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Atmospheric Pressure Plasma Electron Density Measurments by Magnetohydrodynamic Generator (MHDG) Method ALI GULEC, FERHAT BOZDUMAN, ERDOGAN TEKE, LUTFI OKSUZ, Suleyman Demirel University — In this work atmospheric pressure plasma discharge was immersed in a hollow box which is called as manetohydrodynamic generator (MHDG). This box consists of two conductors and two insulating edges. Permanent magnets were placed on the insulating edges for a magnetic field which is perpendicular to the discharge flow. Hall-effect voltage was observed between the opposite conductive edges of the MHDG. 1 kHz atmospheric pressure helium discharge density was calculated as $4.9\text{x}10^{13}$ cm^{-3} by using Hall-effect voltage and the discharge current. For different plasma conditions plasma density calculations will be given.

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