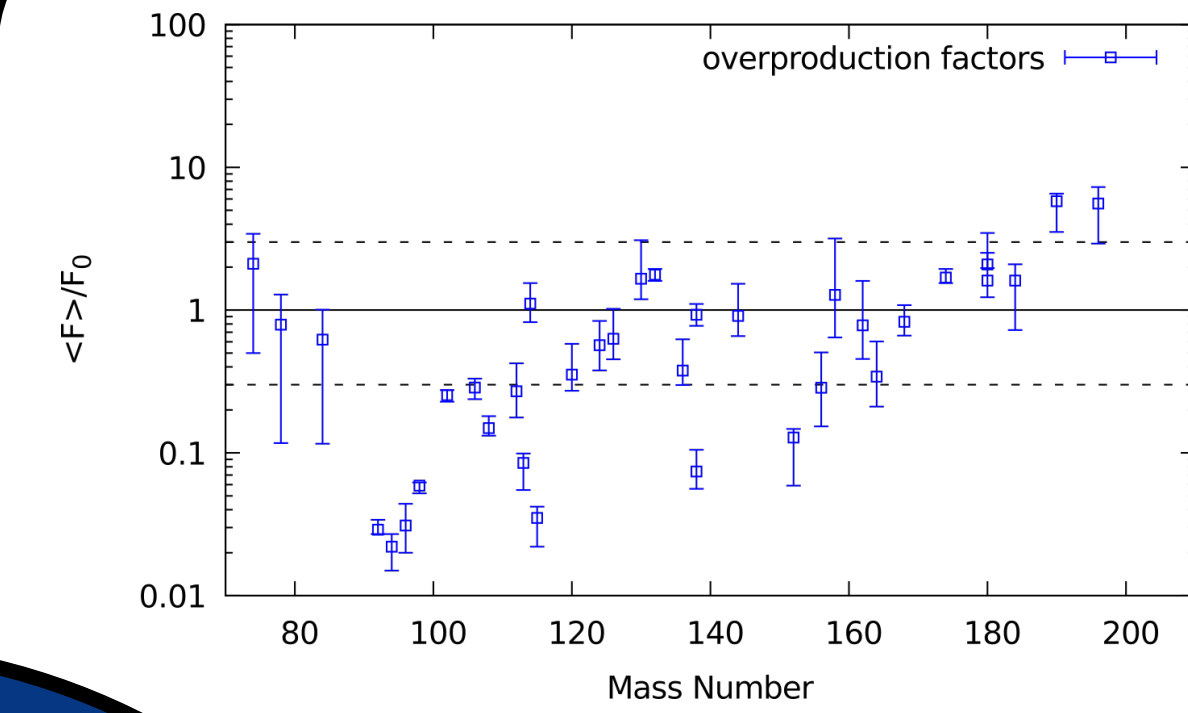




the first proton-capture experiment using highly-charged **radioactive** ion beam

15 shifts of beam time in 2020, repeated in 2021

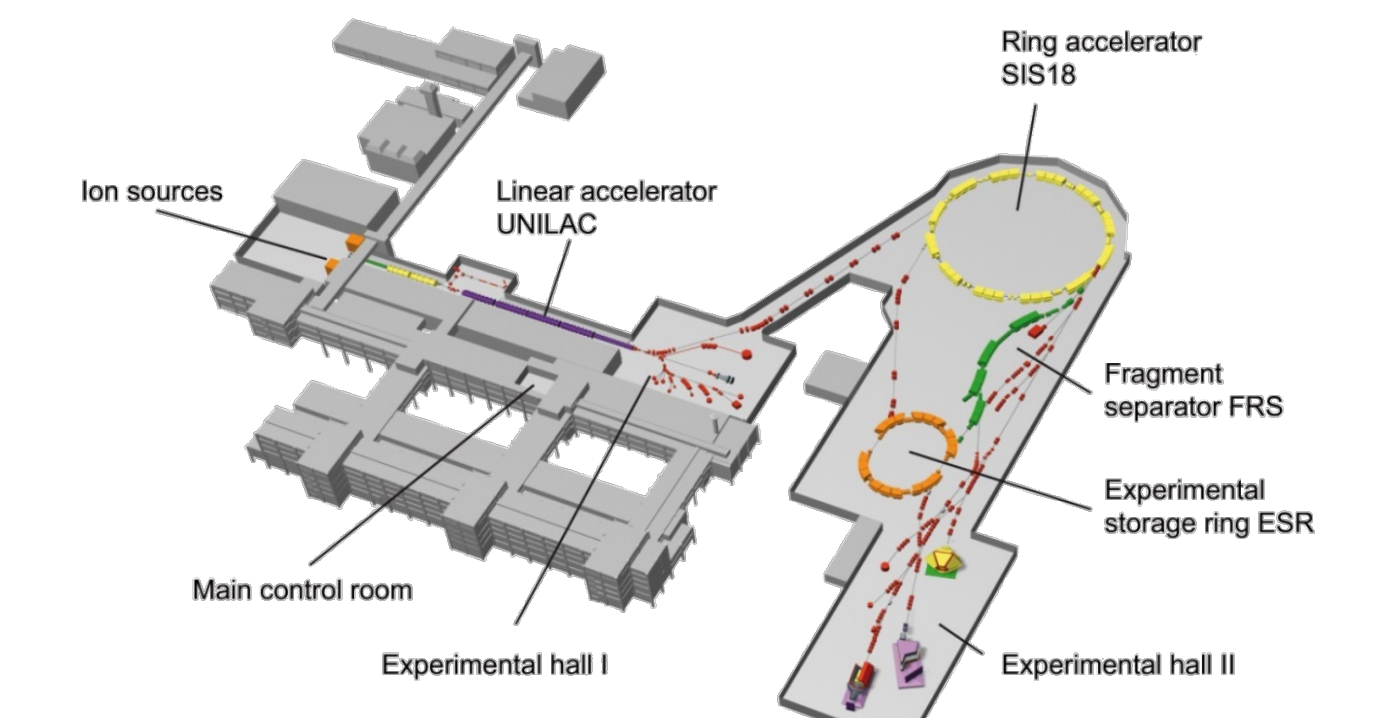
measurement of the $^{118}\text{Te}(p, \gamma)^{119}\text{I}$ reaction



~35 rare p-nuclei: mainly γ -process [1], rp-process [2]

