

Abstract Submitted
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Characterization of a flexible dielectric barrier discharge¹ SIERRA JUBIN, SOPHIA GERSHMAN, SHURIK YATOM, YEVGENY RAITSES, Princeton Plasma Physics Laboratory — A flexible dielectric barrier discharge (DBD) device is well-suited for use in applications where sensitive tissue is to be treated. Such a device is capable of generating cold, homogeneous plasma in ambient atmosphere and can be used to treat large surfaces. The DBD is readily made with printed circuit board technology, and its effectiveness as an antimicrobial treatment in wound healing has previously been investigated.² In this work, we have built and characterized the operation of a flexible DBD device with a compact power supply. We have evaluated the plasma characteristics and the plasma-induced chemistry by means of optical emission spectroscopy and spectral and fast imaging. The production of chemically active species³ is evaluated in different environments, such as in ambient atmosphere, in conditions of increased humidity, and in the vicinity of a hydrogen peroxide carrier.

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³J Ehlbeck *et al.* 2011, *J. Phys. D: Appl. Phys.* **44**, pp.13002

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