

Abstract Submitted  
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**L-H transition studies in JET-ILW** ER SOLANO, LNF, CIEMAT, Madrid, Spain, E DELABIE, ORNL, Oak Ridge, TN, USA, J HILLESHEIM, C MAGGI, CCFE, Abingdon, UK, N VIANELLO, Consorzio RFX, Padova, Italy, I CARVALHO, IPFN, IST, Univ. Lisbon, Portugal, A HUBER, FZJ, Julich, Germany, E LERCHE, LPP-ERM/KMS, Brussels, Belgium, JET CONTRIBUTORS TEAM — Recent experiments at JET have produced new results about the L-H transition. We will present a selection here. We found the power threshold depends on H/(H+D) species concentration in a non-linear manner, with much of the variation taking place at the extremes of the mixture scan. It is unclear why this should be the case, but it may help explain the variability in results of earlier studies that don't always report an isotope effect, and suggests that small levels of impurities could be important when interpreting isotope experiments. We found that the heating system has an impact on the power threshold in hydrogen and on the location of the density at which the threshold is lowest, ICRF heating being much more effective than NBI heating. This is the first time an effect of the heating system was found on JET. We also observe a stronger isotope effect in the low density branch than in the high density branch of the transition. On a related study, we have characterized axisymmetric magnetic oscillations present in the early H-mode phase, the M-mode, and show that their frequency scaling appears to be related to the poloidal Alfvén frequency in both H and D.

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