

$^{24}\text{Mg}(\text{n},\text{n}'\gamma)$ 1984El12,1965Ma40

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

Others: 1991Ge04, 1989Ge09.

1984El12,1989Ge09,1991Ge04: $^{24}\text{Mg}(\text{n},\text{n}'\gamma)$, E=fast; measured DSA, deduced mean lifetime.

1965Ma40: 78.7% ^{24}Mg target, E=2.0 – 4.5 MeV neutrons were produced by D(d,n) reaction from 3 MeV Van de Graaff accelerator; Two-crystal total absorption gamma-ray spectrometer, NaI in conjunction with a conventional pulsed beam time-of-flight spectrometer; measured $\gamma(\theta)$, deduced differential γ production cross section.

 ^{24}Mg Levels

E(level)	$T_{1/2}^{\dagger}$	Comments
0		
1370		
4122.845 12	39 fs 13	$T_{1/2}$: From $\tau=56$ fs 19 (1984El12).
4238.36 6	73 fs 3	$T_{1/2}$: From $\tau=105$ fs 5 (1984El12).
6010.32 9	80 fs 14	$T_{1/2}$: From $\tau=115$ fs 20 (1984El12).

† From 1984El12, 1989Ge09, 1991Ge04 – same research group.

 $\gamma(^{24}\text{Mg})$

E_{γ}	$E_i(\text{level})$	E_f	Comments
1370	1370	0	$d\sigma(90^{\circ})/d\Omega=39.3$ mb/sr 78 (1965Ma40) for E=3.0 MeV. $\sigma(\text{tot})=592$ mb 118, E=3.0 MeV; $d\sigma(90^{\circ})/d\Omega=38$ mb/sr 7 and $\sigma(\text{tot})=568$ mb 113, E=3.5 MeV; $d\sigma(90^{\circ})/d\Omega=36$ mb/sr 7 and $\sigma(\text{tot})=546$ mb 109, E=4.0 MeV; $d\sigma(90^{\circ})/d\Omega=37$ mb/sr 7 and $\sigma(\text{tot})=559$ mb 112, E=4.5 MeV (1965Ma40).

 $^{24}\text{Mg}(\text{n},\text{n}'\gamma)$ 1984El12,1965Ma40Level Scheme