(\theta)$ (No evidence shown) allows extracting L=3 (from L=0+3 for doublet in $^{36}\text{Ar}(\text{d},\text{n})$ dataset); (7/2 <sup>-</sup> ) from analog level in mirror $^{37}\text{Ar}$ nucleus.
2174 2	$3/2^-$	<69 ps	E(level): also 2171 (1979SoZT); 2169 (1967Go18). $J^\pi$ : from 1979SoZT: 3/2 from $\Delta J=1$ , D $\gamma$ to (1/2 <sup>+</sup> ), 1369; 3/2 <sup>-</sup> from L=1 (see $^{36}\text{Ar}(\text{d},\text{n})$ dataset).
2754			
3086			
3315			
4424			

<sup>†</sup> DSAM lifetime limits measured by 1979SoZT.

 $\gamma(^{37}\text{K})$ 

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.	Comments
1369	$(1/2^+)$	1369 <sup>#</sup> 2	100	0	$3/2^+$		
1378	$(7/2^-)$	1378 <sup>#</sup> 2	100	0	$3/2^+$	[M2]	
2174	$3/2^-$	805	16	1369	$(1/2^+)$		Mult.: $\Delta J=1$ , D $\gamma$ (1979SoZT, $\gamma(\theta)$ ). $A_2=-0.16$ (1979SoZT).
		2174 <sup>#</sup> 2	84	0	$3/2^+$		Mult.: compatible with $\Delta J=0$ , D+Q $\gamma$ (1979SoZT, $\gamma(\theta)$ ). $A_2=+0.16$ (1979SoZT).
2754		2754	100	0	$3/2^+$		
3086		912		2174	$3/2^-$		
		3086		0	$3/2^+$		
3315		3315	100	0	$3/2^+$		
4424		3046		1378	$(7/2^-)$		
		4424		0	$3/2^+$		

<sup>†</sup> Deduced by evaluators from  $\Delta E(\text{levels})$ , except when noted otherwise.

<sup>‡</sup> From 1979SoZT.

<sup>#</sup> From 1968Ch42.

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## Level Scheme

Intensities: % photon branching from each level

