CHORD AVERAGE DENSITY MEASUREMENT USING MICROWAVE INTERFEROMETRY IN LVPD

1. Microwave interferometer diagnostic is designed and installed for chord averaged density measurements in low temperature, moderate density, partially ionized plasma of large volume plasma device($n_e \sim 5\times10^{10} - 6\times10^{11} cm^{-3}$ and $T_e \sim 2-4eV$).
2. The conventional Langmuir probe measurements are validated using microwave interferometry.
3. This diagnostics will serve as a hospital diagnostics for providing on hand information on chord averaged plasma density.
4. This may provide useful information on the effect of wall conditioning on plasma after each vacuum break device undergoes.
5. This diagnostic is versatile and is routinely used in high temperature fusion plasmas.