^{58}Ni(^{58}Ni,αpnγ) 2000St27

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal and F. G. Kondev	NDS 113, 1315 (2012)	1-Aug-2011

2000St27: E(^{58}Ni)=250 MeV. Target: ≈500 μg/cm^2 self supporting ^{58}Ni. The experimental setup included the Gammasphere array with 83 HPGe detectors, coupled to the Microball array of 95 CsI(Tl) charged-particle detectors and an array of 15 scintillator for neutron detection, which replaced the 15 front Ge detectors. Measured: Eγ, $\gamma\gamma$.

^{110}I Levels

E(level)[†]	J$^\pi$[‡]	Comments
0.0+x		Additional information 1. E(level): It is not clear, if the g.s. or an isomeric state is populated.
45.0+x *20*		
191.0+x *10*		
269.0+x *17*		
472.0+x[&] *15*		
502.0+x[#] *20*		
517.0+x *14*		
784.0+x[&] *18*		
830.0+x *14*		
1071.0+x[#] *22*		
1084.0+x *14*		
1128.0+x[&] *20*		
1220.0+x *16*		
1387.0+x[&] *23*		
1706.0+x *16*		
1710.0+x[#] *24*		
1729.0+x[&] *25*		
1834.0+x *24*		
2065.0+x[@] *17*	(11$^+$)	
2426+x[#] *3*		
2592.0+x[@] *20*	(13$^+$)	
2676+x *3*		
3256.0+x[@] *22*	(15$^+$)	
3309+x[#] *3*		
3576+x *3*		
3998.0+x[@] *24*	(17$^+$)	
4267+x[#] *3*		
4966+x[@] *3*	(19$^+$)	
5412+x[#] *4*		
5973+x[@] *3*	(21$^+$)	
7075+x[@] *3*	(23$^+$)	

[†] From least-squares fit to Eγ's. ΔEγ =1 keV by the evaluators.
[‡] From systematics (comparisons with similar structures in ^{112}I and ^{114}I).
[#] Band(A): band #1: Conf.:$\pi(g_{7/2}d_{5/2})\otimes\nu h_{11/2}$.
[@] Band(B): band #2: Conf.:$\pi h_{11/2}\otimes\nu h_{11/2}$.
[&] Band(C): Band #3.

^{58}Ni(^{58}Ni,αpnγ) 2000St27 (continued)

$\gamma(^{110}I)$

E_γ †	E_i(level)	J_i^π	E_f	J_f^π	E_γ †	E_i(level)	J_i^π	E_f	J_f^π
191	191.0+x		0.0+x		639	830.0+x		191.0+x	
224	269.0+x		45.0+x		639	1710.0+x		1071.0+x	
233	502.0+x		269.0+x		664	3256.0+x	(15^+)	2592.0+x	(13^+)
248	517.0+x		269.0+x		703	1220.0+x		517.0+x	
254	1084.0+x		830.0+x		716	2426+x		1710.0+x	
259	1387.0+x		1128.0+x		742	3998.0+x	(17^+)	3256.0+x	(15^+)
281	472.0+x		191.0+x		763	1834.0+x		1071.0+x	
312	784.0+x		472.0+x		842	2676+x		1834.0+x	
326	517.0+x		191.0+x		845	2065.0+x	(11^+)	1220.0+x	
342	1729.0+x		1387.0+x		883	3309+x		2426+x	
344	1128.0+x		784.0+x		900	3576+x		2676+x	
359	2065.0+x	(11^+)	1706.0+x		958	4267+x		3309+x	
527	2592.0+x	(13^+)	2065.0+x	(11^+)	968	4966+x	(19^+)	3998.0+x	(17^+)
567	1084.0+x		517.0+x		1007	5973+x	(21^+)	4966+x	(19^+)
569	1071.0+x		502.0+x		1102	7075+x	(23^+)	5973+x	(21^+)
622	1706.0+x		1084.0+x		1145	5412+x		4267+x	

† From 2000St27.

