

Abstract Submitted  
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**Transport studies using general parallel moment equations in NIMROD**<sup>1</sup> HANKYU LEE, J.ANDREW SPENCER, ERIC HELD, JEONG-YOUNG JI, Utah State University — The general parallel moment equations are obtained by taking velocity moments of the first order drift kinetic equation. The infinite set is then truncated at a certain number of equations to be solved. By including more moments in the set of equations, obtained closure relations become more accurate at lower collisionality. In this work, the parallel moment equations, as implemented in NIMROD code, are solved to calculate closures for axisymmetric, neoclassical transport. These closures may also be used in general fluid simulations. The bootstrap current and plasma flows are calculated from the closures for various tokamak equilibria. Results are compared with continuum kinetic calculations in NIMROD.

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