



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.

Nuclide	J^π	$T_{1/2}$	Q_ϵ	$Q_{\epsilon p}$	$BR_{\beta p}$	$Q_{\epsilon 2p}$	$BR_{\beta 2p}$	$Q_{\epsilon 3p}$	$BR_{\beta 3p}$	$Q_{\epsilon \alpha}$	Experimental
^{29}Ar			23.95(48)#	26.61(47)#		24.05(44)#		23.24(44)#		15.36(59)#	
^{33}Ca			23.49(40)#	25.94(40)#		23.49(40)#		23.22(40)#		24.59(44)#	
^{37}Ti			21.39(50)#	24.33(40)#		21.77(40)#		21.68(40)#		15.21(45)#	
^{41}Cr			20.10(45)#	22.11(41)#		20.01(40)#		20.60(40)#		14.21(50)#	
^{45}Fe	$(3/2^+)$	3.76(22) ms	19.39(41)#	20.54(29)#	18.9(35)%*	17.75(28)#	7.8(23)%*	17.65(28)#	3.3(16)%*	11.68(34)#	[2012As02, 2012Au08, 2016ChZV, 2011Bl01, 2009Gr07, 2009Mi29, 2008Mi03, 2007Mi36, 2005Do20, 2007Gi10, 2005Bl131, 2005Gi15, 2002Pf02, 2002Gi09, 2001Gi01, 1996Bl21]
^{49}Ni	$7/2^-$	7.5(10) ms	18.31(78)#	19.25(61)#	83(13)%	16.52(60)#		16.14(60)#		1.09(67)#	[2007Do17, 1996Bl21]

* deduced from values in [2007Mi36]

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	BR_{1p}	S_{2p}	BR_{2p}	Q_α	Experimental
^{29}Ar	-2.41(35)#	—	-5.90(18)#		-8.03(63)#	
^{33}Ca	-1.75(57)#	—	-5.13(45)#		-9.36(59)#	
^{37}Ti	-1.73(50)#	—	-5.40(45)#		-8.29(57)#	
^{41}Cr	-0.65(50)#	—	-3.33(45)#		-7.19(57)#	
^{45}Fe	0.34(41)#	—	-1.21(5)*	70(4)%**	-8.43(49)#	[2012As02, 2012Au08, 2007Mi36, 2011Bl01, 2009Gr07, 2009Mi29, 2008Mi03, 2007Gi10, 2005Do20, 2005Bl131, 2005Gi15, 2002Pf02, 2002Gi09]
^{49}Ni	0.49(78)#	—	-1.08(78)#		-8.30(66)#	

* from [2012Au08], [2021Wa16] lists -1.80(20)#.

** [2007Mi36].

*** Prediction from Ref. [2013Ti01].

Table 3

direct 2 proton emission from $^{45}\text{Fe}^*$, $T_{1/2} = 3.76(22)$ ms, $BR_p = 100\%$.

$E_{2p}(\text{c.m.})$	$I_{2p}(\text{abs})$	$E_{\text{daughter}}(^{43}\text{Cr})$
1.21(5)	100%	0.0

* All values from [2012Au08].

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