Contribution ID: **114** Type: **Poster**

EX/P4-23:Mitigation of Type-I ELMs with n =2 Fields on JET

Wednesday, 10 October 2012 14:00 (4h 45m)

Recently, strong mitigation of Type-I Edge Localized Modes (ELMs) has been observed with application of the n = 2 field in high collisionality (nuˆ*_e=2.0) H-mode plasma on JET tokamak with ITER-like wall. In this experiment, the EFCC power supply system has been enhanced with a coil current up to 88kAt (twice than before). With an n = 2 field, the large type-I ELMs with frequency of ˜ 45 Hz was replaced by the high frequency (few hundreds Hz) small ELMs. No density pump-out was observed during an application of the n = 2 field. The influence of the n = 2 field on the core and the pedestal electron pressure profiles is within the error bar and it can be neglected.
During the normal type-I ELM H-mode phase, the maximal surface temperature (Tmax) on the outer divertor plate was overall increasing and associated with large periodical variation due to the type-I ELMs. However, during an application of the n = 2 field, Tmax was saturated and has only small variation in few degrees due to the small mitigated ELMs. Splitting of the outer strike point has been observed during the strong mitigation of the type-I ELMs.

Country or International Organization of Primary Author

Germany

Primary author: Mr LIANG, Yunfeng (Germany)

Co-authors: Dr MEIGS, Andrew (CCFE, Culham); Mr SIEGLIN, Bernhard (IPP, Garching); Dr HARTING, Derek (FZJ, Juelich); Dr NUNES, Isabel (CSU, Culham); Dr COENEN, Jan (FZJ, Juelich); Mr PEARSON, Jonathan (FZJ, Juelich); Dr ZENG, Long (FZJ, Juelich); Dr FRASSINETTI, Lorenzo (EURATOM-VR, Stockholm,); Dr BEURSKENS, Marc N (CCFE, Culham); Mr RACK, Micheal (FZJ, Juelich); Dr GRYAZNEVICH, Mikhail (CCFE, Culham); Dr DENNER, Peter (FZJ, Juelich); Dr LOMAS, Peter (CCFE, Culham); Dr SAARELMA, Samuli (CCFE, Culham); Dr BREZINSEK, Sebastijan (FZJ, Juelich); Dr GERASIMOV, Sergei (CCFE, Culham); Mr JACHMICH, Stefan (EURATOM-Belgian State, State, Koninklijke Militaire School - Ecole Royale Militaire, Brussels); Dr EICH, Thomas (IPP, Garching); Mr YANG, Yao (FZJ, Juelich)

Presenter: Mr LIANG, Yunfeng (Germany)

Session Classification: Poster: P4

Track Classification: EXS - Magnetic Confinement Experiments: Stability