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Experiments to Improve the Performance of the GTS-LHC ECR Ion Source

The GTS-LHC 14.5 GHz ECR ion source provides the ion beam, which after acceleration in the ion injector complex, is injected into the LHC, or sent to fixed target experiments at CERN. Several experiments have been performed on the source. A moveable extraction system has been installed to allow adjustment of the electric field at the source extraction; the stainless-steel plasma chamber has been sputter-coated with a rather thick layer of aluminium on the surface facing the plasma; and the lead micro-oven has been modified to avoid the build-up of lead-oxide on the oven outlet. Details of the changes will be given, and results of beam measurements will be shown, with particular attention on how the stability and oven-refill schedule is impacted by these changes.

E-mail for contact person

Richard.Scrivens@cern.ch

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Primary authors: KUCHLER, Detlef (CERN); MAHNER, Edgar (CERN); WENANDER, Fredrik John Carl (CERN); BELLODI, Giulia (CERN); SCRIVENS, Richard (CERN); KOEVENER, Toke Kay Thomas (CERN)

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