

**ОСОБЕННОСТИ ВЗАИМОДЕЙСТВИЯ ФЕМТОСЕКУНДНОГО РЕЛЯТИВИСТСКОГО ЛАЗЕРНОГО ИМПУЛЬСА С ПОВЕРХНОСТЬЮ ПРИ БОЛЬШИХ УГЛАХ ПАДЕНИЯ В ДВУМЕРНОЙ И ТРЕХМЕРНОЙ ГЕОМЕТРИИ**

- [1] Surface electron acceleration in relativistic laser-solid interactions / Chen Min, Shenga Zheng-Ming, Zheng Jun, Ma Yan-Yun, Bari Muhammad Abbas, Li Yu-Tong, and Zhang Jie // *Opt. Express*. — 2006. — Apr. — Vol. 14, no. 7. — P. 3093–3098. — Access mode: <https://opg.optica.org/oe/abstract.cfm?URI=oe-14-7-3093>.
- [2] Mao J. Y. et al. Spectrally peaked electron beams produced via surface guiding and acceleration in femtosecond laser-solid interactions // *Phys. Rev. E*. — 2012. — Feb. — Vol. 85, no. 2. — P. 025401. — Access mode: <https://link.aps.org/doi/10.1103/PhysRevE.85.025401>.
- [3] Mao J. Y. et al. Highly collimated monoenergetic target-surface electron acceleration in near-critical-density plasmas // *Applied Physics Letters*. — 2015. — Vol. 106, no. 13. — P. 131105. — Access mode: <https://doi.org/10.1063/1.4916636>.
- [4] Electron acceleration at grazing incidence of a subpicosecond intense laser pulse onto a plane solid target / Andreev N. E., Pugachev L. P., Povarnitsyn M. E., and Levashov P. R. // *Laser and Particle Beams*. — 2016. — Vol. 34, no. 1. — P. 115–122.
- [5] Serebryakov D. A., Nerush E. N., Kostyukov I. Yu. Near-surface electron acceleration during intense laser-solid interaction in the grazing incidence regime // *Physics of Plasmas*. — 2017. — Vol. 24, no. 12. — P. 123115. — Access mode: <https://doi.org/10.1063/1.5002671>.
- [6] Ma Y. et al. Ultrahigh-charge electron beams from laser-irradiated solid surface // *Proc Natl Acad Sci USA*. — 2018. — Vol. 115, no. 27. — P. 6980–6985.
- [7] Experimental study of fast electron generation in intense short duration laser solid interaction at grazing incidence / Mandal T., Arora V., Rao B. S., Moorti A., Upadhyay A., and Chakera J. A. // *Physics of Plasmas*. — 2019. — Vol. 26, no. 4. — P. 043105. — Access mode: <https://doi.org/10.1063/1.5058111>.
- [8] Quinn K. et al. Laser-Driven Ultrafast Field Propagation on Solid Surfaces // *Phys. Rev. Lett.* — 2009. — May. — Vol. 102, no. 19. — P. 194801. — Access mode: <https://link.aps.org/doi/10.1103/PhysRevLett.102.194801>.
- [9] Bukharskii N., Korneev Ph. Intense widely-controlled terahertz radiation from laser-driven wires. — 2022. — 2210.14166 [physics.optics].
- [10] Divergence-Free Transport of Laser-Produced Fast Electrons Along a Meter-Long Wire Target / Nakajima Hiroaki, Tokita Shigeki, Inoue Shunsuke, Hashida Masaki, and Sakabe Shuji // *Phys. Rev. Lett.* — 2013. — Apr. — Vol. 110, no. 15. — P. 155001. — Access mode: <https://link.aps.org/doi/10.1103/PhysRevLett.110.155001>.
- [11] Bukharskii N., Kochetkov Iu., Korneev Ph. Terahertz annular antenna driven with a short intense laser pulse // *Applied Physics Letters*. — 2022. — Vol. 120, no. 1. — P. 014102. — Access mode: <https://doi.org/10.1063/5.0076700>.
- [12] Ehret M. et al. Kilotesla plasmoid formation by a trapped relativistic laser beam // *Phys. Rev. E*. — 2022. — Oct. — Vol. 106, no. 4. — P. 045211. — Access mode: <https://link.aps.org/doi/10.1103/PhysRevE.106.045211>.
- [13] Korneev Ph. et al. Laser electron acceleration on curved surfaces. — 2017. — 1711.00971 [physics.plasm-ph].
- [14] Ehret M. et al. Guided Electromagnetic Discharge Pulses Driven by Short Intense Laser Pulses: Characterisation and Modelling. — 2022. — 2209.00272 [physics.plasm-ph].
- [15] Derouillat J. et al. Smilei : A collaborative, open-source, multi-purpose particle-in-cell code for plasma simulation // *Computer Physics Communications*. — 2018. — Vol. 222. — P. 351–373. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0010465517303314>.
- [16] Simpson R. A. et al. Scaling of laser-driven electron and proton acceleration as a function of laser pulse duration, energy, and intensity in the multi-picosecond regime // *Physics of Plasmas*. — 2021. — Vol. 28, no. 1. — P. 013108. — <https://doi.org/10.1063/5.0023612>.