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Gyrokinetic study of impurity transport from neoclassical and turbulent mechanisms in and across H-mode pedestal[1] KYUHO KIM, KAIST, C.S. CHANG, SEUNGHOE KU, ROBERT HAGER, PPPL — The edge gyrokinetic code XGC1 has been used to study impurity transport from combined neoclassical and turbulent mechanisms in and across a steep H-mode pedestal, in realistic magnetic separatrix geometry. Both low-Z and high-Z impurity transport are studied.. The effect on the turbulence and transport is found to be different whether the impurity radial profile gradient is in the same or opposite direction to the main ion profile gradient. Co-existence of the low- and high-Z impurities also makes difference in the transport of each species. Edge impurity behavior in NSTX, JET, and DIII-D tokamak plasma will be discussed.

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