



Welcome

个人主页

科研团队

学术成果

基本信息



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站点计数器



研究队伍

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招收强场物理方向研究生和科研助手若干名, 研究方向主要包括:

- 强激光场中QED作用
- 超短特定偏振X/Gamma射线源
- 激光等离子体相互作用
- 特定光束传输及其与物质相互作用
- 激光粒子/等离子体加速

研究领域

QED effects and applications in ultraintense laser fields, e.g., quantum radiation reaction, generation and spin-polarization of electron-positron pairs, generation of polarized Gamma-rays, quantum (optical) free electron laser.

基于超强激光场的量子电动力学效应以及应用, 例如: 量子辐射作用、正负电子对产生与自旋极化、极化伽玛光束的制备, 量子(光学)自由电子激光器。

Selected publications:

24. Feng Wan, Kun Xue, Zhen-Ke Dou, Karen Z. Hatsagortsyan, Wenchao Yan, Danila Khikhlikha, Sergei V. Bulanov, Georg Korn, Yong-Tao Zhao, Zhong-Feng Xu, and **Jian-Xing Li***. Imprint of the stochastic nature of photon emission by electrons on the proton energy spectra in the laser-plasma interaction. arXiv: 1901.04632 (2019). Under Review of PFCF.
23. Yan-Fei Li, Rashid Shaisultanov, Karen Z. Hatsagortsyan, Feng Wan, Christoph H. Keitel, **Jian-Xing Li***. Ultrarelativistic electron beam polarization in single-shot interaction with an ultraintense laser pulse. arXiv: 1812.07229 (2018). Under review of Phys. Rev. Lett..
22. Yan-Fei Li, Yong-Tao Zhao, Karen Z. Hatsagortsyan, Christoph H. Keitel, and **Jian-Xing Li***. Electron-Angular-Distribution Reshaping in Quantum Radiation-Dominated Regime. Phys. Rev. A 98, 052120 (2018).
21. Yan-Fei Li, **Jian-Xing Li***, Karen Z. Hatsagortsyan, Yong-Tao Zhao, Bo Zhang, Yu-Tong Li, Yang-Yang Liu, Ze-Long Zhang, Zhong-Feng Xu, and Christoph H. Keitel. Determining Carrier-Envelope Phase of Relativistic Laser Pulses via Electron Momentum Distribution. arXiv: 1809.01916 (2018). Accepted by Phys. Rev. A.
20. Yue-Yue Chen, **Jian-Xing Li**, Karen Z. Hatsagortsyan, Christoph H. Keitel. Gamma-ray beams with large orbital angular momentum via nonlinear Compton scattering with radiation reaction. Phys. Rev. Lett. 121, 074801 (2018).
19. **Jian-Xing Li**, Yue-Yue Chen, Karen Z. Hatsagortsyan, Christoph H. Keitel. Single-shot carrier-envelope phase determination of long superintense laser pulses. Phys. Rev. Lett. 120, 124803 (2018).
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16. **Jian-Xing Li**, Karen Z. Hatsagortsyan, Benjamin J. Galow, Christoph H. Keitel. Attosecond Gamma-ray pulses via nonlinear Compton scattering in the radiation-dominated regime. Phys. Rev. Lett. 115, 204801 (2015).
15. **Jian-Xing Li**, Karen Z. Hatsagortsyan, Christoph H. Keitel. Robust signatures of quantum radiation reaction in focused ultrashort laser pulses. Phys. Rev. Lett. 113, 044801 (2014).
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12. Yousef I. Salamin, **Jian-Xing Li**, Benjamin J. Galow, Christoph H. Keitel. Feasibility of electron cyclotron autoresonance acceleration by a short terahertz pulse. Opt. Express 23, 17560-17567 (2015).
11. Yousef I. Salamin, **Jian-Xing Li**, Karen Z. Hatsagortsyan, Matteo Tamburini, Antonino Di Piazza, Christoph H. Keitel. Particle beams in ultrastrong laser fields: direct laser acceleration and radiation reaction effects. Journal of Physics: Conference Series 594, 012018 (2015).

10. Benjamin J. Galow, **Jian-Xing Li**, Yousef I. Salamin, Zoltan Harman, Christoph H. Keitel. High-quality multi-GeV electron bunch via cyclotron autoresonance. Phys. Rev. Accel. Beams 16, 081302 (2013).
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