Experimental/Theoretical Comparisons of the Turbulence in the Scrape-Off-Layers of Alcator C-Mod, DIII-D, and NSTX


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The intermittent turbulent transport in the scrape-off-layer (SOL) of tokamaks is a major source of energy and particle transport from the plasma core to the wall. In C-Mod, DIII-D, and NSTX, the SOL turbulence is characterized by intermittent bursts of activity, with scales that are non-Gaussian in nature and with intermittent bursts of activity, with scales that are non-Gaussian in nature. In this paper, we present an overview of the experimental and theoretical studies of SOL turbulence in these tokamaks, with a focus on the intermittent nature of the turbulence.

In the tokamak SOL, the fluctuating components of the electron density, temperature, and electric and poloidal fields are measured. The experimental measurements are used to determine the size-scales of the turbulence, which are then compared with the results of simulations. The simulations are used to determine the propagation velocities of the turbulence, which are then compared with the results of simulations. The measurements are used to determine the size-scales of the turbulence, which are then compared with the results of simulations.

The intermittent nature of the turbulence is characterized by the statistics of the intermittent bursts, which are used to determine the intermittency factor, which is the ratio of the number of intermittent bursts to the total number of bursts. The intermittency factor is used to determine the intermittency index, which is the ratio of the intermittency factor to the total intermittency factor.

In this study, we present an overview of the experimental and theoretical studies of SOL turbulence in C-Mod, DIII-D, and NSTX, with a focus on the intermittent nature of the turbulence. The measurements are used to determine the size-scales of the turbulence, which are then compared with the results of simulations. The simulations are used to determine the propagation velocities of the turbulence, which are then compared with the results of simulations. The measurements are used to determine the size-scales of the turbulence, which are then compared with the results of simulations.

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