

$^{98}\text{Ru}$        $Z = 44$        $N = 54$       adopted link      ENSDF link

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

BE = 844.791 ( 0.006) MeV

	Energy T	J+	J-	J-other	T1/2
98RU 1	0.000	0+			1 STABLE
98RU 2	0.652	2+			2 5.96 PS 20
98RU 3	1.322	0+			3 3.7 PS +13-8
98RU 4	1.398	4+			4 1.60 PS 11
98RU 5	1.414	2+			5 1.18 PS 14
98RU 6	1.797	3+			6
98RU 7	1.817	2+			7
98RU 8	2.013	3+			8
98RU 9	2.223	6+			9 4.3 PS 5
S-alpha=	2.236 ( 0.006)				
98RU 10				2.241 (4+,6+)	10
98RU 11				2.246 2(+)	11
98RU 12				2.258	12
98RU 13	2.267	4+			13
98RU 14				2.277 (2)+	14
98RU 15				2.285 (4)+	15
98RU 16				2.296	16
98RU 17				2.363	17
98RU 18				2.369	18
98RU 19				2.371 (0+:4+)	19
98RU 20	2.374	0+			20
98RU 21				2.406 (1+,2+)	21
98RU 22	2.427	2+			22
98RU 23				2.435 (3-)	23
98RU 24				2.468 (2)+	24
98RU 25	2.547	5+			25
98RU 26				2.602 (2+,3+,4+)	26
98RU 27				2.619 (1,2+)	27
98RU 28				2.657 (3,5+)	28
98RU 29				2.660 (3+,4)	29
98RU 30				2.670 (0+:3)	30
98RU 31				2.707 (1,2+)	31
98RU 32				2.720 (3,4+)	32
98RU 33				2.754	33
98RU 34				2.786	34
98RU 35				2.809 (3)	35
98RU 36				2.812 (2+,3,4+)	36
98RU 37				2.817 (2+,3,4+)	37

98RU 38						2.826		38
98RU 39						2.859		39
98RU 40						2.867	(6)+	40
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98RU 41						2.933	(4+)	41
98RU 42						2.954		42
98RU 43						2.998	(1,2+)	43
98RU 44						3.014		44
98RU 45						3.017	(+)	45
98RU 46						3.027		46
98RU 47						3.046	2+,3+	47
98RU 48						3.058		48
98RU 49						3.065	(3+)	49
98RU 50						3.069	(5,6)+	50
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98RU 51						3.069		51
98RU 52						3.075	(2+:5+)	52
98RU 53						3.094	(2+,3,4+)	53
98RU 54						3.098		54
98RU 55						3.109	(2+,3,4+)	55
98RU 56						3.120		56
98RU 57		3.127	8+					57 13.9 PS 21
98RU 58						3.133		58
98RU 59						3.179	(1,2+)	59
98RU 60						3.185	(4+,5+)	60
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98RU 61		3.190	8+					61
98RU 62						3.205	(2+,3)	62
98RU 63						3.245	(6)+	63
98RU 64						3.251	(5)+	64
98RU 65						3.279		65
98RU 66						3.284	(5,7)+	66
98RU 67						3.284	(2+,3+)	67
98RU 68						3.288		68
98RU 69						3.350		69
98RU 70						3.367	(1,2+)	70
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98RU 71						3.383		71
98RU 72						3.442	2+,3+	72
98RU 73						3.475	(4+,5,6+)	73
98RU 74						3.524	(4+,5,6+)	74
98RU 75						3.537	(1+,2+,3+)	75
98RU 76						3.539	(6)+	76
98RU 77						3.562		77
98RU 78						3.579	(4+:7+)	78
98RU 79						3.621		79
98RU 80						3.624		80
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98RU 81						3.638		81
98RU 82						3.671		82

98RU 83						3.703				83	
98RU 84						3.722				84	
98RU 85				3.852	9-					85 6.0 PS LE	
98RU 86						3.852	(6+:9+)			86	
98RU 87						3.855				87	
98RU 88						3.945				88	
98RU 89						3.965				89	
98RU 90						3.972				90	
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98RU 91		4.001	10+							91 14.3 PS 21	
98RU 92						4.006	(7+)			92	
98RU 93						4.135				93	
98RU 94						4.214	(6+,7,8+)			94	
98RU 95						4.215	(8+)			95	
98RU 96						4.221				96	
98RU 97						4.224	(10+)			97	
98RU 98						4.257				98	
98RU 99						4.416				99	
98RU 100						4.563	(8+,9,10+)			100	
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98RU 101						4.634				101	
98RU 102				4.673	11-					102 6.4 PS 5	
98RU 103						4.823				103	
98RU 104						4.847	(9+)			104	
98RU 105		4.915	12+							105	
98RU 106						4.989	(12+)			106	
98RU 107						5.219	(12+)			107	
98RU 108						5.348				108	
98RU 109				5.522	13-					109 4.6 PS 4	
98RU 110						5.614				110	
-----											
98RU 111						5.626	(13+)			111	
98RU 112		5.819	14+							112	
98RU 113						5.888				113	
98RU 114						6.122	(14+)			114	
98RU 115						6.261	(14+)			115	
98RU 116				6.592	15-					116 3.1 PS 8	
98RU 117						6.594	(15+)			117	
98RU 118		6.870	16+							118	
98RU 119				7.623	17-					119 1.46 PS 14	
98RU 120						8.006	(17)			120	
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S-p	=	8.289	( 0.008)	-----							
98RU 121				8.450	19-					121	
98RU 122				9.931	21-					122	
-----											
S-p	=	8.289	( 0.008)	-----							
S-n	=	10.176	( 0.007)	-----							
S-2p	=	14.008	( 0.006)	-----							

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S-2n = 18.287 ( 0.006)-----  
S-alpha= 2.236 ( 0.006)-----  
  
S+p = -4.649 ( 0.020)  
S+n = -7.472 ( 0.006)  
S+2p = -11.566 ( 0.019)  
S+2n = -17.145 ( 0.006)  
S+alpha = -2.103 ( 0.006)  
  
gap p = 3.641 ( 0.022)  
gap n = 2.704 ( 0.010)  
gap 2p = 2.442 ( 0.020)  
gap 2n = 1.142 ( 0.009)  
gap alpha = 0.133 ( 0.009)
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