^{208}Pb(^{70}Zn,Xγ) 2015Li33

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 188,1 (2023)	17-Jan-2023

2015Li33: ^{71}Cu populated via multinucleon transfer reactions. E(^{70}Zn)=430, 440 MeV pulsed beam with a separation of 412 ns and width of 0.3 ns from Atlas-ANL facility bombarded a target of 50 mg/cm^2 ^{208}Pb. Measured Eγ, Iγ, $\gamma\gamma$-coin, $\gamma\gamma(\theta)$ using Gammasphere array of 100 Compton-suppressed Ge detectors. Comparison with shell-model calculations.

^{71}Cu Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0.0#	3/2$^-$		
534.0 *7*	5/2$^-$		
980.9@ *8*	7/2$^-$		
1189.1# *8*	7/2$^-$		
1452.7@ *10*	9/2$^-$		
1972.9@ *10*	(11/2$^-$)		
2128.3# *10*	(11/2$^-$)		
2575.9@ *13*	(13/2$^-$)		
2623.1# *12*	(15/2$^-$)		
2756.1# *15*	(19/2$^-$)	0.271 μs *14*	%IT=100 $T_{1/2}$: from the Adopted Levels.
2970.9@ *13*	(15/2$^-$)		
3429.9@ *17*	(17/2$^-$)		

† From a least-squares fit to Eγ data, assuming 1 keV uncertainty for each Eγ value.
‡ As proposed in 2015Li33, based on earlier assignments for low-lying levels, and band structures for high-lying states.
# Band(A): g.s. band.
@ Band(B): ν7/2[303] ($f_{7/2}$). Intruder band.

γ(^{71}Cu)

Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
133	2756.1	(19/2$^-$)	2623.1	(15/2$^-$)	650	2623.1	(15/2$^-$)	1972.9	(11/2$^-$)
395	2970.9	(15/2$^-$)	2575.9	(13/2$^-$)	655	1189.1	7/2$^-$	534.0	5/2$^-$
447	980.9	7/2$^-$	534.0	5/2$^-$	676	2128.3	(11/2$^-$)	1452.7	9/2$^-$
459	3429.9	(17/2$^-$)	2970.9	(15/2$^-$)	939	2128.3	(11/2$^-$)	1189.1	7/2$^-$
472	1452.7	9/2$^-$	980.9	7/2$^-$	981	980.9	7/2$^-$	0.0	3/2$^-$
495	2623.1	(15/2$^-$)	2128.3	(11/2$^-$)	992	1972.9	(11/2$^-$)	980.9	7/2$^-$
520	1972.9	(11/2$^-$)	1452.7	9/2$^-$	998	2970.9	(15/2$^-$)	1972.9	(11/2$^-$)
534	534.0	5/2$^-$	0.0	3/2$^-$	1189	1189.1	7/2$^-$	0.0	3/2$^-$
603	2575.9	(13/2$^-$)	1972.9	(11/2$^-$)					

