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## 3P04 - Spectroscopic Measurement of Active Species Generated in Streamer Discharge on Water Surface

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There are many reports reporting chemically active species using underwater discharge plasma. Another method is to bubble in water to produce chemically active species.

However, it is difficult to measure the active species by spectroscopy in the discharge in water.

We generated chemically active species utilizing streamer discharge generated on the water surface and measured spectroscopic measurements. A magnetic pulse compression circuit was used to generate streamer discharge. For spectroscopic measurement, a high sensitive spectroscopy capable of time resolved spectroscopy was used. Discharge on the water surface randomly propagations, so it is difficult to perform spectroscopic measurement at a fixed point. Therefore, we could develop a discharge chamber that can control the direction of progress of the streamer in one direction, and we were able to perform stable spectroscopic measurements. Particularly chemically active species are OH, H $\alpha$ , H $\beta$ . The generation characteristics of these chemically active species were examined when the ground electrode was installed in the medium chamber and when it was installed outside the chamber. As a result, strong emission of OH radicals was observed at the high-speed rise of the pulse voltage.

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