Abstract to the research paper on the topic: Spectral and spatial distribution of terahertz field emitted by optical breakdown in plasma under micro-focusing conditions

Student: A.S. Sinko

Science adviser: Dr. Sc. (Phys.-Math.), professor A.P. Shkurinov

Lomonosov Moscow State University,

Faculty of Physics, Moscow, Russia

E-mail: Sinko-260395@mail.ru

Generation of THz radiation in microplasma is a promising direction due to the fact, that this method allows creating more local source with using less excitation energy, so creating cheaper laser systems.

In this research was investigated spatial profile of plasma cloud when focusing is strong. The results, obtained from this research, were used to characterize the source of THz emission and to predict its direction.

As a result, longitudinal and transverse dimensions of plasma cloud depending on energy per pulse and aperture of beam for each lens. Also was made a comparison of experimental measurements of spatial profile of terahertz radiation from microplasma and theoretically predicted data.