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Catalytic probe measurements in a large scale CCP reactor[1] SASA LAZOVIC, KOSTA SPASIC, NEVENA PUAC, GORDANA MALOVIC, Institute of Physics, University of Belgrade, Serbia, UROS CVELBAR, MIRAN MOZETIC, Jozef Stefan Institute, Ljubljana, Slovenia, ZORAN LJ. PETROVIC, Institute of Physics, University of Belgrade, Serbia — A large scale cylindrical asymmetric CCP reactor is suitable for efficient treatment of materials like polymers, textile and plant seeds. Plasma is homogeneous and stable from transitions to streamers. For many biomedical and textile treatment effects, role of extremely reactive atomic oxygen species is very important. For instance, the formation of new oxygen-containing groups on the fiber surface is suggested to be due to the presence of extremely reactive atomic oxygen species in discharge during the air plasma processing and/or post-plasma chemical reactions when the activated fiber surface reacts with environmental species. Measurements were performed using nickel catalytic probe placed side-on to the powered electrode. Concentrations of neutral oxygen atoms were measured for a range of powers given by the RF generator, at several different distances from the powered electrode, in air at two different pressures. Oxygen atom concentrations coming to the surface of the samples can be controlled by adjusting the pressure, distance from the powered electrode and RF power.

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