

^{220}Th $Z = 90$ $N = 130$ adopted link ENSDF link

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

BE = 1690.589 (0.014) MeV

Qbeta+ = 0.946 (0.015) MeV

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

S-alpha=	-8.973	(0.016)	-----			
220TH 1	0.000	0+			1 9.7 US 6	
220TH 2	0.387	2+			2	
220TH 3	0.760	4+			3	
220TH 4			0.994	5-	4	
220TH 5	1.166	6+			5	
220TH 6			1.329	7-	6	
220TH 7	1.598	8+			7	
220TH 8			1.719	9-	8	
220TH 9	1.934	8+			9	
220TH 10	2.013	10+			10	

220TH 11				2.102	10(+)	11
220TH 12			2.159	11-		12
220TH 13				2.345	10	13
220TH 14			2.434	12-		14
220TH 15	2.442	12+				15
220TH 16				2.461	11	16
220TH 17			2.555	13-		17
220TH 18			2.686	13-		18
220TH 19				2.710	(12)	19
220TH 20	2.885	14+				20

220TH 21				2.900	(14+)	21
220TH 22				2.958		22
220TH 23			3.005	15-		23
220TH 24			3.027	14-		24
220TH 25			3.203	15-		25
220TH 26				3.317	(15)	26
220TH 27	3.376	16+				27
220TH 28			3.467	17-		28
220TH 29				3.481		29
220TH 30				3.559	(16-)	30

220TH 31				3.681	17(-)	31
220TH 32	3.867	18+				32
220TH 33			3.954	19-		33
S-p =	4.169	(0.053)	-----			
220TH 34				4.226	20	34
220TH 35	4.320	20+				35

220TH	36				4.433	21-				36
220TH	37				4.520	21-				37
220TH	38							4.716	(22+)	38
220TH	39							4.892	(23-)	39

S-p = 4.169 (0.053)-----
 S-n = 7.845 (0.058)-----
 S-2p = 6.534 (0.017)-----
 S-2n = 13.820 (0.017)-----
 S-alpha= -8.973 (0.016)-----

S+p = -1.604 (0.061)
 S+n = -5.821 (0.016)
 S+2p = -4.995 (0.054)
 S+2n = -13.629 (0.017)
 S+alpha = 8.628 (0.020)

gap p = 2.565 (0.081)
 gap n = 2.024 (0.060)
 gap 2p = 1.539 (0.056)
 gap 2n = 0.191 (0.024)
 gap alpha = -0.345 (0.026)