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Quantitative shadowgraphy on an atmospheric DC laminar argon plasma jet CHARLES DE IZARRA, NUNO CERQUEIRA, GRÉGOIRE DE IZARRA, GREMI UMR6606 CNRS Orleans University France, GREMI UMR6606 CNRS ORLEANS UNIVERSITY FRANCE TEAM — The work proposed deals with the diagnostics of a DC laminar argon plasma jet operating at atmospheric pressure in ambiant air using three techniques. Through the pumping effect of ambiant air by the laminar jet, it is possible to observe the UV OH spectrum at 306.357 nm and to perform emission spectroscopy in order to carry out the OH rotational temperature close to the thermodynamic temperature of the gas. In addition, measurements of the refractive index is made by considering two different methods: optical interferometry and quantitative shadowgraphy. It is showed that the temperature obtained by the three diagnostics techniques are very close.

Charles de Izarra
GREMI UMR6606 CNRS Orleans University France

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