Feifei Xin

Associate Professor of Tianjin Normal University
Tianjin, China

EDUCATION

➢ **Nankai University** 2007 2012

The MOE Key Laboratory of Weak Light Nonlinear Photonics and School of Physics

Ph.D. of Photonics and Photonic Technique
Director: Guoquan Zhang

➢ **Nankai University** 2003 2007

School of Physics

Bachelor of Science Degree in Physics, Major in Optical Information Science and Technology

WORK EXPERIENCE

➢ **Università di Roma "La Sapienza,"** 2018- 2020

Physics Department

Visiting Professor

Study on Nonlinear Optics in Ferroelectrics

Host: Prof. Eugenio Del Re

➢ **Tianjin Normal University** 2016 - Present

College of Physics and Materials Science

Associate Professor

Study on Photonics and Photonic Technique

Teaching Experience: Optics, Physics in English

➢ **China Aerospace Science & Industry** 2012 - 2016

Senior Engineer

Study on Remote Sensing Technique and Terahertz Imaging

RESEARCH INTERESTS

Nonlinear Optics in Ferroelectrics

- Reprogrammable integrated electro-optic circuits
- Spatial nonlinear waves
- 3D topological defects in phase transition

PROJECTS & SCHOLARSHIPS

2012-2014 "Millimeter wave quasi-optical devices" CASIC

2014-2016 "Terahertz imaging" CASIC

2016-2019 "Study on the band-edge UV light-induced domain engineering and defect structures in doped lithium niobate crystals" the Doctoral Foundation of Tianjin Normal University (Grant No.135202XB1607)

2018-2020 Research and Visiting Abroad Project for Young Scholars of Tianjin Normal University

2021-2023 "Controlling and Predicting Rogue waves in Optics" National Natural Science Foundation of China (Grant No. 12004282)

Date, 19/06/2021

Feifei Xin

LIST OF PUBLICATIONS (including conference papers)

- **Feifei Xin**, *Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Galina Perepelitsa, Yehudit Garcia, Aharon J. Agranat, Eugenio DelRe, "Space-time 4D topological defects in ferroelectric supercrystals", Science, under review.*

- **Feifei Xin,** *Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Claudio Conti, Aharon J. Agranat, and Eugenio DelRe, "Evidence of chaotic dynamics in three-soliton collisions", Physical Review Letters, under review.*

- *Ludovica Falsi, Marco Aversa, Fabrizio Di Mei, Davide Pierangeli,* **Feifei Xin,** *Aharon J. Agranat , and Eugenio DelRe, "Direct Observation of Fractal-Dimensional Percolation in the 3D Cluster Dynamics of a Ferroelectric Supercrystal", Physical Review Letters, 126, 037601 (2021).*

- *Ludovica Falsi, Luca Tartara, Fabrizio Di Mei, Mariano Flammini, Jacopo Parravicini, Davide Pierangeli, Gianbattista Parravicini***, Feifei Xin,** *Paolo Di Porto, Aharon J. Agranat, and Eugenio DelRe, "* Constraint-free wavelength conversion supported by giant optical refraction in a 3D perovskite supercrystal*", Communications Materials 1, 76 (2020).*

- **Feifei Xin**, *Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Aharon J. Agranat, and Eugenio DelRe, "Soliton Maxwell demons and long-tailed statistics in fluctuating optical fields", Optics Letters 45, 648 (2020) .*

- *Yufen Wang,* **Feifei Xin**, *Yirui Deng, Dejun Li, Xifei Li, "Nano-Zn2SnO4/Reduced Graphene Oxide Composites for enhanced photocatalytic performance", Materials Chemistry and Physics 254, 123505 (2020).*

- **Feifei Xin**, *Mariano Flammini, Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Aharon J. Agranat, and Eugenio DelRe, "Observation of extreme nonreciprocal wave amplification from single soliton-soliton collisions", Physical Review A 100, 043816 (2019).*

- **Feifei Xin**, *Mariano Flammini, Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Aharon J. Agranat, and Eugenio DelRe, "Using Bessel Beams to Induce Optical Waveguides", Physical Review Applied, 11, 024011 (2019).*

- **Feifei Xin**, *Mariano Flammini, Fabrizio Di Mei, Ludovica Falsi, Davide Pierangeli, Aharon J. Agranat, and Eugenio DelRe, "Using Bessel beams to induce programmable volume integrated optical circuitry," in 2019 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference, OSA Technical Digest (Optical Society of America, 2019), paper cd_p_42.*

- **Feifei Xin**, *"Mechanism of the UV band-edge photorefractivity enhancement in near-stoichiometric LiNbO3",* ***Optoelectronics Letters****, 14(5), 0359 (2018).*

- **Feifei Xin**, *"The mechanism of the UV band edge phtorefractivity suppression in highly doped LiNbO3:Zr crystals",* ***Optoelectronics Letters*** *13, 0419 (2017).*

- **Feifei Xin,** *"Characteristics of Einstein oscillator, electron-phonon interaction, and band-edge absorption in LiNbO3:In," in Photorefractive Photonics 2017,* ***IOP*** *Conf. Series: Journal of Physics: Conf. Series 867 (2017) 012040.*

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LIST OF PUBLICATIONS (including conference papers)

- **Feifei Xin,** *and Hongyan Su, "Design of fast, high-resolution terahertz imaging system based on laser and nonlinear crystal LiNbO3", Proc.* ***SPIE*** *9543, Third International Symposium on Laser Interaction with Matter, 95431Q (4 May 2015).*

- **Feifei Xin***, Hongyan Su, and Yong Xiao, "Terahertz imaging system for remote sensing and security applications," Proceedings of 2014 3rd Asia-Pacific Conference on Antennas and Propagation, Harbin, 2014, pp. 1335-1338.*

- **Feifei Xin***, et al. "Threshold behavior of the Einstein oscillator, electron-phonon interaction, band-edge absorption and small hole polarons in $LiNbO_3$:Mg crystals ",* Physical Review B *86, 165132 (2012) .*

- **Feifei Xin***, et al. "Ultraviolet band edge photorefractivity in $LiNbO_3$:Sn crystals",* Optics Letters *36(16), 3163-3165 (2011).*

- **Feifei Xin***, et al. "Study on UV absorption edge of MgO doped $LiNbO_3$ and CTVE excitons," in* CLEO/Europe and EQEC 2011 Conference Digest, *OSA Technical Digest (CD) (Optical Society of America, 2011), paper CE_P17.*

- **Feifei Xin,** *et al. "Ultraviolet photorefraction at 325 nm in doped lithium niobate crystals",* Journal of Applied Physics *107, 033113 (2010).*