

Abstract Submitted
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Characteristics of atmospheric pressure air micro slot plasma and application to bacterial inactivation IL GYO KOO, JIN HOON CHO, Department of Electrical and Computer Engineering, Colorado State University, Fort Collins, Colorado 80523, WOONG MOO LEE, Department of Chemistry and Division Energy Systems Research, Ajou University, Suwon 443-749, Korea, CAMERON MOORE, GEORGE COLLINS, Department of Electrical and Computer Engineering, Colorado State University, Fort Collins, Colorado 80523 — The E-coli was inactivated using an atmospheric pressure microplasma in air. The microplasma was generated between two parallel aluminum rods are 5 cm long, 3 mm in diameter, maintain 200 μm wide gaps between two electrodes, and covered with nanoporous alumina films ^{1,2}. The 20 kHz AC driven discharge is generated between two parallel rods. The plasma gas temperature was measured by emission spectroscopy and FT-IR camera, which is so closed at room temperature. The E-coli sample placed between the two electrodes underwent chemical and physical treat on E-coli sample during the discharge. Experimental results demonstrated a colony forming unit reduction from 10^7 to 10^5 within 10 minutes treatment.

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