

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**Generation of low-temperature air plasma for food processing**

OLGA STEPANOVA, St. Petersburg State University, St. Petersburg, Russia, MARIA DEMIDOVA, Wright State University, Dayton, OH, ALEXANDER ASTAFIEV, St. Petersburg State University, St. Petersburg, Russia, MIKHAIL PINCHUK, Institute for Electrophysics and Electric Power of RAS, St. Petersburg, Russia, PINAR BALKIR, FULYA TURANTAS, Ege University, Ege Vocational School, Bornova, Izmir, Turkey — The project is aimed at developing a physical and technical foundation of generating plasma with low gas temperature at atmospheric pressure for food industry needs. As known, plasma has an antimicrobial effect on the numerous types of microorganisms, including those that cause food spoilage. In this work an original experimental setup has been developed for the treatment of different foods. It is based on initiating corona or dielectric-barrier discharge in a chamber filled with ambient air in combination with a certain helium admixture. The experimental setup provides various conditions of discharge generation (including discharge gap geometry, supply voltage, velocity of gas flow, content of helium admixture in air and working pressure) and allows for the measurement of the electrical discharge parameters. Some recommendations on choosing optimal conditions of discharge generation for experiments on plasma food processing are developed.

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Date submitted: 10 Sep 2015

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