^{22}Ne(^{6}Li,d) 2007Ug01,1993Gi04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia and A. M. Hurst	NDS 134,1 (2016)	1-Feb-2016

Other: 2014OtZY.

2007Ug01: Target: ^{22}Ne target prepared by implanting a ^{22}Ne beam into a 99.9% enriched ^{12}C foil. Projectile: ^{6}Li, E=30 MeV; Reaction products separated with Enge split-pole spectrometer. Detected particles using magnetic rigidity and E-δE methods, a gas ionization chamber and a scintillator detector. FWHM=63 keV.

1993Gi04: Target: Enriched ^{22}Ne gas in a 0.13 atm pressurized cell; Projectile: ^{6}Li, E=32 MeV; Reaction products were momentum analyzed with a broad-range magnetic spectrograph and detected with a position sensitive proportional counter system backed by a scintillator. Focal plane position, energy loss and total energy of reaction products were determined. Deduced resonances, spin and parity, spectroscopic factors, resonance strength. FWHM was about 120 keV. ^{22}Ne(^{6}Li,d) spectra were collected at 7.5°, 15°, 25°, 35°, and 45°.

^{26}Mg Levels

E(level)[†]	J$^{\pi}$[#]	L[@]	S[&]	Comments
0.0	0^+			
9320[a] *60*				E(level): peak Γ=172 keV *20*.
9404[‡] *20*	$(4^+),6^+$		(0.004)	S: 0.013 for $J^{\pi}=6^+$.
9586[‡a] *20*	4^+	4	0.011	E(level): Other value: 9570 *40* with a peak width of 117 keV *15* (2007Ug01). J$^{\pi}$: From L=4 (1993Gi04).
9985[‡] *20*				
10335[‡a] *20*	(7^-)		(0.083)	J$^{\pi}$: Proposed in 1993Gi04, based on best experimental description with an L=7 transfer. Also l-transfer of 5, 6, 7, 8 is possible.
10568[‡] *25*				
10694[‡a] *20*	$4^+,7^-,8^+$		0.024	J$^{\pi}$: From approximation of L=4,7,8 (1993Gi04). S: 0.067 and 0.40 for $J^{\pi}=7^-$ and 8^+, respectively (1993Gi04).
10808 *20*	$0^+,1^-,2^+,3^-,4^+$			J$^{\pi}$: natural parity states assumed to be populated in (^{6}Li,d) reaction. E(level): peak Γ=69 keV *16*.
10953[a] *25*				E(level): peak Γ=58 keV *16* (2007Ug01). J$^{\pi}$: $5^-,6^+,7^-$ from known γ-decay modes in the literature and assuming population of natural-parity states in (^{6}Li,d) reaction (2007Ug01). 1993Gi04 propose 3^- with other possibilities of 1^- or 2^+.
11310[‡] *20*	$(1^-),2^+$	2	(0.024)	S: 0.037 for $J^{\pi}=2^+$.
11453[‡] *25*	$(1^-,2^+),3^-$		(0.053)	J$^{\pi}$: From L=2 or 3 (1993Gi04). S: (0.035) and 0.019 for $J^{\pi}=(2^+)$ and 3^-, respectively (1993Gi04).
11644[‡] *20*				
11831[‡] *20*	$(1^-,2^+,3^-)$		(0.20)	E(level): 1993Gi04 note as unresolved group at 11900 for four states. J$^{\pi}$: From L=1,2,3 (1993Gi04). S: (0.11) and (0.05) for $J^{\pi}=(2^+)$ and (3^-), respectively (1993Gi04).

[†] From 2007Ug01, except otherwise noted.
[‡] From 1993Gi04.
[#] Natural parity states are expected to populate in ^{22}Ne(^{6}Li,d) reaction.
[@] From measured deuteron angular distribution and DWBA calculations in 1993Gi04.
[&] From 1993Gi04. For limiting space in spectroscopic field, only first value corresponding to first J$^{\pi}$ assignment (if applicable) listed, additional value in comments section.
[a] Three or more levels within uncertainty range in Adopted dataset − not referenced.