

(HI,xn γ) 1993Ac02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Y. A. Akovali	NDS 77,433 (1996)	1-Feb-1996

$^{226}\text{Ra}(d,pn\gamma)$ E=23, 28 MeV; E γ , I γ , Ice, ce γ and ce-ce coincidences were measured by 1993Ac02.

The level scheme is given as constructed by 1993Ac02 based on their coincidence data and on previously known levels.

The ratios of intrinsic electric dipole and quadrupole moments, D(0)/Q(0), were deduced by 1993Ac02 from the intensity ratio of

E1/E2 transitions deexciting the octupole band. No spin dependence was found for spins up to 11, and an average value of

D(0)/Q(0)= $2.14 \times 10^{-4} \text{ fm}^{-1}$ was extracted. 1993Ac02 infer that the octupole deformation does not vary much with spin for J>7.

 ^{226}Ra Levels

E(level)	J $^{\pi}$	E(level)	J $^{\pi}$	E(level)	J $^{\pi}$
0.0 [†]	0 ⁺	321.54 [‡] 6	3 ⁻	669.4 [†] 3	8 ⁺
67.67 [†] 1	2 ⁺	416.5 [†] 3	6 ⁺	857.6 [‡] 3	9 ⁻
211.54 [†] 2	4 ⁺	446.3 [‡] 2	5 ⁻	959.9 [†] 3	10 ⁺
253.73 [‡] 1	1 ⁻	626.7 [‡] 2	7 ⁻	1133.1 [‡] 3	11 ⁻
				1280.5 [†] 4	12 ⁺

[†] Band(A): 0⁺ g.s. band.

[‡] Band(B): 0⁻ octupole-vibrational band.

 $\gamma(^{226}\text{Ra})$

E(S),M(S) From ^{230}Th α and ^{226}Ac ε decays.

E _i (level)	J _i $^{\pi}$	E γ [†]	I γ [‡]	E _f	J _f $^{\pi}$	Mult.#
67.67	2 ⁺	67.67 20		0.0	0 ⁺	E2
211.54	4 ⁺	143.9 2		67.67	2 ⁺	E2
253.73	1 ⁻	(186.05 1)		67.67	2 ⁺	E1
		(253.73 1)		0.0	0 ⁺	E1
321.54	3 ⁻	67.81 20		253.73	1 ⁻	
		(110.00 5)		211.54	4 ⁺	[E1]
		(253.9 1)		67.67	2 ⁺	[E1]
416.5	6 ⁺	204.8 2		211.54	4 ⁺	[E2]
446.3	5 ⁻	124.8 2		321.54	3 ⁻	[E2]
		234.8 2	30 10	211.54	4 ⁺	[E1]
626.7	7 ⁻	180.4 2	1.0	446.3	5 ⁻	[E2]
		210.3 2	11.7 14	416.5	6 ⁺	[E1]
669.4	8 ⁺	252.8 2		416.5	6 ⁺	[E2]
857.6	9 ⁻	188.2 2	1.84 15	669.4	8 ⁺	[E1]
		231.0 2	1.0	626.7	7 ⁻	[E2]
959.9	10 ⁺	290.6 2		669.4	8 ⁺	[E2]
1133.1	11 ⁻	173.2 2	0.70 7	959.9	10 ⁺	[E1]
		275.5 2	1.0	857.6	9 ⁻	[E2]
1280.5	12 ⁺	320.6 2		959.9	10 ⁺	[E2]

[†] Some low-energy gammas which were not observed by 1993Ac02 are from the ^{230}Th α and ^{226}Ac ε decays, as indicated. All others are measurement of 1993Ac02.

[‡] Relative γ branching from levels, as given by 1993Ac02.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1993Ac02 (continued)

$\gamma(^{226}\text{Ra})$ (continued)

