

Abstract Submitted
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Benchmarking finite- β ITG gyrokinetic simulations¹ A.M. DIMITS, W.M. NEVINS, LLNL, J. CANDY, GA, San Diego, C. HOLLAND, UCSD, N. HOWARD, MIT — We report the results of an electromagnetic gyrokinetic-simulation benchmarking study based on a well-diagnosed ion-temperature-gradient (ITG)-turbulence dominated experimental plasma. We compare the 4x3 matrix of transport/transfer quantities for each plasma species; namely the (a) particle flux, Γ_a , (b) momentum flux, Π_a , (c) energy flux, Q_a , and (d) anomalous heat exchange, S_a , with each transport coefficient broken down into: (1) electrostatic ($\delta\varphi$) (2) transverse electromagnetic (δA_{\parallel}), and (3) compressional electromagnetic, (δB_{\parallel}) contributions. We compare realization-independent quantities (correlation functions, spectral densities, etc.), which characterize the fluctuating fields from various gyrokinetic simulation codes.

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