

# Beta-delayed proton emission for $^{64}\text{Se}$ and its implications to the isospin mirror symmetry

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The study of exotic proton rich nuclei is very interesting because the Q-values are very high giving acces to a number of nuclear states in the daughter nucleus, including the isobaric analog state (IAS) which carries important and very clear information about the decay. In these nuclei the lifetimes involved can be as low as ms, requiring facilities with in-flight separators where transportation times can be lowered to  $\sim 100$  ns. We will present the results of an experiment on beta-delayed proton emission from  $^{64}\text{Se}$  from the experiment NP1112-RIBF82 performed at RIBF (RIKEN, Japan). A  $^{78}\text{Kr}$  beam on a Be target at 345MeV/u was used to create the nuclei, fragments were identified and separated by the BigRIPS [1] fragment separator and implanted at the zero-degree focal plane where an active stopper (WAS3ABi) [2] was placed, surrounded by a HPGe array (EURICA). We reconstructed the level scheme for all decay products of  $^{64}\text{Se}$  and we could obtain the absolute value of B(GT) to daughter states. These results were compared with the mirror process of beta decay, namely the charge exchange reaction  $^{64}\text{Zn}(^3\text{He,t})^{64}\text{Ga}$  [4]. In this work, we will discuss these results and its implications for mirror symmetry in the fp-shell.

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