

^{227}Th $Z = 90$ $N = 137$ adopted link ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 1735.973 (0.002) MeV

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

S-alpha=	-6.146	(0.003)	-----		
227TH 1			0.000	(1/2+)	1 18.697 D 7
227TH 2			0.009	(5/2+)	2
227TH 3			0.024	(3/2+)	3
227TH 4			0.038	(3/2-)	4
227TH 5			0.074	(7/2-)	5
227TH 6			0.076	(9/2+)	6
227TH 7			0.078	(3/2+)	7
227TH 8			0.087		8
227TH 9			0.099	(3/2+,5/2+)	9
227TH 10			0.127	(3/2+,5/2+)	10

227TH 11			0.150	(5/2-)	11
227TH 12			0.182	(13/2+)	12
227TH 13			0.184	(1/2-,3/2-,5/2-	13)
227TH 14			0.200	(-)	14
227TH 15			0.204	(7/2+)	15
227TH 16			0.207	(1/2-,3/2-,5/2-	16)
227TH 17			0.229	(3/2-,5/2-)	17
227TH 18			0.231	(5/2-,7/2-,9/2-	18)
227TH 19			0.269	(9/2-)	19
227TH 20			0.289	(1/2+,3/2+,5/2+	20)

227TH 21			0.319	(5/2+,7/2+)	21
227TH 22			0.344	(17/2+)	22
227TH 23			0.373	(15/2-)	23
227TH 24			0.383	(11/2+)	24
227TH 25			0.400		25
227TH 26			0.438	(13/2-)	26
227TH 27			0.448		27
227TH 28			0.503		28
227TH 29			0.547		29
227TH 30			0.554	(19/2-)	30

227TH 31			0.560	(21/2+)	31
227TH 32			0.608	(15/2+)	32
227TH 33			0.617		33
227TH 34			0.662	(17/2-)	34
227TH 35			0.689		35
227TH 36			0.698		36
227TH 37			0.778	(23/2-)	37

227TH 38				0.824	(25/2+)	38
227TH 39				0.870		39
227TH 40				0.873	(19/2+)	40

227TH 41				0.937	(21/2-)	41
227TH 42				1.047	(27/2-)	42
227TH 43				1.124		43
227TH 44				1.130	(29/2+)	44
227TH 45				1.168		45
227TH 46				1.177	(23/2+)	46
227TH 47				1.258	(25/2-)	47
227TH 48				1.358	(31/2-)	48
227TH 49				1.438		49
227TH 50				1.472	(33/2+)	50

227TH 51				1.502		51
227TH 52				1.516	(27/2+)	52
227TH 53				1.619	(29/2-)	53
227TH 54				1.709	(35/2-)	54
227TH 55				1.782		55
227TH 56				1.846	(37/2+)	56
227TH 57				1.867		57
227TH 58				1.887	(31/2+)	58
227TH 59				2.013	(33/2-)	59
227TH 60				2.095	(39/2-)	60

227TH 61				2.243	(41/2+)	61
227TH 62				2.289	(35/2+)	62
227TH 63				2.437	(37/2-)	63
227TH 64				2.655	(45/2+)	64
227TH 65				0.000	(1/2+)	65

S-p = 5.793 (0.004)-----
S-n = 5.464 (0.005)-----
S-2p = 10.766 (0.003)-----
S-2n = 12.648 (0.005)-----
S-alpha= -6.146 (0.003)-----

S+p = -4.170 (0.005)
S+n = -7.105 (0.003)
S+2p = -9.172 (0.006)
S+2n = -12.362 (0.003)
S+alpha = 5.576 (0.003)

gap p = 1.623 (0.006)
gap n = -1.641 (0.006)
gap 2p = 1.594 (0.007)
gap 2n = 0.286 (0.006)
gap alpha = -0.570 (0.005)