D6 Discussion on the ^{7}Li(n, α t)n Reaction

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D7 Experimental Evidence for (n, α) Knock-out Reactions on Nuclei in Mass Number Region A = 100

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D8 On the Widths of Some ^{9}Be and ^{6}Li Energy Levels

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The reactions ^{7}Li(^{3}He, p)^{9}Be and ^{7}Li(^{3}He, ^{4}He)^{6}Li have been used[1–5] to obtain the widths of a number of low-lying energy levels in ^{9}Be and ^{6}Li. Some of these widths have also been investigated[3] by means of ^{9}Be(γ, n)^{8}Be and ^{4}He(d, d)^{4}He. Table I, columns 2, 3 and 4 show the level widths obtained in the papers referred to above,

^{9}Be energy levels (MeV)	LEVEL WIDTH (KeV)				Expl. peak width (KeV, LS)
	ref. 1	ref. 2	ref. 3	this work (CMS)	
1.67			200± 20	122±12	106±11
2.43	⩽35	<8	1.0±0.2	⩽2	76±3
3.03	274±15	289± 22	265±17	145± 38	156±35
4.70	600⩽Γ⩽1000	743± 55	730±150	364±58	338±52
6.66	1700⩽Γ⩽2200		1300±120	455±72	412± 70
^{6}Li energy levels (MeV)					
2.18	⩽100	⩽40	⩽30 (35±5)	⩽40	121±17
3.56	⩽100	⩽40	⩽30	⩽40	121±17

The present data on the widths of the same levels in ^{9}Be and ^{6}Li in some cases differ considerably from those given by other authors.

This experiment was carried out with a (1100 ± 2) keV ^{3}He beam bombarding a 50 μg/cm^2 LiF target (evaporated on Ni foil). The emerging particles were detected at $\theta_{lab} = 110°$ with a 2 mm thick Si counter with a 1.8 mg/cm^2 Al foil placed in front of it.