

April 20, 2009

Alexander N. Korotkov

List of publications

Journal papers

1. A. N. Korotkov and V. F. Tokarev, “Instanton effects in two-dimensional scalar electrodynamics”, *Teor. Mat. Fiz.* **73**, No. 1, 61-73 (1987) [*Theor. Math. Phys.* **73**, No. 1, 1060-1068 (1987)].

2. D. V. Averin and A. N. Korotkov, “Correlated single-electron tunneling via mesoscopic metal particle: Effects of the Energy Quantization”, *J. Low Temp. Phys.* **80**, No. 3/4, 173-185 (1990).

3. D. V. Averin and A. N. Korotkov, “Influence of discrete energy spectrum on correlated single-electron tunneling via a mesoscopically small metal granule”, *Zh. Eksp. Teor. Fiz.* **97**, No. 5, 1661-1673 (1990) [*Sov. Phys. JETP* **70**, No. 5, 937-943 (1990)].

4. A. N. Korotkov, D. V. Averin, and K. K. Likharev, “Single-electron charging of the quantum wells and dots”, *Physica B* **165&166** (II), 927-928 (1990).

5. D. V. Averin, A. N. Korotkov, and Yu. V. Nazarov, “Transport of electron-hole pairs in the arrays of small tunnel junctions”, *Phys. Rev. Lett.* **66**, No. 21, 2818-2821 (1991).

6. A. N. Korotkov and Yu. V. Nazarov, “Single-electron tunneling coexisting with the barrier suppression”, *Physica B* **173**, No. 3, 217-222 (1991).

7. D. V. Averin, A. N. Korotkov, and K. K. Likharev, “Theory of single-electron charging of quantum wells and dots”, *Phys. Rev. B* **44**, No.12, 6199-6211 (1991).

8. M. E. Gertsenshtein, A. N. Korotkov, V. V. Potemkin, and A. V. Stepanov, “Thermodynamic restrictions on the mechanism of $1/f$ noise”, *Izvestiya Vuzov, Radiofizika* **34**, No. 1, 47-51 (1991) [*Radiophysics and Quantum Electronics* **34**, No. 1, 40-43 (1991)].

9. A. N. Korotkov, D. V. Averin, and K. K. Likharev, “Single-electron quantization of electric field domains in slim semiconductor superlattices”, *Appl. Phys. Lett.*, **62**, No. 25, 3282-3284 (1993).

10. A. N. Korotkov, D. V. Averin, and K. K. Likharev, “Combined Bloch and single-electron tunneling oscillations in one-dimensional arrays of small tunnel junctions”, *Phys. Rev. B* **49**, No. 3, 1915-1918 (1994).

11. A. N. Korotkov, D. V. Averin, and K. K. Likharev, “Statistical properties of continuous-wave Bloch oscillations in double-well semiconductor heterostructures”, *Phys. Rev. B* **49**, No. 11, 7548-7556 (1994).

12. A. N. Korotkov, D. V. Averin, and K. K. Likharev, "Combined Bloch/SET oscillations in 1D arrays of small tunnel junctions", *Physica B* **194-196**, 1333-1334 (1994).
13. A. N. Korotkov, "Intrinsic noise of the single-electron transistor", *Phys. Rev. B* **49**, No. 15, 10381-10392 (1994).
14. A. N. Korotkov, "Effect of image charge on single-electron tunneling", *Phys. Rev. B* **49**, No. 16, 11508-11510 (1994).
15. A. A. Zubilov, S. P. Gubin, A. N. Korotkov, A. G. Nikolaev, E. S. Soldatov, V. V. Hanin, G. B. Homutov, and S. A. Yakovenko, "Single-electron tunneling via cluster molecule at room temperature", *Pis'ma Zh. Tekh. Fiz.* **20**, No. 5, 41-45 (1994) [*Tech. Phys. Lett.* **20**, No. 3, 195-196 (1994)].
16. A. N. Korotkov, "Single-electron transistor controlled with an RC circuit", *Phys. Rev. B* **49**, No. 23, 16518-16522 (1994).
17. A. N. Korotkov, M. R. Samuelsen, and S. A. Vasenko, "Effects of overheating in a single-electron transistor", *J. Appl. Phys.* **76**, No. 6, 3623-3631 (1994).
18. A. N. Korotkov, D. V. Averin, and K. K. Likharev, "TASERs: Possible dc-pumped terahertz lasers using interwell transitions in semiconductor heterostructures", *Appl. Phys. Lett.* **65**, No. 15, 1865-1867 (1994).
19. A. N. Korotkov, "Analytical calculation of single-electron oscillations in one-dimensional arrays of tunnel junctions", *Phys. Rev. B* **50**, No. 23, 17674-17677 (1994).
20. L. R. C. Fonseca, A. N. Korotkov, K. K. Likharev, and A. A. Odintsov, "A numerical study of the dynamics and statistics of single electron systems", *J. Appl. Phys.* **78**, No. 5, 3238-3251 (1995).
21. A. N. Korotkov, R. H. Chen, and K. K. Likharev, "Possible performance of capacitively-coupled single-electron transistors in digital circuits", *J. Appl. Phys.* **78**, No. 4, 2520-2530 (1995).
22. K. P. Hirvi, J. P. Kauppinen, A. N. Korotkov, M. A. Paalanen, and J. P. Pekola, "Arrays of normal metal tunnel junctions in weak Coulomb blockade regime", *Appl. Phys. Lett.* **67**, No. 14, 2096-2098 (1995).
23. A. N. Korotkov, "Wireless single-electron logic biased by alternating electric field", *Appl. Phys. Lett.* **67**, No. 16, 2412-2414 (1995).
24. R. H. Chen, A. N. Korotkov, and K. K. Likharev, "Single-electron transistor logic", *Appl. Phys. Lett.* **68**, No. 14, 1954-1956 (1996).
25. L. R. C. Fonseca, A. N. Korotkov, and K. K. Likharev, "A numerical study of the accuracy of single-electron current standards", *J. Appl. Phys.* **79**, No. 12, 9155-9165 (1996).
26. K. K. Likharev and A. N. Korotkov, "Single-electron parametron: reversible computation in a discrete-state system", *Science* **273**, No. 5276 (9 August 1996), 763-765 (1996).

27. L. R. C. Fonseca, A. N. Korotkov, and K. K. Likharev, "Accuracy of the single-electron pump using an optimized step-like rf drive waveform", *Appl. Phys. Lett.* **69**, No. 13, 1858-1860 (1996).
28. A. N. Korotkov, "Charge sensitivity of superconducting single-electron transistor", *Appl. Phys. Lett.* **69**, No. 17, 2593-2595 (1996).
29. A. N. Korotkov, "Charge sensitivity of single-electron transistor with superconducting electrodes", *Superlatt. and Microstr.* **20**, No. 4, 581-585 (1996).
30. D. V. Averin, A. N. Korotkov, A. J. Manninen, and J. P. Pekola, "Resonant tunneling through a macroscopic charge state in a superconducting single electron transistor", *Phys. Rev. Lett.* **78**, No. 25, 4821-4824 (1997).
31. A. J. Manninen, Yu. A. Pashkin, A. N. Korotkov, and J. P. Pekola, "Observation of thermally excited charge transport modes in a superconducting single electron transistor", *Europhys. Lett.* **39**, No. 3, 305-310 (1997).
32. Y. Nakamura, A. N. Korotkov, C. D. Chen, and J. S. Tsai, "Singularity-matching peaks in superconducting single-electron transistor", *Phys. Rev B* **56**, No. 9, 5116-5119 (1997).
33. Sh. Farhangfar, K. P. Hirvi, J. P. Kauppinen, J. P. Pekola, J. J. Toppari, D. V. Averin, and A. N. Korotkov, "One dimensional arrays and solitary tunnel junctions in the weak Coulomb blockade regime: CBT Thermometry", *J. Low Temp. Phys.* **108**, No. 1-2, 191-215 (1997).
34. M. Ershov and A. N. Korotkov, "Noise in single quantum well infrared photodetectors", *Appl. Phys. Lett.* **71**, No. 12, 1667-1669 (1997).
35. A. N. Korotkov, "Theoretical analysis of the resistively coupled single-electron transistor", *Appl. Phys. Lett.* **72**, No. 24, 3226-3228 (1998).
36. K. K. Likharev and A. N. Korotkov, "Analysis of Q_0 -independent single-electron systems", *VLSI Design* **6**, Nos. 1-4, 341-344 (1998).
37. K. K. Likharev and A. N. Korotkov, "Single-electron parametron", *VLSI Design* **6**, Nos. 1-4, 43-46 (1998).
38. A. N. Korotkov, "Possible wireless single-electron logic biased by electric field", *VLSI Design* **6**, Nos.1-4, 39-41 (1998).
39. L. R. C. Fonseca, A. N. Korotkov, and K. K. Likharev, "SENECA: a new program for the analysis of single-electron devices", *VLSI Design* **6**, Nos.1-4, 57-60 (1998).
40. A. N. Korotkov, "Langevin approach for the shot noise calculation in single-electron tunneling", *Europhys. Lett.* **43**, No. 3, 343-348 (1998).
41. A. N. Korotkov and K. K. Likharev, "Single-electron-parametron-based logic devices", *J. Appl. Phys.* **84**, No. 11, 6114-6126 (1998).
42. E. S. Soldatov, V. V. Khanin, A. S. Trifonov, S. P. Gubin, V. V. Kolesov, D. E. Presnov, S. A. Iakovenko, G. B. Khomutov, and A. N. Korotkov, "Room temperature

molecular single-electron transistor”, *Uspekhi Fizicheskikh Nauk* **168**, No. 2, 217-219 (1998) [*Physics – Uspekhi* **41**, No. 2, 202-204 (1998)].

43. A. N. Korotkov and V. I. Safarov, “Nonequilibrium spin distribution in a single-electron transistor”, *Phys. Rev. B* **59**, No. 1, 89-92 (1999).

44. A. N. Korotkov and V. I. Safarov, “Spin injection in ferromagnetic single-electron transistor”, *Superlatt. and Microstr.* **25**, No. 1-2, 259-262 (1999).

45. A. N. Korotkov and M. A. Paalanen, “Charge sensitivity of radio frequency single-electron transistor”, *Appl. Phys. Lett.* **74**, No. 26, 4052-4054 (1999).

46. A. N. Korotkov, “Continuous quantum measurement of a double dot”, *Phys. Rev. B* **60**, No. 8, 5737-5742 (1999).

47. B. Starmark, T. Henning, T. Claeson, P. Delsing, and A. N. Korotkov, “Gain dependence of the noise in the single electron transistor”, *J. Appl. Phys.* **86**, No. 4, 2132-2136 (1999).

48. Y. Naveh, A. N. Korotkov, and K. K. Likharev, “Shot-noise suppression in multimode ballistic Fermi conductors”, *Phys. Rev. B* **60**, No. 4, R2169-R2172 (1999).

49. A. N. Korotkov and K. K. Likharev, “Possible cooling by resonant Fowler-Nordheim emission”, *Appl. Phys. Lett.* **75**, No.16, 2491-2493 (1999).

50. A. N. Korotkov, “Single-electron logic and memory devices”, *Int. J. Electronics* **86**, No. 5, 511-547 (1999).

Invited review paper

51. A. N. Korotkov, “Density matrix purification due to continuous quantum measurement”, *Physica B* **280**, 412-413 (2000).

52. A. N. Korotkov and K. K. Likharev, “Shot noise suppression at one-dimensional hopping”, *Phys. Rev. B* **61**, No. 23, 15975-15987 (2000).

53. A. N. Korotkov and K. K. Likharev, “Cooling by resonant Fowler-Nordheim emission”, *Physica B* **284-288**, 2030-2031 (2000).

54. Y. A. Kinkhabwala and A. N. Korotkov, “Shot noise at hopping via two sites”, *Phys. Rev. B* **62**, No. 12, R7727-R7730 (2000).

55. A. N. Korotkov, “Output spectrum of a detector measuring quantum oscillations”, *Phys. Rev. B* **63**, 085312, pp. 1-8 (2001).

Selected for Virt. J. Nanoscale Sci.&Tech. **3**, No. 8 (Feb. 19, 2001).

56. V. A. Sverdlov, A. N. Korotkov, and K. K. Likharev, “Shot noise suppression at 2D hopping”, *Phys. Rev. B* **63**, 081302(R), pp. 1-4 (2001).

57. A. N. Korotkov, “Selective quantum evolution of a qubit state due to continuous quantum measurement”, *Phys. Rev. B* **63**, 115403, pp. 1-15 (2001).

Selected for Virt. J. Nanoscale Sci.&Tech. **3**, No. 11 (March 12, 2001).

58. B. Starmark, E. Hurfeld, T. Henning, P. Delsing, A. N. Korotkov, R. S. Shaikhaidarov, T. Akazaki, E. Toyoda, and H. Takayanagi, “Noise in the single electron

transistor and controlled Josephson current in ballistic three terminal devices”, *Physica C* **352**, 101-104 (2001).

59. V. A. Sverdlov, D. M. Kaplan, A. N. Korotkov, and K. K. Likharev, “Single-electron soliton avalanches in tunnel-junction arrays”, *Phys. Rev. B* **64**, 041302(R), pp. 1-4 (2001).

Selected for Virt. J. Nanoscale Sci.&Tech. **4**, No. 4 (July 23, 2001).

60. A. N. Korotkov and D. V. Averin, “Continuous weak measurement of quantum coherent oscillations”, *Phys. Rev. B* **64**, 165310, pp. 1-5 (2001).

Selected for Virt. J. Nanoscale Sci.&Tech. **4**, No. 17 (Oct. 22, 2001).

61. A. N. Korotkov, "Correlated quantum measurement of a solid-state qubit", *Phys. Rev. B* **64**, 193407, pp. 1-4 (2001).

Selected for Virt. J. Quant. Information **1**, No. 7 (Dec. 2001) and *Virt. J. Appl. Superconductivity* **1**, No. 7 (November 1, 2001).

62. A. N. Korotkov, “Continuous measurement of entangled qubits”, *Phys. Rev. A* **65**, 052304, pp. 1-5 (2002).

Selected for Virt. J. Quant. Information **2**, No. 5 (May 2002) and for *Virt. J. Nanoscale Sci.&Tech.* **5**, No. 17 (Apr. 29, 2002).

63. R. Ruskov and A. N. Korotkov, “Quantum feedback control of a solid-state qubit”, *Phys. Rev. B* **66**, 041401(R), pp. 1-4 (2002).

Selected for Virt. J. Quant. Information **2**, No. 7 (July 2002) and *Virt. J. Nanoscale Sci.&Tech.* **6**, No. 2 (July 8, 2002).

64. A. N. Korotkov, “Analysis of integrated single-electron memory operation”, *J. Appl. Phys.* **92**, No. 12, 7291-7295 (2002).

Selected for Virt. J. Nanoscale Sci.&Tech. **6**, No. 24 (Dec. 9, 2002).

65. R. Ruskov and A. N. Korotkov, “Spectrum of qubit oscillations from Bloch equations”, *Phys. Rev. B* **67**, 075303, pp. 1-8 (2003).

Selected for Virt. J. Nanoscale Sci.&Tech. **7**, No. 7 (Feb. 17, 2003).

66. R. Ruskov and A. N. Korotkov, “Entanglement of solid-state qubits by measurement”, *Phys. Rev. B* **67**, 241305(R), pp. 1-4 (2003).

Selected for Virt. J. Quant. Information **3**, No. 6 (June 2003) and *Virt. J. Nanoscale Sci.&Tech.* **7**, No. 25 (June 23, 2003).

67. A. N. Korotkov, “Nonideal quantum detectors in Bayesian formalism”, *Phys. Rev. B* **67**, 235408, pp. 1-11 (2003).

Selected for Virt. J. Quant. Information **3**, No. 6 (June 2003) and *Virt. J. Nanoscale Sci.&Tech.* **7**, No. 25 (June 23, 2003).

68. V. O. Turin and A. N. Korotkov, “Analysis of the radio-frequency single-electron transistor with large quality factor”, *Appl. Phys. Lett.* **83**, No. 14, 2898-2900 (2003).

Selected for Virt. J. Nanoscale Sci.&Tech. **8**, No. 15 (Oct. 13, 2003).

69. K. K. Yadavalli, A. O. Orlov, G. L. Snider, and A. N. Korotkov, "Single electron memory devices: Towards background charge insensitive operation", *J. Vac. Sci. Technol. B* **21**, no. 6, 2860-2864 (2003).

Selected for Virt. J. Nanoscale Sci.&Tech. **8**, No. 25 (December 22, 2003).

70. V. O. Turin and A. N. Korotkov, "Numerical analysis of radio-frequency single-electron transistor operation", *Phys. Rev. B* **69**, 195310, pp. 1-13 (2004).

Selected for Virt. J. Nanoscale Sci.&Tech. **9**, No. 21 (May 31, 2004).

71. H. Busta, D. Boldridge, R. Myers, G. Snider, A. Korotkov, E. Edwards, and A. Feinerman, "Electron emission from carbon black-based field emitters including diesel engine exhaust", *J. Vac. Sci. Technol. B* **22**, 1261-1265 (2004).

72. W. Mao, D. V. Averin, R. Ruskov, and A. N. Korotkov, "Mesoscopic quadratic quantum measurements", *Phys. Rev. Lett.* **93**, 056803, pp. 1-4 (2004).

Selected for Virt. J. Quant. Information **4**, No. 8 (August 2004) and *Virt. J. Nanoscale Sci.&Tech.* **10**, No. 6 (August 9, 2004).

73. R. Ruskov, K. Schwab, and A. N. Korotkov, "Quantum nondemolition squeezing of a nanomechanical resonator", *IEEE Trans. Nanotechnology* **4**, No. 1, 132-140 (2005).

74. D. V. Averin and A. N. Korotkov, "Comment on Continuous quantum measurement: inelastic tunneling and lack of current oscillations", *Phys. Rev. Lett.* **94**, 069701 (2005).

Selected for Virt. J. Quant. Information **5**, No. 3 (March 2005) and *Virt. J. Nanoscale Sci.&Tech.* **11**, No. 8 (February 28, 2005).

75. A. N. Korotkov, "Quantum feedback of a double-dot qubit", *Microelectronics Journal* **36**, 253-255 (2005).

76. A. N. Korotkov, "Simple quantum feedback of a solid-state qubit", *Phys. Rev. B* **71**, 201305(R), pp. 1-4 (2005).

Selected for Virt. J. Quant. Information **5**, No. 6 (June 2005) and *Virt. J. Nanoscale Sci.&Tech.* **11**, No. 21 (May 30, 2005).

77. R. Ruskov, K. Schwab, and A. N. Korotkov, "Squeezing of a nanomechanical resonator by quantum nondemolition measurement and feedback", *Phys. Rev. B* **71**, 235407, pp. 1-19 (2005).

Selected for Virt. J. Nanoscale Sci.&Tech. **11**, No. 24 (June 20, 2005).

78. Q. Zhang, R. Ruskov, and A. N. Korotkov, "Continuous quantum feedback of coherent oscillations in a solid-state qubit," *Phys. Rev. B* **72**, 245322, pp. 1-11 (2005).

Selected for Virt. J. Quant. Information **6**, No. 1 (January 2006) and *Virt. J. Nanoscale Sci.&Tech.* **12**, No. 26 (December 26, 2005).

79. Y. A. Kinkhabwala, V. A. Sverdlov, A. N. Korotkov, and K. K. Likharev, "A numerical study of transport and shot noise in 2D hopping," *J. Phys.: Condens. Matter* **18**, 1999-2012 (2006).

80. R. Ruskov, A. N. Korotkov, and A. Mizel, "Quantum Zeno stabilization in weak continuous measurement of two qubits," *Phys. Rev. B* **73**, 085317, pp. 1-17 (2006).

Selected for Virt. J. Quant. Information **6**, No. 3 (March 2006) and Virt. J. Nanoscale Sci.&Tech. **13**, No. 8 (February 27, 2006).

81. R. Ruskov, A. N. Korotkov, and A. Mizel, "Signatures of quantum behavior in single-qubit weak measurements," Phys. Rev. Lett. **96**, 200404, pp. 1-4 (2006).

Selected for Virt. J. Quant. Information **6**, No. 6 (June 2006).

82. N. Katz, M. Ansmann, R. C. Bialczak, E. Lucero, R. McDermott, M. Neeley, M. Steffen, E. M. Weig, A. N. Cleland, J. M. Martinis, and A.N. Korotkov, "Coherent state evolution in a superconducting qubit from partial-collapse measurement," *Science* **312**, No. 5779 (9 June 2006), pp. 1498-1500 (2006).

Selected for Virt. J. Quant. Information **6**, No. 7 (July 2006) and Virt. J. Appl. Superconductivity **11**, No. 2 (July 15, 2006).

83. A. N. Jordan, A. N. Korotkov, and M. Buttiker, "Leggett-Garg inequality with a kicked quantum pump," Phys. Rev. Lett. **97**, 026805, pp. 1-4 (2006).

Selected for Virt. J. Quant. Information **6**, No. 7 (July 2006) and Virt. J. Nanoscale Sci.&Tech. **14**, No. 5 (July 31, 2006).

84. A. N. Jordan and A. N. Korotkov, "Qubit feedback and control with kicked quantum nondemolition measurements: a quantum Bayesian analysis," Phys. Rev. B **74**, 085307, pp. 1-12 (2006).

Selected for Virt. J. Quant. Information **6**, No. 8 (August 2006) and Virt. J. Nanoscale Sci.&Tech. **14**, No. 8 (August 21, 2006).

85. A. N. Korotkov and A. N. Jordan, "Undoing a weak quantum measurement of a solid-state qubit," Phys. Rev. Lett. **97**, 166805, pp. 1-4 (2006).

Selected for Virt. J. Nanoscale Sci.&Tech. **14**, No. 18 (October 30, 2006), Virt. J. Quant. Information **6**, No. 11 (November 2006), and Virt. J. Appl. Superconductivity **11**, No. 9 (November 1, 2006).

86. Q. Zhang, A. G. Kofman, J. M. Martinis, and A. N. Korotkov, "Analysis of measurement errors for a superconducting phase qubit," Phys. Rev. B **74**, 214518, pp. 1-14 (2006).

Selected for Virt. J. Quant. Information **7**, No. 1 (January 2007), Virt. J. Nanoscale Sci.&Tech. **15**, No. 2 (January 15, 2007), and Virt. J. Appl. Superconductivity **12**, No. 1 (January 1, 2007).

87. A. G. Kofman, Q. Zhang, J. M. Martinis, and A. N. Korotkov, "Theoretical analysis of measurement crosstalk for coupled Josephson phase qubits," Phys. Rev. B **75**, 014524, pp. 1-17 (2007).

Selected for Virt. J. Quant. Information **7**, No. 2 (February 2007), Virt. J. Nanoscale Sci.&Tech. **15**, No. 5 (February 5, 2007), and Virt. J. Appl. Superconductivity **12**, No. 3 (February 1, 2007).

88. R. Ruskov, A. Mizel, and A. N. Korotkov, "Crossover of phase qubit dynamics in presence of a negative-result weak measurement," Phys. Rev. B **75**, 220501(R), pp. 1-4 (2007).

Selected for Virt. J. Quant. Information **7**, No. 6 (June 2007), Virt. J. Nanoscale Sci.&Tech. **15**, No. 24 (June 18, 2007), and Virt. J. Appl. Superconductivity **12**, No. 12 (June 15, 2007).

89. L. P. Pryadko and A. N. Korotkov, "Coherence of a Josephson phase qubit under partial-collapse measurement," Phys. Rev. B **76**, 100503(R), pp. 1-4 (2007).

Selected for Virt. J. Quant. Information **7**, No. 9 (September 2007), Virt. J. Nanoscale Sci.&Tech. **16**, No. 13 (September 24, 2007), and Virt. J. Appl. Superconductivity **13**, No. 6 (September 15, 2007).

90. A. G. Kofman and A. N. Korotkov, "Analysis of Bell inequality violation in superconducting phase qubits," Phys. Rev. B **77**, 104502, pp. 1-15 (2008).

Selected for Virt. J. Quant. Information **8**, No. 3 (March 2008), Virt. J. Nanoscale Sci.&Tech. **17**, No. 11 (March 17, 2008) and Virt. J. Appl. Superconductivity **14**, No. 6 (March 15, 2008).

91. A. G. Kofman and A. N. Korotkov, "Bell-inequality violation versus entanglement in the presence of local decoherence," Phys. Rev. A **77**, 052329, pp. 1-4 (2008).

Selected for Virt. J. Quant. Information **8**, No. 6 (June 2008), Virt. J. Nanoscale Sci.&Tech. **17**, No. 22 (June 2, 2008).

92. N. Katz, M. Neeley, M. Ansmann, R. C. Bialczak, M. Hofheinz, E. Lucero, A. O'Connell, H. Wang, A. N. Cleland, J. M. Martinis, and A. N. Korotkov, "Reversal of the weak measurement of a quantum state in a superconducting phase qubit", Phys. Rev. Lett. **101**, 200401, pp. 1-4 (2008).

Selected for Editor's suggestion, a *Viewpoint in Physics* [Physics **1**, 34 (2008)], Virt. J. Quant. Information **8**, No. 11 (Nov. 2008), Virt. J. Nanoscale Sci.&Tech. **18**, No. 21 (Nov. 24, 2008), and Virt. J. Appl. Superconductivity **15**, No. 10 (Nov. 10, 2008).

93. A. N. Korotkov, "Quantum efficiency of binary-outcome detectors of solid-state qubits", Phys. Rev. B **78**, 174512, pp. 1-11 (2008).

Selected for Virt. J. Quant. Information **8**, No. 11 (Nov. 2008), Virt. J. Nanoscale Sci.&Tech. **18**, No. 21 (Nov. 24, 2008), and Virt. J. Appl. Superconductivity **15**, No. 10 (Nov. 10, 2008).

94. A. N. Korotkov, "Special issue on quantum computing with superconducting qubits", Quantum Inf. Process. **8**, No. 2-3, pp. 51-54 (2009). (Editorial paper.)

Book Chapters

1. D. V. Averin and A. N. Korotkov, "Correlated single electron tunneling via ultrasmall metal particle", in: *Molecular Electronics*, edited by P. I. Lazarev (Kluwer Academic Publishers, the Netherlands, 1991), pp. 9-15.

2. V. V. Potemkin, M. E. Gertsenstein, A. N. Korotkov, and A. V. Stepanov, "Thermodynamical restriction on $1/f$ noise mechanisms", *International Conference on Noise in Physical Systems and $1/f$ Fluctuations ICNF'91*, (Kyoto, Japan, 1991), Proceedings in: "*Noise in Physical Systems and $1/f$ Fluctuations*", edited by T. Musha, S. Sato, and M. Yamamoto (Netherlands IOS Press, 1992), pp. 607-610.

3. A. N. Korotkov, D. V. Averin, K. K. Likharev, and S. A. Vasenko, "Single-electron transistors as ultrasensitive electrometers", in: *Single Electron Tunneling and Mesoscopic Devices*, edited by H. Koch and H. Lubbig (Springer, New York 1992), pp. 45-59.

4. P. Delsing, D. V. Haviland, T. Claeson, K. K. Likharev, and A. N. Korotkov, "New results on SET-oscillations in one-dimensional arrays of tunnel junctions", in: *Single Electron Tunneling and Mesoscopic Devices*, edited by H. Koch and H. Lubbig (Springer, New York 1992), pp. 97-103.

5. A. N. Korotkov, "Superconducting single-electron transistor as an electrometer", in: *Quantum Devices and Circuits*, edited by K. Ismail, S. Bandyopadhyay, and J. P. Leburton (World Scientific, Singapore, 1997), pp. 211-216.

6. A. N. Korotkov, "Coulomb blockade and digital single-electron devices", in: *Molecular Electronics*, edited by J. Jortner and M. Ratner (Blackwell, Oxford, 1997), pp. 157-189.

Invited review paper

7. A. N. Korotkov and K. K. Likharev, "Cooling by resonant Fowler-Nordheim emission through a-few-nm-thick films", *International conference on heat transfer and transport phenomena in microscale* (Banff, Canada, October 15-20, 2000), Proceedings in *Heat Transfer and Transport Phenomena in Microscale* (Begell House, N.Y), pp. 331-334.

8. R. Ruskov and A. N. Korotkov, "Quantum feedback control of a solid-state qubit", in: *Quantum Confinement VI: Nanostructured Materials and Devices*, edited by M. Cahay, J. P. Leburton, D. J. Lockwood, S. Bandyopadhyay, and J. S. Harris (Electrochemical Society, Pennington, N.J., 2001), pp. 287-297.

9. A. N. Korotkov, "Noisy quantum measurement of solid-state qubits: Bayesian approach", in: *Quantum Noise in Mesoscopic Physics*, edited by Yu.V. Nazarov (Kluwer, Netherlands, 2003), pp. 205-228.

Invited review paper

Conference proceedings

1. D. V. Averin, A. N. Korotkov, and K. K. Likharev, "Quantization of static domains in slim superlattices", *Advanced Semiconductor Epitaxial Growth Processes and Lateral and Vertical Fabrication* (Somerset, NJ, March 23-26, 1992), Proceedings of SPIE, vol. 1676, pp. 191-199 (1992).

2. D. V. Averin, A. N. Korotkov, and K. K. Likharev, "Continuous-wave Bloch oscillations in double-well semiconductor heterostructures", *Proceedings of International Semiconductor Device Research Symposium ISDRS'93* (Charlottesville, VA, Dec. 1-3, 1993), p. 469.

3. R. H. Chen, A. N. Korotkov, and K. K. Likharev, "A new logic family based on single-electron transistors", *53rd Annual Device Research Conference DRC'95* (Charlottesville, VA, June 19-21, 1995), Digest, p. 44-45.

4. K. K. Likharev and A. N. Korotkov, "Ultradense hybrid SET/FET dynamic RAM: feasibility of background-charge-independent room-temperature single-electron digital circuits", *Proceedings of International Semiconductor Device Research Symposium ISDRS'95* (Charlottesville, VA, Dec. 5-8, 1995), pp. 355-358.

5. A. N. Korotkov, "Future prospects for single-electron and quantum devices", *9th International MicroProcess Conference* (Kitakyushu, Japan, July 8-11, 1996), Digest of papers, pp. 2-4.

Invited talk

6. K. P. Hirvi, J. P. Kappinen, A. N. Korotkov, M. A. Paalanen, and J. P. Pekola, "Coulomb blockade thermometry", *21st International Conference on Low Temperature Physics LT-21* (Prague, Czech Rep., Aug. 8-14, 1996), Czech. J. Phys **46**, suppl., pt. S6, pp. 3345-3352.

7. A. N. Korotkov, "Fluctuations in single-electron tunneling", *International symposium on Nanostructures* (St. Petersburg, Russia, June 22-26, 1997), Proceedings, pp. 471-473.

8. M. Ershov and A. N. Korotkov, "Noise and photoconductivity in single quantum well infrared photodetectors", *Photonics West'98* (San Jose, CA, Jan. 28-30, 1998), Proceedings of SPIE, vol. 3287, pp. 173-178.

9. M. Ershov and A. N. Korotkov, "Theory of noise in quantum well infrared photodetectors", *International Topical Workshop on Contemporary Photonics Technologies CPT'98* (Tokyo, Japan, Jan. 12-24, 1998), Technical Digest, pp. 179-180.

10. A. N. Korotkov and K. K. Likharev, "Resonant Fowler-Nordheim tunneling through layered tunnel barriers and its possible applications", *IEEE International Electron Devices Meeting* (Washington, DC, Dec. 5-8, 1999), Tech. Digest IEDM'99, pp. 223-226.

11. A. N. Korotkov and K. K. Likharev, "New prospects for electrostatic data storage systems", *17th IEEE Symposium on Mass storage systems and 8th Goddard*

Conference on Mass storage systems and technologies (College Park, MD, March 27-30, 2000), Proceedings, pp. 197-201.

12. A. N. Korotkov, “Continuous quantum measurement of a qubit state”, *8th International Symposium on Nanostructures: Physics and Technology* (St. Petersburg, Russia, June 19-23, 2000), Proceedings, pp. 534-537.

13. A. Korotkov, V. Kuznetsov, V. Sverdlov, D. Kaplan, Y. Kinkhabwala, E. Mendez, and K. Likharev, “Sub-electron charge transfer and multi-electron avalanches in single-electron systems”, *19th Symposium on energy engineering sciences* (Argonne National Lab, Argonne, IL, May 21-22, 2001), Proceedings, pp. 71-80.

14. A. N. Korotkov, “Possible experiment on quantum Bayes theorem”, *9th International Symposium on Nanostructures: Physics and Technology* (St. Petersburg, Russia, June 18-22, 2001), Proceedings, pp. 403-406.

15. A. N. Korotkov, “Bayesian measurement of a single-Cooper-pair qubit” *International Workshop on Superconducting Nano-Electronic Devices* (Naples, Italy, May 28 - June 1, 2001), edited by J. Pekkola, B. Ruggiero, and P. Silvestrini (Kluwer, N.Y., 2002), pp. 11-13.

16. D. Kaplan, Y. Kinkhabwala, A. Korotkov, V. Sverdlov, and K. Likharev, “Sub-electron charge transport at hopping in nanostructures”, *20th Symposium on Energy Engineering Sciences* (Argonne, Ill, May 20-21, 2002), Proceedings, pp. 213-220.

17. Y. Kinkhabwala, V. Sverdlov, A. Korotkov, and K. Likharev, “Shot noise at 2D hopping”, *International Conference on Quantum Transport and Quantum Coherence (Localization 2002)* (Tokyo, Japan, August 16-19, 2002), *J. Phys. Soc. Jpn.* **72**, Suppl. A, pp.149-150 (2003).

18. K. Yadavalli, A. O. Orlov, G. Snider, K. K. Likharev, and A. N. Korotkov, “Background charge insensitive single-electron memory devices”, *2003 Nanotechnology Conference and Trade Show (NanoTech 2003)* (San Francisco, CA, February 23-27, 2003), Technical Proceedings, Vol. 2, pp. 141-144.

19. A. N. Korotkov, “Noisy quantum measurement of solid-state qubits”, *SPIE’s first international symposium on Fluctuations and Noise* (Santa Fe, NM, June 2-4, 2003), Proceedings of SPIE, v. 5115, pp. 386-400.

Invited talk

20. K. K. Yadavalli, A. O. Orlov, A. N. Korotkov, and G. L. Snider, “Background charge insensitive single electron memory devices”, *IEEE-Nano 2003, Third IEEE conference on Nanotechnology* (San Francisco, CA, August 12-14, 2003), Vol. 2, pp. 569-572.

21. R. Ruskov, Q. Zhang, and A. N. Korotkov, “Quantum feedback control of coherent oscillations in a solid-state qubit”, *42th IEEE conference on Decision and Control (CDC’03)* (Maui, HI, December 9-12, 2003), Proceedings, pp. 4185-4190.

22. R. Ruskov, Q. Zhang, and A. N. Korotkov, “Maintaining coherent oscillations in a solid-state qubit via continuous quantum feedback control”, *SPIE International*

Symposium on Defense and Security, Quantum Information and Computation (Orlando, FL, April 12-14, 2004), Proceedings of SPIE, vol. 5436, pp. 162-171.

23. R. Ruskov and A. N. Korotkov, "Quantum feedback control of solid-state qubits and their entanglement by measurement", *12th International symposium Nanostructures: Physics and Technology* (St. Petersburg, Russia, June 21-25, 2004), Proceedings, pp. 178-179.

24. A. N. Korotkov, "Simple quadrature-based quantum feedback of a solid-state qubit", *Fluctuations and Noise (Third SPIE International Symposium)* (Austin, TX, May 24-26, 2005), Proceedings of SPIE, v. 5846, pp. 46-56.

Invited talk

25. V. Sverdlov, Y. A. Kinkhabwala, D. M. Kaplan, A. N. Korotkov, H. Kosina, and S. Selberherr, "Shot noise suppression and enhancement at 2D hopping and in single-electron arrays", *4th International Conference on Unsolved Problems of Noise and Fluctuations in Physics, Biology and High Technology* (Gallipoli, Italy, June 6-10, 2005), Proceedings (AIP conference proceedings, vol. 800), pp. 177-182.

26. Q. Zhang, R. Ruskov, and A.N. Korotkov, "Non-ideal quantum feedback of a solid-state qubit," *7th International Symposium on New Phenomena in Mesoscopic Systems* (Kapalua, HI, November 27 – December 2, 2005), Journal of Physics: Conference Series, vol. **38**, pp. 163-166 (2006).

27. A. N. Jordan and A. N. Korotkov, "Uncollapsing the wavefunction", *9th Rochester Conference on Coherence and Quantum Optics* (Rochester, NY, June 10-13, 2007), in: *Coherence and Quantum Optics IX*, edited by N.P. Bigelow, J.H. Eberly, and C.R. Stroud, Jr., pp. 191-198 (Optical Society of America, 2008).

Conference abstracts

1. D. V. Averin and A. N. Korotkov, "Correlated single electron tunneling between ultrasmall particles", *Second International Conference on Molecular Electronics and Biocomputers* (Moscow, Russia, Sept. 11-18, 1989), Abstracts, pp. 3-4.

2. A. N. Korotkov, D. V. Averin, and K. K. Likharev, "Single-electron charging effects in quantum wells and dots", *26 Soviet Union Conference on Low Temperature Physics* (Donetsk, USSR, 1990), Abstracts, pp. 116-117 (in Russian).

3. A. N. Korotkov, K. K. Likharev, and S. A. Vasenko, “Capacitively-coupled single-electron transistor as an ultrasensitive electrometer”, *4 International conference on superconducting and quantum effect devices and their application SQUID'91* (Berlin, Germany, June 18-21, 1991), Abstracts.

4. A. N. Korotkov, D. V. Averin, and K. K. Likharev, “Possibility of spontaneous and stimulated terahertz quantum oscillations in semiconductor heterostructures”, *185 Meeting of the Electrochemical Society* (San Francisco, CA, May 22-27, 1994), Extended Abstracts, p. 531.

5. A. N. Korotkov, “Effects of image charge on the single-electron tunneling”, *Gordon Research Conference on the Physics and Chemistry of Microstructure Fabrication* (Wolfeboro, NH, June 27 – July 1, 1994).

6. A. N. Korotkov, “Recent developments of single-electronics”, *International symposium on Nanostructures: physics and technology* (St. Petersburg, Russia, June 26-30, 1995), Abstracts, p. 442.

Invited talk

7. A. N. Korotkov, “Possible wireless single-electron logic biased by electric field”, *International Workshop on Computational Electronics IWCE'95* (Tempe, AZ, Oct. 30 – Nov. 2, 1995), Abstracts.

8. K. K. Likharev and A. N. Korotkov, “Analysis of Q_0 -independent single-electron systems”, *International Workshop on Computational Electronics IWCE'95* (Tempe, AZ, Oct. 30 – Nov. 2, 1995), Abstracts.

9. K. K. Likharev and A. N. Korotkov, “Single-electron parametron”, *International Workshop on Computational Electronics IWCE'95* (Tempe, AZ, Oct. 30 – Nov. 2, 1995), Abstracts.

10. A. N. Korotkov, “Charge sensitivity of superconducting single-electron transistor”, *3rd International Symposium on Nanostructures and Mesoscopic Systems NanoMES'96* (Santa Fe, NM, May 19-24, 1996), Abstracts, pp. 47-48.

11. A. N. Korotkov, T. Usuki, and K. K. Likharev, “Power dissipation and error rate in single-electron parametron”, *3rd International Symposium on Nanostructures and Mesoscopic Systems NanoMES'96* (Santa Fe, NM, May 19-24, 1996), Abstracts, pp. 45-46.

12. A. N. Korotkov, “Superconducting single-electron transistor as an electrometer”, *International conference on Quantum Devices and Circuits*, (Alexandria, Egypt, June 4-7, 1996), Abstracts.

13. A. N. Korotkov and K. K. Likharev, “Reversible computation by single-electron parametron”, *International conference on Quantum Devices and Circuits*, (Alexandria, Egypt, June 4-7, 1996), Abstracts.

14. A. N. Korotkov, “Digital single-electronics: progress and problems”, *9th International conference on Superlattices, Microstructures and Microdevices ICSMM-9* (Liege, Belgium, July 14-19, 1996), Abstract Workbook, talk FrB-1.

Invited talk

15. K. K. Likharev and A. N. Korotkov, "Toward practical digital single-electronics", *190th Meeting of the Electrochemical society, Single electron nanoelectronics* (San Antonio, TX, Oct. 6-11, 1996), Meeting abstracts, p. 563.

16. J. P. Pekola, K. P. Hirvi, J. P. Kauppinen, A. N. Korotkov, and M. A. Paalanen, "Coulomb blockade thermometry", *190th Meeting of the Electrochemical society, Single electron nanoelectronics* (San Antonio, TX, Oct. 6-11, 1996), Meeting abstracts p. 547.

17. A. N. Korotkov, "Thermal/shot noise in single-electron tunneling", *190th Meeting of the Electrochemical society, Single electron nanoelectronics* (San Antonio, TX, Oct. 6-11, 1996), Meeting abstracts, p. 540.

Invited talk

18. A. J. Manninen, J. P. Pekola, Yu. A. Pashkin, D. V. Averin, and A. N. Korotkov, "Quasiparticle Tunneling in Superconducting Single Electron Transistors", *Workshop on Fundamental aspects of applications of single electron devices* (Lyngby, Denmark, July 24-26, 1997), Abstracts, pp. 6-7.

19. A. N. Korotkov, "Fluctuations in Single-Electron Tunneling", *Workshop on Fundamental aspects of applications of single electron devices* (Lyngby, Denmark, July 24-26, 1997), Abstracts, pp. 13-14.

Invited talk

20. A. N. Korotkov, "Digital Single-Electronics: Problems and Possible Solutions", *International Conference on Solid State Devices and Materials* (Hamamatsu, Japan, Sept. 16-19, 1997), Extended Abstracts, pp. 304-305.

Invited talk

21. A. N. Korotkov and V. I. Safarov, "Nonequilibrium spin distribution in single-electron transistor", *International Conference on Superlattices, Microstructures, and Microdevices (ICSMM-11, Hurgada, Egypt, July 27 – Aug. 1, 1998)*, Abstracts.

22. Y. Naveh, A. N. Korotkov, and K. K. Likharev, "Shot noise suppression in ballistic conductors with degenerate electrodes", *APS March Meeting* (Atlanta, GA, March 20-26, 1999), *Bulletin of APS* **44**, No. 1, Part 1, p. 222.

23. A. N. Korotkov, "Continuous quantum measurement of a double-dot: pure wavefunction evolution instead of decoherence", *APS March Meeting* (Atlanta, GA, March 20-26, 1999), *Bulletin of APS* **44**, No. 1, