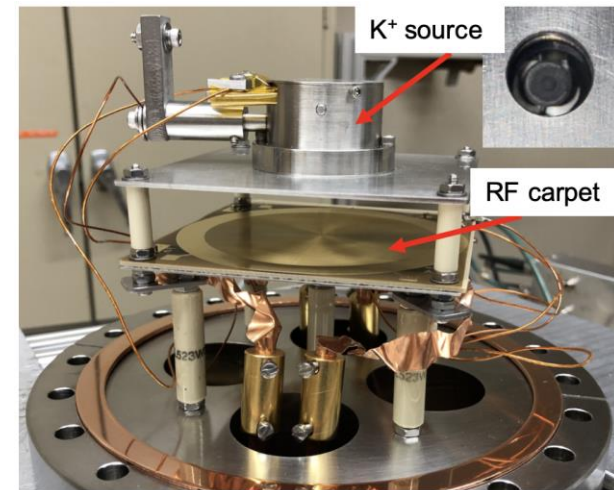
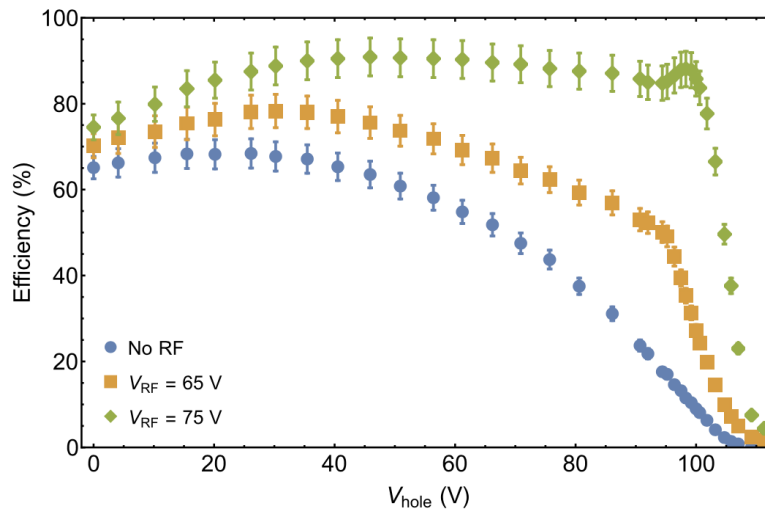


# RF carpet for St. Benedict



- The Superaligned-Transition-Beta-Neutrino-Ion-Coincidence-Trap (St. Benedict) aims to test predictions of the Standard Model by precision angular correlation measurements in beta decay transitions between mirror nuclei.
- A critical component of St. Benedict is its radio-frequency (RF) carpet used to transport ions extracted from the gas catcher at a pressure of around 3 mbar.
- These transport tests, performed at a pressure 50 times lower than usual, demonstrates that higher than 90% transport efficiency are achievable using the ion surfing method and appropriate electrostatic guiding fields even in the absence of helium flow.
- The near 100% transmission expected with the presence of gas flow will permit the measurements on the most exotic isotopes produced at TwinSol.



C. Davis *et al.*, NIM A **1031**, 166509 (2022)  
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