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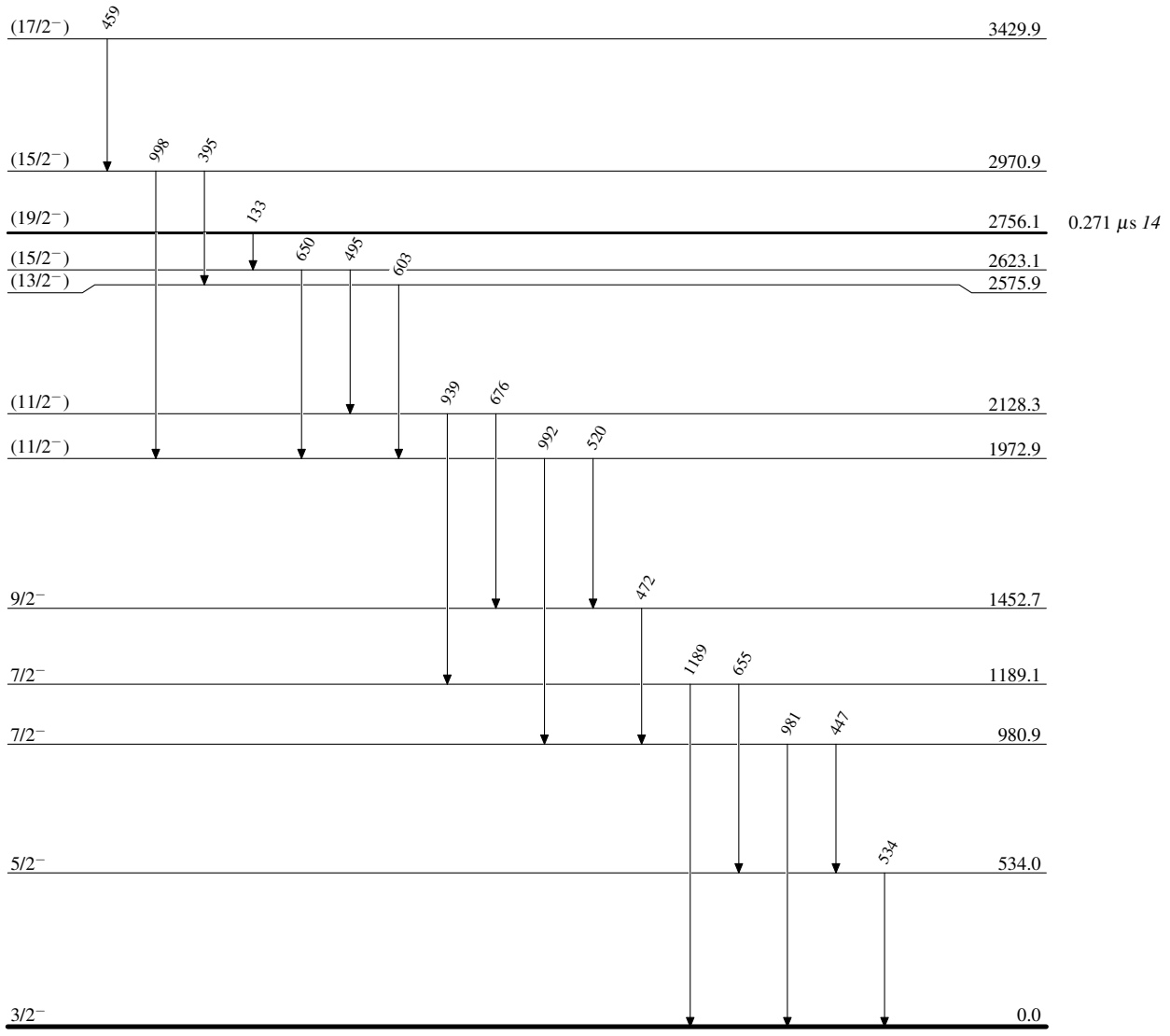
Level Scheme



$^{71}_{29}Cu_{42}$

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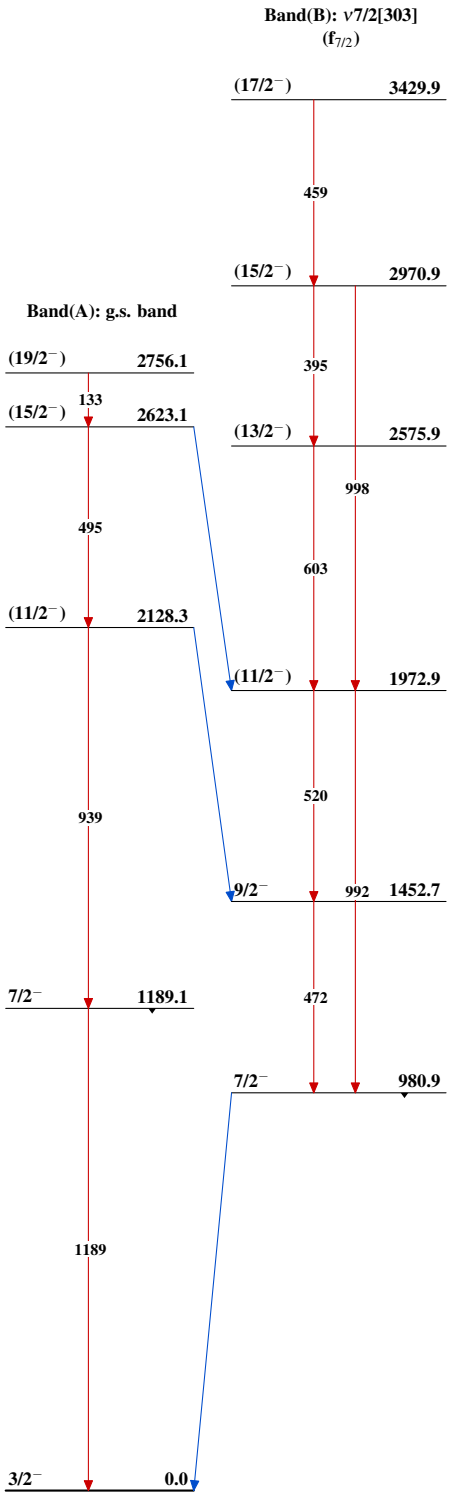

$^{71}_{29}Cu_{42}$