Curriculum vitae, Erik Sjöqvist

Research ID: https://scholar.google.se/citations?user=n6SpHSQAAAAJ&hl=sv

Affiliation

Department of Physics and Astronomy, Division of Materials Theory
Uppsala University, Box 516, Se-751 20 Uppsala, Sweden

Present position

- Professor in quantum information theory, March 2005-

Education

- Docent, Uppsala University, Sweden, 2001
- Postdoctoral positions

  Department of Mathematical Sciences, University of Durham, UK, March - June 1996,

  Sub-Faculty of Philosophy, Oxford University, UK, July 1996 - June 1998

  Atomic Institute, Vienna, Austria, 1999, within the European TMR-network 'Perfect Crystal Neutron Optics' (PECNO)
- PhD, Uppsala University, Sweden, 1995
- BSc, Uppsala University, Sweden, 1988

Previous positions

- Visiting Research Professor at the Centre for Quantum Technologies, NUS, Singapore, 2010-2013
- Assistant Professor, Uppsala University, Sweden, 2000 - 2004.
- PhD position, Uppsala University, Sweden, 1990 - 1995

Awards and distinctions

- Recipient of **5** research grants form the Swedish Research Council since 2000
- Co-PI on KAW-project *Dynamic phenomena in magnetic materials* (Main PI: Olle Eriksson)
- Awarded 'Outstanding Referee 2009' by APS
- Awarded 'EPL Distinguished Referee 2011' by Europhysics Letters

Commissions of trust

- External evaluater of scientific projects: Swedish Research Council (VR), Austrian Science Fund (FWF), EPSRC (UK), FET-OPEN (EU), Knut and Alice Wallenberg Foundation, TWAS (Trieste), State Natural Science Award of the People's Republic of China, MAESTRO (National Science Center, Poland), NCCR (Swiss National Science Foundation), SFI (Science Foundation Ireland)
- External Reviewer of the EU-project GEOMDISS, 2010 - 2013
- Board member at **17** PhD dissertations. Opponent at **1** PhD and **2** licentiate dissertations. Evaluator of **3** docent degree and of **2** promotion to Professor
- Member of the EU network *Topological Quantum Information Processing*, 2003 - 2007
- Member of The Royal Academy of Arts and Sciences of Uppsala, 2012-

Other qualifications

- Supervisor of **7** PhD degrees, **41** Master and Bachelor theses
- Advisor of **3** postdocs
- Number of publications in refereed journals: **135** of which **12** in Physical Review Letters and **77** in Physical Review A/B/etc
- **3** popular science articles. Invited 'Trends' article in APS:
- Number of citations: **5754** (Google scholar). H-index: **39** (Google scholar)
- Referee for $\sim$ **20** international physics journals (PRL, PRA, NPG, NJP, Ann. Phys., etc)
- Teaching on $\sim$ **85** courses on undergraduate and postgraduate level

Selection of ten publications

1. Y. Liu, I. P. Miranda, L. Johnson, A. Bergman, A. Delin, D. Thonig, M. Pereiro, O. Eriksson, V. Azimi Mousolou, and E. Sjöqvist,
Quantum analog of Landau-Lifshitz-Gilbert dynamics
Physical Review Letters **133**, 266704 (2024).

2. T. André and E. Sjöqvist,
Dark path holonomic qudit computation
Physical Review A **106**, 062402 (2022).

3. E. Sjöqvist,
Geometry along evolution of mixed quantum states
Physical Review Research **2**, 013344 (2020).

4. J. Zhang, T. H. Kyaw, D. M. Tong, E. Sjöqvist, and L. C. Kwek,
Fast non-Abelian geometric gates via transitionless quantum driving
Scientific Reports **5**, 18414 (2015).

5. G. F. Xu, J. Zhang, D. M. Tong, E. Sjöqvist, and L. C. Kwek,
Non-adiabatic holonomic quantum computation in decoherence-free subspaces
Physical Review Letters **109**, 170501 (2012).

6. E. Sjöqvist, D. M. Tong, L. M. Andersson, B. Hessmo, M. Johansson, and K. Singh,
Non-adiabatic holonomic quantum computation
New Journal of Physics **14**, 103035 (2012).

7. M. Johansson, M. Ericsson, K. Singh, E. Sjöqvist, and M. S. Williamson,
Topological phases and multiqubit entanglement
Physical Review A **85**, 032112 (2012).

8. E. Sjöqvist,
Geometric phase in weak measurements
Physics Letters A **359**, 187 (2006).

9. N. Johansson and E. Sjöqvist,
Optimal topological test for degeneracies of real Hamiltonians
Physical Review Letters **92**, 060406 (2004).

10. E. Sjöqvist, A. K. Pati, A. Ekert, J. S. Anandan, M. Ericsson, D. K. L. Oi, and V. Vedral,
Geometric phases for mixed states in interferometry
Physical Review Letters **85**, 2845 (2000).