

Laser diagnostics of the structure of a high-voltage atmospheric discharge

Smaznova H T[®], Bolotov Ya K, Medvedev M A and Oginov A V

Lebedev Physical Institute of the Russian Academy of Sciences, Leninsky Avenue 53, Moscow 119991, Russia

® h.smaznova@lebedev.ru

Laser diagnostics of the structure of a high-voltage discharge initiated in a long gap of atmospheric air was carried out using a microsecond megavolt pulse [1–3]. Diagnostics includes shadow photography and interferometry [4]. The nanosecond Nd:YAG laser was used at two wavelengths of 1064 and 532 nm. The obtained frames allow us to obtain comprehensive information about the processes occurring in the discharge plasma, as well as high resolution of the discharge structure, which is a complex network of numerous plasma channels of the order of tens of microns.

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