

**Abstract Submitted for the Forty-Third Annual  
Meeting  
Division of Plasma Physics  
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Category Number and Subject:

Theory       Experiment

**Oscillating Scrape-off Layer (SOL) Current During Edge Harmonic Oscillation (EHO) Phenomena in DIII-D Tokamak,\***  
H. Takahashi, E.D. Fredrickson, *Princeton Plasma Physics Laboratory*, M.J. Schaffer, T.E. Evans, L.L. Lao, GA, J.G. Watkins, SNL – We have observed SOL current that oscillates coherently with other signals associated with EHOs. The latter oscillations appear during H-mode discharges [1] that have few ELMs and yet maintain a steady density. We explore possible causality between the oscillating SOL current and EHOs by calculating flux surface motion in plasma edge regions caused by the current. We also compare EHOs with Edge Originated Magnetic Perturbations [2] (EOMPs) in TFTR, which are largely attributable to SOL current rather than a tearing-type MHD mode.

- [1] K.H. Burrell, et al., *Phys. Plasmas* **8**, 2153 (2001).  
[2] H. Takahashi, et al., to be published in *Nucl. Fusion*.

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Oral       Poster

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