^{24}Mg(^{24}Mg,p2nγ) E=83 MeV 2006Be07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows	NDS 109, 171 (2008)	30-Oct-2007

Measured Eγ, Iγ, $\gamma\gamma$, γ-N coin, γ-P coin using the EUROBALL array with 26 "Clover" detectors and 15 "Cluster" detector each containing 4 and 7 individual hyperpure Ge crystals, respectively. Protons were detected by an array of 40 ΔE-E Si detectors telescopes, and neutrons were detected using EUROBALL neutron wall consisting of 50 liquid scintillation detectors.

^{45}V Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0#	7/2− @	1272.0& 8	(7/2+) @	2626.3b 6	(13/2−)	4391.7# 7	(19/2−)
56.6@ 7	(5/2−) @	1324.0?b 5	(9/2−)	3004.4# 6	(15/2−)	5685.5& 15	(19/2+)
56.8@ 7	(3/2−) @	1462.0# 5	(11/2−)	3444.5a 13	(13/2+)	6206.6# 11	(23/2−)
385.9& 8	(3/2+) @	1916.4a 9	(9/2+)	3604.5b 7	(17/2−)	7159.5# 11	(27/2−)
797.1a 8	(5/2+) @	2488.9& 9	(11/2+)	3910.0& 14	(15/2+)		

† From least-squares fit to Eγ's (evaluator).
‡ From mirror-symmetry arguments and the ^{45}Ti data of 1998Be29, except As noted. Parentheses added by evaluator.
# Band(A): band based on $f_{7/2}$ orbital, α=−1/2.
@ From the Adopted Levels. Energies held fixed In least-squares fit.
& Band(B): band based on $d_{3/2}$ orbital, α=−1/2.
a Band(C): band based on $d_{3/2}$ orbital, α=+1/2.
b Band(D): band based on $f_{7/2}$ orbital, α=+1/2.

γ(^{45}V)

Eγ	Iγ‡	Ei(level)	J_i^π	Ef	J_f^π
(0.8)		56.8	(3/2−)	56.6	(5/2−)
(56.3† 8)		56.6	(5/2−)	0.0	7/2−
(57.1† 8)		56.8	(3/2−)	0.0	7/2−
329.1@# 2	11@# 2	385.9	(3/2+)	56.8	(3/2−)
329.1@# 2	11@# 2	385.9	(3/2+)	56.6	(5/2−)
378.0 3	25 7	3004.4	(15/2−)	2626.3	(13/2−)
410.9 4	27 7	797.1	(5/2+)	385.9	(3/2+)
465& 1	<3	3910.0	(15/2+)	3444.5	(13/2+)
474.7 4	13 2	1272.0	(7/2+)	797.1	(5/2+)
572.7 8	8 1	2488.9	(11/2+)	1916.4	(9/2+)
600.1 2	66 4	3604.5	(17/2−)	3004.4	(15/2−)
644.0 7	5 2	1916.4	(9/2+)	1272.0	(7/2+)
740.9@# 6	17@# 3	797.1	(5/2+)	56.8	(3/2−)
740.9@# 6	17@# 3	797.1	(5/2+)	56.6	(5/2−)
787.2 3	63 5	4391.7	(19/2−)	3604.5	(17/2−)
886.0 5	14 2	1272.0	(7/2+)	385.9	(3/2+)
952.9 3	47 8	7159.5	(27/2−)	6206.6	(23/2−)
955& 1	<3	3444.5	(13/2+)	2488.9	(11/2+)
978.0 5	<3	3604.5	(17/2−)	2626.3	(13/2−)
1119.5 4	13 2	1916.4	(9/2+)	797.1	(5/2+)
1163.9 5	17 3	2626.3	(13/2−)	1462.0	(11/2−)
1216.9 4	19 2	2488.9	(11/2+)	1272.0	(7/2+)

Continued on next page (footnotes at end of table)

^{24}Mg(^{24}Mg,p2nγ) E=83 MeV 2006Be07 (continued)

