^{170}Er(t,p) 1980Sh14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	08-Dec-2015

1980Sh14: E=15 MeV. 96.9% enriched target. Split-pole magnetic spectrograph, emulsions, FWHM≈17 keV. Measured $\sigma(\theta)$, θ=7.5°−67.5° in 7.5° steps. DWBA calculations.
Q value=4034 *4*.

^{172}Er Levels

E(level)†	Jπ	L&	dσ/dΩb	E(level)†	L&	dσ/dΩb	E(level)†	dσ/dΩb
0.0		0	238	1820 *3*		3.9	2474 *3*	12
76 *3*	(2+)@		25	1843e *3*		11	2502 *3*	9.0
254 *3*	(4+)@		15c	1906 *3*		4.9	2545 *3*	8.4
960e *3*			27c	1926 *3*		5.2	2635 *3*	4.9
1030# *3*			1.5c	1950 *3*		2.5	2657e *3*	4.3
1127e *3*			6.3	1983 *3*		13	2679 *3*	4.6
1280 *3*			7.8	2004 *3*		11	2697e *3*	9.9
1322 *3*		0a	13	2234 *3*		13	2741 *3*	10
1390 *3*			5.9	2253 *3*		4.1	2768‡ *3*	5.3
1470 *3*		0a	15	2286 *3*		5.0	2789 *3*	9.0
1495‡ *3*			13	2308 *3*		4.6	2807 *3*	10
1713e *3*			14	2382 *3*		9.1	2827# *3*	9.9d
1729 *3*			4.8	2403 *3*	0a	22	2856e *3*	39

† Each level was observed at five or more angles, except where indicated.
‡ Observed at three angles.
# Observed at four angles.
@ Member of g.s. rotational band based on excitation energy. 1980Sh14 point out that $\sigma(\theta)$ shape for this group is similar to that for corresponding level in other nuclides.
& From comparison of $\sigma(\theta)$ with DWBA calculations.
a The total strength of the three excited 0^+ states is ≈22% of the ground-state value.
b Cross section at θ(lab)=30° in μb/sr, overall uncertainty is 20%.
c Cross section at θ(c.m.)=15.1°.
d Cross section at θ(c.m.)=37.8°.
e $\sigma(\theta)$ given by 1980Sh14 but no L value is deduced, except that the $\sigma(\theta)$ shape is not consistent with L=0.