

Abstract Submitted  
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**Controlling Plasma Channels through Ultrashort Laser Pulse Filamentation**<sup>1</sup> ANDREY IONIN, LEONID SELEZNEV, Lebedev Physical Institute of the Russian Academy of Sciences, ELENA SUNCHUGASHEVA, Lebedev Physical Institute of the Russian Academy of Sciences; Moscow Institute of Physics and Technology — A review of studies fulfilled at the Lebedev Institute in collaboration with the Moscow State University and Institute of Atmospheric Optics in Tomsk on influence of various characteristics of ultrashort laser pulse on plasma channels formed under its filamentation is presented. Filamentation of high-power laser pulses with wavefront controlled by a deformable mirror, with cross-sections spatially formed by various diaphragms and with different wavelengths was experimentally and numerically studied. An application of plasma channels formed due to filamentation of ultrashort laser pulse including a train of such pulses for triggering and guiding long electric discharges is discussed.

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