



Contribution ID: 14

Type: **Talk**

## ESR as a Decelerator of Heavy Ions for HITRAP – Status and Recent Developments

*Monday, 18 July 2022 09:10 (25 minutes)*

Deceleration of highly charged ions is a mode for the operation for the ESR storage ring at GSI which is required for various types of experiments. The special requirement for HITRAP is the deceleration down to an energy of 4 MeV/u precisely, which is close to the minimum design value, in combination with fast extraction. The deceleration can start from any injection energy, but for efficient production of highly charged ions or RIBs an injection energy of 300-400 MeV/u is favorable. Consequently, the beam has to be decelerated by up to a factor of 100 in energy. Fast and efficient deceleration is crucial to provide experiments at HITRAP with sufficient average intensity. The delivered intensity is presently mainly limited by the vacuum of the ESR which determines the beam lifetime and the losses at the lower energies. The present status of the ESR and some recent development which are relevant for the operation as decelerator for HITRAP will be discussed.

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**Session Classification:** Session 1