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Two stage focusing for FAIR and HIAF

Monday, 13 August 2012 17:05 (20 minutes)

B. G. Logan

Key elements of a 44 page MathCAD study will be presented for two-stage longitudinal drift compression and final focusing of 200 GeV heavy ions using a combination of a dE/dx wedge for large (20-30%) tilt generation close to an X-target, followed by a shaped powered lithium lens for final achromatic focus. Key feasibility aspects of this concept include how wedge-shaped beam absorbers might be used to generate large velocity tilts with acceptable scattering, and how B-theta final lens might be modified to focus the velocity chirped, radially correlated drift compressed beam velocity spectrum to a common focus (self-beam generated foil stacks for X- ignition test targets, and pulse-powered lithium lens for FAIR and HIAF HEDP targets).

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Session Classification: HIF Targets - Chairs: B. Sharkov and S. Kawata - Featured Posters: A. Ortner, A Bret, I.V. Lomonosov