Tests of and plans for the ESL Code\textsuperscript{1} R.H. COHEN, M. DORR, T.D. ROGNI\textsc{li}EN, X.Q. XU, LLNL, P. COLELLA, D. MARTIN, LBNL — The Edge Simulation Laboratory (ESL) is a multi-institutional collaboration to develop kinetic edge codes using continuum techniques. A new code, based on fourth-order conservative finite-volume discretization of gyrokinetic equations, has recently become operational. Initially the code is electrostatic, 4D (axisymmetric), with a Miller (core, shaped) geometry, but with the optional addition of a toroidal limiter to provide a scrape-off-layer region. A number of test simulations have been or are being carried out, including advection and magnetic mirroring of phase space blobs, evolution of steep radial density and temperature profiles, collisional loss to a limiter with a model collision operator, and geodesic acoustic modes in periodic and bounded domains. Results of this test campaign will be reported. In addition we report on progress/plans for adding capability to the code, in particular extending the code to full divertor geometry, 5D, and, ultimately, electromagnetic physics.

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