

^{140}Ba $Z = 56$ $N = 84$ adopted link ENSDF link

Based on ensdf_240402 (Apr 2024), and mass evaluation from 2020

BE = 1169.441 (0.008) MeV

Qbeta- = 1.044 (0.008) MeV

	Energy T	J+		J-		J-other	T1/2

S-alpha=	-0.736	(0.008)	-----				

140BA 1	0.000	0+					1 12.751 D 4
140BA 2	0.602	2+					2 7.2 PS +15-6
140BA 3	1.131	4+					3
140BA 4	1.511	2+					4
140BA 5	1.660	6+					5
140BA 6				1.803	3-		6
140BA 7	1.824	0+					7
140BA 8	1.952	3+					8
140BA 9	1.994	2+					9
140BA 10						2.061	10

140BA 11	2.138	3(+)					11
140BA 12				2.152	(5-)		12
140BA 13						2.204 2+,3	13
140BA 14	2.237	2+					14
140BA 15						2.310 2+,1	15
140BA 16				2.321	(3-)		16
140BA 17						2.430 1,2+	17
140BA 18	2.468	(8+)					18
140BA 19						2.522 1,2(+)	19
140BA 20						2.620	20

140BA 21						2.664	21
140BA 22						2.692 2	22
140BA 23				2.704	1-		23
140BA 24				2.723	(7-)		24
140BA 25						2.782 2(+),3+	25
140BA 26						2.788 1(-),2(+)	26
140BA 27						2.800	27
140BA 28	2.871	2+					28
140BA 29						2.874 1(+),2(+)	29
140BA 30				2.933	2-		30

140BA 31						2.974	31
140BA 32						3.098 1(+),2(+)	32
140BA 33				3.297	(9-)		33
140BA 34	3.384	(10+)					34
140BA 35						3.451 1(-),2(+)	35

140BA 36				3.521	1(+),2	36
140BA 37				3.527	(1+,2+)	37
140BA 38				3.602	1(-),2(+)	38
140BA 39				3.656	2	39
140BA 40				3.770	(11-)	40

140BA 41				3.845		41
140BA 42				3.851	1	42
140BA 43				3.944	1	43
140BA 44				3.973	2	44
140BA 45				4.033	1,2	45
140BA 46				4.037	2	46
140BA 47				4.080	1(-),2	47
140BA 48		4.103	(12+)			48
140BA 49				4.275	1,2	49
140BA 50				4.358	2	50

140BA 51				4.388	1(-),2	51
140BA 52				4.396		52
140BA 53				4.416	1,2(+)	53
140BA 54				4.500	1(+),2(+)	54
140BA 55				4.531	(13-)	55
140BA 56				4.659	(13-)	56
140BA 57					4.801 2	57
140BA 58				4.858	(14-)	58
140BA 59					4.982 0(+),1,2(59
140BA 60				5.076	(15-)	60

140BA 61				5.110	1-,2-	61
140BA 62				5.174	1-,2-	62
140BA 63				5.183	2-	63
140BA 64					5.310 1-,2-	64
140BA 65				5.389	1-	65
140BA 66				5.426	(16-)	66
140BA 67				5.588	2-	67
140BA 68					5.611 1-,2-	68
140BA 69				5.651	2-	69
140BA 70				5.765	2-	70

S-p = 9.856 (0.008) -----
S-n = 6.425 (0.008) -----
S-2p = 17.874 (0.008) -----
S-2n = 11.149 (0.008) -----
S-alpha= -0.736 (0.008) -----

S+p = -6.951 (0.009)
S+n = -4.536 (0.010)
S+2p = -15.843 (0.008)
S+2n = -10.717 (0.010)

S+alpha = 0.411 (0.008)

gap p = 2.905 (0.012)

gap n = 1.889 (0.012)

gap 2p = 2.031 (0.012)

gap 2n = 0.432 (0.013)

gap alpha = -0.325 (0.012)