

$^{24}\text{Mg}(^6\text{Li},^6\text{Li}')$ 2009Ch33

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty		NDS 186,2 (2022)	31-Mar-2022

Also ($^6\text{Li},^6\text{Li}$).

2009Ch33: ^6Li beam, E=240 MeV; Multipole-dipole-multipole spectrometer (MDM); measured particle spectra, cross sections and angular distributions using the deduced E0, E1, E2 and E3 giant resonance and widths.

1995De53: ^6Li beam, E=156 MeV; target 99% enriched ^{24}Mg (thickness 2 mg/cm²) self-supporting foil; quadrupole-quadrupole-dipole-sextupole magnetic spectrograph. FWHM 270 keV. Investigated isoscalar giant monopole resonances, deduce centroid energy, E0 strength.

 ^{24}Mg Levels

RMS widths and EWSR based on L value and excitation energy

L	E _x	range(MeV)	RMS Width (MeV)	EWSR (%) *
0	10.2-20.6		2.13 17	35 5
0	8.6-38.6		5.0 +7-3	106 +34-24
1	10.2-20.6		2.29 17	10 3
1	8.6-38.6		6.42 +29-27	84 +24-21
2	10.2-20.6		2.58 17	30 4
2	8.6-38.6		6.29 +34-25	76 +14-12
3	8.6-38.6		5.85 +28-19	3 +4-1

*Energy Weighted Sum Rule (EWSR) (all data from 2009Ch33).

E(level)	J ^π	T _{1/2}	Comments
1369	2 ⁺		B(E2) _↑ =0.0317 32 (2009Ch33) E(level): As quoted in 2009Ch33. B(E2)=0.0317 32 is based on analysis using deformed potential (DP) model, B(E2)=0.0465 47 based on deformed double-folding (DDF) model. Uncertainty is from: for 1st value 0.0004 (stat), 0.0032 (syst) and for 2nd value: 0.0006 (stat), 0.0047 (syst).
18.3×10 ³	5	4.8 MeV 5	E(level): Centroid value for the range of 10 to 23 MeV. Not listed in the Adopted Levels. Γ from 1995De53. Strength 97 % 15 – Energy Weighted Sum Rule (EWSR) – for the range of 10 to 23 MeV (1995De53).