^{58}Ni(^{32}S,2p2nγ) 1996Ru07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 124, 1 (2015)	30-Nov-2014

1996Ru07: E=135 MeV. Measured Eγ, Iγ, γγ, γγ(θ)(DCO), particle-γγ coin using Gammasphere array with 36 Ge detectors and Microball array.

Others:

1993Mi11: ^{58}Ni(^{32}S,2p2nγ), E=125 MeV. Four γ rays of Eγ=568, 761, 933 and 972 assigned in a cascade from γγ coin.

1991Gr18: ^{40}Ca(^{50}Cr,2p2nγ), E=170 MeV; ^{58}Ni(^{32}S,2p2nγ), E=110 MeV. Recoil-γ and γγ coin.

See 1996Ru07 for detailed multi-particle configuration assignments.

^{86}Mo Levels

E(level)	Jπ†	E(level)	Jπ†	E(level)	Jπ†	E(level)	Jπ†
0.0‡	0+	3306.6# *11*	(7−)	5255.5# *16*	(11−)	7114.9‡ *20*	(16+)
566.6‡ *4*	(2+)	3589.0 *14*		5686.6@ *21*	(12−)	7841?@ *4*	(16−)
1327.5‡ *7*	(4+)	3748.6@ *15*	(8−)	6194.6‡ *19*	(14+)	7974.1? *21*	
2128.6?# *20*		4153.3‡ *13*	(10+)	6272.5# *19*	(13−)	8178.9‡ *22*	(18+)
2260.0‡ *9*	(6+)	4186.5# *12*	(9−)	6384.0 *19*	(14+)	9465.9‡ *24*	(20+)
2717.9# *10*	(5−)	4450.0? *16*		6410.5 *19*	(13−)	10989‡ *4*	(22+)
2959.6@ *11*	(6−)	4660.6@ *18*	(10−)	6758@ *3*	(14−)	12766?‡ *4*	(24+)
3232.7‡ *11*	(8+)	5166.3‡ *17*	(12+)	6874.2 *19*	(15+)		

† Based on γγ(θ)(DCO) data, band structures and systematics. R(DCO)≈1 indicates ΔJ=2, quadrupole (E2) transitions and R(DCO)≈0.5 indicates ΔJ=1, dipole transitions. Below 16, most assignments are given without parentheses by 1996Ru07.

‡ Band(A): g.s. band.

Band(B): band based on (5−).

@ Band(C): band based on (6−).

γ(^{86}Mo)

Eγ	Iγ	Ei(level)	Jiπ	Ef	Jfπ	Comments
241 *1*	5 *1*	7114.9	(16+)	6874.2	(15+)	R(DCO)=0.67 *31*.
241.7 *4*	13 *3*	2959.6	(6−)	2717.9	(5−)	R(DCO)=0.62 *8*.
347.1 *5*	6 *1*	3306.6	(7−)	2959.6	(6−)	R(DCO)=0.60 *20*.
490.3 *5*	9 *2*	6874.2	(15+)	6384.0	(14+)	R(DCO)=0.38 *11*.
566.6 *4*	100 *3*	566.6	(2+)	0.0	0+	
588.5 *6*	10 *2*	3306.6	(7−)	2717.9	(5−)	R(DCO)=1.05 *29*.
679† *1*	2 *1*	6874.2	(15+)	6194.6	(14+)	
760.9 *5*	100 *3*	1327.5	(4+)	566.6	(2+)	R(DCO)=1.01 *9*.
789 *1*	10 *2*	3748.6	(8−)	2959.6	(6−)	R(DCO)=1.12 *20*.
861† *1*	5 *2*	4450.0?		3589.0		
879.9 *6*	17 *2*	4186.5	(9−)	3306.6	(7−)	R(DCO)=1.08 *21*.
912 *1*	9 *2*	4660.6	(10−)	3748.6	(8−)	
920 *1*	17 *3*	7114.9	(16+)	6194.6	(14+)	R(DCO)=1.08 *11* for 920+920.6.
920.6 *7*	45 *5*	4153.3	(10+)	3232.7	(8+)	R(DCO)=1.08 *11* for 920.6+920.
932.6 *6*	68 *5*	2260.0	(6+)	1327.5	(4+)	R(DCO)=1.05 *8*.
972.7 *7*	49 *5*	3232.7	(8+)	2260.0	(6+)	R(DCO)=0.92 *11*.
1013 *1*	42 *4*	5166.3	(12+)	4153.3	(10+)	R(DCO)=1.10 *14*.
1017 *1*	9 *2*	6272.5	(13−)	5255.5	(11−)	
1026 *1*	8 *1*	5686.6	(12−)	4660.6	(10−)	

