

^{229}Th $Z = 90$ $N = 139$ adopted link ENSDF link

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

BE = 1748.335 (0.002) MeV

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

S-alpha=	-5.168 (0.004)	-----			
229TH 1	0.000	5/2+			1 7880 Y 120
229TH 2				0.000 (3/2+)	2
229TH 3				0.029 (5/2+)	3
229TH 4	0.042	7/2+			4 0.172 NS 6
229TH 5				0.072 (7/2+)	5
229TH 6	0.097	9/2+			6 0.147 NS 12
229TH 7				0.125 (9/2+)	7
229TH 8				0.146 (5/2-)	8
229TH 9				0.148 (7/2-)	9
229TH 10	0.163	11/2+			10

229TH 11				0.165 (3/2-)	11
229TH 12				0.173 (9/2-)	12
229TH 13				0.190	13
229TH 14				0.196 (11/2+)	14
229TH 15			0.202 11/2-		15
229TH 16				0.212 (5/2+)	16
229TH 17				0.217 (5/2-)	17
229TH 18				0.235 (5/2-,7/2-)	18
229TH 19				0.237 (7/2-)	19
229TH 20	0.242	13/2+			20

229TH 21				0.256 (3/2+,5/2+,7/2+)	21
229TH 22				0.262 (1/2+)	22
229TH 23				0.273 (13/2+)	23
229TH 24				0.275 (15/2-)	24
229TH 25				0.288 (7/2-)	25
229TH 26				0.288 (3/2+)	26
229TH 27				0.303 (7/2+)	27
229TH 28				0.317 (5/2+)	28
229TH 29				0.321 (5/2+)	29
229TH 30				0.328 (15/2+)	30

229TH 31				0.348 (5/2+)	31
229TH 32				0.360 (7/2+)	32
229TH 33	0.366	7/2+			33
229TH 34				0.375 (7/2+)	34
229TH 35				0.383 (7/2-,9/2,11/2+)	35
229TH 36				0.426 (9/2+)	36
229TH 37				0.428 (5/2+)	37

229TH 38				0.437	(7/2-)	38
229TH 39				0.449	5/2+,7/2+	39
229TH 40		0.450	1/2+			40

229TH 41				0.465	(5/2-,7/2,9/2+)	41
229TH 42				0.479	5/2-,7/2-	42
229TH 43				0.479	(7/2+,9/2+)	43 16 PS LE
229TH 44				0.513	(5/2+,7/2,9/2+)	44
229TH 45				0.527	(5/2,7/2)-	45
229TH 46				0.536	(1/2-)	46
229TH 47				0.569	3/2+,5/2+	47
229TH 48				0.571	(3/2-)	48
229TH 49				0.576		49
229TH 50				0.585	(5/2+,7/2,9/2+)	50

229TH 51				0.605	5/2+,7/2+	51
229TH 52				0.621	(5/2+,7/2)	52
229TH 53				0.637	(5/2+,7/2,9/2+)	53
229TH 54				0.654		54
229TH 55				0.657	(5/2+,7/2,9/2+)	55
229TH 56				0.662		56
229TH 57				0.665	(1/2,3/2)-	57
229TH 58				0.689		58
229TH 59				0.715		59
229TH 60				0.743		60

229TH 61				0.750	(5/2+,7/2,9/2+)	61
229TH 62				0.779		62
229TH 63				0.815	(3/2-)	63
229TH 64				0.825		64
229TH 65				0.843	(5/2-)	65
229TH 66				0.895		66
229TH 67				0.929		67
229TH 68				0.973		68
229TH 69				0.983		69
229TH 70				1.019		70

229TH 71				1.052		71
229TH 72				1.062		72
229TH 73				1.094		73
229TH 74				1.104		74
229TH 75				1.121		75
229TH 76				1.135		76
229TH 77				1.193		77
229TH 78				1.207		78
229TH 79				1.242		79
229TH 80				1.266		80

229TH 81				1.303		81
229TH 82				1.336		82

229TH	83				1.383	83
229TH	84				1.407	84
229TH	85				1.464	85
229TH	86				1.501	86
229TH	87				1.513	87
229TH	88				1.538	88
229TH	89				1.576	89
229TH	90				1.628	90

S-p = 6.598 (0.003)-----

S-n = 5.257 (0.003)-----

S-2p = 12.170 (0.003)-----

S-2n = 12.362 (0.003)-----

S-alpha= -5.168 (0.004)-----

S+p = -4.701 (0.004)

S+n = -6.795 (0.003)

S+2p = -10.358 (0.004)

S+2n = -11.912 (0.003)

S+alpha = 4.908 (0.003)

gap p = 1.897 (0.005)

gap n = -1.538 (0.004)

gap 2p = 1.812 (0.005)

gap 2n = 0.449 (0.004)

gap alpha = -0.259 (0.005)