

$^{40}\text{Ar}(\text{n},\gamma)$ E=res **1974Ke18**

Type	Author	History	Citation	Literature Cutoff Date
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1974Ke18: $E_n=15\text{-}70$ keV and 58 keV produced from $^7\text{Li}(\text{p},\text{n})^7\text{Be}$ reaction. Measured E_γ , I_γ using Ge(Li).

 ^{41}Ar Levels

E(level)	J^π [†]	Comments
0	$7/2^-$	
167	$5/2^-$	
516	$3/2^-$	
1035	$3/2^+$	
1354	$3/2^-$	
(6156 4)		E(level): $S(\text{n})+E(\text{n})(\text{c.m.})$. $S(\text{n})=6098.9 \pm 3$ (2012Wa38). $E(\text{n})(\text{c.m.})$ is deduced from $E(\text{n})(\text{lab})$ where $E(\text{n})(\text{lab})=58$ keV 4. The 58-keV resonance is probably at 59.309 reported by 1991Wi02 in $^{40}\text{Ar}(\text{n},\text{n})$. J^π : ($5/2^+$) suggested by 1974Ke18, but a 59.309 resonance (1991Wi02) is assigned as $1/2^-$.
$S(\text{n})+40 \pm 30$		E(level): $S(\text{n})+y$: $S(\text{n})=6098.9 \pm 3$ (2012Wa38). $y=E(\text{n})(\text{c.m.})=0.98 E(\text{n})(\text{lab})$ where $E(\text{n})(\text{lab})=x=15\text{-}70$ keV.

[†] From Adopted Levels.

 $\gamma(^{41}\text{Ar})$

E_γ	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
838	5 1	1354	$3/2^-$	516	$3/2^-$	
1187	33 3	1354	$3/2^-$	167	$5/2^-$	
$4744+x$ [†]	71 3	$S(\text{n})+40$				E_γ : feeds 1354 level.
4802	34 3	(6156)		1354	$3/2^-$	E_γ : 4744 + 58 keV. E_γ : feeds 1354 level.
$5063+x$ [†]	10 2	$S(\text{n})+40$				E_γ : feeds 1035 level.
5121	26 3	(6156)		1035	$3/2^+$	E_γ : 5063 + 58 keV. E_γ : feeds 1035 level.
$5582+x$ [†]	1.0 10	$S(\text{n})+40$				E_γ : feeds 516 level.
$5933+x$ [†]	2.5 10	$S(\text{n})+40$				E_γ : feeds 167 level.
$6098+x$ [†]	15 2	$S(\text{n})+40$				E_γ : feeds g.s.
6156	40 4	(6156)		0	$7/2^-$	E_γ : 6098 + 58 keV. E_γ : feeds g.s. If J^π of the 58-keV resonance is $1/2^-$, then this transition involving $\Delta J=3$ would be suspect.

[†] $x=17\text{-}30$ keV.

[‡] Intensity per 100 neutron captures.

