

## Gas and Magnetic Field Effect to Low Pressure Plasma

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Plasma hardly grows in low pressure because of lack of collision. But low pressure plasma has useful properties because it has typically low electron density. In here, thermal electron is used to make breakdown in low pressure easily. We changed magnetic field strength and gas to control electron density or temperature. IV characteristic and electron density of the discharge are examined and the characteristic of the discharge in presence of magnetic field is also examined. Results showed that depending on the ionization cross section of the gas, electron density is changed and proper strength of magnetic field is required for high electron density.

**Keywords:** Plasma, Low pressure, Low density, Thermal electron