

^{98}Zr $Z = 40$ $N = 58$ adopted link ENSDF link

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

BE = 840.977 (0.008) MeV

Qbeta- = 2.243 (0.010) MeV

	Energy T	J+	J-	J-other	T1/2
98ZR 1	0.000	0+			1 30.7 S 4
98ZR 2	0.854	0+			2 64 NS 7
98ZR 3	1.223	2+			3 2.63 PS 55
98ZR 4	1.436	0+			4 0.72 NS 8
98ZR 5	1.591	2+			5
98ZR 6	1.745	2+			6
98ZR 7			1.806	3-	7
98ZR 8	1.843	4+			8 5.2 PS 10
98ZR 9	1.859	0+			9 0.290 NS 13
98ZR 10	2.048	4+			10
98ZR 11				2.104	11
98ZR 12				2.225	(2+) 12
98ZR 13				2.277	(4+) 13
98ZR 14				2.487	14
98ZR 15	2.491	6+			15 1.80 PS 62
98ZR 16				2.568	16
98ZR 17				2.613	17
98ZR 18				2.779	(2+) 18
98ZR 19			2.800	5-	19
98ZR 20				3.035	20
98ZR 21				3.064	5(-) 21
98ZR 22				3.066	(1) 22
98ZR 23				3.117	(6+) 23
98ZR 24				3.160	24
98ZR 25	3.216	8+			25 1.95 PS 47
98ZR 26				3.249	(5,6,7-) 26
98ZR 27	3.271	4+			27
98ZR 28				3.336	28
98ZR 29			3.354	5-	29
98ZR 30	3.435	2+			30
98ZR 31				3.506	31
98ZR 32				3.539	32
98ZR 33				3.576	(7-) 33
98ZR 34				3.592	(7-) 34
98ZR 35				3.739	35
98ZR 36				3.763	36
98ZR 37				3.812	(8+) 37

98ZR 38						3.825			38
98ZR 39						3.855			39
98ZR 40						3.894	(7-)		40

98ZR 41						3.985	(10+)		41 1.42 PS 34
98ZR 42						4.005	(5-,6+)		42
98ZR 43						4.061	(6+)		43
98ZR 44						4.097	(5-,6+)		44
98ZR 45						4.109	(1)		45
98ZR 46				4.165	1-				46
98ZR 47						4.199	(9-)		47
98ZR 48		4.225	6+						48
98ZR 49				4.271	1-				49
98ZR 50						4.279			50

98ZR 51		4.292	6+						51
98ZR 52						4.365			52
98ZR 53						4.387			53
98ZR 54				4.399	1-				54
98ZR 55						4.450	(7-)		55
98ZR 56				4.453	1-				56
98ZR 57				4.492	1-				57
98ZR 58						4.546	(7+)		58
98ZR 59						4.608			59
98ZR 60						4.755	(12+)		60

S-alpha=		4.861	(0.009)	-----					
98ZR 61						4.917	(11-)		61
98ZR 62						5.589	(14+)		62
98ZR 63						5.721	(13-)		63
S-n	=	6.416	(0.008)	-----					
98ZR 64						6.539	(16+)		64
98ZR 65						6.541	(15-)		65
98ZR 66						6.602	(17-)		66 1.9 US 2
98ZR 67						7.596	(18+)		67
98ZR 68						8.725	(20+)		68

S-p	=	12.455	(0.011)	-----					
S-n	=	6.416	(0.008)	-----					
S-2p	=	22.941	(0.012)	-----					
S-2n	=	11.986	(0.008)	-----					
S-alpha=		4.861	(0.009)	-----					
S+p	=	-8.343	(0.015)						
S+n	=	-4.406	(0.013)						
S+2p	=	-19.489	(0.008)						
S+2n	=	-11.234	(0.012)						
S+alpha	=	-4.704	(0.012)						

gap p = 4.113 (0.018)
gap n = 2.010 (0.016)
gap 2p = 3.452 (0.015)
gap 2n = 0.752 (0.014)
gap alpha = 0.157 (0.015)