Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Analysis of high resolution 2-D images of the m/n=2/1 tearing mode in KSTAR RMP experiments[1] MINJUN CHOI, G.S. YUN, W. LEE, H.K. PARK, POSTECH, Pohang, Korea, C.W. DOMIER, N.C. LUHMANN, JR., Univ. California, Davis, A.J.H. DONNÉ, FOM-DIFFER and Eindhoven Univ. of Tech., The Netherlands, S.G. LEE, National Fusion Research Inst., Daejeon, Korea, KSTAR TEAM — In the 2011 KSTAR campaign, the m/n=2/1 tearing mode has often been observed in plasmas with externally applied static n=1 Resonant Magnetic Perturbation (RMP) fields. It is generally believed that the RMP can induce tearing of flux surfaces via the so-called mode penetration mechanism [1]: (1) the RMP slows the plasma rotation down to the resonance condition, (2) the plasma shielding current is minimized, and (3) the RMP fields penetrate into the plasma, tearing the flux surfaces. This scenario of tearing mode generation induced by RMP is consistent with the observed changes of the toroidal velocity profile and the appearance of tearing mode structures as reconstructed from 2-D electron cyclotron emission (ECE) images. In addition, the detailed 2-D ECE images of the tearing mode enabled a straightforward estimation of the delta prime, which is a critical parameter for understanding the tearing physics.

[1] F.L. Waelbroeck, *Nucl. Fusion* **49** (2009).

[1]Work supported by NRF Korea contract no. 20120005920, U.S. DoE contract no. DE-FG-02-99ER54531, and the association Euratom-FOM.

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Date submitted: 20 Jul 2012 Electronic form version 1.4