Continued on next page (footnotes at end of table)

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γ(^{86}Mo) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
1028 *1*	28 *3*	6194.6	(14^+)	5166.3	(12^+)	R(DCO)=1.05 *10*.
1047 *1*	5 *2*	3306.6	(7^-)	2260.0	(6^+)	
1064 *1*	21 *3*	8178.9	(18^+)	7114.9	(16^+)	
1069 *1*	15 *2*	5255.5	(11^-)	4186.5	(9^-)	
1071 *2*	6 *1*	6758	(14^-)	5686.6	(12^-)	
1083† *2*	4 *1*	7841?	(16^-)	6758	(14^-)	
1100† *1*	6 *2*	7974.1?		6874.2	(15^+)	
1155 *1*	5 *2*	6410.5	(13^-)	5255.5	(11^-)	
1218 *1*	15 *2*	6384.0	(14^+)	5166.3	(12^+)	R(DCO)=1.10 *28*.
1287 *1*	10 *2*	9465.9	(20^+)	8178.9	(18^+)	
1329 *1*	11 *2*	3589.0		2260.0	(6^+)	
1390 *1*	26 *3*	2717.9	(5^-)	1327.5	(4^+)	R(DCO)=0.68 *11*.
1523 *2*	6 *2*	10989	(22^+)	9465.9	(20^+)	
1562† *2*	4 *1*	2128.6?		566.6	(2^+)	
1777† *2*	2 *1*	12766?	(24^+)	10989	(22^+)	

† Placement of transition in the level scheme is uncertain.

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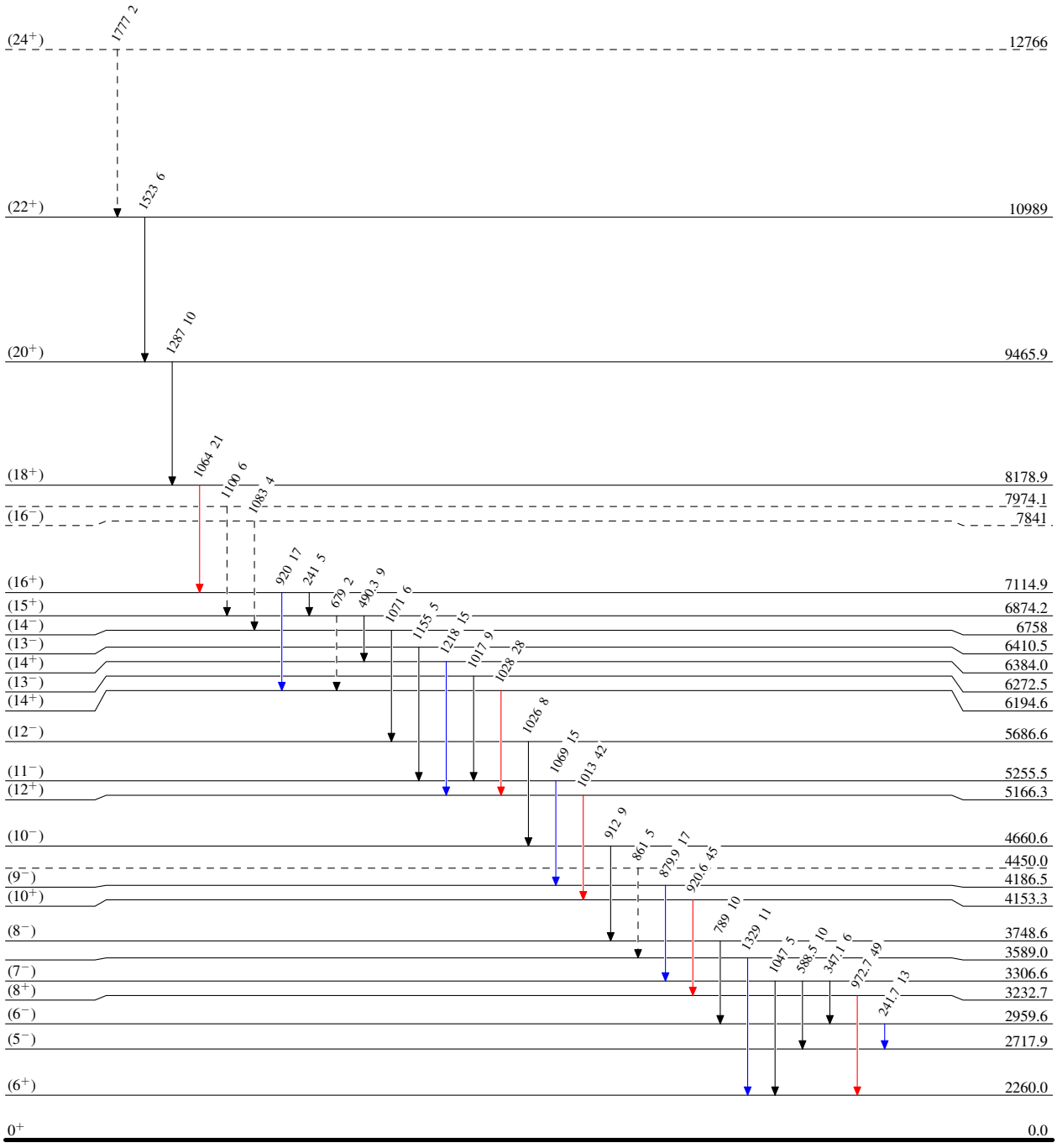
Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{86}_{42}Mo_{44}$

