ELECTRIC FIELD AND DISCHARGE PROPERTIES OF SINGLE AND MULTIPLE ARRANGEMENT OF PULSED ATMOSPHERIC PLASMA STREAMS

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In this study, one focuses on the diagnostic of single and *multiple* pulsed atmospheric plasma streams (PAPS) with the investigation of electric field (EF) [1]. The authors will present the results of EF strength obtained with two different methods. The first technique is a custom made electro optic sensor based on the Pockels effect [2], allowing for recording simultaneously two orthogonal components of the EF vector, time and spaced resolved [1]. The second method uses Stark polarization emission spectroscopy of the He I line at 492.19 nm [3]. Depending on the experimental conditions, both methods will be either complementary or compared with each other. The outcomes will bring information about the reliability of each methods and are of high interest for the validation of numerical simulation results.

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REFERENCES

[1] E. Robert, T. Darny, S. Dozias, S. Iseni and J.-M. Pouvesle, Phys. Plasmas, 22, 122007 (2015).

[2] G. Gaborit, P. Jarrige, F. Lecoche, J. Dahdah, E. Duraz, C. Volat and L. Duvillaret, IEEE Trans. Plasma Sci., 42, 1265 (2014).

[3] G. Sretenović, I. Krstić, V. Kovačević, B. Obradović, and M. Kuraica, J. Phys. D. Appl. Phys., 47, 102001 (2014).