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Langmuir Probe Measurements of Capacitive Radio Frequency Discharge for Mixture Gases MURAT TANISLI, NESLIHAN SAHIN, SULEYMAN DEMIR, Anadolu University — Radio frequency discharges at low pressure have been used for very much applications, but their properties have not well-known for plasma diagnostics. In this study, mixture discharges are obtained at the quartz glass reactor for different powers and flow rates under the laboratory conditions, and then the optical properties of gas discharges are examined by means of Langmuir probe. When the flow rates of gases and power values are changed, it can be investigated that how the plasma parameters change. Debye length is one of the important plasma parameters. Thus, the relationship between the mixture amount of two different gases and Debye length is determined from Langmuir probe data. The graphs obtained by using these data will give information about generating the discharge of mixture gases, in detail. Therefore, the results may be the useful reference for future works of industrial applications.

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