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Short time surface decontamination by nanosecond DBD plasma HAMID GHOMI, Laser and Plasma Research Institute, Shahid Beheshti University, Evin1983963113, Tehran, Iran, NASRIN NAVAB SAFA, KHERAD RAMEZANI — This paper presents results of E. coli inactivation at atmospheric pressure in the air using nanosecond-pulsed DBD plasma. It is shown that this plasma sterilization method is considerably occurred in shorter time compared with the other methods. The effect of increasing the applied voltage on the bacteria inactivation is investigated. According to the results, as the applied voltage increases, the required exposure time for complete inactivation of E. coli bacteria decreases and the bacteria inactivation rate increases significantly. The exposure time for complete inactivation of E. coli bacteria with 10^8 CFU/m concentrations at the voltage of 9kV and 7 kHz frequency is about 2 s.

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