

$^{138}\text{Ba}(\text{p,t}),(\text{pol p,t})$ 1980Ku10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 152, 331 (2018)	1-Apr-2018

1980Ku10: E(p)=52 MeV. Measured $\sigma(\theta)$ for $\theta=6^\circ-60^\circ$ in 2.5° steps using broad-range magnetic spectrometer with a proportional counter at its focal plane; DWBA analysis. See 1980Ku10 for a discussion of configurations and enhancement factors.

1987Na20: Measured analyzing power for first 2^+ state.

1982Na06: Search for deep to-hole levels. Triton energy spectrum was roughly flat and no "bumps" corresponding to deep two-hole levels were observed above 6.2-MeV excitation energy.

1985Ya02: (pol p,t) and search for anomaly in analyzing powers. No anomaly in $A(\theta)$ was observed and 1985Ya02 concluded that two-step (p,d)(d,t) process is as strong as one-step process. Other: 1982Ao01.

See 1985Mi06 for systematic study of g.s. $L=0$ transition strengths and comparison to IBA and DWBA.

See 1982NaZL for systematic study of $\sigma(\theta)$ and $A(\theta)$ to the first 2^+ level of vibrational nuclei and comparison to calculations.

 ^{136}Ba Levels

<u>E(level)[†]</u>	<u>L[‡]</u>	<u>E(level)[†]</u>	<u>L[‡]</u>	<u>E(level)[†]</u>	<u>L[‡]</u>	<u>E(level)[†]</u>
0	0	2031 10	7	2838 10		3703 10
819 10	2	2139 10	5	3019 10	4 [@]	4075 10
1551 10	2	2562 10		3262 10		
1866 10	4 [#]	2646 10		3501 10	(4) [@]	

[†] 1980Ku10 state uncertainties are less than 10 keV.

[‡] From DWBA, except as noted. 1980Ku10 assume the two neutrons transferred are in a relative S-state. This assumption seems to be valid when compared to adopted J^π based on other arguments.

[#] DWBA prediction does not agree well with $\sigma(\theta)$ of the first 4^+ levels of $^{132,134,136}\text{Ba}$. Level very weakly excited in ^{132}Ba but strongly excited in ^{136}Ba .

[@] From similarity of $\sigma(\theta)$ to that of the first 4^+ transitions in $^{132,134,136}\text{Ba}$.