$\gamma(^{45}V)$ (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
1302.0[&] *5*	5 *1*	2626.3	$(13/2^-)$	1324.0?	$(9/2^-)$	1528 *1*	<3	3444.5	$(13/2^+)$	1916.4	$(9/2^+)$
1324.0[&] *5*	6 *2*	1324.0?	$(9/2^-)$	0.0	$7/2^-$	1542.6 *4*	66 *9*	3004.4	$(15/2^-)$	1462.0	$(11/2^-)$
1421 *1*	20 *2*	3910.0	$(15/2^+)$	2488.9	$(11/2^+)$	1775.5 *7*	9 *1*	5685.5	$(19/2^+)$	3910.0	$(15/2^+)$
1462.0 *5*	100 *20*	1462.0	$(11/2^-)$	0.0	$7/2^-$	1814.9 *8*	76 *6*	6206.6	$(23/2^-)$	4391.7	$(19/2^-)$

† From the Adopted Gammas.
‡ Relative intensity.
# The doublets At 329.1 and 740.9 are not resolved. 2006Be07 assign average γ-ray energy and equal intensity to each component of the two doublets.
@ Multiply placed with intensity suitably divided.
& Placement of transition in the level scheme is uncertain.

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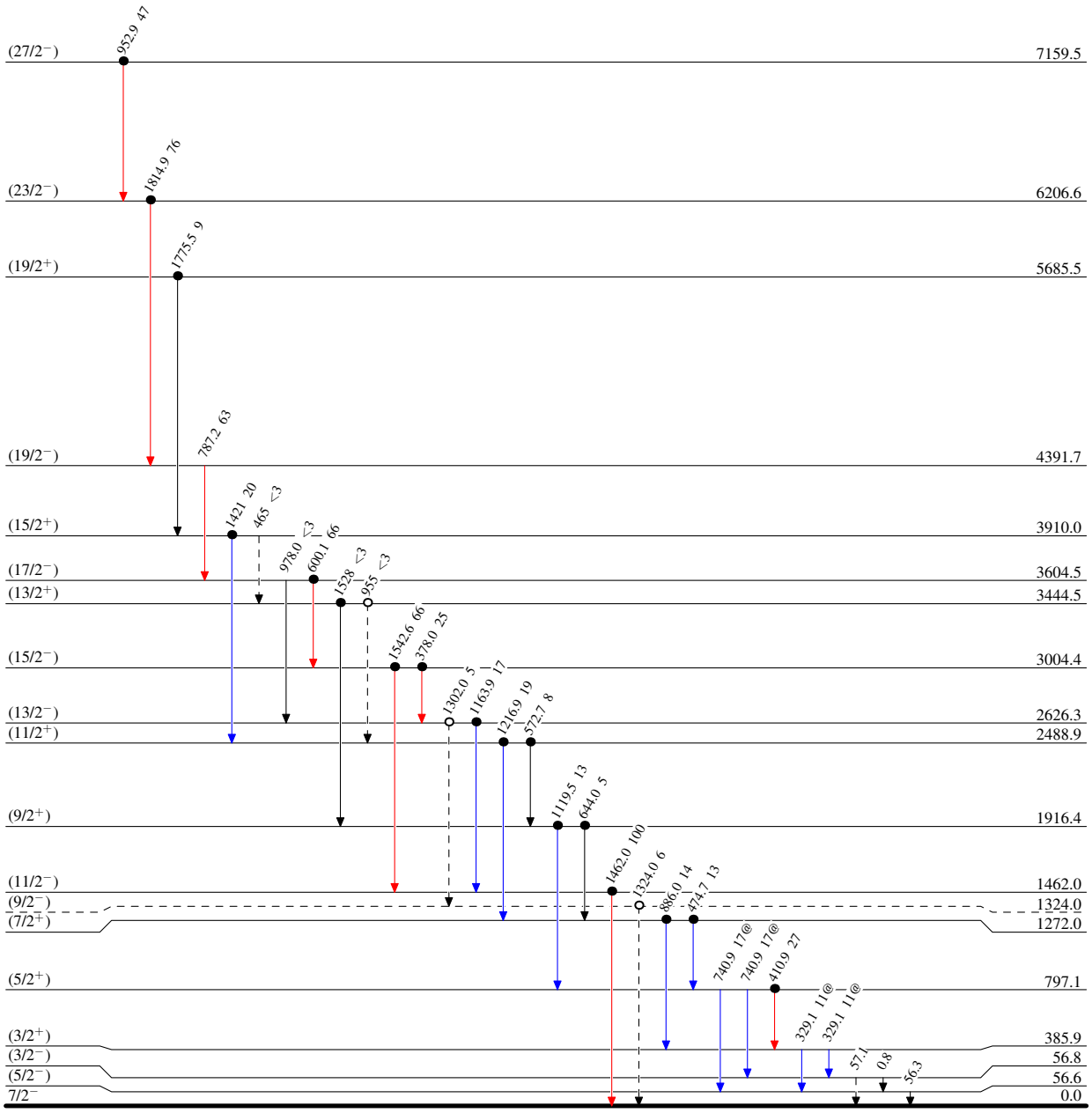
Level Scheme

