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**Neoclassical Viscosities and Anomalous Flows in Stellarators**[1] A.S. WARE, University of Montana, D.A. SPONG, Oak Ridge National Laboratory, M. BREYFOGLE, T. MARINE, University of Montana — We present initial work to use neoclassical viscosities calculated with the PENTA code [1] in a transport model that includes Reynolds stress generation of flows [2]. The PENTA code uses a drift kinetic equation solver to calculate neoclassical viscosities and flows in general three-dimensional geometries over a range of collisionalities. The predicted neoclassical viscosities predicted by PENTA can be flux-surfaced average and applied in a 1-D transport model that includes anomalous flow generation. This combination of codes can be used to test the impact of stellarator geometry on anomalous flow generation. As a test case, we apply the code to modeling flows in the HSX stellarator. Due to variations in the neoclassical viscosities, HSX can have strong neoclassical flows in the core region. In turn, these neoclassical flows can provide a seed for anomalous flow generation. [1] D. A. Spong, Phys. Plasmas **12**, 056114 (2005). [2] D. E. Newman, et al., Phys. Plasmas **5**, 938 (1998).

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