10 B(24 Mg,2n γ) 2017Af02

		History	
Туре	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 201,1 (2025)	31-Oct-2024

2017Af02: E=75 MeV ²⁴Mg beam was produced from the ATLAS accelerator at ANL. Target was 200 μ g/cm² ¹⁰B. γ rays were detected by Gammasphere consisting of 98 Compton-suppressed HPGe detectors and recoils were separated by the Argonne Fragment Mass Analyzer (FMA), and detected by an ionization chamber. Measured E γ , I γ , $\gamma\gamma$ -coin, recoil- γ -coin, recoil- γ -coin. Deduced levels, resonance energies. Calculated astrophysical reaction rates of ³¹S(p, γ)³²Cl reaction.

³²Cl Levels

E(level) [†]	J^{π}
0	1+
89.65 5	$(2)^{+}$
460.80 14	$(0)^{+}$
1168.8 6	1^{+}
1332.3 5	$(2)^{+}$
1738.2 6	(3^{+})
2130.6 10	$(3)^{+}$

[†] From a least-squares fit to γ -ray energies.

[‡] From Adopted Levels.

$\gamma(^{32}\text{Cl})$

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_i (level)	\mathbf{J}_i^{π}	E_f	\mathbf{J}_{f}^{π}
89.65 5	100 4	89.65	$(2)^{+}$	0	1+
460.80 14	91	460.80	$(0)^{+}$	0	1^{+}
708.0 5	31	1168.8	1^{+}	460.80	$(0)^{+}$
1242.7 9	10 <i>1</i>	1332.3	$(2)^{+}$	89.65	$(2)^{+}$
1332.3 6	15 2	1332.3	$(2)^{+}$	0	1^{+}
1648.5 6	24 <i>3</i>	1738.2	(3^{+})	89.65	$(2)^{+}$
2040.9 10	33 <i>3</i>	2130.6	$(3)^{+}$	89.65	$(2)^{+}$

[†] From 2017Af02.





 $^{32}_{17}\text{Cl}_{15}$