

Annotation

In this work the formation of plasma corona under the action of powerful nanosecond laser pulse onto the surface of solid targets and the action on it of an intense femtosecond laser pulse are studied. On the basis of interferometric diagnostics the spatial distribution of electron density are obtained on different stages of plasma cloud evolution. It is shown that the interaction of intense femtosecond radiation with plasma corona is accompanied by the field ionization of atoms and ions leading to increase of electron density and ionization multiplicity of plasma plume. Also, in this work, a three-channel polarointerferometr with temporal resolution of ~ 3 ps is built.