

$^{58}\text{Ni}(^{36}\text{Ar},\alpha\text{pn}\gamma)$ 1991Ru06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. A. McCutchan and A. A. Sonzogni		NDS 115, 135 (2014)	1-Nov-2013

$E(^{36}\text{Ar})=145$ MeV. Measured E_γ , I_γ , $\gamma\gamma$, particle- γ and particle- $\gamma\gamma$ coincidences using 12 Compton suppressed HPGe, 7 neutron (NE213) and 4 charged particle detectors.

 ^{88}Tc Levels

<u>E(level)[†]</u>	<u>J^π[‡]</u>
z	@
z+20.9? 3	
z+311.6 [#] 1	J
z+677.0 [#] 2	J+1
z+1193.9 [#] 3	J+2
z+1538.1 [#] 4	J+3
z+2292.7 [#] 5	J+4
z+2567.0 [#] 5	J+5
z+3660.1 [#] 7	J+7
z+4912.9 [#] 9	J+9

[†] From a least-squares fit to E_γ by evaluators.

[‡] From band assignment assuming stretched E2 transitions.

[#] Band(A): quasi-rotational band.

@ Assigned as ($7^-, 8^+$) by 1991Ru06 based on the observation of 511 keV radiation from the β^+ decay of ^{88}Tc in coincidence with transitions depopulating the 3213 8^+ and 3350 7^- levels in ^{88}Mo .

 $\gamma(^{88}\text{Tc})$

<u>E_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>E_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
273.8 2	z+2567.0	J+5	z+2292.7	J+4	882.3 3	z+1193.9	J+2	z+311.6	J
290.7 ^{†‡} 3	z+311.6	J	z+20.9?		1028.9 4	z+2567.0	J+5	z+1538.1	J+3
311.6 1	z+311.6	J	z		1093.1 4	z+3660.1	J+7	z+2567.0	J+5
344.1 2	z+1538.1	J+3	z+1193.9	J+2	1098.8 5	z+2292.7	J+4	z+1193.9	J+2
365.4 2	z+677.0	J+1	z+311.6	J	1252.8 6	z+4912.9	J+9	z+3660.1	J+7
861.1 3	z+1538.1	J+3	z+677.0	J+1					

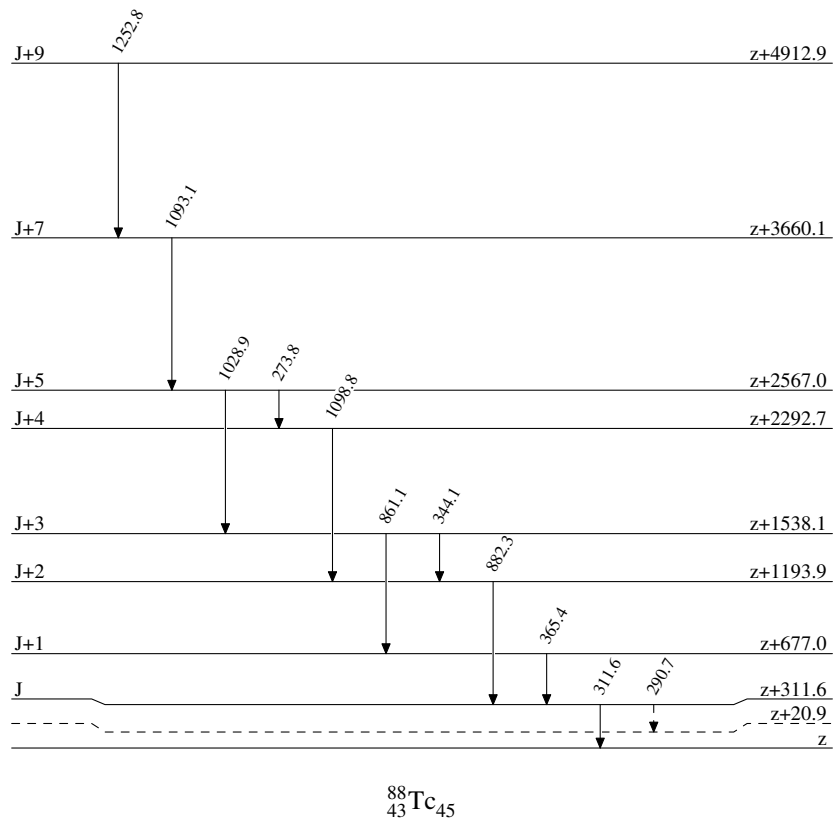
[†] Proposed to depopulate the z+312 level to reconcile an intensity imbalance, but existence could not be confirmed due to strong contaminant peak from ^{87}Nb .

[‡] Placement of transition in the level scheme is uncertain.

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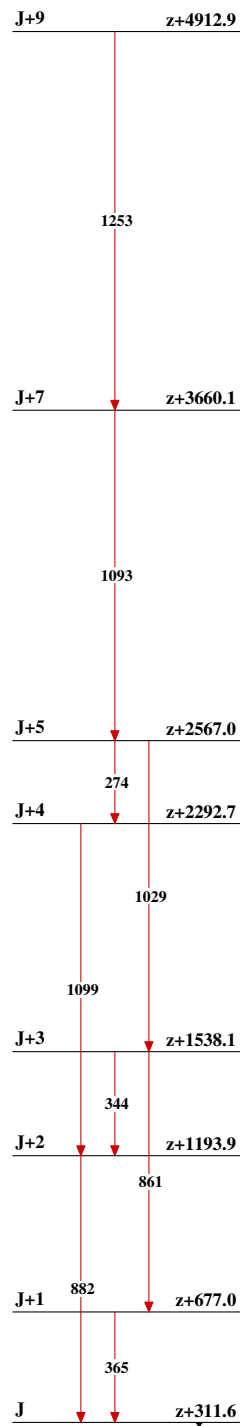
Legend

Level Scheme

-----> γ Decay (Uncertain)

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Band(A): Quasi-rotational band

 ${}^{88}_{43}\text{Tc}_{45}$