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The First Radioactive Ion Beams at the St. Benedict Trapping Facility

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Unitarity tests of the Cabbibo-Kobayashi-Maskawa (CKM) quark mixing matrix offer unique insight into the electroweak part of the Standard Model. A reliable unitarity test of this matrix requires a precise and accurate value of the largest element, V_{ud}. Recent improvements to a theoretical correction term have prompted the need to extract V_{ud} from a larger subset of nuclei including superallowed beta-transitions between nuclear mirrors. Extracting V_{ud} from these transitions requires the challenging determination of the Fermi to Gamow-Teller mixing ratio, ρ. To this end, the Superallowed Transition BEta- NEutrino Decay Ion Coincidence Trap (St. Benedict) is currently being commissioned at the NSL which aims to extract ρ via a measurement of the ToF spectra of the recoiling daughter from several mirror transitions ranging from ^{11}C to ^{41}Sc. Motivation and overview of St. Benedict along with results from the first delivery of radioactive ion beams, will be presented.
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