Gamma-Ray Spectroscopy of Nuclei Along the Z=115 Decay Chain

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During the past decade correlated α-decay chains have been observed in several independent experiments using \(^{48}\text{Ca}\)-induced fusion-evaporation reactions on actinide targets [1]. These are interpreted to originate from the production of isotopes with proton numbers \(Z = 113-118\). In a recent experiment at the GSI Helmholtzzentrum für Schwerionenforschung GmbH in Darmstadt, Germany, using the reaction \(^{48}\text{Ca} + ^{243}\text{Am}\) and high-resolution charged particle and X-ray and gamma-ray coincidence spectroscopy the atomic number were measured directly in one of the isotopes in the \(Z = 115\) decay chain [2]. The experiment used the TASISpec set-up [3] coupled to the gas-filled separator TASCA [4]. The present paper will discuss gamma-ray spectroscopy of nuclei populated along the \(Z = 115\) decay chain.