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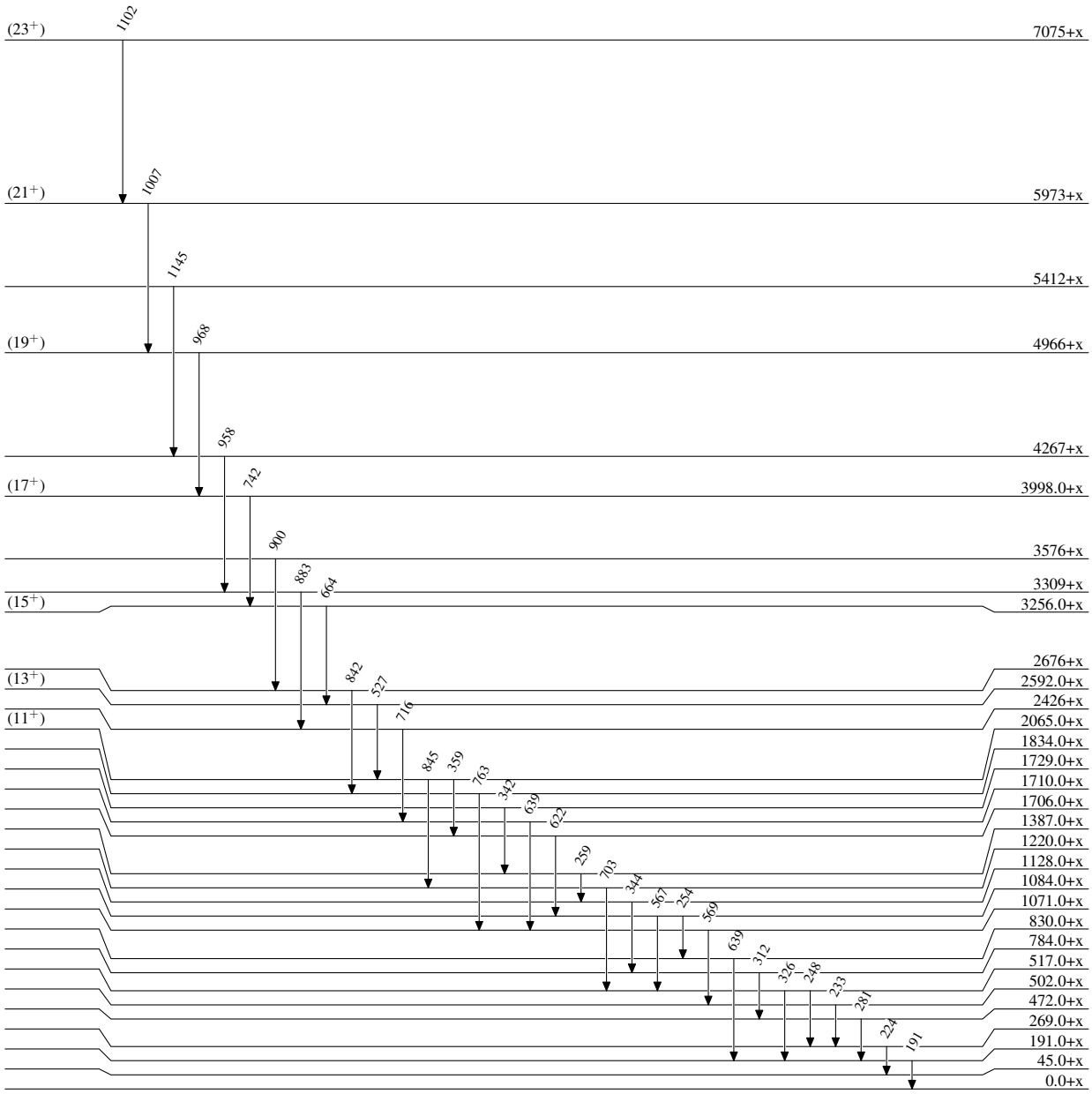
Level Scheme



$^{110}_{53}I_{57}$

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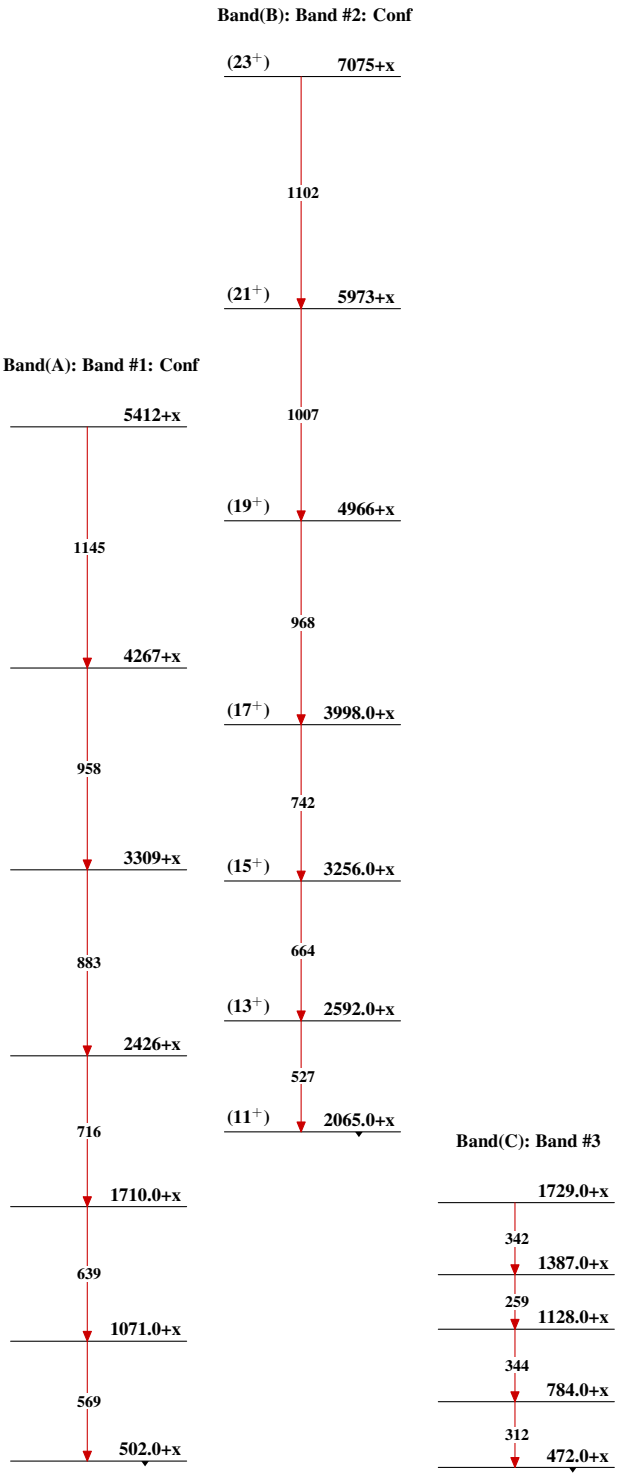

$^{110}_{53}I_{57}$