High-spin Isomers in ^{94}Pd

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The region of neutron-deficient nuclei just below ^{100}Sn is remarkable for an abundance of high-spin isomeric states. The 14^+ isomer in ^{94}Pd is one example that has been well studied via-fusion evaporation [1, 2] and fragmentation [3, 4] reactions and via the β decay of the (21^+) isomer in ^{94}Ag [5, 6]. This talk will report the discovery of a second γ-decaying high-spin isomeric state in ^{94}Pd, populated via fragmentation of an 850 MeV/u ^{124}Xe beam from the SIS synchrotron at GSI. The FRagment Separator (FRS) and its ancillary detectors [7] provided a clean identification of each fragment implanted in an active stopper at the separator's final focus. Combined with the high efficiency of the RISING array surrounding the stopper, this allowed for the lifetime measurement of both isomeric states in an almost background-free environment through γ-γ coincidences. These measurements will be discussed along with the possible spin and parity assignments of the new state. Results will also be compared to shell model calculations.

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