Measurement of characteristics of plasma discharge in liquid

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Application of the plasma is already highlighted as a new technology in the last few years. In these days, there are lots of attempt in various application with plasma in that it is known as an effective treatment to animal, plants, material and so on. Plasma in liquid, one of new plasma applications, has advantages in ability to treat bio-cell or solutions. For example, electro-surgery, water purification, radical generation and so on. Especially, plasma discharge in solutions is very useful technique and difficult to generate due to electrolysis, vaporization and something else. In this study, we have performed plasma discharge and checked sustainability of plasma in solution(saline 0.9%). And we have measured basic characteristics of plasma in liquid. Such as electrical energy and plasma density are calculated from discharging current and voltage. Also, its thermal energy is measured with IR camera.

Keywords: plasma in liquid, diagnosis, plasma density, electrical energy