

$^{135}\text{Ba}(^3\text{He,d},(\alpha,t)$ [1977KhZZ](#)

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

Target $J^\pi=3/2^+$.

$E(^3\text{He})=24$ MeV; $E(\alpha)=27$ MeV. Measured $\sigma(E(t),\theta=35^\circ,50^\circ)$ (FWHM=12 keV) and $\sigma(E(d),\theta)$ for 2.5° or 5° steps (FWHM=15-18 keV) using magnetic spectrograph and nuclear emulsions.

[1977KhZZ](#) state that more than 60 levels were identified up to 1800 keV in one or both of the reactions; however, only ≈ 40 were indicated in figure 3.24.

 ^{136}La Levels

| <u>E(level)[†]</u> | <u>J^π[‡]</u> | <u>L[#]</u> | <u>E(level)[†]</u> | <u>E(level)[†]</u> | <u>E(level)[†]</u> |
|-----------------------------|---------------------------------------|----------------------|-----------------------------|-----------------------------|-----------------------------|
| 0 | 1 ⁺ | 2 | 342 | 716 | 1076 |
| 22 | 2 ⁺ | 2 | 403 | 726 | 1114 |
| 45 | 3 ⁺ | 2 | 418 | 754 | 1155 |
| 140 | (3,4) ⁺ @ | 4 | 436 | 798 | 1180 |
| 159 | (5) ⁺ | 4 | 484 | 829 | 1211 |
| 173 | | 4 | 543 | 840 | 1247 |
| 241 | | | 594 | 972 | 1257 |
| 257 | 4 ⁺ | 2 | 617 | 999 | |
| 304 | | 4 | 629 | 1006 | |
| 333 | | | 704 | 1028 | |

[†] From (α,t) at $\theta=50^\circ$. Values are only available as peak labels in Fig. 3.24.

[‡] Tentatively assigned on basis of spectroscopic strengths.

[#] From $\sigma(^3\text{He,d})/\sigma(\alpha,t)$. A number of these assignments were confirmed by the $(^3\text{He,d})$ angular distributions.

@ From discussion of this level reported in [1980SuZY](#).