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## Femtosecond laser ablation of dentin and enamel for fast and more precise dental cavity preparation

Todor Petrov<sup>1,2,3</sup>, Emilia Pecheva<sup>1,4\*</sup>, Anthony D. Walmsley<sup>4</sup>, Stefan Dimov<sup>3</sup>

<sup>1</sup> Institute of Solid State Physics “Georgi Nadjakov”, Bulgarian Academy of Sciences, Sofia, Bulgaria

<sup>2</sup> Department of Applied Physics, Faculty of Applied Mathematics and Informatics, Technical University of Sofia, Bulgaria

<sup>3</sup> Department of Mechanical Engineering, University of Birmingham, United Kingdom

<sup>4</sup> School of Dentistry, Institute of Clinical Sciences, University of Birmingham, Edgbaston, Birmingham, B5 7EG, United Kingdom

\* tel. +359 2 9795699, fax 359 2 4169357, emily@issp.bas.bg (corresponding author)

### Abstract

**Purpose.** The purpose of the present work was to achieve fast and more precise ablation in dentin and enamel by using a commercial femtosecond laser system with high repetition rate, whilst avoiding any collateral irreversible damages in the hard tissue and pulp area.

**Methods.** We used fluence of the incident laser pulses which was marginally higher than the ablation threshold for dentin and enamel. The study was based on the hypothesis that femtosecond laser operating with a repetition rate in the range of 100 - 500 kHz can

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