The simulated p-nuclei production yield to the solar abundance ratios has large deviations.

The storage rings at GSI, the Experimental Storage Ring (ESR) and the CRYRING, provide unrivaled opportunity allowing for the corresponding reaction studies.



GSI accelerator complex for ion research in Darmstadt, Germany

P-nuclei production yield [3].

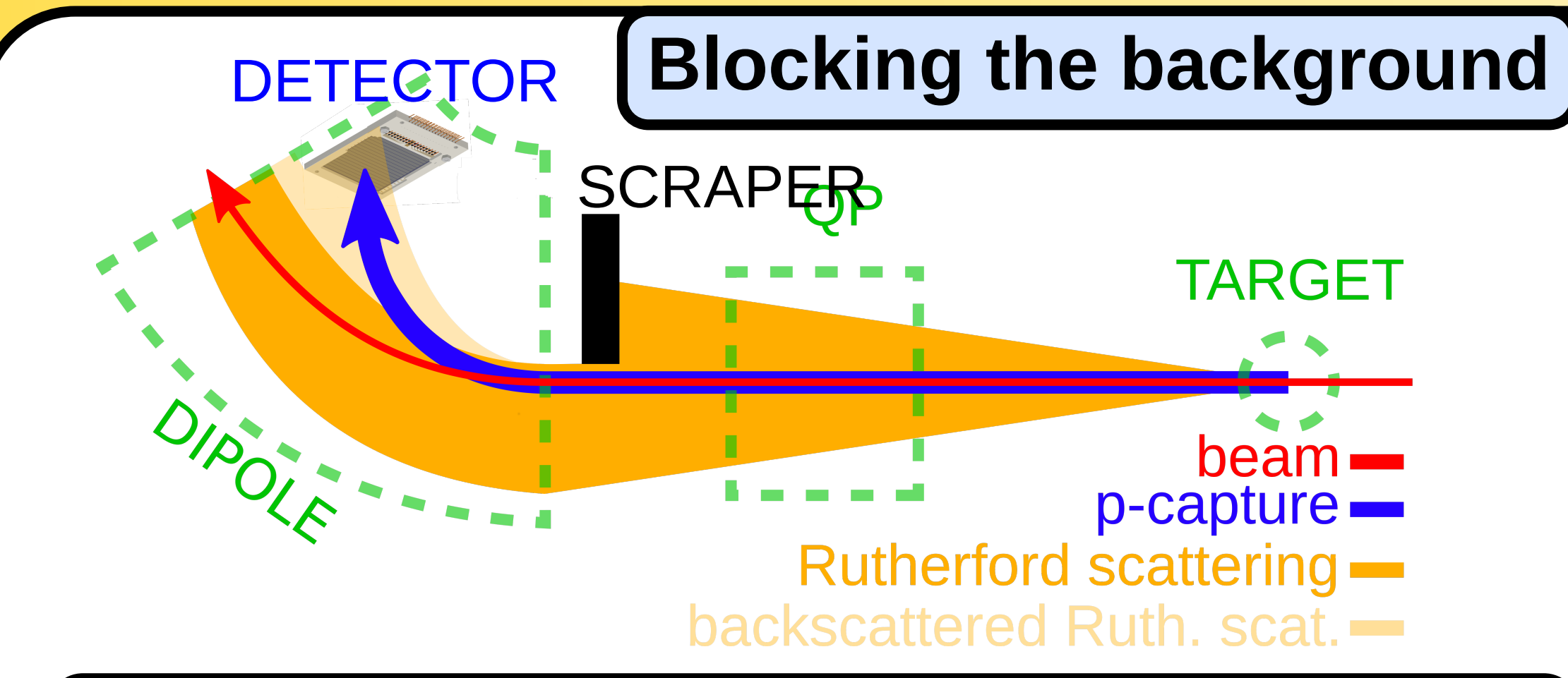
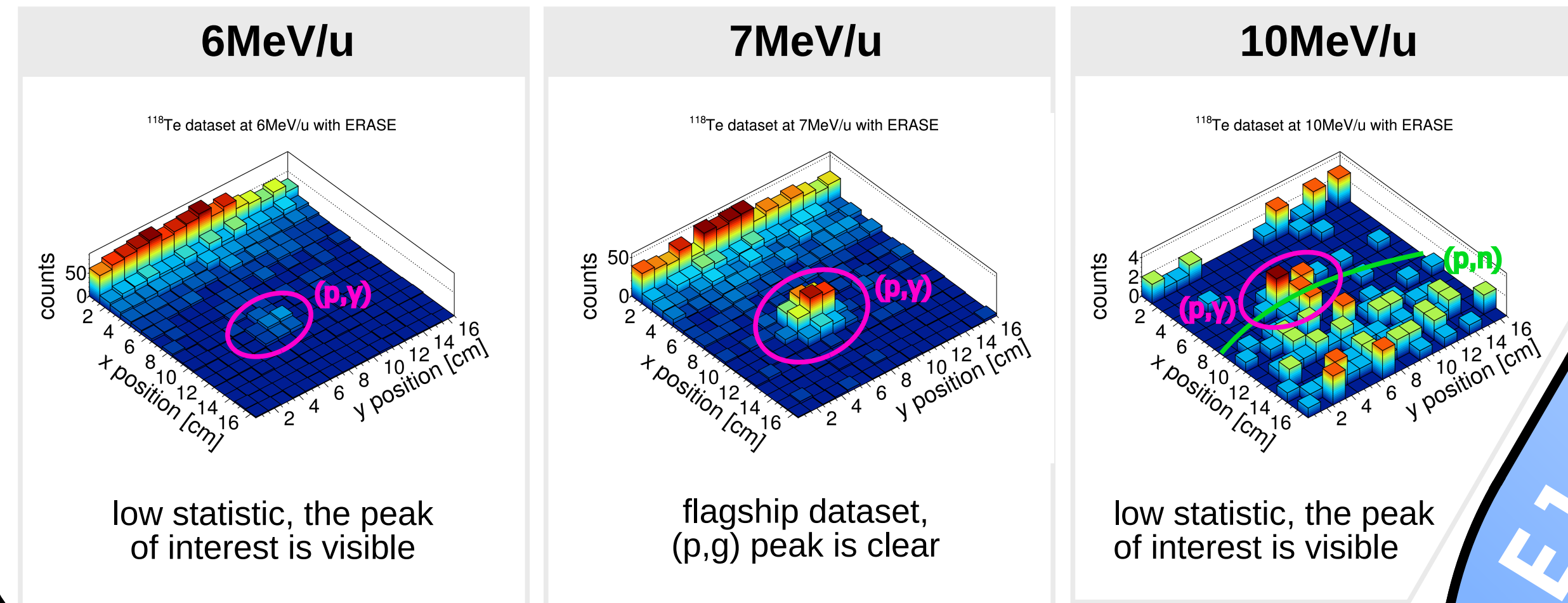
Reaction studies in a heavy ion storage ring are realized through measurements in inverse kinematics. Access to nuclides which are hardly possible to prepare in form of a solid target.

