

## عنوان مقاله:

Effects of mixed electric field on characterization of electrohydrodynamics drying system

## محل انتشار:

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## خلاصه مقاله:

In this paper, we present a new structure of applying two electrical power supplies to generate ionic wind. In this configuration, two power supplies were applied simultaneously with a modulated voltage to an electrohydrodynamic (EHD) system then corona discharge parameters and EHD thrust characterization was investigated by a corona dryer mechanism. The EHD thrust experiments were performed with a pinto plate and SDBD arrangements. The results show that with the simultaneous application of two power supplies the drying rate in a drop of water as a standard sample was greatly enhanced and the drying time was reduced. Thus, the total evaporation was occurred in ۱ minute in the SDBD structure with a power of ۷ watts and in ۱.۵ minutes in pin to plate structure with a power of ۲.۵ watts. Eventually, it was observed that the use of mixed electric fields enhances the ionic wind, hence increases the non-thermal evaporation process significantly. Furthermore, the drying rate has grown notably In SDBD configuration

## کلمات کلیدی:

Ionic wind, Modulated voltage, Electrohydrodynamic (EHD), Corona discharge, Surface dielectric barrier discharge ((SDBD

## لینک ثابت مقاله در پایگاه سیویلیکا:

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