

^{109}Ru $Z = 44$ $N = 65$ adopted link ENSDF link

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

BE = 926.089 (0.009) MeV

Qbeta- = 4.261 (0.010) MeV

	Energy T	J+	J-	J-other	T1/2	
109RU	1	|	|	0.000 (5/2+)	1	34.4 S 2
109RU	2	|	|	0.069 (1/2+)	2	0.50 US 20
109RU	3	|	|	0.096 (5/2-)	3	0.68 US 3
109RU	4	|	|	0.132 (7/2-)	4	1.0 NS 2
109RU	5	|	|	0.138 (3/2-)	5	1.44 NS 11
109RU	6	|	|	0.185 (7/2+)	6	
109RU	7	|	|	0.191 (3/2-)	7	
109RU	8	|	|	0.195 (3/2,5/2,7/2)+	8	0.20 NS 6
109RU	9	|	|	0.197 (3/2-)	9	
109RU	10	|	|	0.230 (9/2-)	10	0.95 NS 5

109RU	11	|	|	0.256 (3/2+)	11	
109RU	12	|	|	0.304 (11/2-)	12	0.70 NS 5
109RU	13	|	|	0.332 (7/2+)	13	
109RU	14	|	|	0.405 (3/2,5/2,7/2-)	14	
109RU	15	|	|	0.408 (9/2+)	15	
109RU	16	|	|	0.515 (3/2,5/2+)	16	0.16 NS 13
109RU	17	|	|	0.553 (9/2+)	17	
109RU	18	|	|	0.619 (13/2-)	18	
109RU	19	|	|	0.628 (3/2+,5/2,7/2-)	19	
109RU	20	|	|	0.658 (11/2+)	20	

109RU	21	|	|	0.679 (15/2-)	21	0.15 NS AP
109RU	22	|	|	0.777 (11/2+)	22	
109RU	23	|	|	0.948 (13/2+)	23	
109RU	24	|	|	0.995 (3/2,5/2,7/2-)	24	
109RU	25	|	|	1.056 (13/2+)	25	
109RU	26	|	|	1.159 (3/2,5/2,7/2)	26	
109RU	27	|	|	1.184 (17/2-)	27	
109RU	28	|	|	1.220 (19/2-)	28	
109RU	29	|	|	1.256 (15/2+)	29	
109RU	30	|	|	1.268 (3/2,5/2,7/2)	30	

109RU	31	|	|	1.350 (15/2+)	31	
109RU	32	|	|	1.503 (3/2,5/2,7/2)	32	
109RU	33	|	|	1.600 (17/2+)	33	
109RU	34	|	|	1.677 (17/2+)	34	
109RU	35	|	|	1.891 (21/2-)	35	
109RU	36	|	|	1.911 (23/2-)	36	1.45 PS 22
109RU	37	|	|	1.965 (3/2+,5/2,7/2)	37	

109RU 38	|	|	|	1.966	(19/2+)	38	
109RU 39	|	|	|	2.012	(19/2+)	39	
109RU 40	|	|	|	2.329	(21/2+)	40	

109RU 41	|	|	|	2.364	(21/2+)	41	
109RU 42	|	|	|	2.693	(23/2+)	42	
109RU 43	|	|	|	2.715	(25/2-)	43	
109RU 44	|	|	|	2.734	(27/2-)	44	0.56 PS 8
109RU 45	|	|	|	2.773	(23/2+)	45	
109RU 46	|	|	|	2.995	(25/2+)	46	
109RU 47	|	|	|	3.179	(25/2+)	47	
109RU 48	|	|	|	3.391	(27/2+)	48	
109RU 49	|	|	|	3.636	(29/2-)	49	
109RU 50	|	|	|	3.662	(27/2+)	50	

109RU 51	|	|	|	3.667	(31/2-)	51	
109RU 52	|	|	|	4.023	(29/2+)	52	
109RU 53	|	|	|	4.167	(31/2+)	53	
109RU 54	|	|	|	4.622	(31/2+)	54	
109RU 55	|	|	|	4.639	(33/2-)	55	
109RU 56	|	|	|	4.694	(35/2-)	56	
S-n =	5.148	(	0.012)	-----			
109RU 57	|	|	|	5.805	(39/2-)	57	

S-p =	12.105	(	0.013)	-----			
S-n =	5.148	(	0.012)	-----			
S-2p =	22.771	(	0.013)	-----			
S-2n =	13.018	(	0.012)	-----			
S-alpha=	5.833	(	0.013)	-----			

S+p =	-9.379	(	0.020)				
S+n =	-7.406	(	0.013)				
S+2p =	-19.825	(	0.009)				
S+2n =	-12.190	(	0.013)				
S+alpha =	-5.277	(	0.011)				

gap p =	2.725	(	0.024)				
gap n =	-2.257	(	0.018)				
gap 2p =	2.946	(	0.016)				
gap 2n =	0.829	(	0.018)				
gap alpha =	0.556	(	0.017)				