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**Double probe using an ac bias signal for plasma parameters measurement** SE-JIN OH, IK-JIN CHOI, JIN-YONG KIM, CHIN-WOOK CHUNG, Department of Electrical Engineering, Hanyang University — In low temperature plasmas, the diagnostics of plasma characteristic parameters such as electron temperature and plasma ion flux are important to analyze the physical phenomena of plasmas or to control the condition of the processing plasmas. A double probe diagnostic using an ac bias signal between both probe tips was developed. The electron temperature and ion flux were derived by analyzing the first and third harmonic currents of the probe. The double probe was compared with the ion probe at various rf powers and pressures in an inductively coupled plasma. The electron temperature and ion flux measured from the double probe were in good agreement with those from the ion probe. This can be applied to an electrically isolated diagnostic system for processing plasmas.

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