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# The Quest for a Dense Target at CRYRING

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An internal target station featuring a novel design based on previous experiences gained at the ESR has been installed and commissioned in the CRYRING storage ring during 2022. Since then, numerous target experiments utilizing different gases, ranging from hydrogen to xenon, were performed at moderate target densities. However, a considerably higher area density for hydrogen and deuterium was requested for this year's beamtime block.

It had been known from previous experimental campaigns that the limiting factor preventing higher densities was the gas load in the first differential pumping stage of the inlet chamber. Consequently, the target station has been enhanced by installing a larger pump. Moreover, a refined control system as well as a beam shutter has been introduced in order to improve target beam handling and monitoring. An unexpected issue nearly led to the cancellation of the beamtime, which could fortunately be prevented by an improvised emergency operation.

The necessary modifications and the intervention that eventually led to a successful campaign will be presented in detail and the current status as well as future plans regarding the target stations both at ESR and CRYRING will be discussed.

**Autor:** PETRIDIS, Nikolaos (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

**Vortragende(r):** PETRIDIS, Nikolaos (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

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