

Abstract Submitted
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Laser-induced fluorescence measurements deformation of neutrals distribution function in the vicinity of a surface¹ NICOLAS CLAIRE, University of Provence, STÉPHANE MAZOUFFRE, ICARE-CNRS, CYRIL REBONT, University of Provence, FABRICE DOVEIL, CNRS, RÉSEAU PLASMA FROID DU CNRS COLLABORATION — Sheath region is of great interest for all plasma reactors and applications. Because this region is restricted to a few Debye lengths, it is impossible to make measurements with classical intrusive diagnostics like Langmuir probes. Laser Induced Fluorescence is a good way to access to the Argon neutral velocity distribution function in the vicinity of a conductive surface. We have made such measurements in a multipolar plasma device. Nevertheless, some artifacts can be present and must be taken into account. For example, the laser power absorption plays a significant role for high neutrals density. The non-elastic collision coefficient of neutrals with the surface is calculated with respect to the distance to the surface with a spatial definition of 0.1mm. A neutral fluid acceleration with the distance to the surface is also observed which still remains to be explained.

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Nicolas Claire
University of Provence

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