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TSR: a storage ring for HIE-ISOLDE

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It is planned to install the heavy-ion, low-energy ring TSR, currently at the Max-Planck Institute for Nuclear Physics in Heidelberg, at the HIE-ISOLDE facility in CERN, Geneva [1]. Such a facility will provide a capability for experiments with stored, cooled secondary beams that is rich and varied, spanning from studies of nuclear ground-state properties and reaction studies of astrophysical relevance, to investigations with highly-charged ions and pure isomeric beams. In addition to experiments performed using beams recirculating within the ring, the cooled beams can be extracted and exploited by external spectrometers for high-precision measurements.

The capabilities of the ring facility as well as some physics cases will be presented, together with a brief report on the status of the project.

[1] "Storage ring at HIE-ISOLDE", M. Grieser et al., Eur. Phys. J. Special Topics, 207, 1-117 (2012)

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