E127 experiment

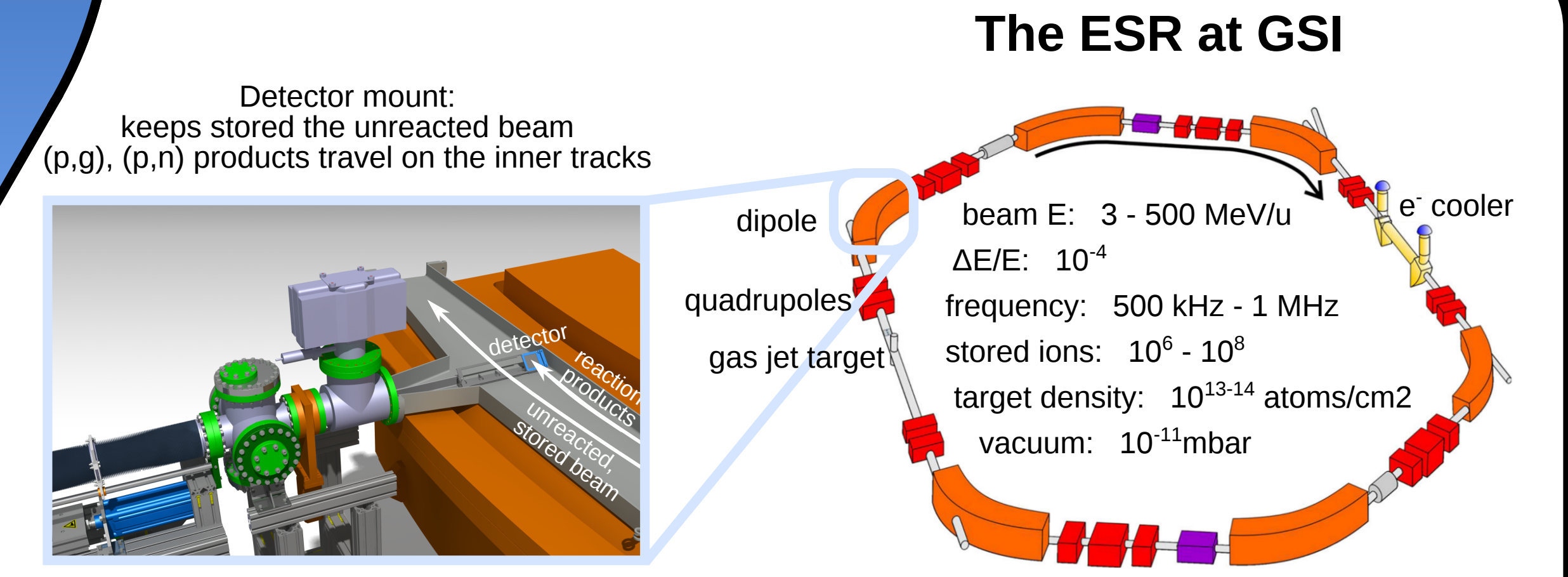
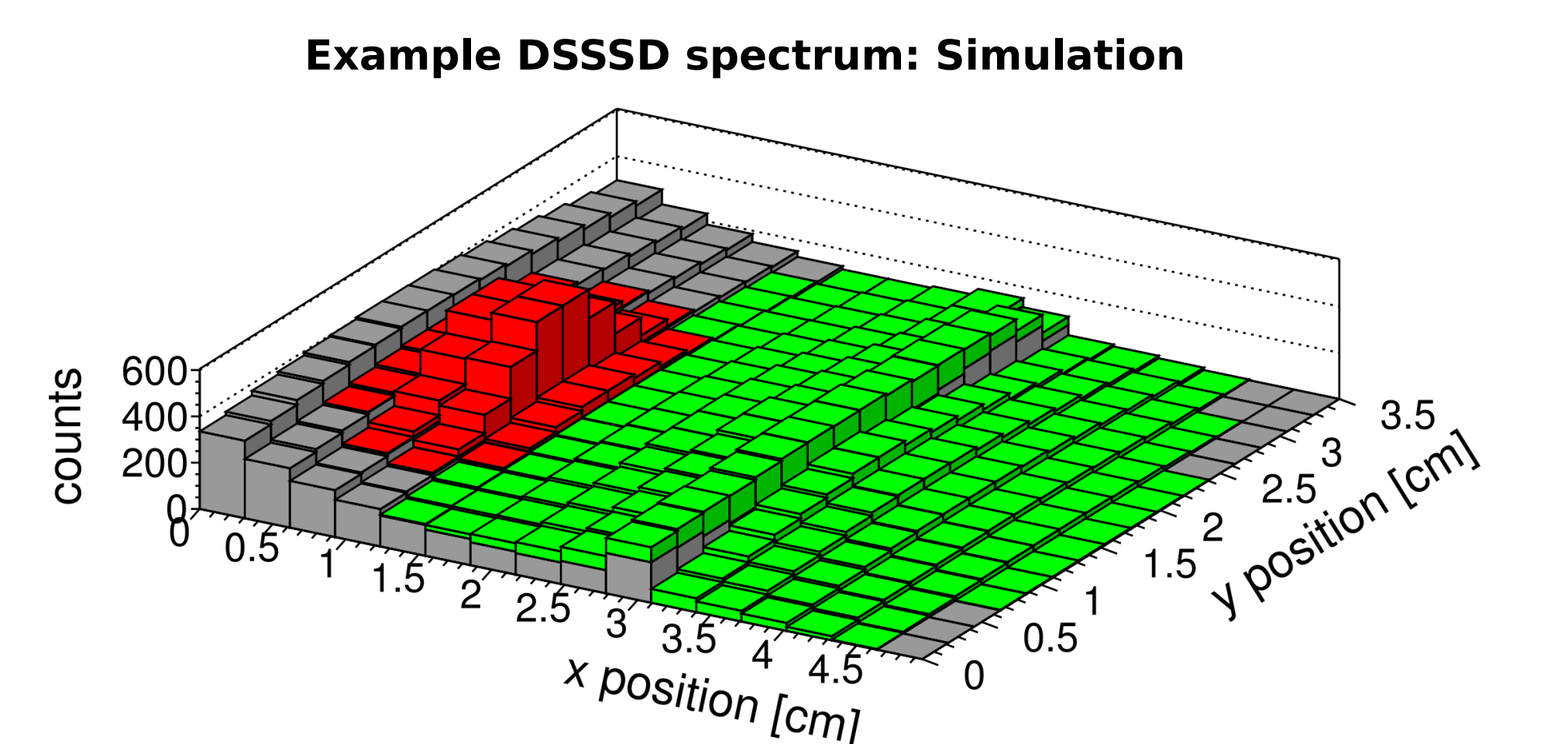
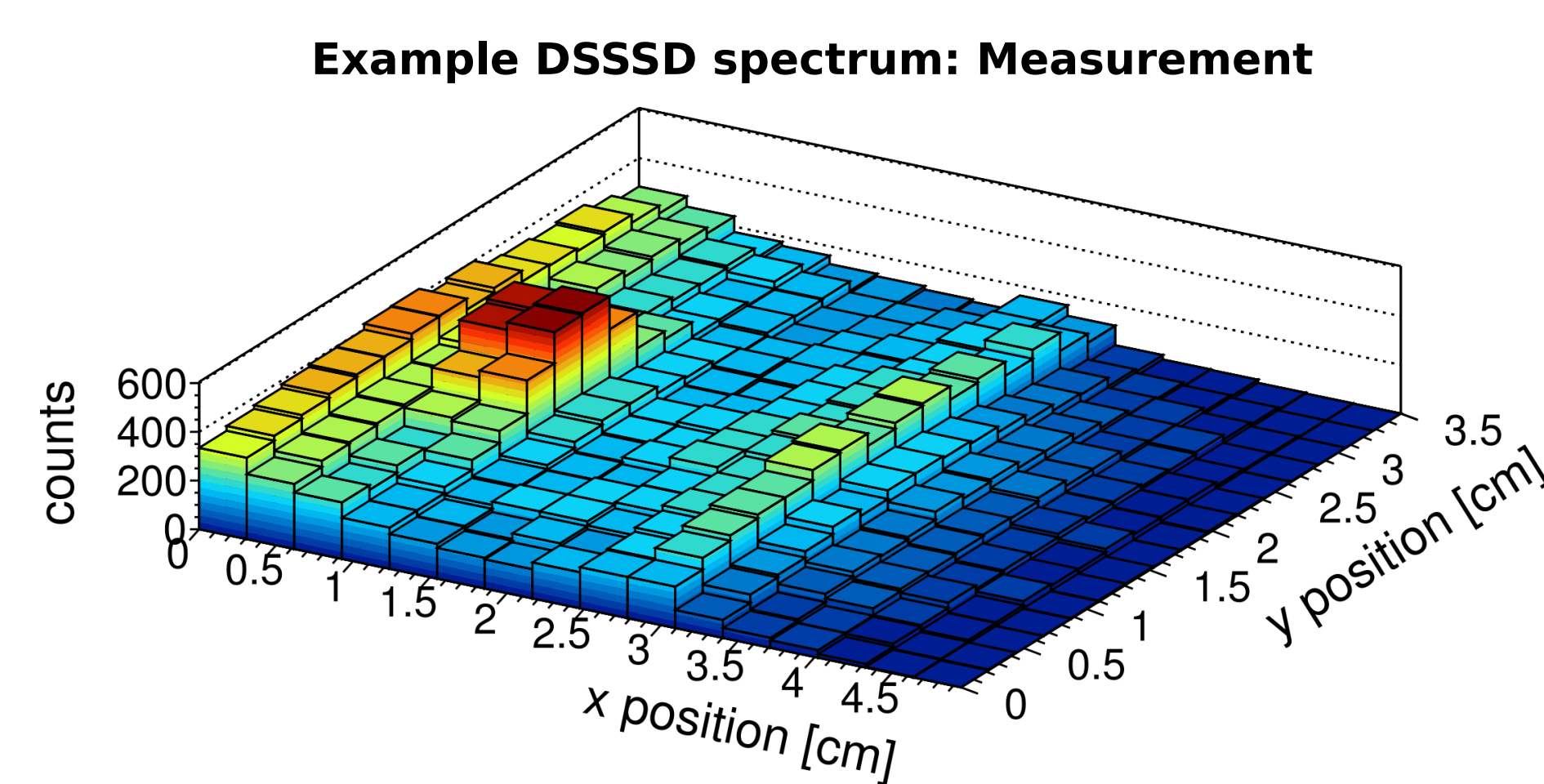
