

Abstract Submitted
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Connecting the Super-Heavy Island to the Nuclear Mainland¹ K. RYKACZEWSKI, K. MIERNIK, ORNL, R. GRZYWACZ, UTK and ORNL, D. MILLER, UTK — The reactions between radioactive actinide targets and doubly-magic ^{48}Ca beam led the identification of 6 new super-heavy elements (SHE) and 48 nuclei. Since the observed decay chains are ended by a fission process, these super-heavy nuclei are forming an isolated island in the nuclear chart. The HRIBF development of new detector system and digital data acquisition sensitive to very short-lived α -emitters made possible to attempt the studies extending the SHE island. The experiments aiming in new nuclei produced in the reactions with ^{248}Cm and $^{239,242}\text{Pu}$ targets and $^{40,44,48}\text{Ca}$ projectiles and connecting the SHE island to the known nuclear mainland will be discussed.

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