

Feasibility of Leukemia Cancer Treatment (K562) by Atmospheric Pressure Plasma Jet

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Abstract : A new and novel approach in medicine is the use of cold plasma for various applications such as sterilization blood coagulation and cancer cell treatment. In this paper a pin-to-hole plasma jet suitable for biological applications is investigated, characterized and the possibility and feasibility of cancer cell treatment is evaluated. The characterization includes power consumption via Lissajous method, thermal behavior of plasma using Infra-red camera as a novel method, Optical Emission Spectroscopy (OES) to determine the species that are generated. Treatment of leukemia cancer cells is also implemented and MTT assay is used to evaluate viability.

Keywords : Atmospheric Pressure Plasma Jet (APPJ), Plasma Medicine, Cancer cell treatment, leukemia, Optical Emission

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