

Abstract Submitted
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Non thermal plasma jets interacting with targets and gas flows¹ ERIC ROBERT, T. DARNY, GREMI/CNRS/Université d'Orleans, D. RIES, CNRS/Université d'Orleans , S. DOZIAS, J-M. POUVESLE, GREMI/CNRS/Université d'Orleans — Non thermal plasma jets at atmospheric pressure have been recently used in an impressive number of works including plasma diagnostics, biomedical treatments and material processing. While the plasma source setups are very simple, it has been evidenced that many parameters may significantly influence the plasma characteristics offering at the same time a large versatility for plasma delivery but also requiring a special attention to match the plasma features for any specific application. In this work, emphasis will be given on two critical topics involved in any plasma jet biomedical applications. The first consists in the influence of the target over which plasma jet impinges. It has been shown that depending on the conductivity of the target, secondary plasma generation occurs, leading to a critical modification of the reactive species generation. The second main issue concerns the strong interplay between the rare gas flow and the plasma species generated during plasma jet ionization wave propagation. Drastic modification of the rare gas flow features have been recently characterized through Schlieren visualization and ICCD imaging [1].

[1] E. Robert, V. Sarron, T Darny, D. Riès, S. Dozias, J Fontane, L. Joly and J.M. Pouvesle, *Rare gas flow structuration in plasma jet experiment*, Plasma Sources Sci. Technol. 23 0120003 (2014).

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