

This thesis deals with the study of turbulence in tokamak plasma and improvement of an computer model ESEL. The first chapter deals with the theory related to the study of turbulence in the plasma. For the study of these turbulences the results of the probe measurements on the ASDEX Upgrade and COMPASS tokamak and model results from a computer model of the turbulent ESEL are used. The second chapter describes the used probes and the third chapter describes the model ESEL. Contribution of the work is mainly in the fourth and fifth chapter, which summarize the results of the comparisons between the experimental data and model ESEL. The sixth chapter summarizes the most important conclusions from these comparisons. Some agreements and discrepancies were shown. One of the main results of the thesis is the importance of one extra term in one governing equation of the ESEL, which means its improvement. However at present the ESEL is still not able to fully describe the tokamak plasma boundary.