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Effect of Distance between Electrodes for Water Treatment by Plasma

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We have studied the water treatment by spraying into a pulsed discharge space in air, to decompose refractory organic compounds included in industrial waste water. In practical application, reactors of large scale are required to treat a large quantity of water. For that, electrodes with diameter of long distance is needed. Hence, the effect of the distance between electrodes was investigated. Three coaxial electrodes generating plasma was prepared. These diameter was 40, 77, and 115 mm, respectively. High pulsed voltage is applied at electrodes to generate plasma, and the water treatment was carried out by spraying in to that space. The pulsed voltage of higher peak was applied if the diameter of the electrode was longer to adjust electric field of three electrodes. In this presentation, the difference of the plasma and the water treatment efficiency of three reactors is shown.

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