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Searching for new Flerovium isotopes[1]

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Experiments with ^{239,240}Pu targets and ^{48}Ca beams began at Dubna in November 2013. These studies, to identify decay chains starting from $^{283-5}$Fl isotopes, are using a new detection system and digital data processing commissioned by the ORNL-UTK team, and implemented at the Dubna Gas Filled Recoil Separator. These experiments are expected to expand our knowledge regarding properties of known and new nuclei located at the gap between the Hot Fusion Island and the Nuclear Mainland. New data may enrich information on the competition between alpha decay and spontaneous fission (SF) in super heavy nuclei. The new system demonstrably provides better validation and correlation of fast decays with implanted recoils, even in sub-microsecond time intervals. The plans for a search for new isotopes with Z=118 will also be shown.

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