

Abstract Submitted
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L-H threshold results in hydrogen plasmas in JET-ILW¹ E. DELABIE, ORNL, C. MAGGI, CCFE UK, E. SOLANO, CIEMAT Spain, H. MEYER, CCFE UK, E. LERCHE, KMS-ERM Belgium, D. KEELING, CCFE UK, JET CONTRIBUTORS TEAM — The ITPA scaling law for the H-mode power threshold, P(L-H), is strongly weighted to a dataset of carbon wall JET (JET-C) discharges. Identical discharges with the Be/W wall (JET-ILW) in deuterium have shown a 30% reduction of P(L-H) and a minimum as function of density, not observed with the current divertor in JET-C [1]. A strong dependence of P(L-H) on the divertor configuration was found, linked to changes in the divertor recycling pattern [2]. Subsequently, an experiment was conducted in hydrogen to investigate the isotope effect on P(L-H) in JET-ILW. P(L-H) is increased by a factor 2 in the high density branch, as expected. Remarkably, $n_{e,min}$ is shifted to higher density. Comparison between the hydrogen and deuterium discharges show the transition occurs at similar values of stored energy and closely matched edge density and temperature profiles.

[1] C.F. Maggi et al., Nucl. Fus. 54 (2014) 023007

[2] E. Delabie et al., proceeding of the 24th IAEA conference, St. Petersburg, Russia (2014).

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