^{2}H(^{11}Be,pγ) 2010Ka03,2013Jo06

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

2010Ka03: ^{2}H(^{11}Be,P) E=5 MeV/nucleon, recoiling and product nucleus spectra, p(nucleus)-coin; deduced $\sigma(\theta)$, Q-value spectra, peak widths. ^{12}Be deduced energy levels, J, π, spectroscopic factors using DWBA analysis.
2010Ka24: ^{2}H(^{11}Be,^{12}Be) E=5 MeV/nucleon, measured E_p, $I_p(\theta)$, (particle)p-coin. Deduced $\sigma(\theta)$ to isolated states, spectroscopic factor. ^{12}Be deduced levels, J, π.
2013Jo06: ^{2}H(^{11}Be,^{12}Be) E=2.8 MeV/nucleon. Measured E_p, I_p,E_γ, Iγ; deduced levels, γ-branching ratio, J, π, S.

^{12}Be Levels

E(level)	J$^\pi$	T$_{1/2}$	S	Comments
0	0$^+$		0.15 *5*	S=0.15 *+3−5* (2013Jo06). s-wave spectroscopic factor=0.28 *+3−7* (2010Ka03).
2103	2$^+$		0.075 *25*	E(level): From E_γ in text; proton kinematics give E=2061 keV *202*. s-wave spectroscopic factor=0.10 *+9−7* (2010Ka03).
2247	0$^+$	247 ns *15*	0.40 *13*	S=0.40 *+13−9* (2013Jo06). E(level): From addition of ^{12}Be*(2$^+$)=2103 (in text) with E_γ=143.5 keV. T$_{1/2}$: From time-difference spectrum for the 511-keV annihilation radiation (2013Jo06). s-wave spectroscopic factor=0.73 *+27−40* (2010Ka03). This state may have a halo character.
2722	1$^-$		(0.27) *15*	E(level): From E_γ in text; proton kinematics give E=2658 keV *192*. S: $\sigma(\theta)$ distribution does not match well with DWBA. s-wave spectroscopic factor ≈0.35 (2010Ka03).

γ(^{12}Be)

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.	I$_{(\gamma+ce)}$	Comments
2103	2$^+$	2103	100	0	0$^+$			
2247	0$^+$	143.5 *27*	12.7 *35*	2103	2$^+$	E2		
		2246		0	0$^+$	E0	87.3 *35*	I$_\gamma$: From annihilation radiation observed at 509.6 keV *25* from the e^+e^- pair formation due to 2246, E0 transition.
2722	1$^-$	2722	100	0	0$^+$			

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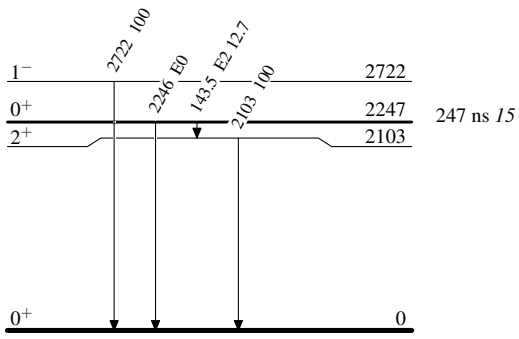
Level Scheme

Intensities: % photon branching from each level



$^{12}_{4}Be_{8}$