

$^{239}\text{Pu}$        $Z = 94$        $N = 145$       adopted link      ENSDF link

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

BE      =      1806.916 ( 0.001) MeV

	Energy T	J+	J-	J-other	T1/2
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S-alpha=	-5.244	( 0.002)	-----		
239PU 1	0.000	1/2+			1 24110 Y 30
239PU 2	0.008	3/2+			2 36 PS 3
239PU 3	0.057	5/2+			3 101 PS 5
239PU 4	0.076	7/2+			4
239PU 5	0.164	9/2+			5 73 PS 4
239PU 6	0.193	11/2+			6
239PU 7	0.285	5/2+			7 1.12 NS 5
239PU 8	0.319	13/2+			8
239PU 9	0.330	7/2+			9
239PU 10	0.358	15/2+			10
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239PU 11	0.387	9/2+			11
239PU 12			0.392	7/2-	12 193 NS 4
239PU 13				0.434 (9/2-)	13
239PU 14				0.462 (11/2+)	14
239PU 15				0.470 (1/2-)	15
239PU 16				0.487 (11/2-)	16
239PU 17			0.492	3/2-	17
239PU 18				0.506 (5/2-)	18
239PU 19	0.512	7/2+			19
239PU 20	0.519	17/2+			20
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239PU 21				0.538	21
239PU 22				0.556 (7/2-)	22
239PU 23				0.565 (9/2+)	23
239PU 24	0.571	19/2+			24
239PU 25				0.583 (9/2-)	25
239PU 26				0.620 (15/2-)	26
239PU 27	0.634	11/2+			27
239PU 28				0.661 (11/2-)	28
239PU 29				0.699 (13/2-)	29
239PU 30				0.716	30
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239PU 31				0.752 1/2+,3/2	31
239PU 32				0.756	32
239PU 33				0.763	33
239PU 34				0.765 (21/2+)	34
239PU 35				0.779	35
239PU 36				0.798 1/2,3/2	36
239PU 37				0.805 1/2,3/2	37

239PU	38				0.807	(15/2-)	38
239PU	39				0.813		39
239PU	40				0.826	1/2,3/2	40
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239PU	41				0.828	(23/2+)	41
239PU	42				0.854		42
239PU	43				0.858	(17/2-)	43
239PU	44				0.888	1/2,3/2	44
239PU	45				0.900		45
239PU	46				0.915		46
239PU	47				0.933	1/2,3/2	47
239PU	48				0.948		48
239PU	49				0.990	(3/2-)	49
239PU	50				0.992	(19/2-)	50
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239PU	51				1.017	(1/2-)	51
239PU	52				1.027		52
239PU	53				1.038	(7/2-)	53
239PU	54				1.053	(25/2+)	54
239PU	55				1.058	(21/2-)	55
239PU	56				1.062		56
239PU	57				1.100	1/2,3/2	57
239PU	58				1.100	(5/2-)	58
239PU	59				1.128	(27/2+)	59
239PU	60				1.137	(11/2-)	60
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239PU	61				1.174		61
239PU	62				1.214	(1/2+)	62
239PU	63				1.220	(23/2-)	63
239PU	64				1.233	(3/2+)	64
239PU	65				1.233	(9/2-)	65
239PU	66				1.261	(5/2+)	66
239PU	67				1.261	(3/2+)	67
239PU	68				1.289	(5/2+)	68
239PU	69				1.301	(25/2-)	69
239PU	70				1.311	(7/2+)	70
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239PU	71				1.342	(7/2+)	71
239PU	72				1.359	(9/2+)	72
239PU	73				1.381	(29/2+)	73
239PU	74				1.390		74
239PU	75				1.409	(9/2+)	75
239PU	76				1.437		76
239PU	77				1.465		77
239PU	78				1.467	(31/2+)	78
239PU	79				1.488	(27/2-)	79
239PU	80				1.488		80
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239PU	81				1.585	(29/2-)	81
239PU	82				1.748	(33/2+)	82

239PU 83						1.796	(31/2-)		83
239PU 84		1.846	35/2+						84
239PU 85						1.909	(33/2-)		85
239PU 86						2.040	(1/2,3/2)		86
239PU 87						2.047	(1/2,3/2)		87
239PU 88						2.135	(1/2,3/2)		88
239PU 89						2.144	(1/2,3/2)		89
239PU 90						2.144	(35/2-)		90
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239PU 91						2.151	(1/2,3/2)		91
239PU 92						2.152	(37/2+)		92
239PU 93						2.262	(39/2+)		93
239PU 94						2.272	(37/2-)		94
239PU 95						2.289	(1/2,3/2)		95
239PU 96						2.432	(1/2,3/2)		96
239PU 97						2.454	(1/2,3/2)		97
239PU 98						2.461	(1/2,3/2)		98
239PU 99						2.465	(1/2,3/2)		99
239PU 100						2.471	(1/2,3/2)		100
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239PU 101						2.529	(39/2-)		101
239PU 102						2.589	(41/2+)		102
239PU 103						2.672	(41/2-)		103
239PU 104						2.713	(43/2+)		104
239PU 105						2.951	(43/2-)		105
239PU 106						3.060	(45/2+)		106
239PU 107						3.100	(5/2+)	7.5 US	10
239PU 108						3.108	(45/2-)		108
239PU 109						3.124	(7/2+)		109
239PU 110						3.156	(9/2+)		110
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239PU 111						3.196	(47/2+)		111
239PU 112						3.303	(9/2-)	2.6 NS	+40-12
239PU 113						3.407	(47/2-)		113
239PU 114						3.558	(49/2+)		114
239PU 115						3.578	(49/2-)		115
239PU 116						3.713	(51/2+)		116
239PU 117			3.895	51/2-					117
239PU 118						4.080	(53/2-)		118
239PU 119						4.087	(53/2+)		119
239PU 120						4.256	(55/2+)		120
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239PU 121			4.413	55/2-					121

S-p = 6.155 ( 0.002)-----  
S-n = 5.646 ( 0.002)-----  
S-2p = 11.380 ( 0.002)-----  
S-2n = 12.646 ( 0.002)-----  
S-alpha= -5.244 ( 0.002)-----

S+p = -4.367 ( 0.014)  
S+n = -6.534 ( 0.002)  
S+2p = -9.464 ( 0.002)  
S+2n = -11.776 ( 0.002)  
S+alpha = 6.169 ( 0.002)

gap p = 1.788 ( 0.014)  
gap n = -0.888 ( 0.002)  
gap 2p = 1.916 ( 0.003)  
gap 2n = 0.870 ( 0.003)  
gap alpha = 0.924 ( 0.002)