

^{109}In $Z = 49$ $N = 60$ adopted link ENSDF link

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

BE = 927.928 (0.004) MeV

Qbeta+ = 2.015 (0.004) MeV

	Energy T	J+	J-	J-other	T1/2
109IN 1	0.000	9/2+			1 4.159 H 10
109IN 2			0.650 1/2-		2 1.34 M 6
109IN 3			0.981 3/2-		3 0.62 PS +30-15
109IN 4	1.026	11/2+			4 0.17 PS 7
109IN 5	1.099	5/2+			5 0.45 PS 21
109IN 6	1.172	1/2+			6
109IN 7	1.321	5/2+			7
109IN 8				1.335 (3/2,5/2,7/2-)	8
109IN 9	1.428	13/2+			9 0.28 PS 14
109IN 10			1.441 5/2-		10
109IN 11	1.464	9/2+			11 0.21 PS 7
109IN 12				1.482 (5/2+,7/2-)	12
109IN 13	1.484	5/2+			13
109IN 14				1.574 (5/2+,7/2)	14
109IN 15	1.713	9/2+			15
109IN 16	1.722	7/2+			16
109IN 17				1.759 3/2,5/2,7/2	17
109IN 18				1.817 (3/2,5/2)-	18
S-alpha=	1.844 (0.006)				
109IN 19				1.844 (5/2+,7/2)	19
109IN 20	1.900	13/2+			20 0.14 PS 7
109IN 21				1.923	21
109IN 22	1.957	5/2+			22
109IN 23				2.030 (1/2+,3/2+,5/2+)	23
109IN 24				2.055 (5/2+,7/2)	24
109IN 25				2.064 (3/2-,5/2-,7/2-	25)
109IN 26				2.076 (1/2+,3/2+,5/2+)	26
109IN 27	2.102	19/2+			27 210.0 MS 9
109IN 28	2.102	17/2+			28
109IN 29				2.126 (5/2+,7/2)	29
109IN 30				2.138 (3/2+)	30
109IN 31				2.151 (3/2,5/2-)	31
109IN 32	2.195	15/2+			32 0.35 PS 14
109IN 33				2.210 (1/2-,3/2,5/2+)	33
109IN 34				2.219 (5/2+,7/2)	34
109IN 35				2.236 (5/2+,7/2)	35
109IN 36				2.271 (3/2+)	36

109IN 37				2.272		13/2-				37
109IN 38							2.276	(7/2+)		38
109IN 39							2.305	(3/2,5/2-)		39
109IN 40							2.317	(11/2+)		40

109IN 41		2.322	15/2+							41
109IN 42							2.332	(1/2+,3/2+,5/2+)		42
109IN 43							2.356	(3/2,5/2,7/2-)		43
109IN 44							2.411	(3/2,5/2+)		44
109IN 45							2.469	(3/2,5/2,7/2)+		45
109IN 46							2.508	(3/2,5/2-)		46
109IN 47					2.532	15/2-				47 0.24 PS 10
109IN 48							2.542	(5/2+,7/2)		48
109IN 49		2.561	3/2+							49
109IN 50							2.564	(5/2+)		50

109IN 51							2.575	(5/2+,7/2)		51
109IN 52		2.592	7/2+							52
109IN 53							2.602	(5/2+,7/2)		53
109IN 54							2.617	(5/2,7/2)+		54
109IN 55							2.674	(1/2+,3/2+,5/2+)		55
109IN 56							2.709			56
109IN 57							2.786	(5/2+,7/2)		57
109IN 58							2.809	3/2		58
109IN 59							2.812	(1/2+)		59
109IN 60							2.813	(5/2+,7/2)		60

109IN 61							2.846	3/2		61
109IN 62		2.852	7/2+							62
109IN 63							2.859	(5/2+,7/2)		63
109IN 64					2.869	17/2-				64 0.40 PS 12
109IN 65		2.871	5/2+							65
109IN 66							2.888	(1/2+,3/2+,5/2)		66
109IN 67							2.920	(5/2+,7/2)		67
109IN 68							2.924	(3/2,5/2)		68
109IN 69							2.943	(5/2+,7/2-)		69
109IN 70					2.958	19/2-				70

109IN 71							2.987	(3/2+,5/2+)		71
109IN 72							2.996	(17/2+)		72
109IN 73							3.013	(5/2+,7/2)		73
109IN 74							3.030	(5/2+)		74
109IN 75							3.035	(5/2+,7/2)		75
109IN 76							3.051	(5/2+,7/2)		76
109IN 77							3.066	(5/2+,7/2)		77
109IN 78					3.067	17/2-				78 0.21 PS 9
109IN 79					3.092	19/2-				79 0.44 PS 12
109IN 80					3.123	21/2-				80

109IN 81							3.140	(5/2+,7/2)		81

109IN 82				3.155	(15/2+)	82		
109IN 83		3.202	21/2-			83		
109IN 84				3.273		84		
109IN 85		3.286	19/2-			85	1.0 PS	GT
109IN 86				3.317	(5/2+,7/2)	86		
109IN 87				3.361	(5/2+,7/2)	87		
109IN 88				3.375	(19/2-)	88	0.21 PS	10
109IN 89				3.396	(5/2+,7/2)	89		
109IN 90		3.410	23/2-			90	0.69 PS	21

109IN 91				3.418	5/2+,7/2-	91		
109IN 92				3.427	(5/2+,7/2)	92		
109IN 93		3.462	23/2-			93	0.8 PS	3
109IN 94				3.484	(23/2)	94		
109IN 95		3.517	21/2-			95	0.43 PS	10
109IN 96				3.529	(21/2+)	96		
109IN 97				3.654	(17/2+)	97		
109IN 98				3.798	(23/2+)	98		
109IN 99		3.800	25/2-			99	1.7 PS	6
109IN 100				3.844	(23/2-)	100		

109IN 101		4.038	25/2-			101	0.6 PS	3
109IN 102				4.097	(19/2+)	102		
109IN 103				4.301	(21/2+)	103		
109IN 104				4.355	(23/2+)	104		
109IN 105				4.436	27/2(-)	105		
109IN 106		4.508	27/2-			106		

S-p = 4.526 (0.004)-----
S-n = 10.441 (0.010)-----
S-2p = 12.661 (0.005)-----
S-2n = 19.065 (0.010)-----
S-alpha= 1.844 (0.006)-----

S+p = -6.642 (0.014)
S+n = -8.052 (0.012)
S+2p = -8.925 (0.010)
S+2n = -18.045 (0.005)
S+alpha = -0.352 (0.018)

gap p = -2.115 (0.015)
gap n = 2.389 (0.015)
gap 2p = 3.736 (0.011)
gap 2n = 1.020 (0.012)
gap alpha = 1.491 (0.019)