

$^{149}\text{Eu}$        $Z = 63$        $N = 86$       adopted link      ENSDF link

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

BE = 1229.780 ( 0.004) MeV

Qbeta+ = 0.695 ( 0.004) MeV

	Energy T	J+	J-	J-other	T1/2
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S-alpha=	-2.401	( 0.005)	-----		
149EU 1	0.000	5/2+			1 93.1 D 4
149EU 2	0.150	7/2+			2 0.32 NS 2
149EU 3	0.458	1/2+			3
149EU 4				0.460 (3/2,5/2)+	4
149EU 5			0.496 11/2-		5 2.45 US 5
149EU 6	0.534	7/2+			6
149EU 7	0.666	9/2+			7
149EU 8				0.692 (3/2,5/2,7/2)	8
149EU 9			0.749 7/2-		9
149EU 10	0.754	5/2+			10
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149EU 11	0.767	1/2+			11
149EU 12				0.777 (3/2 TO 9/2)	12
149EU 13			0.795 9/2-		13
149EU 14				0.799 (9/2+)	14
149EU 15	0.813	5/2+			15
149EU 16				0.869 (11/2-)	16
149EU 17	0.876	5/2+			17
149EU 18	0.911	11/2+			18
149EU 19				0.913 3/2+,5/2+	19
149EU 20				0.933 (5/2,7/2,9/2)+	20
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149EU 21				0.935 (1/2+)	21
149EU 22	0.939	7/2+			22
149EU 23				0.953 (3/2+:9/2+)	23
149EU 24	0.956	5/2+			24
149EU 25				0.992 (3/2+:9/2+)	25
149EU 26				0.995 (15/2)-	26
149EU 27				1.013 (5/2,7/2,9/2)	27
149EU 28				1.051	28
149EU 29				1.060 (9/2-,11/2,13/2)	29-)
149EU 30				1.064 (5/2+)	30
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149EU 31				1.098 (9/2)-	31
149EU 32				1.135	32
149EU 33	1.150	5/2+			33
149EU 34				1.165 (5/2,7/2,9/2)	34
149EU 35				1.177 (13/2-)	35
149EU 36				1.185 (11/2+)	36

149EU 37						1.208	(5/2,7/2,9/2)	37
149EU 38		1.221	5/2+					38
149EU 39					1.231	9/2-		39
149EU 40						1.246	(5/2,7/2,9/2)	40
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149EU 41						1.294		41
149EU 42		1.312	5/2+					42
149EU 43						1.334	(13/2+)	43
149EU 44						1.356		44
149EU 45		1.398	1/2+					45
149EU 46		1.440	1/2+					46
149EU 47						1.472	(13/2+)	47
149EU 48						1.495	3/2+,5/2+	48
149EU 49						1.503	(11/2-)	49
149EU 50						1.529	(15/2)+	50
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149EU 51		1.538	1/2+					51
149EU 52						1.550		52
149EU 53						1.595		53
149EU 54						1.610	(19/2)-	54
149EU 55						1.625		55
149EU 56						1.655		56
149EU 57						1.659	(15/2+)	57
149EU 58						1.680		58
149EU 59						1.718	(7/2+,9/2+)	59
149EU 60						1.744	(15/2+)	60
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149EU 61						1.752		61
149EU 62						1.765	(17/2-)	62
149EU 63						1.819		63
149EU 64						1.834	(15/2+)	64
149EU 65						1.857		65
149EU 66						1.890		66
149EU 67						1.899	(17/2+)	67
149EU 68						1.945		68
149EU 69						1.999	(17/2+)	69
149EU 70						1.999	(19/2)+	70
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149EU 71						2.029		71
149EU 72						2.060		72
149EU 73						2.063	(17/2+)	73
149EU 74						2.092		74
149EU 75						2.118		75
149EU 76						2.144		76
149EU 77						2.168		77
149EU 78						2.181	(19/2-)	78
149EU 79						2.199		79
149EU 80						2.247	(19/2+)	80
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149EU 81						2.336	(23/2)-	81

149EU 82				2.343	(21/2)+	82
149EU 83				2.396	(19/2+)	83
149EU 84				2.453	(21/2-)	84
149EU 85				2.497	(23/2)-	85
149EU 86				2.562	(23/2)+	86
149EU 87				2.577	(25/2)-	87
149EU 88				2.609	(21/2+)	88
149EU 89				2.752	(27/2)-	89
149EU 90				2.828	(25/2)+	90
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149EU 91				3.144	(27/2)-	91
149EU 92				3.219	(27/2)+	92
149EU 93				3.249	(29/2)+	93
149EU 94				3.428	(31/2)-	94
149EU 95				3.443	(29/2)-	95
149EU 96				3.543	(31/2)+	96
149EU 97				3.616	(33/2)+	97
149EU 98				3.951	(31/2-)	98
149EU 99				3.992	(31/2+)	99
149EU 100				4.100	(33/2+)	100
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149EU 101				4.189	(35/2)-	101
149EU 102				4.223	(35/2)+	102
149EU 103				4.272	(33/2-)	103
149EU 104				4.360	(37/2)+	104
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S-p	=	4.394	( 0.004)	-----		
149EU 105				4.404	(33/2-)	105
149EU 106				4.423	(33/2-)	106
149EU 107				4.685	(35/2-)	107
149EU 108				4.705	(35/2)	108
149EU 109				4.970	(39/2)+	109
149EU 110				4.995	(37/2+)	110
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149EU 111				5.050	(41/2)+	111
149EU 112				5.070	(35/2, 37/2, 39/2-112)	
149EU 113				5.168	(37/2)	113
149EU 114				5.338	(39/2)	114
149EU 115				5.374	(39/2-)	115
149EU 116				5.539	(45/2)+	116
149EU 117				5.608	(39/2)	117
149EU 118				5.964	(41/2)	118
149EU 119				6.030	(43/2)	119
149EU 120				6.289	(47/2)	120
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149EU 121				6.810	(49/2)	121
149EU 122				6.997	(51/2)	122
149EU 123				7.028	(45/2, 47/2, 49/2+123)	
149EU 124				7.684	(55/2)	124

S-p = 4.394 ( 0.004)-----  
S-n = 8.215 ( 0.011)-----  
S-2p = 11.977 ( 0.004)-----  
S-2n = 15.039 ( 0.005)-----  
S-alpha= -2.401 ( 0.005)-----

S+p = -6.612 ( 0.007)  
S+n = -6.422 ( 0.007)  
S+2p = -9.760 ( 0.006)  
S+2n = -14.354 ( 0.004)  
S+alpha = 2.703 ( 0.006)

gap p = -2.218 ( 0.008)  
gap n = 1.793 ( 0.013)  
gap 2p = 2.217 ( 0.007)  
gap 2n = 0.685 ( 0.006)  
gap alpha = 0.301 ( 0.007)