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Search for the heaviest N∼Z alpha emitters ROBERT GRZYWACZ, UTK/ORNL, SHINTARO GO, UTK, KATSUHISA NISHIO, JAEA, ANDREI ANDREYEV, University of York, KRZYSZTOF RYKACZEWSKI, ORNL, KAROLINA KOLOS, YONGCHI XIAO, UTK, DAVID JENKINS, University of York, RICCARDO ORLANDI, KENTARO HIROSE, HIROYUKI MAKII, ICHIRO NISHINAKA, HIROSHI IKEZOE, ROMAIN LEGUILLON, JAEA, TSUTOMU OTSUKI, Kyoto University, SATOSHI CHIBA, Tokyo Institute of Technology, FRITZ PETER HEßBERGER, GSI — The enhancement of an alpha-decay probability for nuclei above ^{100}Sn is expected since valence protons and neutrons above $Z = N = 50$ occupy the same single-particle orbitals. The search for new alpha emitters in this region has started at JAEA Tandem Laboratory at the Advanced Science Research Center (ASRC) at Tokai, Japan. We have performed the commissioning experiments at the Recoil Mass Separator (RMS) using two reactions: ^{58}Ni+^{54}Fe and ^{58}Ni+^{58}Ni with the ^{58}Ni beams. The data-acquisition technique developed at UTK/ORNL enabled us to identify alpha-particles and protons from the decay of ^{108,109}Te, ^{109}I and ^{113}Cs, and to detect the ^{109}Xe-^{105}Te-^{101}Sn decay chain. The summary of the results will be presented to demonstrate the capabilities of the ASRC's RMS.

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