

Status of the HIDIF Study, C.R. PRIOR, RAL - The HIDIF study is a relatively recent initiative into the use of accelerated heavy ions to provide a driving mechanism for inertial confinement fusion. Since 1994, representatives of several European laboratories headed by the centre for heavy ion research, GSI, at Darmstadt, Germany, have collaborated to develop a self-consistent scheme based mainly on existing levels of technological expertise. The aim is to demonstrate the feasibility of an RF linac-compressor ring system for igniting an indirectly-driven deuterium-tritium target at a high repetition rate. The design is modular, which enables different aspects of the scheme to be investigated independently and provides the flexibility needed to respond to new ideas and future developments. Crucial issues include beam loss, the control of emittance and beam behaviour under current multiplication and space charge effects, while the need for further target development is becoming increasingly important. An overview of the study is presented and the status of research in the main aspects of the system discussed. Alternative ideas under consideration by the HIDIF group are also mentioned.