

$^{24}\text{Mg}(^{16}\text{O}, ^{16}\text{O}')$ 1986Nu01,1983Nu01

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

Others: 983Fu03, 1983W011 (also includes ($^{14}\text{N}, ^{14}\text{N}'$)).

1986Nu01: ^{16}O beam, $E_{\text{c.m.}}=33.6\text{-}49.2$ MeV, from the Australian National University 14UD pelletron accelerator; 99.92% enriched ^{24}Mg target (thickness $\approx 5 \mu\text{g}/\text{cm}^2$; split-pole Enge spectrometer, multi-element detector; the forward angle of $\theta_{\text{lab}}=19.5^\circ$ was chosen as close as possible to 5° (lab); measured $\sigma(E)$; deduced excited levels. FWHM ≤ 140 keV.

1983Nu01: ^{16}O beam, $E_{\text{c.m.}}=43.5$ MeV from the Australian National University 14UD pelletron accelerator, 99.92% enriched ^{24}Mg target (thickness $\approx 5 \mu\text{g}/\text{cm}^2$, split-pole Enge spectrometer, multi-element detector, measured angular distribution of both elastic and inelastic scattering to the 2^+ (1.37 MeV), 4^+ (4.12 MeV), and 2^+ (4.24 MeV) states in steps of 1° in the range $4^\circ\text{-}29^\circ$ (lab); resolved the $\sigma(E)$, deduced excited levels. FWHM = 80-100 keV.

 ^{24}Mg Levels

E(level) [†]	$J\pi$ [‡]	Comments
0	0^+	
1.37×10^3	2^+	
4.12×10^3	4^+	E(level): From 1983Nu01. Other: 4.2×10^3 (doublet in 1986Nu01).
4.24×10^3	2^+	E(level): From 1983Nu01. Other: 4.2×10^3 (doublet in 1986Nu01).
6.1×10^3	4^+	
6.43×10^3	0^+	
7.0×10^3		
7.4×10^3	2^+	
7.6×10^3	1^-	
8.11×10^3	6^+	
8.4×10^3		

[†] From 1986Nu01.

[‡] From Adopted Levels.