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Electrical characteristics and comparison of two configurations of plasma needle GORDANA MALOVIC, NEVENA PUAC, SASA LAZOVIC, Institute of Physics, Belgrade, Serbia, ANTONIJE DJORDJEVIC, School of Electrical Engineering, Belgrade, Serbia, ZORAN PETROVIC, Institute of Physics, Belgrade, Serbia — Nonequilibrium plasmas is proved to be able to produce chemically reactive species at a low gas temperature while maintaining uniform reaction rates over relatively large areas. Plasma needle is one of the atmospheric pressure sources that can be used for treatment of living matter which is highly sensitive when it comes to low pressure or high temperatures (above 40 $^{\circ}$C). Before any application, it is necessary to examine the properties of such source as well as possible and define the optimum conditions for the specific treatment. For that purpose, it is particularly important to know electrical characteristics of the plasma needle, i.e., the power transmitted to the plasma. In order to achieve that, we have developed derivative probes previously used by Puac *et al.*[1] for measuring transmitted power in low pressure CCP RF discharge. In this paper we will make a comparison between two configurations of plasma needle that we have used in treatment of biological samples. Difference between these two configurations lays in additional copper ring that we have placed around glass tube at the tip of the needle. [1] Puac *et. al*, Plasma Processes and Polymers, Eds. R. d'Agostino, P. Favia, C. Oehr and M.R. Wertheimer, (Whiley: (2005) p 193-203

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