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Electron-neutral Collision Frequency Measurement Using Cutoff Method

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Electron-neutral collision frequency is one of the important parameters in the plasma physics. Recently, It is employed to monitor the plasma processing in industrial plasma engineering [1].

Using the wave-cutoff probe with network analyzer, the plasma impedance was measured in inductively coupled argon plasma and analyzed to determine the resonance frequency. The electron-neutral collision frequency is directly calculated from the resonance frequency. The calculated electron-neutral collision frequency is good agree with reference which is calculated by measured EEDF using single langmuir probe (SLP).

[1] K. H. Baek et al., Journal of Vacuum Science and Technology B, vol. 23, pp 125-129, January 2005.

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