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D-retention and sputtering of simultaneously lithiated and boronized carbon surfaces in NSTX-U[1] PREDRAG KRSTIC, JAVIER DOMINGUEZ, State Univ of NY- Stony Brook — While lithium serves as a catalyzer for high oxygen concentration in the surface of the lithiated graphite, and oxygen is performing the retention chemistry of D, boron effectively suppresses the role of oxygen and takes over the deuterium retention chemistry. Interestingly, lithium and boron are concurrent players for retention chemistry in LiBC surfaces. In presence of oxygen, lithium role is suppressed with boron and oxygen being concurrent player in the D retention chemistry. With increase of the deuterium accumulation, the oxygen takes over the dominant role in retention. XPS *in vacuo* data taken in the NSTX-U with the MAPP probe were used to characterize the PFCs chemistry and to provide a comparison with the results from the simulations.

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