Abstract Submitted
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CHI during ohmic discharges in spherical tori[1] D. MUELLER, M.G. BELL, Princeton Univ., W.T. HAMP, B.A. NELSON, R.J. REDD, Univ. of Wash., S.A. SABBAGH, Columbia Univ. — Coaxial Helicity Injection (CHI) has been used on the National Spherical Torus Experiment (NSTX), the Helicity Injected Torus (HIT) and HIT-II to initiate plasma and to drive up to 400 kA of toroidal current. The primary goal of the CHI systems is to provide a start-up plasma with substantial toroidal current that can be heated and sustained with other methods. We have investigated the use of CHI systems to add current to an established, inductively driven plasma. The persistence of toroidal current after termination of the injector current has been observed on HIT-II [accepted for publication]. We will present the results of similar experiments on NSTX, in which a richer set of diagnostics is available. This technique may be an attractive method to add edge current that could modify the stability characteristics of the discharge or modify the particle and energy transport in a spherical torus. Use of an ignitron to terminate the current on open field lines will make possible comparison of before and after CHI using EFIT analysis of the data.

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