

$^{96}\text{Zr}$        $Z = 40$        $N = 56$       adopted link      ENSDF link

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

BE = 828.992 ( 0.000) MeV

Qbeta- = 0.164 ( 0.000) MeV

	Energy T	J+	J-	J-other	T1/2
96ZR 1	0.000	0+			1 2.0E+19 Y 4
96ZR 2	1.582	0+			2 38.0 NS 7
96ZR 3	1.750	2+			3 0.57 PS 7
96ZR 4			1.897 3-		4 68 PS 4
96ZR 5	2.226	2+			5 10 PS LT
96ZR 6	2.439	3+			6 0.38 PS +19-10
96ZR 7				2.669 (2+)	7 0.24 PS +32-10
96ZR 8	2.695	0+			8 28 PS 7
96ZR 9	2.750	4+			9
96ZR 10				2.781	10
96ZR 11	2.857	4+			11 0.60 PS +46-18
96ZR 12	2.926	0+			12 20 PS 14
96ZR 13			3.039 3-		13
96ZR 14	3.082	4+			14 1.4 PS GT
96ZR 15			3.120 5-		15 0.58 PS +68-21
96ZR 16			3.150 3-		16 0.54 PS GT
96ZR 17	3.176	4+			17 0.39 PS +59-28
96ZR 18	3.212	2+			18 0.090 PS +21-14
96ZR 19				3.244	19 0.097 PS GT
96ZR 20	3.249	2+			20 0.19 PS +5-4
96ZR 21				3.309 (4+,5+,6+)	21
96ZR 22				3.363	22
96ZR 23				3.399 (4+)	23
96ZR 24	3.427	4+			24
96ZR 25				3.449 (2+)	25 0.66 PS GT
96ZR 26				3.450	26
96ZR 27				3.457 (6+)	27
96ZR 28	3.472	2+			28 0.15 PS +4-2
96ZR 29	3.483	6+			29 25 PS 9
96ZR 30	3.509	2+			30 0.104 PS 21
96ZR 31	3.556	2+			31 0.16 PS 4
96ZR 32				3.578	32
96ZR 33				3.586 (4-)	33
96ZR 34				3.602 (1,2+)	34 0.19 PS +19-7
96ZR 35				3.608 (5-,6+)	35
96ZR 36				3.611	36
96ZR 37				3.621 (1,2+)	37 0.005 PS 3

96ZR 38						3.630	(6+)	38
96ZR 39						3.676		39
96ZR 40						3.695		40
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96ZR 41						3.701	(1,2+)	41 0.006 PS 3
96ZR 42						3.732		42
96ZR 43		3.749	4+					43 0.26 PS GT
96ZR 44		3.761	2+					44
96ZR 45		3.772	6+					45
96ZR 46		3.833	4+					46
96ZR 47		3.857	2+					47 0.055 PS +21-14
96ZR 48						3.865		48
96ZR 49		3.895	4+					49
96ZR 50						3.925		50
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96ZR 51						3.947	(1,2+)	51 0.010 PS +6-4
96ZR 52						3.997	(2+)	52
96ZR 53				4.014	5-			53
96ZR 54						4.024		54
96ZR 55				4.034	3-			55
96ZR 56						4.038	(1,2+)	56 0.007 PS +6-5
96ZR 57						4.038		57
96ZR 58		4.055	2+					58
96ZR 59						4.068	(1-)	59
96ZR 60						4.126	(4+)	60
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96ZR 61						4.132	(1,2+)	61 0.017 PS LT
96ZR 62				4.139	3-			62
96ZR 63				4.160	5-			63
96ZR 64		4.205	4+					64
96ZR 65				4.235	7-			65
96ZR 66				4.258	3-			66
96ZR 67						4.261	(5+,6+)	67
96ZR 68						4.323	(3-)	68
96ZR 69		4.341	2+					69
96ZR 70		4.390	8+					70 127 PS 10
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96ZR 71						4.390	(4+)	71
96ZR 72		4.430	6+					72
96ZR 73				4.470	5-			73
96ZR 74		4.479	4+					74
96ZR 75						4.512	(1,2+)	75
96ZR 76						4.520	(4+)	76
96ZR 77				4.531	3-			77
96ZR 78						4.570	(5-,6+)	78
96ZR 79		4.580	4+					79
96ZR 80						4.640		80
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96ZR 81						4.690		81
96ZR 82		4.698	2+					82

96ZR 83				4.738	(1,2+)	83
96ZR 84				4.752	(7,8+)	84
96ZR 85				4.757		85
96ZR 86		4.807	3-			86
96ZR 87				4.838	(1-,2+)	87
96ZR 88				4.845		88
96ZR 89				4.882		89
96ZR 90				4.895	(1,2+)	90
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96ZR 91				4.907	(10+)	91
96ZR 92				4.914	(1,2+)	92
96ZR 93				4.929	(1,2+)	93
96ZR 94				4.979		94
S-alpha=	4.996	(0.003)	-----			
96ZR 95				5.014		95
96ZR 96				5.065		96
96ZR 97				5.066	(7+,8+)	97
96ZR 98				5.103		98
96ZR 99				5.118		99
96ZR 100				5.197		100
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96ZR 101				5.228	(1,2+)	101
96ZR 102				5.235	(7,8+)	102
96ZR 103				5.245		103
96ZR 104				5.272	(1,2+)	104
96ZR 105				5.312		105
96ZR 106	5.329	4+				106
96ZR 107	5.371	4+				107
96ZR 108				5.384		108
96ZR 109				5.408		109
96ZR 110				5.443	(1,2+)	110
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96ZR 111				5.484	(10+)	111
96ZR 112				5.502	(1,2+)	112
96ZR 113				5.508	(7+,8+)	113
96ZR 114				5.539	(1,2+)	114
96ZR 115				5.552	(1,2+)	115
96ZR 116				5.574	(1,2+)	116
96ZR 117				5.602	(1,2+)	117
96ZR 118				5.626		118
96ZR 119				5.629		119
96ZR 120				5.653		120
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96ZR 121				5.701		121
96ZR 122				5.719	(1,2+)	122
96ZR 123				5.738	(11+)	123
96ZR 124				5.741		124
96ZR 125				5.783	(1,2+)	125
96ZR 126				5.805	(1,2+)	126
96ZR 127				5.838	(1,2+)	127

96ZR 128				5.847	(1,2+)	128
96ZR 129				5.900		129
96ZR 130				5.915	(1,2+)	130
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96ZR 131				5.935	(1,2+)	131
96ZR 132				6.144	(1,2+)	132
96ZR 133				6.232	(1,2+)	133
96ZR 134				6.246	(12+)	134
96ZR 135				6.460	(13+)	135
96ZR 136				6.821	(14+)	136

S-p = 11.520 ( 0.007)-----  
S-n = 7.850 ( 0.001)-----  
S-2p = 21.171 ( 0.002)-----  
S-2n = 14.312 ( 0.000)-----  
S-alpha= 4.996 ( 0.003)-----

S+p = -7.453 ( 0.004)  
S+n = -5.569 ( 0.000)  
S+2p = -17.255 ( 0.000)  
S+2n = -11.986 ( 0.008)  
S+alpha = -3.179 ( 0.000)

gap p = 4.067 ( 0.008)  
gap n = 2.281 ( 0.001)  
gap 2p = 3.916 ( 0.002)  
gap 2n = 2.327 ( 0.008)  
gap alpha = 1.817 ( 0.003)