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Search for novel decay modes using 11Be at NSCL: an update[1] JASON SURBROOK, MSU/NSCL, YASSID AYYAD LIMONGE, FRIB, TAMAS BUDNER, MSU/NSCL, MARCO CORTESI, MOSHE FRIEDMAN, NSCL, CATHLEEN FRY, BRENT GLASSMAN, MOLLY JANASIK, AARON KRUSKIE, MSU/NSCL, RUCHI MAHAJAN, NSCL, EMMANUEL POLLACCO, DPhN/IRFU CEA, Saclay, Fr., MICHAEL ROOSA, JORDAN STOMPS, MSU/NSCL, LIJIE SUN, NSCL/Shanghai Jiao Tong Univ., TYLER WHEELER, CHRISTOPHER WREDE, MSU/NSCL — In 2014, the first indirect evidence of β^--delayed proton (β^-p) emission, a novel radioactive decay mode, was observed via the apparent transmutation of a ^{11}Be source produced by the ISOL technique to ^{10}Be using accelerator mass spectrometry (AMS). Although the deduced branching ratio was nearly two orders of magnitude greater than expected, the first direct measurement of the ^{11}Be(β^-p) decay at TRIUMF in 2019 confirmed it. However, attempts to reproduce the AMS measurements in 2020 did not observe the generation of ^{10}Be and are now inherently at odds with both previous β^-p measurements. We present the status of an independent search for low-energy protons emitted in the decay of ^{11}Be using the Gaseous Detector with Germanium Tagging (GADGET) at the NSCL. The second run has generated 15 times more data than the initial run presented at the 2019 APS April Meeting, providing better statistical precision and background characterization.

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