

^{109}Sn $Z = 50$ $N = 59$ adopted link ENSDF link

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

BE = 923.286 (0.008) MeV

Qbeta+ = 3.859 (0.009) MeV

	Energy T	J+	J-	J-other	T1/2
109SN 1	0.000	5/2+			1 18.1 M 2
109SN 2				0.014 (7/2+)	2
109SN 3				0.545 (1/2+)	3
109SN 4				0.664 (3/2+)	4
109SN 5				0.679 (5/2+)	5
S-alpha= 0.721 (0.008)					
109SN 6				0.926 (3/2+)	6
109SN 7				0.991 (3/2+)	7
109SN 8				1.062 (3/2+)	8
109SN 9				1.078 (7/2+)	9
109SN 10				1.229 (3/2+,5/2+)	10
109SN 11	1.240	9/2+			11 0.2 NS LE
109SN 12				1.258 (11/2+)	12
109SN 13				1.270 (11/2-)	13 2.0 NS 2
109SN 14				1.344 (7/2+)	14
109SN 15				1.496 (3/2+)	15
109SN 16				1.614 (3/2+,5/2+)	16
109SN 17				1.650 (3/2+,5/2+)	17
109SN 18				1.677 (11/2,13/2+)	18
109SN 19				1.715 (7/2,9/2+)	19
109SN 20				1.884 (11/2+)	20
109SN 21				1.914 (3/2+,5/2+)	21
109SN 22	1.930	13/2+			22
109SN 23				1.992 (9/2)	23
109SN 24				2.016 (3/2+,5/2+)	24
109SN 25				2.050 (11/2+)	25
109SN 26				2.071 (13/2+)	26
109SN 27	2.091	15/2+			27
109SN 28	2.116	17/2+			28 7 NS 1
109SN 29				2.127 (3/2+,5/2+)	29
109SN 30				2.218 (15/2+)	30
109SN 31				2.244 (7/2+)	31
109SN 32			2.351 15/2-		32 0.2 NS LE
109SN 33				2.380 (13/2)	33
109SN 34				2.398 (13/2+)	34
109SN 35				2.443 (13/2)	35
109SN 36				2.512 (9/2,11/2)	36

109SN	37					2.532			37
109SN	38					2.571	(7/2+,9/2)		38
109SN	39					2.645			39
109SN	40					2.822	(9/2+)		40

109SN	41					2.922			41
109SN	42					3.266	(19/2+)		42
109SN	43				3.301	19/2-		0.2 NS	LE
109SN	44				3.316	19/2-		0.2 NS	LE
109SN	45		3.346	21/2+				0.2 NS	LE
109SN	46		3.474	21/2+				0.2 NS	LE
109SN	47					3.527	(19/2-)		47
109SN	48					3.864	(23/2+)		48
109SN	49					3.927	(23/2+)		49
109SN	50				4.262	23/2-			50

109SN	51				4.451	23/2-			51
109SN	52		4.609	25/2+					52
109SN	53					4.985	(27/2+)		53
109SN	54					5.130	(27/2+)		54
109SN	55					5.172	(25/2+)		55
109SN	56				5.286	27/2-			56
109SN	57					5.451	(27/2+)		57

S-p	=	5.799	(0.012)	-----				
109SN	58					5.850	(31/2+)		58
109SN	59					5.993	(29/2+)		59
109SN	60				6.224	31/2-			60

109SN	61					6.337	(31/2+)		61
109SN	62					6.825	(33/2+)		62
109SN	63					7.194	(35/2+)		63
109SN	64				7.233	35/2-			64
109SN	65					7.725	(37/2+)		65
109SN	66					8.124	(39/2+)		66
109SN	67				8.263	39/2-			67
109SN	68					8.541	(37/2-,39/2+)		68

S-n	=	8.632	(0.010)	-----				
109SN	69					8.727	(41/2+)		69
109SN	70					9.145	(43/2+)		70

109SN	71					9.331	(41/2-,43/2+)		71
109SN	72				9.347	43/2-			72
109SN	73					9.866	(45/2+)		73

S-p = 5.799 (0.012)-----
S-n = 8.632 (0.010)-----
S-2p = 10.218 (0.008)-----
S-2n = 20.261 (0.010)-----
S-alpha= 0.721 (0.008)-----

S+p = -2.109 (0.010)
S+n = -11.283 (0.016)
S+2p = -5.535 (0.010)
S+2n = -19.451 (0.010)
S+alpha = 1.858 (0.029)

gap p = 3.691 (0.015)
gap n = -2.652 (0.019)
gap 2p = 4.682 (0.013)
gap 2n = 0.810 (0.014)
gap alpha = 2.579 (0.030)