Abstract Submitted
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Magnetic Field Patterns Calculated From Scrape-Off Layer Currents (SOLC) During ELMs in DIII-D Tokamak[1] H. TAKAHASHI, E.D. FREDRICKSON, PPPL, M.J. SCHAFFER, N.H. BROOKS, T.E. EVANS, L.L. LAO, E.J. STRAIT, GA, M.E. AUSTIN, U. Texas-Austin, J.G. WATKINS, SNL — Current flowing along open field lines in the SOL may play a role in the ELM trigger process through the error field it generates [1]. A toroidally narrow ribbon-like SOLC, similar to those often found experimentally in the precursor phase of the ELM, produces a characteristic helical field structure, with appreciable intensity concentrated only over a narrow toroidal region on the outboard side and spread more evenly toroidally on the inboard side. This field pattern, calculated based in part on the spatial distribution of the SOLC observed during the ELM, has many features similar to those measured with Mirnov coil arrays. The SOLC during the ELM is non-axisymmetric, and reverses its direction as a function of its radial location. Impact of this structure on the intensity and distribution of the error field it generates is also investigated.

[1] H. Takahashi, et al., EPS 2005 Paper 4.018, Tarragona, Spain.

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