



Fig. 1: Known experimental values for heavy particle emission of the odd-Z $T_z = -5/2$ nuclei.

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Table 1

Observed and predicted β -delayed particle emission from the odd-Z $T_z = -5/2$ nuclei. Unless otherwise stated, all Q-values are taken from [2021Wa16] or deduced from values therein.

Nuclide	J^π	$T_{1/2}$	Q_ϵ	$Q_{\epsilon p}$	$BR_{\beta p}$	$Q_{\epsilon 2p}$	$BR_{\beta 2p}$	$Q_{\epsilon 3p}$	$Q_{\epsilon \alpha}$	Experimental
^{13}F			18.92(50)#	17.40(50)#		16.80(50)#		8.11(50)#	10.7(50)#	[2021Ch19]
^{17}Na			18.22(6)	16.76(6)		17.29(6)#		9.99(6)#	9.18(6)	[2017Br07]
^{21}Al		< 35ns	16.19(60)#	12.95(60)#		10.76(60)#		4.35(60)#	8.17(60)#	[1997Au04]
^{25}P		< 35 ns	16.36(40)#	12.95(40)#		11.09(40)#		3.50(40)#	6.86(40)#	[1997Au04]
^{29}Cl		< 20 ns	17.12(19)#	13.88(19)#		11.83(19)#		4.36(19)#	7.77(19)#	[2015Mu13]
^{33}K			16.93(20)#	13.59(20)#		12.00(20)#		5.87(20)#	8.21(20)#	
^{37}Sc			16.92(30)#	13.91(30)#		12.25(30)#		6.35(30)#	10.74(30)#	
^{41}V			16.01(20)#	13.55(20)#		13.02(20)#		7.24(20)#	11.02(20)#	
^{45}Mn			14.54(30)#	11.54(30)#		9.76(30)#		5.27(30)#	8.29(30)#	
^{49}Co			14.97(50)#	12.23(50)#		10.21(50)#		5.43(50)#	7.31(50)#	
^{53}Cu		< 130 ns	16.49(50)#	13.92(50)#		12.47(50)#		7.62(50)#	9.19(50)#	[2005Bi15]
^{57}Ga			17.14(45)#	15.93(40)#		15.35(40)#		10.73(40)#	11.80(40)#	
^{61}As			16.59(42)#	15.10(36)#		15.44(30)#		12.60(30)#	12.93(36)#	
^{65}Br			16.53(58)#	15.75(54)#		15.85(50)#		13.63(50)#	14.88(58)#	

Table 2

Particle emission from the odd-Z $T_z = -5/2$ nuclei. Unless otherwise stated, all Q-values and separation energies are taken from [2021Wa16] or deduced from values therein.

Nuclide	S_p	BR_p	S_{2p}	Q_α	Experimental
^{13}F	-2.73(50)#	100%	-3.09(50)#		[2021Ch19]
^{17}Na	-3.44(6)	100%	-3.57(6)	-9.740(10)	[2017Br07]
^{21}Al	-2.32(60)#	100%	0.42(60)#	-10.06(60)#	[1997Au04]
^{25}P	-2.16(40)#	100%	1.14(40)#	-9.32(72)#	[1997Au04]
^{29}Cl	-2.66(10)#	100%	-0.10(19)#	-8.59(44)#	[2015Mu13]
^{33}K	-2.45(20)#		0(200)#	-8.91(28)#	
^{37}Sc	-2.94(30)#		-0.38(30)#	-6.19(36)#	
^{41}V	-2.02(21)#		0.10(20)#	-5.90(36)#	
^{45}Mn	-1.15(30)#		1.64(30)#	-7.72(36)#	
^{49}Co	-0.94(51)#		1.79(50)#	-7.23(58)#	
^{53}Cu	-2.13(51)#		0.38(50)#	-5.79(71)#	
^{57}Ga	-2.69(57)#		-1.65(43)#	-4.70(64)#	
^{61}As	-3.04(42)#		-1.98(35)#	-4.22(50)#	
^{65}Br	-3.08(71)#		-2.43(54)#	-1.72(58)#	

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