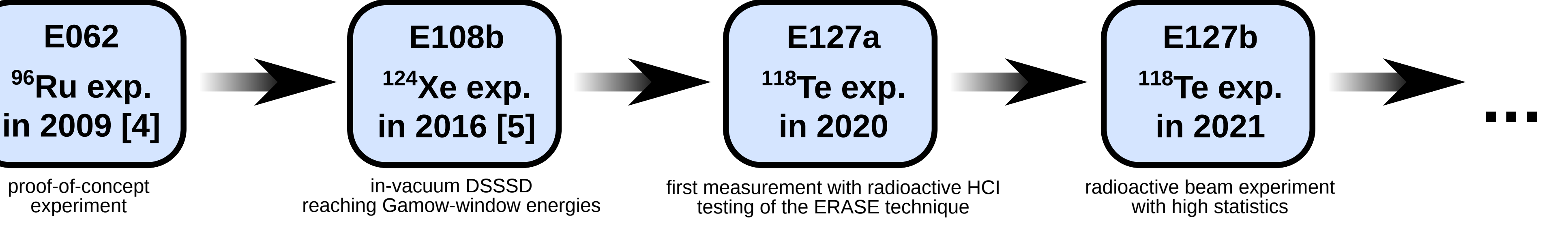
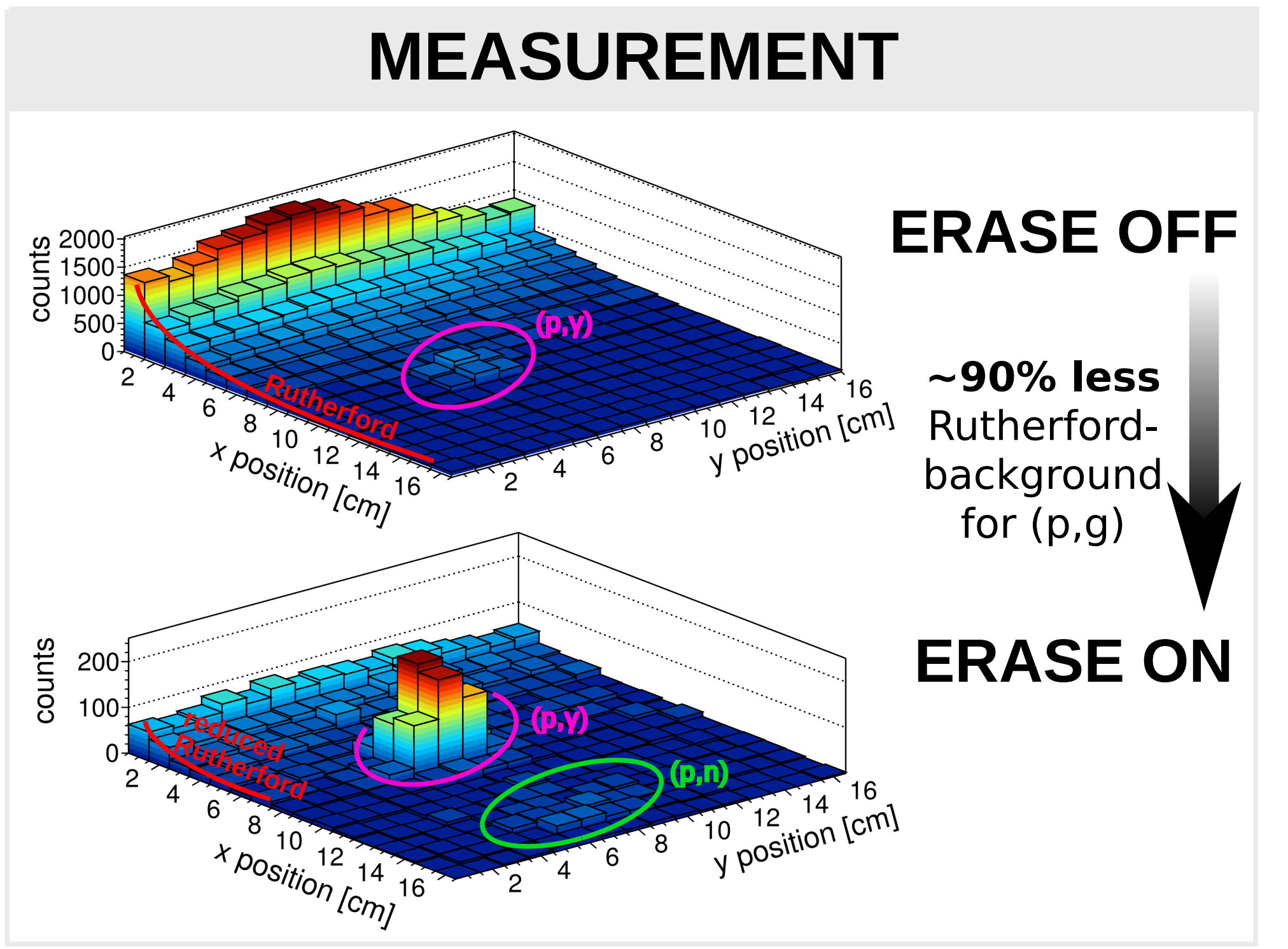
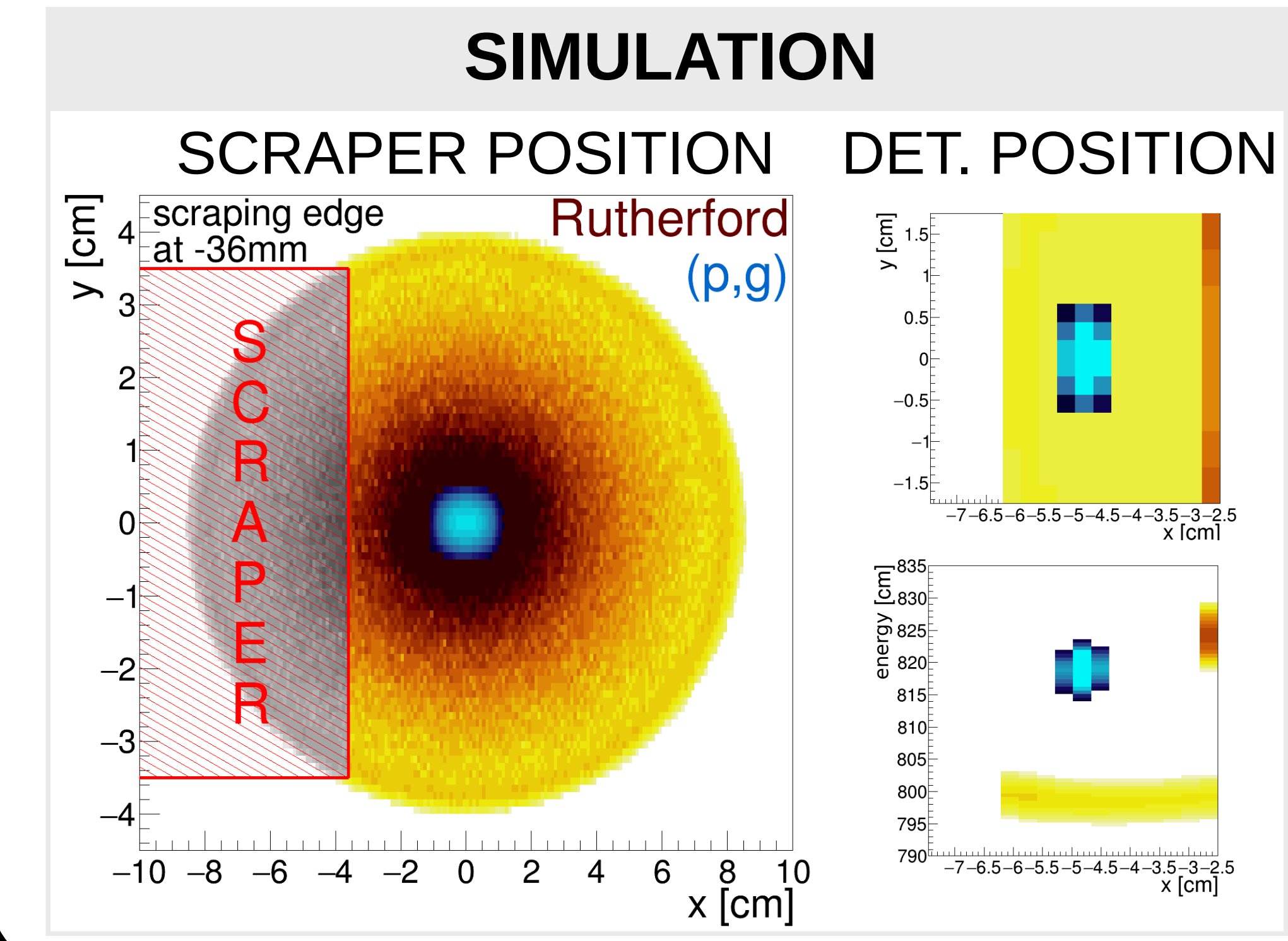
Motivation

Proton-capture measurements on stored radioactive ions for the p-process nucleosynthesis

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ERASE technique: dominant part of the Rutherford-scattering is eliminated thereby achieving a nearly background free detection of the p-capture products



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