

GEC14-2014-020015

Abstract for an Invited Paper
for the GEC14 Meeting of
the American Physical Society

Recent developments in large-scale ozone generation with dielectric barrier discharges

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Large-scale ozone generation for industrial applications has been entirely based on the creation of microplasmas or microdischarges created using dielectric barrier discharge (DBD) reactors. Although versions of DBD generated ozone have been in continuous use for over a hundred years especially in water treatment, recent changes in environmental awareness and sustainability have lead to a surge of ozone generating facilities throughout the world. As a result of this enhanced global usage of this environmental cleaning application various new discoveries have emerged in the science and technology of ozone generation. This presentation will describe some of the most recent breakthrough developments in large-scale ozone generation while further addressing some of the current scientific and engineering challenges of this technology.