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Pedestal Structure Evolution between ELMs for Different Lithium Wall Conditioning on NSTX[1] QIAN TENG, AHMED DIALLO, TRAVIS GRAY, RAJESH MAINGI, BENOIT LEBLANC, Princeton Plasma Physics Lab — Understanding the evolution of the pedestal structure is important to develop predictive capabilities of fusion power for future devices. A detailed analysis of electron pressure, density and temperature profiles measured on H-mode discharges on NSTX is performed to investigate the dynamics of pedestal parameters between ELMs. [Discharges with lithium wall conditioning of 50mg, 150mg and 300mg.] This work is an extension from previous pedestal structure investigations [1]. The result shows that almost all the pedestal parameters, the width and height of pressure, density and temperature monotonously increase between ELMs while density height increases and sometimes saturates at the last 30% of an ELM cycle, and the density width decreases monotonously. The dependence of pedestal parameters on plasma current and neutral beam injection power is investigated. The pedestal width scaling with poloidal beta will also be performed and compared with previous works. The impact of lithium wall conditioning on pedestal height and width dynamics will be reported.

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