

Abstract Submitted
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Neoclassical Tearing Modes characterization in JET ILW operation¹ MATTEO BARUZZO, RFX, Corso Stati Uniti 4, Padova, Italy, BARRY ALPER, CCFE, CLEMENTE ANGIONI, IPP, Garching, YURIY BARANOV, CCFE, PAOLO BURATTI, ENEA, FRANCIS CASSON, TIM HENDER, CCFE, PAOLA MANTICA, CHIARA MARCHETTO, CNR, Milano, LAURA LAURO TARONI, MARCO VALISA, RFX, JET-EFDA CONTRIBUTORS TEAM² — After several years of operation with the ITER Like Wall a comprehensive evidence on the effect of Neoclassical Tearing Modes on discharge stability and confinement has been collected. NTMs appearance is coincident with a flattening of the electron temperature profile within the island (the effect with the C-wall), but it is sometimes correlated with enhanced core plasma radiation and eventually radiative collapse. A mechanism for W accumulation in presence of magnetic island has been outlined in [1], where the island is responsible of connecting two radial regions characterized by different transport regimes. In this work the statistics of W accumulation measured with bolometry and Soft X-ray will be correlated with the island radial position and island width as measured by fast Electron Cyclotron Emission for different toroidal mode numbers and in different tokamak operational scenarios.

[1] C Angioni et al. 2014, to be published in Nuclear Fusion.

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²See the Appendix of F. Romanelli et al., Proceedings of the 24th IAEA Fusion Energy Conference 2012, San Diego, US.

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