$^{12}\text{C}(^{12}\text{Be},^{12}\text{B}),^{1}\text{H}(^{12}\text{Be},^{12}\text{B})$ **2008Ch28**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu	NP A968, 71 (2017)	1-Jan-2017

2008Ch28: XUNDL dataset compiled by S. Geraedts and B. Singh, 2008.

The authors studied particle-unbound excited states by measuring the full breakup particle kinematics and using resonance decay spectroscopy techniques to analyze the data.

A ^{12}Be beam, produced via $^{9}\text{Be}(^{18}\text{O},^{12}\text{Be})$ reactions at the NSCL/A1900 separator, impinged on polyethylene and ^{12}C targets that were placed at the A1900 target position. Charged particles emitted from the reactions were momentum analyzed using the HiRA array of 16 E-ΔE Si-CsI(Tl) telescopes. Resonance energies were reconstructed using resonance decay spectroscopy techniques.

^{12}B Levels

E(level)	J^{π}	Γ (keV)	Comments
12.74×10^{3} † 5	0^+	≤40 keV	T=2
			E(level): Determined from $\alpha + ^{8}\text{Li}$ correlations, σ=6.3 mb.
13.3×10^{3} ‡			E(level): Determined from $\alpha + ^{8}\text{Li}$ correlations.
14.82×10^{3} † 5	2^+	≤100 keV	T=2
			Decays by the emission of α, p and ^{3}H.
			E(level): Determined from $\alpha + ^{8}\text{Li}$ (σ=190 μb 57), p+^{11}Be (σ=0.52 mb 15) and $^{3}\text{H}+^{9}\text{Be}$ (σ=59 μb 17) correlations, σ=6.3 mb.

† Attributed to reactions on ^{1}H in the polyethylene target.
‡ Attributed to reactions on ^{12}C.