



Dr. Amit Dey

Ph.D.

Designation: Assistant Professor

Department: Physics

Ramananda College, Bishnupur

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AREAS OF INTEREST/SPECIALISATION

- ...Theoretical Condensed Matter Physics
- ...Quantum Optics.....
- ...Cold Atomic Systems.....

ACADEMIC ACHIEVEMENTS

- Received JRF and SRF from Department of Atomic Energy, Govt. of India.
- Qualified CSIR-UGC National Eligibility Test (NET) in 2010.

RESEARCH EXPERIENCE

| From | To | Name and Address of Company / Organization | Position held |
|------------|------------|--|------------------------|
| 16.08.2010 | 16.08.2012 | Saha Institute of Nuclear Physics, India | Junior Research Fellow |
| 17.08.2012 | 31.10.2015 | Saha Institute of Nuclear Physics, India | Senior Research Fellow |
| 01.11.2015 | 30.04.2016 | Saha Institute of Nuclear Physics, India | Research Associate |
| 30.06.2016 | 18.10.2018 | Ben-Gurion University of The Negev, Israel | Postdoctoral Fellow |
| 30.11.2018 | 21.07.2020 | International Centre for Theoretical Sciences-TIFR | Postdoctoral Fellow |
| | | | |

ACADEMIC EXPERIENCE

- Sept., 2009 - March, 2010-----Part-time lecturer, Jogesh Chandra Chaudhuri College, University of Calcutta.
- Sept., 2009 – March, 2010-----Part-time lecturer, Vidyasagar Evening College, University of Culcutta.

ADMINISTRATIVE EXPERIENCE

-NIL.....

PUBLICATIONS

(List of Journals)

Year 2020

- **Amit Dey** and Manas Kulkarni, *Emergence of chaos and controlled photon transfer in a cavity-QED network* (under review), arXiv: 2005.10202v2, 2020.
- **Amit Dey** and Amichay Vardi, *Interaction-induced instability and chaos in the photoassociative stimulated Raman adiabatic passage from atomic to molecular Bose-Einstein condensates*, Phys. Rev. A **101**, 053627 (2020).
- **Amit Dey** and Manas Kulkarni, *Engineering indefinitely long-lived localization in cavity-QED arrays*, Phys. Rev. A **101**, 043801 (2020).

Year 2019

- **Amit Dey** and Sudhakar Yarlagadda, *Oxide systems – an answer to the qubit problem?*, Invited Review, Int. J. Mod. Phys. B **33**, 1930003 (2019).
- **Amit Dey**, Doron Cohen, and Amichay Vardi, *Many-body adiabatic passage: Quantum detours around chaos*, Physical Review A **99**, 033623 (2019).

Year 2018

- **Amit Dey**, Doron Cohen, and Amichay Vardi, *Adiabatic passage through chaos*, Physical Review Letters **121**, 250405 (2018).
- **Amit Dey** and S. Yarlagadda, *Temperature dependence of long coherence times of oxide charge qubits*, Scientific Reports **8**, 3487 (2018).

Year 2017

- **Amit Dey** and A. Vardi, *Self-trapping of excitations: Two-dimensional quasiparticle solitons in an extended Bose-Hubbard dimer array*, Physical Review A **95**, 033630 (2017).

Year 2015

- M. Q. Lone, **Amit Dey**, and S. Yarlagadda, *Study of two-spin entanglement in singlet states*, Solid State Communications **202**, 73 (2015).
- **Amit Dey**, M. Q. Lone, and S. Yarlagadda, *Decoherence in models for hard-core bosons coupled to optical phonons*, Physical Review B **92**, 094302 (2015).

Year 2014

- **Amit Dey** and S. Yarlagadda, *Polaron dynamics and decoherence in an interacting two-spin system coupled to an optical phonon environment*, Physical Review B **89**, 064311 (2014).

Manuscript in preparation

- **Amit Dey** , *Investigating signatures of quantum chaos in a quantum network* (To be Communicated soon).
- **Amit Dey**, *Role of initial system-bath correlation in an interacting electron-phonon system*.

Author of Books

-NIL.....

Google Scholar link:

<https://scholar.google.com/citations?user=hK6J4GMAAAAJ&hl=en>

Conference & schools attended

- Presentation at ICTS-TIFR in-house seminar, 2020, India.
- Presentation at ICTS-TIFR in-house seminar, 2019, India.
- Presentation at QMP 2018, STIAS, Stellenbosch University, South Africa.
- Presentation at SCES 2017, Charles University, Czech Republic.
- Presentation at QUEST 2017, Bar Ilan University, Israel.
- Presentation at Young Quantum 2015, HRI, Allahabad.
- Presentation at QIPA 2013, HRI, Allahabad.
- Winter School on quantum information processing, ICTS-TIFR, Bangalore.
- Presentation at ICQIQC 2013, IISC Bangalore.

PERSONAL DETAILS IN BRIEF

Marital Status : Married

Nationality : Indian

Current Designation : Assistant Professor

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