

## Application of Low Frequency Region of Microwave Transmission Spectrum in the Cutoff Probe

D. W. Kim<sup>1</sup>, S. J. You<sup>2</sup>, B. K. Na<sup>3</sup>, J. H. Kim<sup>2</sup>, H. Y. Chang<sup>3</sup>, W. Y. Oh<sup>1</sup>

<sup>1</sup>Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology,

<sup>2</sup>Vacuum Center, Korea Research Institute of Standards and Science, <sup>3</sup>Department of Physics,  
Korea Advanced Institute of Science and Technology

Cutoff probe has been used for measuring a plasma density using the cutoff peak which is located at the plasma frequency in the low pressure plasma. However, research on analysis of low frequency region of transmission microwave frequency (TMF) spectrum does not performed even though important plasma parameters are located in the low frequency region, i.e., ion plasma frequency and collision frequency. In this research, we analyzed the low frequency region of the TMF spectrum. Experimental results reveal the effect of plasma parameters on the low frequency region on the TMF spectrum. Based on the response of TMF spectrum from changing of plasma parameters, deduction of the plasma parameters was tried. This comprehensive analysis of TMF spectrum expands applicable area of cutoff probe.

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