Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

MHD instabilities in JET Hybrid Scenario with the ITER Like Wall[1] MATTEO BARUZZO, RFX, BARRY ALPER, CCFE, TOMMASO BOLZONELLA, RFX, ANTONIO BOTRUGNO, ENEA, CLARISSE BOURDELLE, CEA, PAOLO BURATTI, ENEA, RUI COELHO, IST, CLIVE CHALLIS, IAN CHAPMAN, CCFE, PETER DE VRIES, FOM, CARINE GIROUD, CCFE, MICHELA GELFUSA, ENEA, EMMANUEL JOFFRIN, CEA, NICK HAWKES, TIM HENDER, CCFE, JORG HOBIRK, IPP, JOELLE MAILLOUX, CCFE, FRANCESCO ORSITTO, GIANLUCA PUCELLA, ONOFRIO TUDISCO, ENEA, JET-EFDA CONTRIBUTORS TEAM — JET has been recently refurbished with an ITER-like Be first wall and W divertor, to study plasma wall interaction processes for ITER. In this work the new behaviour of the MHD instabilities will be characterized in the hybrid scenario, which with the C-wall in JET achieved high energy confinement, combined with good MHD stability to NTMs and ideal kinks. The same scenario developed for the ILW has produced good confinement, but interactions are observed between MHD phenomena and impurities coming from the wall. The q=1 MHD activity with the JET C-wall showed a negligible effect on plasma confinement, except NTM triggering. In some ILW hybrid pulses at the start of the heating phase a q=1 fishbone occurs, as with the C-wall, but it is often replaced by a continuous q=1 mode, with a significant reduction of confinement. ECE measurements also highlight a change from pure kink fluctuations to islands centered on q=1. NTMs have also been observed in these plasmas. Their appearance is coincident with a flattening of electron temperature profile within the island (the effect with the C-wall), but it is also correlated with enhanced radiation from the plasma core and a slow decrease of central electron temperature.

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Date submitted: 18 Jul 2012 Electronic form version 1.4