

Abstract Submitted  
for the GEC17 Meeting of  
The American Physical Society

**Evaluation of characteristics of Multi-purpose Atmospheric Pressure Plasma Device**<sup>1</sup> SEIRA SHIGEKUNI, RISACO TANAKA, TAKAMASA TAMURA, SAYAKA MATSUDA, CHIHIRO KOBAYASHI, TAKAMICHI HIRATA, Graduate School of Engineering, Tokyo City University — The atmospheric pressure plasma (APP) doesn't stop at the industrial field, and application is also developed in the medical field. But commercialization is precedent to plasma medical equipment only by empirical fact, and there're many indefinite points in a mechanism of revival in biomedical tissue. In generally, the flow of APP source includes active oxygen species (ROS) such as ozone ( $O_3$ ), hydroxyl radical (OH), hydrogen peroxide ( $H_2O_2$ ), nitric oxide (NO), nitrite ( $NO_2$ ), and active nitrogen species (RNS), etc. generated around the plasma flow. In view of the above background, in this research, we are developing a prototype and evaluation of an atmospheric pressure plasma source for the purpose of controlling radical species. Previous experiments confirmed that it is possible to easily change the plasma product by controlling the plasma parameters. In this presentation we will report on the consideration of the power supply unit.

<sup>1</sup>This study was supported by a Grant-in-Aid for Scientific Research on Innovative Areas (No. 24108010) from the Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT)

Seira Shigekuni  
Graduate School of Engineering, Tokyo City University

Date submitted: 30 May 2017

Electronic form version 1.4