

Abstract Submitted
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Impact of Lithium Injection on the H-mode Pedestal in DIII-D¹ T.H. OSBORNE, G.L. JACKSON, C. CHROBAK, J.S. DEGRASSIE, R.J. GROEBNER, P.B. SNYDER, GA, R. MAINGI, D.K. MANSFIELD, D.J. BATTAGLIA, B.A. GRIERSON, R. NAZIKIAN, A.L. ROQUEMORE, PPPL, Z. YAN, G.R. MCKEE, U. Wisc., A.G. MCLEAN, LLNL, DIII-D TEAM — Lithium injection into ELMy H-mode discharges triggered unusual, up to 350 ms, ELM-free periods (EFPs) during which the pedestal width, w_{PED} , increased on a short time scale ≈ 10 ms reaching $2\times$ the width seen in the ELMy phase. The electron pedestal pressure in EFPs with Li was $2\times$ that of the ELMy phase and $1.5\times$ that of similar e was reduced by similar factors in EFPs with L_i . Rapid w_{PED} expansion and enhanced particle transport was associated with pedestal localized density fluctuations seen on BES. w_{PED} during EFPs with L_i was 40% larger than predicted by $E_{PED}1.0$ scaling, while w_{PED} in EFPs without L_i agreed with this scaling. EFPs terminated in a large ELM when the peeling-ballooning mode stability limit was reached. Sustainment of large w_{PED} , P_{PED} could open a regime of improved energy confinement and high β stability.

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T.H. Osborne
GA

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