

An Indirect Method to Monitor Plasma Status in a Transformer Coupled Plasma

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There have been various direct or indirect methods to measure the characteristics of plasma. Comparing to direct method like Langmuir probe method, indirect measurements which give information as some external parameters like current, voltage, or phase are easier to obtain. In this research, an indirect method to measure averaged plasma density in a transformer coupled plasma(TCP) has been proposed and evaluated. With a simple analytic model connecting electrical characteristics to plasma impedance, direct measurement via double Langmuir probe has been performed. This result may play a meaningful role to diagnose TCP or similar plasma sources

Keywords: Transformer coupled plasma(TCP), Transformer, Coupling coefficient, Electric characteristics, Plasma impedance