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

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)
- Coincidence
- Coincidence (Uncertain)



$^{45}_{23}V_{22}$

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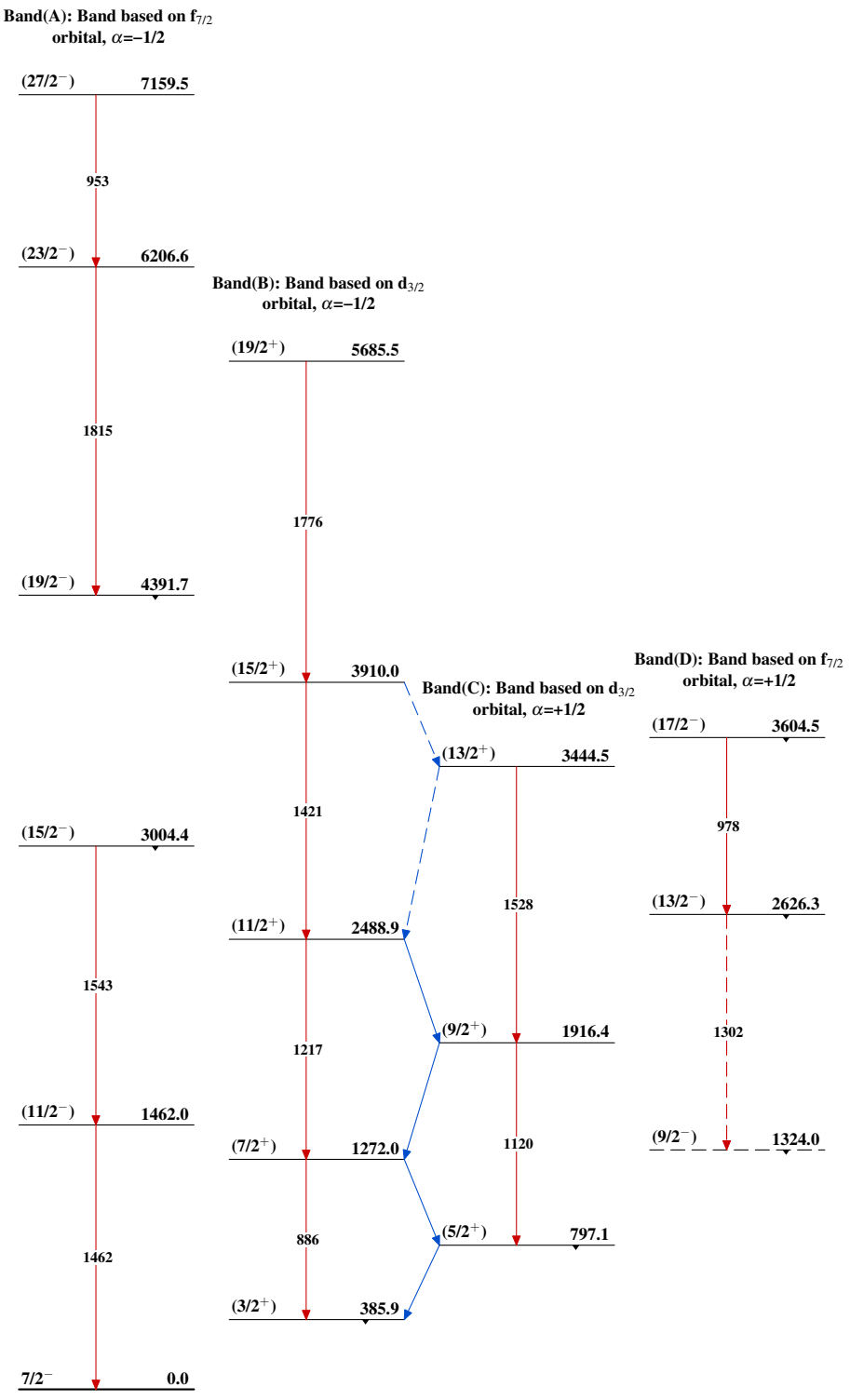

$^{45}_{23}V_{22}$