^{13}C(^{9}Be,^{9}Be),(^{9}Be,^{9}Be′)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu and J. E. Purcell	NDS 198,1 (2024)	1-Aug-2024

1990Ba16: ^{13}C(^{9}Be,^{9}Be),(^{9}Be,^{9}Be′) E=50.46 MeV; measured $\sigma(\theta)$ for $\theta_{c.m.}\approx10°$ to 170°. Deduced α-cluster spectroscopic strengths. DWBA analysis, α-cluster form factors.

Theory:
1998Gr21: ^{13}C(^{9}Be,^{9}Be) E=27 MeV; calculated $\sigma(\theta)$; deduced optical model parameters, nuclear compressibility constant.

^{13}C Levels

T: From DWBA analysis in (1990Ba16).

E(level)†	Jπ†	L_α=2 α-cluster spectroscopic strengths	Comments
0	1/2−	0.407	T=1/2 L_α=2 α-cluster spectroscopic strengths: From (1990Ba16). σ(7°−90°)=1777 mb *250* and σ(90°−170°)= 0.39 mb *12*.
3680	3/2−	0.0214	T=1/2 L_α=2 α-cluster spectroscopic strengths: From (1990Ba16); see also 0.235 for L_α=0 (1990Ba16). σ(10°−90°)=6.5 mb *98* and σ(90°−170°)= 0.38 mb *11*.
7550	5/2−	0.0014	T=1/2 L_α=2 α-cluster spectroscopic strengths: From (1990Ba16); see also 0.212 for L_α=4 (1990Ba16). σ(10°−92°)=4.93 mb *74* and σ(92°−170°)= 0.31 mb *12*.

† From DWBA analysis in (1990Ba16).