



Briefly Introduction of LEAD and Some Recently Experimental Results

H.J. Wang¹, H. Liu¹, Y.X. Zhu¹, R. Ke¹, C.Y. Wang¹, L. Nie¹, T. Che¹,
Z.H. Wang¹, M. Xu¹

¹Southwestern Institute of Physics

LEAD (Linear Experimental Advanced Device) has been successfully built in SWIP (Southwestern Institute of Physics) and the main purposes of this device are used for studying TOKAMAK edge plasma turbulence and researching the PMI (Plasma and Material Interaction). The diagnostic vacuum chamber is 1505 mm long with 400 mm diameter and the PMI chamber is 1550 mm long with 900 mm diameter.

Vacuum pressure can reach 10^{-5} Pa and the working vacuum pressure is between 0.1-1 Pa. It has 15 magnets and the magnetic field intensity reaches 3000Gs with less than 1% waviness at the magnetic axis. RF wave plasma source with 3-5 kW power produces

2-5 eV electron temperature, neon is the discharging gas. So, which is the biggest and parameter highest linear plasma scientific experimental device in China. Langmuir probes array and 3D magnetic probes (It has three groups and each one circles around the vacuum chamber, two in diagnostics chamber and one in PMI chamber) are the main diagnostics now, besides ,many other diagnostics will be developed in the future.

In recently experiments, we carried out some plasma turbulence experiment and got some basically results.

Keywords: Linear Device, RF, Turbulence