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Bacteria Inactivation Using Post-discharge Plasma in Atmospheric Pressure CO_2 and N_2-O_2 AZADEH VALINATAJ OMRAN, FARSHAD SOHBATZADEH, ABASALT HOSSEINZADEH COLAGAR, SAEED MIRZANEJAD — Recently, the plasma physics scientific community has paid much attention to the development of atmospheric-pressure, non-thermal plasma sources. Dielectric barrier discharge can generate a cold plasma over a wide atmospheric pressure range. We study DBD plasma source that can be employed for the treatment of dangerous bacteria. The CO_2 and N_2-O_2 post-discharge plasmas are produced with conical electrodes operating at 50Hz. Antibacterial effect of post-discharge plasma were used on cultured bacteria in Luria Bertini (LB) with concentrations of OD_{600}nm=0.25 McFarland standard and 7.75×10^5 colonies per LB media plate prepared for surface sterilization. The sterilizing application experiments showed that such a cold plasma was very effective in the disruption of *S. pyogenes*. Therefore, this type of plasma is suitable for various applications, especially, biology and medicine.

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