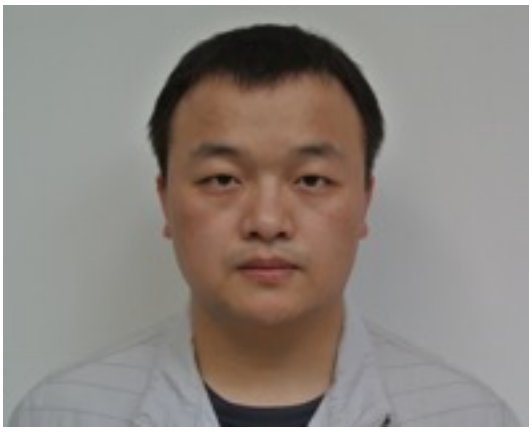
Dr. Zehua Tian
Curriculum Vitae

Personal Information



Job address: Institute of Theoretical Physics
University of Warsaw
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Nationality: Chinese

Research Keywords

Quantum information; Quantum field theory in curved space; Quantum technologies; Entanglement; Matter-field interaction; Superconducting circuits; Quantum foundations.

Working Experience

Dec 2015/to date	Postdoctoral contract, Assistant professor, Working with Andrzej Dragan, University of Warsaw
Oct 2015/Nov 2015	As a visitor, Working with Jiliang Jing, and Jieci Wang, Hunan Normal University,
Sep 2015/Oct 2015	As a visitor, Working with Heng Fan, Institute of Physics, Chinese Academy of Sciences

Education

2010.09-2015.07

Theoretic Physics,
Successive postgraduate and doctoral programs of study (Master and PHD),

Key Laboratory of Low Dimensional Quantum Structures and Quantum Control of Ministry of Education, Hunan Normal University, Changsha, China. Supervisor: Prof. Jiliang Jing. Thesis awarded cum laude: Quantum information in relativistic framework

2006.09-2010.06

Bachelor, Department of Physics, Hunan Normal University, Changsha, China.

Language Skills

Chinese: native
English: fluent

Publications

2016

1. *Detecting the Curvature of de Sitter Universe with Two Entangled Atoms* **Zehua Tian**, Jieci Wang, Jiliang Jing, and Andrzej Dragan, Scientific Reports 6, 35222 (2016)

2. *Irreversible degradation of quantum coherence under relativistic motion* Jieci Wang, **Zehua Tian**, Jiliang Jing, and Heng Fan, Phys. Rev. A 93, 062105 (2016).

3. *Protecting quantum coherence of two-level atoms from vacuum fluctuations of electromagnetic field* Xiaobao Liu, **Zehua Tian**, Jieci wang, and Jiliang Jing, Annals of Physics 366 (2016) 102-112.

4. *Influence of relativistic effects on satellite-based clock synchronization* Jieci Wang, **Zehua Tian**, Jiliang Jing, and Heng Fan, Phys. Rev. D 93, 065008 (2016).

5. *Inhibiting decoherence of two-level atom in thermal bath by presence of boundaries* Xiaobao Liu, **Zehua Tian**, Jieci wang, and Jiliang Jing, Quantum Inf Process (2016) DOI 10.1007/s11128-016-1343-7.

2015

6. *Relativistic Quantum Metrology in Open System Dynamics* **Zehua Tian**, Jieci Wang, Heng Fan and Jiliang Jing, Scientific Reports 5 (2015) 7946.

7. *Entropic uncertainty relation in de Sitter space* Lijuan Jia, **Zehua Tian**, and Jiliang Jing, Annals of Physics 353 (2015) 37-47.

8. *Parameter estimation for an expanding universe* Jieci Wang, **Zehua Tian**, Jiliang Jing, and Heng Fan, Nuclear Physics B 892 (2015) 390-399.

2014

9. *Distinguishing de Sitter universe from thermal Minkowski spacetime by Casimir-Polder-like force* **Zehua Tian** and Jiliang Jing, JHEP 07 (2014) 089.

10. *Dynamics and quantum entanglement of two-level atoms in de Sitter spacetime* **Zehua Tian** and Jiliang Jing, Annals of Physics 350 (2014) 1.

11. *Towards experimentally studying some puzzles of Hawking radiation* **Zehua Tian** and Jiliang Jing, Gen Relativ Gravit 46 (2014) 1779.

12. *Quantum metrology and the detection of Unruh effect* Jieci Wang, **Zehua Tian**, Jiliang Jing, and Heng Fan, Scientific Reports 4 (2014) 7195.

2013

13. *Geometric phase of two-level atoms and thermal nature of de Sitter spacetime* **Zehua Tian** and Jiliang Jing, JHEP 04 (2013) 109.

14. *Nonlocality and Entanglement via the Unruh effect* **Zehua Tian**, Jieci Wang and Jiliang Jing, Annals of Physics 332 (2013) 98.

15. *Measurement-Induced-Nonlocality via the Unruh effect* **Zehua Tian** and Jiliang Jing, Annals of Physics 333 (2013) 76.

2012

16. *How the Unruh effect affects transition between classical and quantum decoherences* **Zehua Tian** and Jiliang Jing, Physics letters B, 707 (2012) 264.

E-prints

17. *Entanglement Enhanced Thermometry in the Detection of the Unruh Effect* **Zehua Tian**, Jieci Wang, Jiliang Jing, and Andrzej Dragan, arXiv: 1603.01122.

Conferences

1. Geometric phase of two-level atoms and thermal nature of de Sitter spacetume Zehua Tian. Talk, ***The 2013 annual meeting of gravity and relativistic astrophysics branch of the Chinese Physical Society, Guangzhou 28 June-2 July 2013***.

2. Using Quantum Means to Understand and Estimate Relativistic Effects **Zehua Tian**. Talk, ***The 2014 annual meeting of gravity and relativistic astrophysics branch of the Chinese Physical Society, Zhengzhou 6 July-11 July 2014***.

3. ***The 2015 annual meeting of gravity and relativistic astrophysics branch of the Chinese Physical Society, Hangzhou 21 June-26 June 2015***.

Projects

2012 / 2013 *The studies of quantum entanglement, teleportation and fidelity in curved spacetime*
Hunan Provincial Innovation Foundation For Postgraduate under Grant No CX2012B202
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