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**Pulsed plasma bubble located in a water capillary** P. CECCATO, A. ROUSSEAU, LPTP, Ecole Polytechnique, France — Several studies have investigated water discharges for hydroxyl radical generation and organic compound removal for water cleaning [1]. We report preliminary results concerning the generation of plasma in a water capillary and the influence of rise time, water conductivity on the plasma injected power, using electric measurement probes and on the plasma propagation, using CCD camera. The plasma may be generated directly in the water after the formation of a gas bubble due to the ohmic heating or, it can be created in an pre-injected bubble. Bubble expansion and plasma current is monitored. The plasma formation occurs at the water/plasma interface where the electric field is higher. Streamer length and initiation time lag have been measured.

[1] A. T. Sugiartoa et al. Journal of Electrostatics 58 (2003) 135–145.

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