## Recent results obtained with the Argonne Gas-Filled Analyzer: observation of the ground-state rotational band in the highly fissile nucleus 250No

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The island of deformed nuclei around the Z=100, N=152 deformed shell gaps serves a stringent testing ground for nuclear models aiming to describe super-heavy nuclei. In fact, without the presence of shell corrections, these nuclei would undergo instantaneous fission. Nuclei in this region have been extensively studied using decay and in-beam spectroscopic methods. During the presentation, recent experiments conducted with the Argonne Gas-Filled Analyzer (AGFA) both in stand-alone mode and coupled to the Gammasphere 🛛-ray detector array will be reviewed. Notably, the talk will cover the first observation of the ground-state rotational band in the highly fissile nucleus 250No, which fissions rapidly with a half-life of only 4 🖾s. This nucleus presents a unique opportunity to investigate the competition between 🗠-ray decay and fission processes. Additionally, the results of a search for short-lived K-isomers in proton-rich Lr isotopes will be presented. Finally, plans for experimental program with AGFA will be outlined.

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