

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

T_e and n_e profile measurements with HRTS during ELM mitigation experiments with external magnetic perturbation fields on JET
ROBERTO PASQUALOTTO, ALBERTO ALFIER, Consorzio RFX, Italy, MARC BEURSKENS, MARK KEMPENAARS, CLAIRE MCKENNA, Euratom/UKAEA Fusion Association, Culham Science Centre, Abingdon, UK, EDMONDO GIOVANNINOZZI, ENEA, Italy, RUDI KOSLOWSKI, YUNFENG LIANG, FZJ, Germany, AND EFDA-JET CONTRIBUTORS TEAM¹ — In recent experiments on JET, type-I ELMs in H-mode plasmas have been controlled by a set of 4 error field correction coils (EFCC) which externally generate magnetic perturbation field with toroidal mode numbers $n=1$ or $n=2$. The effect of this perturbation on T_e and n_e profiles has been studied with the High Resolution Thomson Scattering (HRTS) which has recently become operative on JET. The EFCCs effect on ELMs has been investigated in various plasma configurations with different directions of the perturbation field and mode numbers. The edge pedestal barrier is modified in different ways, depending on the configuration. In all cases, ELM mitigation correlates with a reduction of the edge pressure gradient due to a reduced height and an increased width of the edge pressure transport barrier.

¹see the Appendix of M L Watkins et al., Fusion Energy 2006 (Proc. 21st Int. Conf. Chengdu, 2006) IAEA (2006).

Gianluca Spizzo
Consorzio RFX

Date submitted: 22 Jul 2007

Electronic form version 1.4