

عنوان مقاله:

Inactivation by helium cold atmospheric pressure plasma for Escherichia coli and Staphylococcus aureus

محل انتشار:

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نویسندگان:

Department of Biology, Faculty of Science, Branch of Tayma, Tabuk University; King Marriott Higher Institute of -
Engineering & Technology

Physics Department, Faculty of Science, Sohag University; University College, Umm Al-Qura University -

Center for Materials Science, Zewail City of Science and Technology -

خلاصه مقاله:

Abstract A helium cold atmospheric pressure plasma jet (HCAPPJ) driven by a commercial neon power supply was designed and utilized for inactivation bacteria. The generated reactive species by HCAPPJ were investigated by optical emission spectroscopy. The reactive species of OH, OI, OI, N_2^+ , N_2^+ and He were identified in the UV-Vis wavelength region. The reactive species was not detected between 200 nm and 300 nm, as the flow rate of helium gas increased that led to the plasma temperature reducing to a value near to the room temperature. In this work, we studied the impact of HCAPPJ on Gram-positive and Gram-negative bacteria. The survival amounts of the two types of bacteria were decreased vastly when the rate flow rate was equal to 10 L/min.

کلمات کلیدی:

Cold Plasma, Optical emission spectroscopy, Reactive species, Inactivation bacteria

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