

Even Z
 $T_z = +7/2$

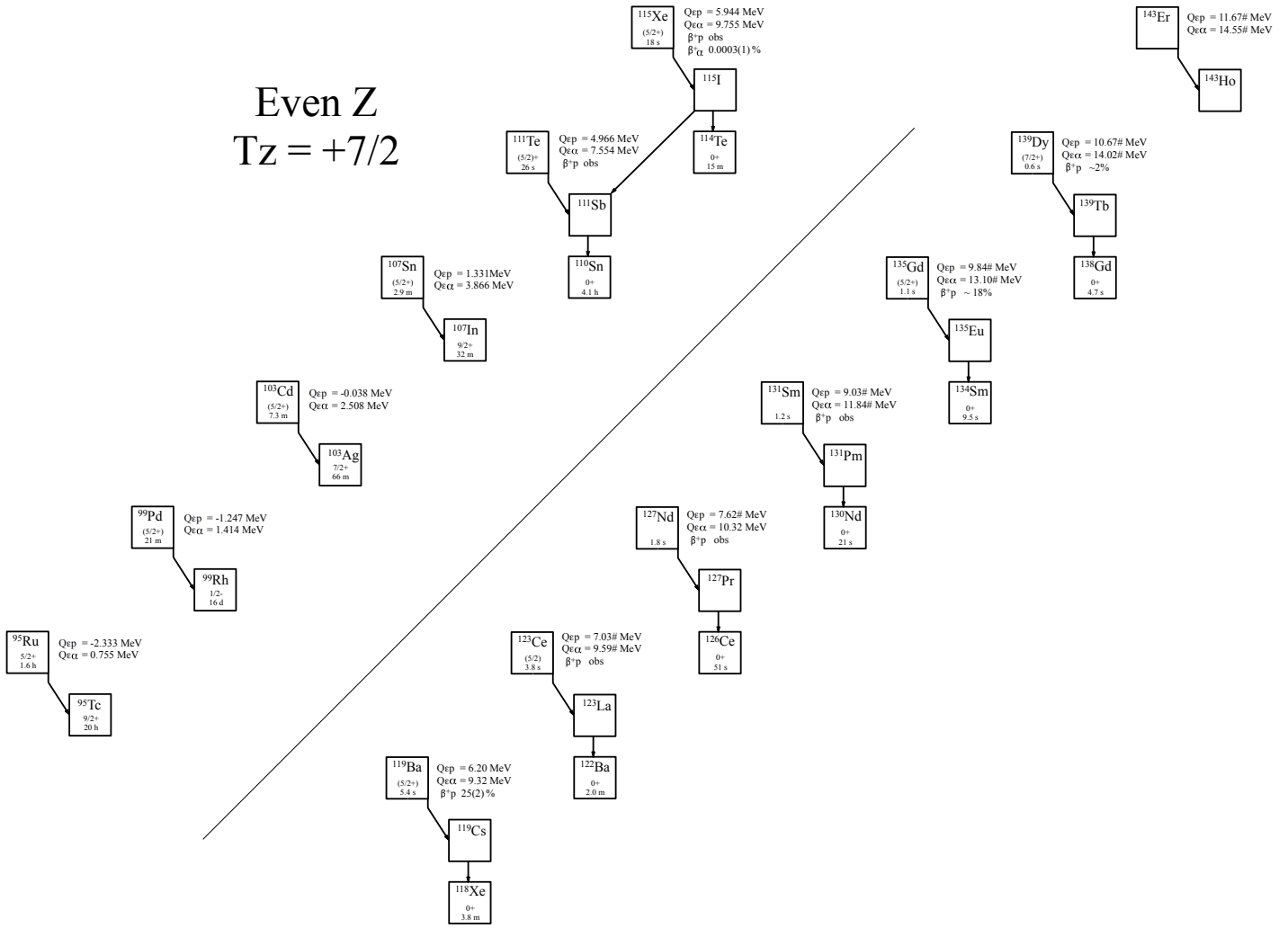


Fig. 1: Known experimental values for heavy particle emission of the even-Z $T_z = +7/2$ nuclei.

