

# SOLENOID TRANSPORT FOR HEAVY ION FUSION\*

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Solenoidal transport for high perveance heavy ion beams is considered for several stages of a fusion driver. In general this option is more efficient than magnetic quadrupole transport at sufficiently low kinetic energy and/or large  $e/m$ , and for this reason it has been employed in electron induction linacs. Ideally an ion beam would be transported in a state of Brillouin flow, i.e. cold in the transverse plane and spinning at one half the cyclotron frequency. The equilibrium and stability of such a beam are discussed along with details of application to injection, acceleration, drift compression, and final focus. A modular driver architecture based on linacs using solenoidal transport is described.

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