Abstract Submitted
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Atmospheric Pressure Plasma Jet for Dentistry. LOC LEDERNEZ, Department of Microsystems Engineering (IMTEK), Laboratory for Sensors, Albert-Ludwigs-University of Freiburg, Germany, MARKUS ALTENBURGER, Department of Operative Dentistry and Periodontology, Center for Dental Medicine, Medical Center Faculty of Medicine, University of Freiburg, FLORIAN ENGESSER, GERALD URBAN, MICHAEL BERGMANN, Department of Microsystems Engineering (IMTEK), Laboratory for Sensors, Albert-Ludwigs-University of Freiburg, Germany, AMBIJET TEAM — What is the lowest common denominator between a root canal treatment, gum disease and periimplantitis? All are bacteria related oral diseases. Bacteria caused the root canal infection, the inflammation of the gum around a natural tooth (periodontitis) and around the dental implant (periimplantitis). The disinfection of the relevant surface is a mandatory step in the treatment of those diseases. The aim of our research project is to establish a method to selectively disinfect the targeted surfaces in situ by means of an electrical plasma jet, without any side effect. Here, we present the development of the plasma-based platform technology that can be applied for the treatment of periimplantitis, periodontitis and in endodontics. We will talk about the plasma source and its normative development, the treatment concept as well as the methodology and analysis of its efficacy. Last but not least, we will show the obtained in-vitro and in-situ results.

Department of Microsystems Engineering (IMTEK), Laboratory for Sensors, Albert-Ludwigs-University of Frei

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