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Nuclear Astrophysics and GSI/FAIR: Present and Future

Monday 5 September 2022 11:30 (30 minutes)

The GSI/FAIR facility close to Darmstadt, Germany offers a large suite of experimental possibilities with radioactive ions. Stable ions between hydrogen and uranium can currently be accelerated with the synchrotron SIS-18. Fragmentation on combination with a powerful fragment separator (FRS) enable the experiments with a wide range of radioactive isotopes. Single pass can be used to investigate rather short-lived at higher energies. Ring experiments allow high precision experiments on longer-lived isotopes at lower and higher energies. Currently ongoing upgrades will increase the rate of radioactive ions by up to 4 orders of magnitude, which opens a new era of research with radioactive ions.

I will review a few of the recent experiments with astrophysical motivation and provide some ideas about possible future capabilities.

Field of work

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