

Abstract Submitted
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Noninvasive measurement of plasma parameters via the reactor substrates JI-HWAN PARK, CHIN-WOOK CHUNG, Hanyang University — Non-invasive electrical plasma monitoring method is proposed. When a small sinusoidal voltage is applied between a bias electrode and a grounded substrate in an inductively coupled plasma reactor, the current flows through a closed circuit via the plasma. This current consists of the harmonic components due to the nonlinearity of the sheath. The plasma density and electron temperature can be obtained by using double probe harmonic current analysis. Because this method uses existing reactor substrates, noninvasive electrical measurement is possible without probe insertion. The measurement principle, experimental results, and the comparative analysis with a conventional electrical method are presented.

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