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Table 1

Observed and predicted β -delayed particle emission from the even- Z , $T_z = +7/2$ nuclei. Unless otherwise stated, all Q-values are taken from [2021Wa16] or deduced from values therein. All J^π values are taken from ENSDF

Nuclide	J^π	$T_{1/2}$	Q_ϵ	$Q_{\epsilon p}$	$BR_{\beta p}$	$Q_{\epsilon 2p}$	$Q_{\epsilon \alpha}$	$BR_{\beta \alpha}$	Experimental
⁹⁵ Ru	5/2 ⁺	1.64(1) h*	2.564(11)	-2.333(10)		-10.823(10)	0.755(10)		[1968Pi03, 1970Bo22]
⁹⁹ Pd	(5/2 ⁺)	21.4(2) m	3.402(19)	-1.247(8)		-9.536(7)	1.414(7)		[1969Ph01]
¹⁰³ Cd	(5/2 ⁺)	7.3(1) m	4.151(4)	-0.038(2)		-7.817(6)	2.508(20)		[1969Ha03]
¹⁰⁷ Sn	(5/2 ⁺)	2.90(5) m	5.054(11)	1.331(5)		-6.019(7)	3.866(7)		[1976Hs01, 1974Ho17]
¹¹¹ Te	(5/2 ⁺)	26.2(6) s	7.249(11)	4.966(15)	obs	-1.676(8)	7.554(12)		[1967Ka01, 2005Sh24, 1967Bo41, 1967Bo43]
¹¹⁵ Xe	(5/2 ⁺)	18(4) s	7.680(30)	5.944(27)	obs	1.182(21)	9.755(15)	0.0003(1)%	[1971Ho07, 1972Ho18]
¹¹⁹ Ba	(5/2 ⁺)	5.4(3) s	7.71(20)	6.20(20)	25(2)%	1.27(20)	9.32(20)		[1975Bo11, 1976Bo36, 1978Bo20], 1979Ew02
¹²³ Ce	(5/2)	3.8(2) s	8.37(36)#	7.03(30)#	obs	2.24(30)#	9.59(30)#		[1984Ni03, 1988WiZN]
¹²⁷ Nd		1.8(4) s	8.63(36)#	7.62(30)#	obs	3.27(30)#	10.32(36)#		[1987WiZM, 1983Ni05, 1986Wi15]
¹³¹ Sm		1.2(2) s	9.49(45)#	9.03(40)#	obs	4.92(40)#	13.10(45)#		[1986Wi15, 1987WiZM]
¹³⁵ Gd	(5/2 ⁺)	1.1(2) s	9.9(45)#	9.84(45)#	≈18%	6.58(40)#	14.02(54)#		[2005Xu04, 1996Xu07]
¹³⁹ Dy	(7/2 ⁺)	0.6(2) s	10.43(58)#	10.67(54)#	≈2%	7.87(50)#	14.55(50)#		[2005Xu04, 2002XuZZ, 1996Xu07]
¹⁴³ Er			10.89(50)#	11.67(83)#		8.80(41)#			

* Weighted average of 1.65(2) h [1968Pi03] and 1.63(2) h [1970Bo22].

Table 2

Particle emission from the even- Z , $T_z = +7/2$ nuclei. Unless otherwise stated, all Q-values and separation energies are taken from [2021Wa16] or deduced from values therein.

Nuclide	S_p	S_{2p}	Q_α	BR_α	Experimental
⁹⁵ Ru	6.588(10)	11.229(10)	-3.674(11)		
⁹⁹ Pd	6.297(13)	10.640(6)	-1.150(11)		
¹⁰³ Cd	5.694(8)	9.797(5)	-0.894(5)		
¹⁰⁷ Sn	5.193(13)	8.756(5)	-0.286(6)		
¹¹¹ Te	3.427(9)	5.535(10)	2.500(8)		
¹¹⁵ Xe	3.307(23)	4.888(31)	2.506(14)		
¹¹⁹ Ba	3.47(20)	4.98(20)	1.64(20)		
¹²³ Ce	3.03(42)#	4.12(33)#	1.88(36)#		
¹²⁷ Nd	2.88(36)#	3.83(36)#	1.95(42)#		
¹³¹ Sm	2.10(45)#	2.48(45)#	3.21(50)#		
¹³⁵ Gd	1.74(50)#	1.60(50)#	3.61(57)#		
¹³⁹ Dy	1.39(58)#	1.07(58)#	4.12(64)#		
¹⁴³ Er	1.20(56)#	0.36(50)#	4.12(64)#		

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