

PROPOSED LIF MEASUREMENT OF ELECTRIC FIELDS IN THE H-1 HELIAC

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The H-1 heliac is a medium-sized stellarator-like plasma confinement device at the National Fusion Facility, Canberra, Australia. It exhibits high and low mode confinement behaviour which is characterised by changes in the radial electric field. It is proposed to use a laser induced fluorescence (LIF) technique to measure the radial field. The technique involves the excitation of a forbidden transition in metastable helium atoms injected into the plasma by means of a pulsed helium beam source. The proposal, and the issues associated with implementing such a diagnostic on H-1 are discussed.