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Initial results of magnetic nozzle induced plasma flows in the Controlled Shear Decorrelation eXperiment - Upgrade (CSDX-U) JORDAN J. GOSSELIN, SAIKAT CHAKRABORTY THAKUR, GEORGE R. TYNAN, UC San Diego — The lifetime of the plasma facing components (PFCs) in a tokamak, governed primarily by material erosion and redeposition, has been identified as a crucial research topic [1,2]. While some work has been done that shows evidence of the entrainment of impurities in linear machines [3] and in tokamaks [4-7], detailed, controlled studies of entrainment in plasma flows are harder to come by. In an effort to study the effects of the background flow on impurity transport, the Controlled Shear Decorelation eXperiment (CSDX: a linear helicon source operated plasma machine) has been upgraded with independently variable magnets. Using a magnetic nozzle, we can control the plasma flow speed. Here we shall show preliminary results of controlled background plasma flows in CSDX.

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