^{24}Mg(^{12}C,α),(^{12}C,^{12}C):fusion 2009Sc20,1984Me12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh	NDS 113, 1 (2012)	31-Dec-2011

2009Sc20: (12C,12C) E(c.m.)=10.67-16 MeV; analyzed angular distributions and excitation functions, deduced resonances, resonance parameters, hyperdeformed structures, elongated shape isomers and moments of inertia using shell model, cluster configurations, S-matrix analysis. Also 2009Cs02 about theory of elongated shape isomers.

1984Me12: E(c.m.)=14.20 MeV, angular distribution of three α groups point out to apparent resonant structure. Determined its J^{π} by Regge-pole and phase shift analysis.

Others: 1982Ga09 (^{24}Mg(^{12}C,α), E(c.m.)=23.83-29.83 MeV; ^{12}C(^{24}Mg,α), E(c.m.)=16.37-22.70 MeV, measured total fusion cross sections); 1981Me10 (^{24}Mg(^{12}C,^{12}C) and ^{24}Mg(^{12}C,^{12}C′), E(c.m.)=12-27 MeV, measured $\sigma(\theta,E)$; ^{12}C(^{24}Mg,^{12}C), E=70.8 MeV, measured σ(E(^{12}C))).

2011Da09: discussion of cluster, SD and hyperdeformed shapes.

^{36}Ar Levels

E(level)[†]	J^{π}[†]	Comments
27148[‡]	2^+	E_R(c.m.)=10.85 MeV (2009Sc20, (^{12}C,^{12}C)).
27718[‡]	4^+	E_R(c.m.)=11.42 MeV (2009Sc20, (^{12}C,^{12}C)).
29508[‡]	6^+	E_R(c.m.)=13.21 MeV (2009Sc20, (^{12}C,^{12}C)).
30510[#]	8^+[#]	E_R(c.m.)=14.20 MeV (1984Me12, (^{12}C,α)).
31694[‡]	7^-	E_R(c.m.)=15.40 MeV (2009Sc20, (^{12}C,^{12}C)).
32478[‡]	8^+	E_R(c.m.)=16.18 MeV (2009Sc20, (^{12}C,^{12}C)).
34770	13^-	E_R(c.m.)=18.47 MeV (2009Sc20, (^{12}C,^{12}C)).
37100	15^-	E_R(c.m.)=20.80 MeV (2009Sc20, (^{12}C,^{12}C)).
39500	16^+	E_R(c.m.)=23.20 MeV (2009Sc20, (^{12}C,^{12}C)).

[†] From 2009Sc20, except when noted otherwise.
[‡] Possible member of a hyperdeformed structure (2009Sc20).
[#] From 1984Me12.