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Research Focus

研究领域

- 1、光与原子相互作用
- 2、光学非线性
- 3、压缩态、纠缠态制备与操控
- 4、量子测量、量子计算、量子通信

1. The interaction of light and atoms
2. Optical nonlinearity
3. The preparation and manipulation of squeezed and entangled states
4. Quantum measurement, computing and communication

Representative Publications

代表出版物

- 1.Qichang Jiang, Yan Zhang, Dan Wang, Sven Ahrens, Junxiang Zhang, Shiya Zhu, Superluminal reflection and transmission of light pulses via resonant four-wave mixing in cesium vapor, *Opt. Express*, 24, 24451(2016).
- 2.Yan Zhang, Jinhong Liu, Jinze Wu, Rong Ma, Dan Wang and Junxiang Zhang, Single-frequency tunable 447.3 nm laser by frequency doubling of tapered amplified diode laser at cesium D1 line, *Opt. Express*, 24,19769(2016).
- 3.Juanjuan Ren, Hongyi Chen, Ying Gu, Dongxing Zhao, Haitao Zhou, Junxiang Zhang and Qihuang Gong, Plasmon-enhanced Kerr nonlinearity via subwavelength-confined anisotropic Purcell factors, *Nanotechnology* 27, 425205 (2016).
- 4.Miaojun Guo, Haitao Zhou, Dan Wang, Jiangrui Gao, Junxiang Zhang, and Shi-Yao Zhu, Experimental investigation of high-frequency-difference twin beams in hot cesium atoms, *Phys. Rev. A*, 89, 033813(2014).
- 5.ZHANG JunXiang, JIANG QiChang, LIU Chao, ZHANG XinSheng, LIU JinHong , The manipulation of light pulse from subluminal to superluminal propagation in a degenerate two-level Cs atomic system, *SCIENCE CHINA Physics, Mechanics & Astronomy*, 57(12), 2246 (2014).
- 6.Xihua Yang, Bolin Xue, Junxiang Zhang, Shiya Zhu, A universal quantum information processor for scalable quantum communication and networks, *Scientific Reports*, 4, 6629(2014); doi:10.1038/srep06629.
- 7.Dan Wang, Li-Yun Hu, Xiu-Mei Pang, Jun-Xiang Zhang, Shi-Yao Zhu, Quadripartite entanglement from a double three-level lambda-type atom model, *Phys. Rev. A*, 88, 042314 (2013).
- 8.Da-Wei Wang, Hai-Tao Zhou, Miao-Jun Guo, Jun-Xiang Zhang, Jo " rg Evers, Shi-Yao Zhu, Optical Diode Made from a Moving Photonic Crystal, *Phys. Rev. Lett.*, 110, 093901 (2013).
- 9.Hai-Tao Zhou, Da-Wei Wang, Dan-Wang, Junxiang Zhang and Shi-Yao Zhu, Efficient reflection via four-wave mixing in a Doppler-free electromagnetically-induced-transparency gas system, *Phys. Rev. A*, 84(5), 053835(1-5) (2011).
- 10.Junxiang Zhang, Hai-Tao Zhou, Da-Wei Wang, and Shi-Yao Zhu, Enhanced reflection via phase compensation from anomalous dispersion in atomic vapor, *Phys. Rev. A*, 83, 053841 (2011).