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Search for Heavy and Superheavy systems in $^{197}\text{Au} + ^{232}\text{Th}$ Collisions near the Coulomb Barrier KRIS HAGEL, MARINA BARBUI, JOSEPH NATOWITZ, MARCIA RODRIGUES, KASIA SCHMIDT, ROY WADA, ZBIG MAJKA, HUA ZHENG, Cyclotron Institute Texas A&M University — The possibility to produce very heavy elements in the reaction $^{197}\text{Au} + ^{232}\text{Th}$ at 7.5 MeV/nucleon has been investigated using the BigSol spectrometer at Texas A&M. This experiment indicated the possibility to produce heavy elements of Z about 100, however a confirmation of this scenario would only come by detecting the high energy alpha particles emitted by the decaying heavy nuclei. In fact, very heavy nuclei are expected to decay to stable nuclei through alpha particle chains with energy around or above 10 MeV. A new experiment was performed to search for high energy alpha emission. The heavy reaction products in the angular range from 3° to 45° are implanted in a catcher foil. The particles emitted by the decaying implanted nuclei are detected using ΔE -E telescopes in the backward position. The 7.5 AMeV ^{197}Au beam from the K500 cyclotron at Texas A&M was pulsed at different intervals in order to be able to identify species of different half-life. The events were recorded both in beam-on and beam-off conditions. The preliminary results will be shown.

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