

A Neutral Hydrogen Monitor for Electron Cooling Studies of H⁻ Ions in ELENA

Thursday 30 October 2025 13:00 (30 minutes)

H⁻ ions are routinely used for the recommissioning of the ELENA ring as well as for various machine studies. Because of the weak binding energy of the electron, these ions are stripped by the interaction with the residual gas molecules and the intense electron beam generated by the electron cooler after which they are lost on the vacuum chambers of the main machine dipoles.

A neutral hydrogen monitor is installed downstream from the electron cooling device in the extension of one of the dipole magnets and is used to study the abovementioned effects. This provides much information on the evolution of the beam size and position in the cooling section during the deceleration as well as the performance of the electron cooler.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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