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Dr Dimitri M Gangardt PhD

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About

Dr DM Gangradt leads research in theoretical studies of ultra-cold atomic physics and condensed matter physics. He is author and co-author on more than 30 publication in prestigious inernational journals such as Physics Review Letters (with h-index of 13).

Qualifications

- PhD in Physics, Technion – Israel Institute of Technology (2002)

Biography

Dr DM Gangardt obtained his PhD from Technion in 2002 on studies of mesoscopic superconductors. His postdoctoral career was devoted to theoretical studies of ultra-cold atoms at Ecole Normale Superieure in Paris in the world-leading Kastler-Brossel laboratory and in Orsay at LPTMS and Institute d'Optique. The main research theme was the out of equilibrium quantum dynamics of strongly correlated atomic system in low dimensions.

He was awarded EPSRC Advanced Fellowship in 2006 resulting in prolep[tic appointment as a lecturere at University of Birmingham.

Current research interests include transport of ultra-cold atoms on a chip, superfluidity in one dimension, impurity dynamics in ultra-cold atoms.

Teaching

- Y3 – Y4 Chaos and Dynamical Systems
- Y3 Mathematics (Complex Variables)
- MPAGS Introduction to Bose-Einstein Condensation
- PG Introduction to Superconductivity

Postgraduate supervision

- Supervision of research PhDs in Theoretical Physics

Research

RESEARCH THEMES

- Ultra-Cold Atomes
- Superfluidity
- Solitons
- Mobile Impurity in 1D

Other activities

- Theory Group Seminar Organiser

Publications

- A. Minguzzi and D.M. Gangardt, “Exact coherent states of a harmonically confined Tonks-Girardeau gas”, Physical Review Letters 94, 240404 (2005)
- D.M. Gangardt and M. Pustilnik, “Correlations in an expanding gas of hard-core bosons”, Physical Review A (Rapid Communications) 77, 041604 (2008)
- D. Clement, A.F. Varon, M. Hugbart, J. Retter, P. Bouyer, L. Sanchez-Palencia, D.M. Gangardt, G.V. Shlyapnikov, and A. Aspect,“Suppression of Transport of an Interacting Elongated Bose-Einstein Condensate in a Random Potential”, Physical Review Letters 95, 170409 (2005)

- D.M. Gangardt, A. Kamenev, “Quantum decay of dark solitons”, Physical Review Letters 104, 190402 (2010).
- D.M. Gangardt and A. Kamenev, “Bloch oscillations in one-dimensional spinor gas”, Physical Review Letters 102, 070402 (2009)

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