

ACCELERATOR SEMINAR

Michael Maier

GSI Helmholtzzentrum für Schwerionenforschung GmbH

Thursday, 11th January at 4 p.m.

KBW lecture hall

Planckstraße 1, 64291 Darmstadt

"ROSE - ROTating System for four-dimensional transverse rms-Emittance measurements"

Knowledge of the transverse four-dimensional beam rms parameters is essential for applications that involve lattice elements that couple the two transverse degrees of freedom (planes). Of special interest is the elimination of interplane correlations to reduce the projected emittances. A dedicated rotating system for emittance measurements (ROSE) has been proposed, developed, and successfully commissioned to fully determine the four-dimensional beam matrix. In this contribution the involved mathematical algorithms, measurements, and the analysis of errors and the decoupling capability for ion beams are reported.



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