

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

Based on ENSDF from Oct 2022, 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(+)
140BA 12				2.152	(5-)
140BA 13				2.204	2+,3
140BA 14	2.237	2+			14
140BA 15				2.310	2+,1
140BA 16				2.321	(3-)
140BA 17				2.430	1,2+
140BA 18				2.468	(8+)
140BA 19				2.522	1,2(+)
140BA 20				2.620	

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

140BA 31				2.974	
140BA 32				3.098	1(+),2(+)
140BA 33				3.297	(9-)
140BA 34				3.384	(10+)
140BA 35				3.451	1(-),2(+)
140BA 36				3.521	1(+),2

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)