

Production of quasimonoenergetic electron bunches in the interaction of a laser pulse with an inhomogeneous plasma

Popov V S

Joint Institute for High Temperatures of the Russian Academy of Sciences,
Izhorskaya 13 Bldg 2, Moscow 125412, Russia

SlavaPopov1991@yandex.ru

In this work, the dependence of the characteristics of the ejected electrons on the amplitude of the laser pulse and the peak density of plasma electrons during the interaction of a laser pulse of sub-terawatt power with a plasma jet was studied. A method for obtaining quasi-monoenergetic electron bunches and increasing the energy of ejected electrons by varying the plasma density profile was proposed and tested.

Acknowledgments: The reported study was funded by RFBR, project number 19-02-00908.