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Level Scheme (continued)

Intensities: Relative I_γ

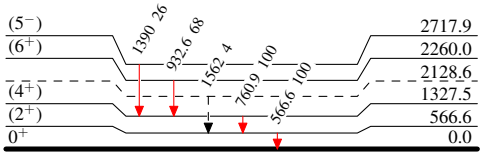
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{86}_{42}Mo_{44}$

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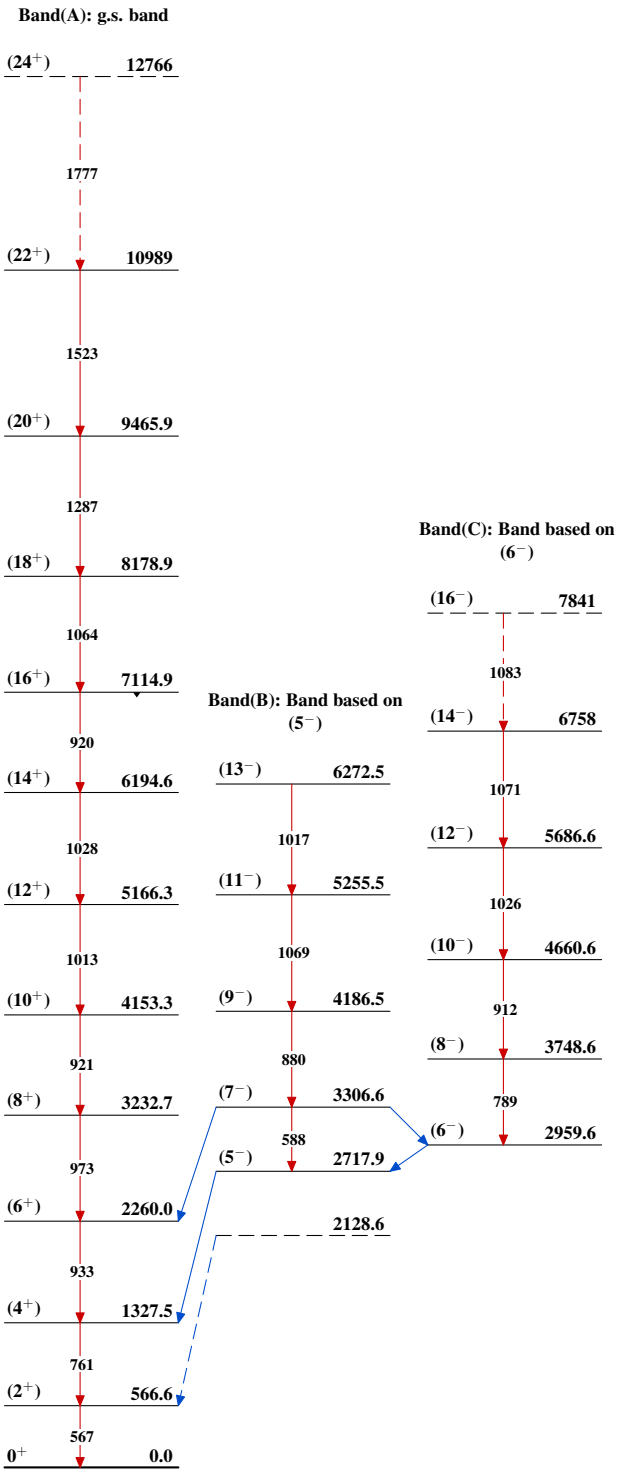

$^{86}_{42}Mo_{44}$