

$^{134}\text{Ba}(\text{n},\gamma)$ E=24.3 keV:arc 1993Ch21

Type	Author	History	Citation	Literature Cutoff Date
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 ^{135}Ba Levels

For $\sigma(\text{n},\gamma)$ at E=5-225 keV, see 1994Vo18 and consult ENDF database at www.nndc.bnl.gov.

E(level)	J^π [†]	E(level)	J^π [†]	E(level)	J^π [†]
0.0 [‡]	3/2 ⁺	910.25 [‡] 3	1/2 ⁺	1878.6 [‡] 8	(1/2,3/2)
221.05 [‡] 9	1/2 ⁺	980.21 17	3/2 ⁺ ,5/2 ⁺	1971.7 [‡] 8	(3/2,5/2)
268.2	11/2 ⁻	1165.2? 11		1997.5 [‡] 13	(1/2) ⁻
480.51 [‡] 5	5/2 ⁺	1213.64 [‡] 13	(3/2)	2077.65 [‡] 21	(1/2 ⁻ ,3/2 ⁻)
587.89 [‡] 5	3/2 ⁺	1225.8 [‡] 3	(3/2)	2117.8 [‡] 16	(1/2,3/2)
713.6 4	(7/2 ⁻)	1584.66 [‡] 11	(3/2) ⁻	2150.8 [‡] 8	(1/2,3/2)
854.91 [‡] 9	3/2 ⁺	1669.8 5	(3/2) ⁻	(S(n)+24.3 [#])	1/2,3/2 ⁻
874.44 6	7/2 ⁺	1830.7 [‡] 5	(1/2,3/2)		

[†] From 'Adopted Levels', except $J^\pi=1/2,3/2^-$ for s-, p-wave capture states.

[‡] Fed by primary γ from 1/2,3/2⁻ resonances.

[#] S(n)=6971.96 10 (2003Au03).

 $\gamma(^{135}\text{Ba})$

E_γ [†]	I_γ ^{‡@}	$E_i(\text{level})$	J^π_i	E_f	J^π_f
220.90 15	10.30 15	221.05	1/2 ⁺	0.0	3/2 ⁺
268.2		268.2	11/2 ⁻	0.0	3/2 ⁺
366.58 18	1.48 12	587.89	3/2 ⁺	221.05	1/2 ⁺
374.20 13	1.41 12	854.91	3/2 ⁺	480.51	5/2 ⁺
445.4 4	3.1 3	713.6	(7/2 ⁻)	268.2	11/2 ⁻
480.48 5	10.6 17	480.51	5/2 ⁺	0.0	3/2 ⁺
587.91 5	5.7 2	587.89	3/2 ⁺	0.0	3/2 ⁺
633.86 9	3.1 5	854.91	3/2 ⁺	221.05	1/2 ⁺
690.5 6	1.5 2	910.25	1/2 ⁺	221.05	1/2 ⁺
^x 720.74 10	0.8 2				
855.19 15	1.26 12	854.91	3/2 ⁺	0.0	3/2 ⁺
874.44 6	1.9 4	874.44	7/2 ⁺	0.0	3/2 ⁺
910.24 3	2.77 12	910.25	1/2 ⁺	0.0	3/2 ⁺
956.23 11	0.7 3	1669.8	(3/2 ⁻)	713.6	(7/2 ⁻)
980.21 17	2.9 2	980.21	3/2 ⁺ ,5/2 ⁺	0.0	3/2 ⁺
1213.63 13	2.0 4	1213.64	(3/2)	0.0	3/2 ⁺
1225.8 3	1.1 3	1225.8	(3/2)	0.0	3/2 ⁺
1363.62 6	2.9 7	1584.66	(3/2) ⁻	221.05	1/2 ⁺
1582 1	<1.1 [#]	1584.66	(3/2) ⁻	0.0	3/2 ⁺
1830.7 5	1.1 3	1830.7	(1/2,3/2)	0.0	3/2 ⁺
1856.6 2	1.4 3	2077.65	(1/2 ⁻ ,3/2 ⁻)	221.05	1/2 ⁺
^x 1874.4 3	1.2 4				
4822.5 7	2.0 6	(S(n)+24.3)	1/2,3/2 ⁻		
4855.5 15	0.3 2	(S(n)+24.3)	1/2,3/2 ⁻	2150.8	(1/2,3/2)
4894.6 6	1.1 3	(S(n)+24.3)	1/2,3/2 ⁻		
4975.8 12	1.6 8	(S(n)+24.3)	1/2,3/2 ⁻		

Continued on next page (footnotes at end of table)

$^{134}\text{Ba}(\text{n},\gamma) \text{ E}=24.3 \text{ keV:arc}$ **1993Ch21** (continued) $\gamma(^{135}\text{Ba})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^{\ddagger@}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
5001.6 7	0.9 2	(S(n)+24.3)	1/2,3/2 ⁻	1997.5	(1/2) ⁻
5094.7 7	0.6 4	(S(n)+24.3)	1/2,3/2 ⁻		
5143.2 12	0.5 3	(S(n)+24.3)	1/2,3/2 ⁻		
5388.8 5	0.8 2	(S(n)+24.3)	1/2,3/2 ⁻		
5747.1 9	0.3 2	(S(n)+24.3)	1/2,3/2 ⁻		
5762.2 12	1.2 2	(S(n)+24.3)	1/2,3/2 ⁻	1225.8	(3/2)
5808.1 & 10	≤0.3	(S(n)+24.3)	1/2,3/2 ⁻		
5993.0 8	≤1.7#	(S(n)+24.3)	1/2,3/2 ⁻		
6063.1 5	2.0 5	(S(n)+24.3)	1/2,3/2 ⁻		
6119.7 17	1.1 3	(S(n)+24.3)	1/2,3/2 ⁻	874.44	7/2 ⁺
6385.5 9	1.8 3	(S(n)+24.3)	1/2,3/2 ⁻		
6491.8 8	1.3 3	(S(n)+24.3)	1/2,3/2 ⁻		
6752.1 10	2.0 5	(S(n)+24.3)	1/2,3/2 ⁻		
6973.5 6	1.4 3	(S(n)+24.3)	1/2,3/2 ⁻		

[†] Weighted averages (**1993Ch21**) of the measurements at thermal, 102 eV, 2.0 and 24.3 keV, after correction of primary γ -ray energies from the filtered-beam experiments by 2.0 and 24.3 keV.

[‡] Primary γ rays: $I_\gamma(\text{S(n)}/E_\gamma)^3$ per 100 n-captures. Secondary γ rays: I_γ per 100 n-captures.

Line contaminated.

@ Intensity per 100 neutron captures.

& Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Per 100 neutron captures

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$

