

## **E137: Experimental investigation of the precision limit for spectroscopic measurements in relativistic, few-electron high-Z ions by the method of resonant coherent excitation (RCE) of ions in a crystal.**

*Wednesday, 1 June 2022 14:05 (5 minutes)*

We propose a new measurement for the precise determination of the  $2s_{1/2} \rightarrow 2p_{3/2}$  transition energy in Li-like uranium by means of resonant coherent excitation of ions in a thin Si-crystal. The goal of the proposed measurement is to determine the transition energy with an accuracy of the order ppm by a more precise determination of the ion beam energy. Also the RCE in non-channeling conditions (3D-RCE) will be tested for the same transition.

The present proposal was two times recommended by the G-PAC with A score and was scheduled for runs in 2020, 2021 and 2022. The first two schedules were canceled due to the covid19-pandemic. In 2022 the experiment was prepared for the beam time in cave a but unfortunately the accelerator could not deliver the needed beam in due time.

The GSI management proposed to consider the experiment for the beam time schedule 2023 without additional G-PAC evaluation.

Approved shifts: 18 shifts (main)

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**Session Classification:** ESR