



Alexander N. Korotkov

Professor

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Research interests

Nanoelectronics (single-electronics), noise analysis, quantum measurements, quantum computing, quantum feedback control

Publications

91 journal papers, 27 conference proceedings, 9 book chapters, 1 patent

Citation index

Over 2,000 citations total, h-index: 24, top 3 citations: 260, 120, and 90 times (from Web of Knowledge, <http://www.isiwebofknowledge.com/>)

Main research funding

- "Algorithm demonstrations using Josephson qubits", \$162 K (my share as a co-PI of the grant headed by J. Martinis, UCSB) (2008-2009)
- "High-fidelity Josephson qubits", ARO, \$538 K (my share as a co-PI of the grant headed by J. Martinis, UCSB) (2004-2008)
- "Center for nanoscience innovation for defense", DMEA/DARPA, \$30 K (my share as a participant of the grant headed by R. Haddon, UCR) (2002-2008)
- "State purification and decoherence suppression by continuous measurement of a qubit," ARO, \$443 K (2001-2004)
- "Background-charge-insensitive single-electron memory," SRC, \$87 K (my share as a co-PI of the grant headed by K. Likharev, SUNY) (2001-2004)
- "Digital applications of single-electron tunneling" Samsung Electronics, \$30 K (1997-1998)

Courses taught at UCR (2001-2008)

- Applied quantum mechanics, EE201 (8 quarters)
- Electronic circuits I, EE100A (7 quarters)
- Electronic circuits II, EE100B (5 quarters)
- Senior design project, EE175AB (4 quarters)
- Solid state electronics, EE133 (1 quarter)
- Solid state devices, EE203 (3 quarter)
- Quantum computing, EE214 (1 quarter)

Education

Ph.D. in Physics in 1991 from Moscow State University (advisor Prof. K.K. Likharev)
M.S. in Physics (cum laude) in 1986 from Moscow State University

Employment

Nov. 2000 – present *Professor, step I (July 2006 – present)*
 Associate Professor, step III (July 2004 – June 2006)
 Associate Professor, step II (July 2002 – June 2004)
 Assistant Professor, step IV (Nov. 2000 – June 2002)
 Dept. of Electrical Engineering, University of California, Riverside, CA

Oct. 1998 – Nov. 2000 *Research Assistant Professor (Dec. 1999 – Nov. 2000)*
 Research Scientist (Oct. 1998 – Dec. 1999)
 Dept. of Physics and Astronomy, State University of New York, Stony Brook, NY

July 1996 – Sept. 1998 *Senior Scientist*
 Dept. of Microelectronics, Institute of Nuclear Physics, Moscow State University,
 Moscow, Russia

August 1993 – June 1996 *Research Scientist (Jan. 1995 – June 1996)*
 Postdoctoral Research Associate (August 1993 – Jan. 1995)
 Department of Physics, State University of New York at Stony Brook, NY

April 1989 – August 1993 *Senior Scientist (July 1993 – August 1993)*
 Scientist (June 1992 – June 1993)
 Engineer (April 1989 – May 1992)
 Dept. of Microelectronics, Institute of Nuclear Physics, Moscow State University

May 1987 – April 1989 *Senior Technician (Physicist)*
 Department of Physics, Moscow State University, Moscow, Russia

Visiting positions

June 1998 – Aug. 1998 *Visiting Professor (3rd échelon, 1st classe)*
Dec. 1997 – March 1998
 Dept. de Physique, Université de la Méditerranée (Luminy), Marseille, France

Feb. 1997 – May 1997 *Researcher*
 NEC Fundamental Research Laboratories, Tsukuba, Japan

Professional memberships

APS, IEEE

Ph.D. students graduated

Qin Zhang (graduated 03/2007)

Postdocs/researchers

Abraham Kofman (06/2005 – 06/2008), Rusko Ruskov (10/2001 – 08/2004),
Valentin Turin (11/2001 – 01/2003)

Reviewing activity

Refereed papers for the following journals: Physical Review Letters, Physical Review B, Physical Review E, Applied Physics Letters, Europhysics Letters, Fluctuation and Noise Letters, International Journal of Electronics, IEEE Transactions on Nanotechnology, IEEE Transactions on Electron Devices, IEEE Transactions on Applied Superconductivity, IEEE Journal of Selected Topics in Quantum Electronics, Journal of Applied Physics, Journal of Low Temperature Physics, Journal of Computational Electronics, Nanotechnology, Quantum Information Processing, Solid-State Electronics, Superconducting Science and Technology, Vacuum.

Refereed grant proposals for NSF, DOE, ARO, US Civilian R&D Foundation, and UC Discovery Grant program; served as a panel member for NSF and UC Discovery Grant program.