

$^{24}\text{Mg}(\text{pol p,p}),(\text{pol p,p}') \quad 1991\text{Pr06}$

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty		NDS 205,1 (2025)	31-May-2025

$J^\pi(^{27}\text{Al})=5/2^+$.

1991Pr06: $^{25}\text{Al}(\text{pol p,p}),(\text{pol p,p}')$, $E=4\text{--}6.3$ MeV, enriched target. Measured $\sigma(E,\theta)$, analyzing power vs. E , θ . Deduced levels, spin, parity, total width, proton width.

Others: **1982Pr03**, **1992Wi13** (p,p).

 ^{25}Al Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$\Gamma^\#$	Comments
6122 3	$3/2^+$	51 keV 2	$E_p=4013$ keV 3 (Lab) (1991Pr06). $\Gamma_p=30$ keV 1.
6385 3	$3/2^-$	<15 keV	$E_p=4287$ keV 3 (Lab) (1991Pr06). $\Gamma_p/\Gamma_{\text{tot}}=0.10$ keV.
6520 9	$3/2^+$	64 keV 16	$E_p=4427$ keV 3 (Lab) (1991Pr06). $\Gamma_p=5$ keV 1.
6645 5	$5/2^+$	58 keV 9	$E_p=4558$ keV 4 (Lab) (1991Pr06). $E(\text{level}): 6829$ 4 (1991Pr06) is a typo. $\Gamma_p=9$ keV 1.
6734 22	$7/2^-$	197 keV 39	$E_p=4650$ keV 22 (Lab) (1991Pr06). $\Gamma_p=18$ keV 2.
6740 5	$1/2^+$	152 keV 11	$E_p=4657$ keV 5 (Lab) (1991Pr06). $\Gamma_p=137$ keV 7.
6895 3	$7/2^-$	53 keV 4	$E_p=4818$ keV 3 (Lab) (1991Pr06). $\Gamma_p=17$ keV 1.
7055 9	$3/2^-$	616 keV 20	$E_p=4985$ keV 9 (Lab) (1991Pr06). $\Gamma_p=449$ keV 12.
7125 3	$3/2^+$	117 keV 4	$E_p=5058$ keV 3 (Lab) (1991Pr06). $\Gamma_p=88$ keV 3.
7150 7	$5/2^-$	20 keV 6	$E_p=5084$ keV 7 (Lab) (1991Pr06). $\Gamma_p=1.4$ keV 1.
7240 3	$5/2^+$	19 keV 4	$E_p=5178$ keV 3 (Lab) (1991Pr06). $\Gamma_p=5$ keV 1.
7297 3	$3/2^-$	66 keV 6	$E_p=5237$ keV 3 (Lab) (1991Pr06). $\Gamma_p=51$ keV 3.
7408 3	$5/2^-$	<12 keV	$E_p=5353$ keV 3 (Lab) (1991Pr06). $\Gamma_p/\Gamma_{\text{tot}}=0.06$ keV.
7684 3	$7/2^-$	21 keV 3	$E_p=5640$ keV 3 (Lab) (1991Pr06). $\Gamma_p=1.5$ keV 2.
7716 10	$3/2^+$	230 keV 20	$E_p=5674$ keV 10 (Lab) (1991Pr06). $\Gamma_p=103$ keV 7.
7892 8	$5/2^-$	94 keV 15	$E_p=5857$ keV 8 (Lab) (1991Pr06). $\Gamma_p=3.6$ keV 15.
7901 2		105 eV 18	$\Gamma_p=18$ eV 4. Γ : from 1992Wi13 .
7974 2	$3/2^+$	1.30 keV 14	Γ : $\Gamma_p=232$ eV 12. $E(\text{level}),\Gamma$: from 1992Wi13 .
8089 3	$5/2^-$	40 keV 9	$E_p=6062$ keV 3 (Lab) (1991Pr06). $\Gamma_p=4.9$ keV 1.

[†] Calculated using $S(p)=2271.37$ 6 (**2021Wa16**) and $E_p(\text{c.m.})$ using $E_p(\text{lab})$, $m(p)=1007825.031898$ a.m.u. and $m(^{24}\text{Mg})=23.985041689$ a.m.u.

[‡] From **1991Pr06**, based on phase shift analysis.

[#] From **1991Pr06**, except where otherwise noted.