Simulation of Reflectometry in Alborz Tokamak

Authors : S. Kohestani, R. Amrollahi, P. Daryabor

Abstract : Microwave diagnostics such as reflectometry are receiving growing attention in magnetic confinement fusionresearch. In order to obtain the better understanding of plasma confinement physics, more detailed measurements on density profile and its fluctuations might be required. A 2D full-wave simulation of ordinary mode propagation has been written in an effort to model effects seen in reflectometry experiment. The code uses the finite-difference-time-domain method with a perfectly-matched-layer absorption boundary to solve Maxwell's equations. The code has been used to simulate the reflectometer measurement in Alborz Tokamak.

Keywords : reflectometry, simulation, ordinary mode, tokamak

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