

Abstract Submitted
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First results of a new high resolution divertor IR camera at JET S. DEVAUX, T. EICH, Max-Planck-Institut für Plasmaphysik, EURATOM-Association, Garching, Germany, G. ARNOUX, W. FUNDAMENSKI, EURATOM-UKAEA, Fusion Association, Culham Science Center, Abingdon, UK, A. ALONSO — A new high resolution divertor infrared camera has been recently installed observing the JET divertor targets. This camera combines high spatial resolution of 1.7mm for the outboard divertor leg and around 5mm for the inboard leg with comparable high data frame rate of 35-85 μ s and recording length up to 40s. Due to the high sensitivity of the detector sufficient signal dynamic can be recorded on 10 μ s only. Hence, the camera resolves the fast evolution of the footprint of ELM filaments on the divertor targets. This latter evolution is observed for a large subset of the overall database, in particular in type-I ELMy H-Modes with q95 values of around 3 and fields of 2.5MA/2.5T and above. Analysis of the radial/poloidal distribution allows for a detailed investigation of the toroidal quasi-mode-numbers (QMN) on the divertor targets on the mentioned time scales. Analysis of the spatial structure of the ELM filaments observed by the IR camera complemented by pre-ELM magnetic equilibrium reconstructions allows estimation of the QMN of type-I ELMs. These latter derived values are compared with results from e.g. ASDEX Upgrade as well as with results on the toroidal structure of type-I ELMs based on first wall heat flux measurements in JET in this contribution.

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