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Full f Gyrokinetic Simulation of Tokamak Plasma Turbulence Using ELMFIRE SUSAN LEERINK, SALOMON JANHUNEN, TIMO KIVINIEMI, TUOMAS KORPILO, MARKUS NORA, Helsinki University of Technology, Euratom-Tekes Association, Espoo, Finland, JUKKA HEIKKINEN, VTT, Euratom-Tekes Association, Espoo, Finland, VICTOR BULANIN, St.-Petersburg State Polytechnical University, St.-Petersburg, Russia, EVGENIY GUSAKOV, Ioffe Physical-Technical Institute of the RAS, St.-Petersburg, Russia, FRANCISCO OGANDO, Universidad Nacional de Educacin a Distancia, Madrid, Spain — Gyrokinetic particle-in-cell simulation on a transport and microinstability time scale is performed with the ELMFIRE code for a small tokamak FT-2 with kinetic electrons. Turbulent modes are characterized based on their poloidal phase velocity, and tentative comparison with the Doppler reflectometric measurement is done for the poloidal mode rotation. Cyclone base case comparison with adiabatic electrons reveals the need for a sophisticated adiabaticity model in the presence of finite ion orbits. Progress in the simulation of the edge pedestal in L-H transition conditions for a medium-sized tokamak is reported.

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