

Abstract Submitted
for the GEC06 Meeting of
The American Physical Society

Measurement of ion density and electron temperature in Hanbit magnetic mirror device by using RF compensation triple probe IKJIN CHOI, KIHONG HWANG, CHINWOOK CHUNG, Department of Electrical Engineering Hanyang Univ., SANGGON LEE, National Fusion Research Center, PLASMA RESEARCH LAB. COLLABORATION, NATIONAL FUSION RESEARCH CENTER COLLABORATION — There are several operating diagnostic tools placed at Hanbit magnetic mirror plasma, such as Langmuir probe, magnetic probe, diamagnetic loop etc. Because of Langmuir probes are relatively easy to make and probe tips can be formed with many designs, it is used at Hanbit plasma device to measure electron temperature, density, and distribution of electron at Hanbit plasma in a ways of axiality and azimuth. The RF compensation triple probe was invented with an idea which is RF compensation technique used in single Langmuir probe. In case of DC, non-compensated triple probe is floated outside with high impedance, but in case of RF, it is connected with low impedance, non-floating. However, RF compensation triple probe is floated with high impedance which can measure plasma parameters with less distortion in case of RF. During checking plasma variables using RF compensation triple probe at Hanbit magnetic mirror plasma in axial way, many characteristics were observed which cannot observe with existing probes.

Ikjin Choi
Department of Electrical Engineering Hanyang Univ.

Date submitted: 16 Jun 2006

Electronic form version 1.4