

New Developments at CELSIUS,
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Radiation Sciences, Uppsala, Sweden – The CELSIUS
electron-cooler storage-ring is used for physics experiments
using very thin internal targets (of elements ranging from
hydrogen to xenon) and stored beams of argon, neon,
oxygen, and nitrogen ions as well as protons, deuterons
and alpha particles. New developments of the accelerator
include automatic tune measurements and corrections,
improved orbit correction by means of singular value
decomposition technique, control of momentum spread of
electron cooled ion beams through modulation of the
electron beam energy, automatic feedback control of the
position and direction of the incoming beam, and a novel
proton beam profile measurement using the so-called
“tracker” of the WASA/PROMICE detector. The WASA
4 π detector facility with superconducting solenoid and
hydrogen pellet target is being installed in the ring.