



Contribution ID: 130

Type: Oral

## Effects of picosecond terawatt UV laser beam filamentation and a repetitive pulse train on creation of prolonged plasma channels in atmospheric air

*Thursday, 27 September 2012 19:00 (20 minutes)*

The multiple filamentation over very long propagation distances ~ 100 m was measured for peak pulse power exceeding the critical value for  $\lambda=248$ -nm radiation (~108 W) in 2000 times. An all-reflection mirror focusing scheme with a small numerical aperture of about  $3 \cdot 10^{-4}$  was designed. The intensity distribution was recorded by using glass plate fluorescence under UV irradiation with imaging at the time-gated CCD. It was found that the filamentation of high-power UV laser beam is quite different of longer wavelengths.

**Primary author:** Dr ZVORYKIN, Vladimir (PN Lebedev Phys Institute)

**Co-authors:** Dr IONIN, A.A. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr LEVCHENKO, A.O. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr SHUTOV, A.V. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr SINITSYN, D.V. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr SMETANIN, I.V. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr SELEZNEV, L.V. (P.N. Lebedev Physical Institute of Russian Academy of Sciences); Dr USTINOVSKII, N.N. (P.N. Lebedev Physical Institute of Russian Academy of Sciences)

**Presenter:** Dr ZVORYKIN, Vladimir (PN Lebedev Phys Institute)

**Session Classification:** S5.2 Novel sources: PXR&TR&FEL&Plasma