Edge Turbulence simulations of L-H transition on BOUT++ framework\textsuperscript{1} CHUANKUI SUN, Peking Univ, XUEQIAO XU, Lawrence Livermore National Laboratory, BO LI, Peking Univ — We present a nonlinear simulation of edge turbulence using a three-field (vorticity, pressure and magnetic vector potential) peeling-balloonning model based on the BOUT++ framework. In this model, the equations are split into the averaged parts and the fluctuating parts, the former for plasma profiles evolving and plasma transport terms, while the latter for turbulence. The sheath boundary condition for the electric potential is applied in the scrape-off-layer. The preliminary results of the plasma profile evolution with applied heating sources show the collapse and formation of the pedestal, and the shear flow with the turbulence suppression. With a source near the power threshold of the L-H transition, we could also simulate the limit cycle oscillations. The energy transfer would also be discussed.

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