^{139}La(d,^{3}He) 1971Jo16

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 146, 1 (2017)	30-Sep-2017

$J^{\pi}(^{139}\text{La g.s.})=7/2^{+}$.

1971Jo16: E=28.9 MeV deuteron beam was produced the University of Michigan 83-inch sector-focused cyclotron. Target was ^{139}La metal (99.91%). Reaction products were momentum-analyzed with a magnetic spectrograph (FWHM=30-50 keV) and detected with nuclear emulsions and position-sensitive particle detectors. Measured σ(E,θ). Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis. Comparisons with shell-model calculations.

^{138}Ba Levels

Spectroscopic factors S is defined by dσ/dΩ(exp.)=2.95×S×dσ/dΩ(DWBA) in 1971Jo16.

E(level)[†]	L[@]	S[#@]
0.0	4	0.42
1430	4	0.72
1890	4	1.64
2090	4+2	1.49+0.08
2210	4+2	0.77+0.26
2310	4+2	0.39+0.13
2440[‡]	2	<0.45
2470[‡]	2	<0.45

[†] From 1971Jo16, with uncertainties <25 keV.
[‡] The 2440 and 2470 levels appear as an unresolved doublet with L=2, S=0.45. They may correspond to 2415 and 2445 levels, respectively.
[#] Normalized to the ΣS=6.33 (1971Jo16).
[@] From DWBA fit to experimental differential cross sections (1971Jo16).