



Fig. 1: Known experimental values for heavy particle emission of the $T_z = -4$ nuclei.

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Table 1

Observed and predicted β -delayed particle emission from the even- Z , $T_z = -4$ nuclei. Unless otherwise stated, all Q-values are taken from [2021Wa16] or deduced from values therein.

Nuclide	J^π	$T_{1/2}$	Q_ϵ	$Q_{\epsilon p}$	$BR_{\beta p}$	$Q_{\epsilon 2p}$	$Q_{\epsilon 3p}$	$Q_{\epsilon \alpha}$	Experimental
^{48}Ni	0^+	$2.1^{+1.4}_{-0.6} \text{ ms}$	$16.45(66)\#$	$18.02(66)\#$	$30(20)\%$	$16.02(43)\#$	$15.82(42)\#$	$8.30(52)\#$	[2014Po05, 2011Po09]

* [2012Au08]

** deduced from values in [2007Mi36]

*** [2007Do17]

Table 2

Particle separation and emission from the even- Z , $T_z = -4$ 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
^{48}Ni	$-0.27(74)\#$		$-2.39(30)\#$	$70(20)\%$	$-4.83(5)^*$	[2014Po05, 2011Po09, 2005Do20]

* Prediction from Ref. [2013Ti01].

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