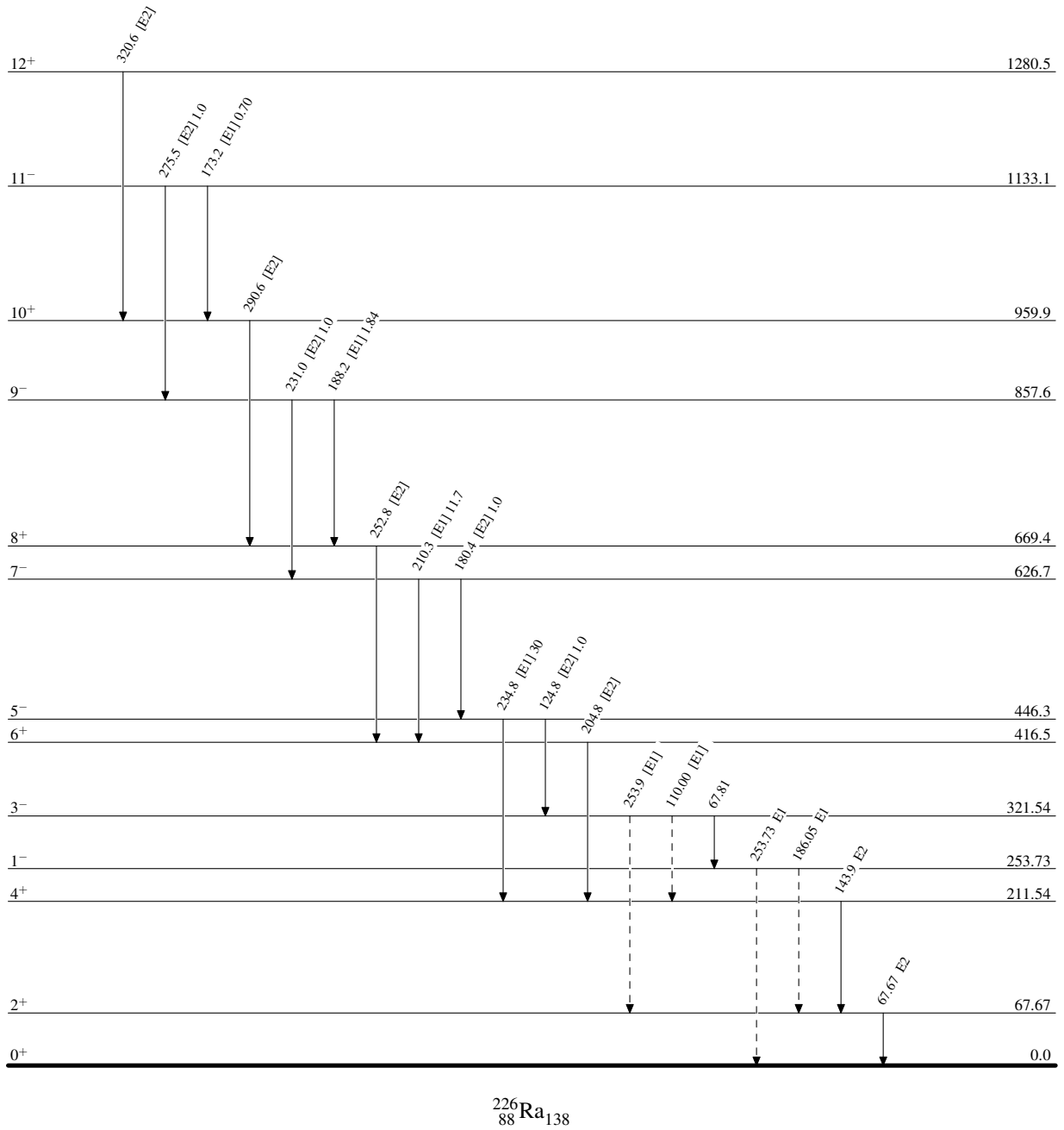
The ce data and the multipolarities deduced from their ce data were not given in [1993Ac02](#). All multipolarities, except those determined in ^{230}Th and ^{226}Ac decays, are given in square brackets.

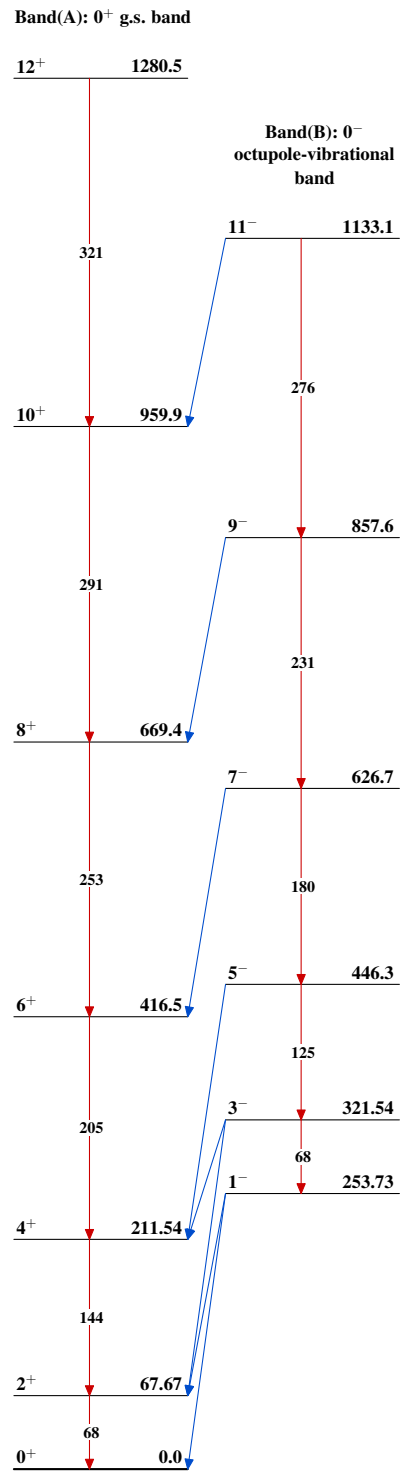
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Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

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