

^{229}Pa $Z = 91$ $N = 138$ adopted link ENSDF link

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

BE = 1747.241 (0.003) MeV

Qbeta+ = 0.311 (0.004) MeV

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

S-alpha=	-5.835	(0.006)	-----		
229PA 1				0.000 (5/2+)	1 1.50 D 5
229PA 2				0.011 (7/2+)	2
229PA 3			0.012 3/2-		3
229PA 4			0.027 1/2-		4
229PA 5				0.059 (9/2+)	5
229PA 6			0.068 7/2-		6
229PA 7				0.095 (11/2+)	7
229PA 8			0.099 5/2-		8
229PA 9				0.134 (5/2-)	9
229PA 10			0.178 11/2-		10

229PA 11			0.220 9/2-		11
229PA 12				0.222 (3/2+)	12
229PA 13	0.252	1/2+			13
229PA 14				0.253 (7/2+)	14
229PA 15	0.284	5/2+			15
229PA 16	0.303	3/2+			16
229PA 17			0.338 15/2-		17
229PA 18	0.377	9/2+			18
229PA 19			0.386 13/2-		19
229PA 20	0.392	7/2+			20

229PA 21				0.470 (1/2,3/2,5/2)	21
229PA 22	0.521	11/2+			22
229PA 23	0.522	13/2+			23
229PA 24			0.545 19/2-		24
229PA 25			0.594 17/2-		25
229PA 26	0.689	15/2+			26
229PA 27	0.712	17/2+			27
229PA 28				0.714 (3/2-)	28
229PA 29				0.739 (1/2-)	29
229PA 30				0.767 (7/2-)	30

229PA 31				0.788	31
229PA 32				0.795 (23/2-)	32
229PA 33				0.812 (5/2-)	33
229PA 34				0.841 (21/2-)	34
229PA 35			0.842 3/2-		35
229PA 36				0.858 (1/2-)	36

229PA 37				0.877	(7/2-)	37
229PA 38				0.903	(5/2-)	38
229PA 39				0.942	(11/2-)	39
229PA 40		0.978	3/2-			40

229PA 41		0.991	3/2-			41
229PA 42		1.006	3/2-			42
229PA 43				1.024		43
229PA 44				1.034		44
229PA 45				1.069		45
229PA 46				1.076		46
229PA 47				1.085		47
229PA 48				1.116	(3/2-)	48
229PA 49				1.133		49
229PA 50				1.146		50

229PA 51				1.161		51
229PA 52				1.173		52
229PA 53				1.186		53
229PA 54				1.196		54
229PA 55				1.211		55
229PA 56				1.220		56
229PA 57				1.241		57
229PA 58				1.264		58
229PA 59				1.298		59
229PA 60				1.314		60

229PA 61		1.371	3/2-			61
229PA 62		1.413	3/2-			62
229PA 63				1.439	(3/2-)	63
229PA 64				1.469	(3/2-)	64
229PA 65				1.491		65
229PA 66		1.522	3/2-			66
229PA 67		1.535	3/2-			67
229PA 68				1.552	(1/2-)	68
229PA 69				1.581	(7/2-)	69
229PA 70				1.604	(5/2-)	70

229PA 71				1.610	(1/2+)	71
229PA 72				1.628	(5/2+)	72
229PA 73				1.648	(3/2+)	73
229PA 74				1.665		74
229PA 75				1.678	(11/2-)	75
229PA 76				1.698	(9/2+)	76
229PA 77				1.720	(9/2-)	77
229PA 78				1.743		78
229PA 79				1.754		79
229PA 80				1.768		80

229PA 81				1.785		81

S-p = 4.163 (0.004)-----
S-n = 7.098 (0.005)-----
S-2p = 10.531 (0.004)-----
S-2n = 13.076 (0.008)-----
S-alpha= -5.835 (0.006)-----

S+p = -5.571 (0.006)
S+n = -5.795 (0.004)
S+2p = -8.851 (0.051)
S+2n = -12.615 (0.004)
S+alpha = 5.627 (0.051)

gap p = -1.408 (0.007)
gap n = 1.303 (0.007)
gap 2p = 1.679 (0.051)
gap 2n = 0.461 (0.009)
gap alpha = -0.208 (0.051)