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## Lifetime measurements show high triaxiality in ruthenium.

The neutron rich region around  $A \sim 100$  is of special interest in nuclear structure for its many rapid shape transitions. Their exact properties are predicted differently by different nuclear structure models, making this region well suited as a testing ground.

In 2017, experiment E706 populated close to a hundred nuclides in this region using the fusion fission reaction of a 6.2 MeV/u U-238 beam on a Be-9 target, with the aim of investigating lifetimes of excited states with the recoil distance Doppler-shift method. The fission fragments passed through the Orsay Universal Plunger System while the Advanced Gamma Tracking Array (AGATA) measured the emitted gamma-rays. VAMOS++ was used to identify the fission fragments event-by-event.

Results for odd and even ruthenium isotopes will be presented. In Ru-110 and Ru-112, lifetimes in both the ground state band and gamma band have been measured. Comparison with theoretical models and interpretation in terms of deformation parameters yield quantitative information on the evolution of triaxiality in the ruthenium chain. Our results are consistent with ruthenium-110 being a slightly oblate and highly triaxial rotor. Ongoing efforts to extract lifetimes from spectra with many overlapping transitions will also be presented.

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