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Anomalous Transport Model for GyroKinetic Code COGENT JUSTIN ANGUS, SERGEI SERGEI, University of California, San Diego, RON COHEN, TOM ROGNLIEN, MIKHAIL DORF, Lawrence Livermore National Laboratory — Cross field transport from the closed field line core of tokamaks to the open field line scrape off layer is often dominated by anomalous processes. This anomalous transport is largely a result of the ExB drift associated with electrostatic turbulence. Since the time scale of the turbulent fluctuations is typically much smaller than that of the mean transport, it is numerically expensive to fully resolve the turbulent fluctuations when simulating edge transport. For this reason, it is numerically economical to introduce models to represent the mean cross field transport due to anomalous process. We consider the anomalous kinetic flux to be a combination of advective and diffusive components and, for initial implementation and testing purposes, demonstrate how the coefficients can be chosen such that the velocity space moments of the flux reproduces known models used in fluid transport codes. The model has been implemented into the Gyrokinet code COGENT.

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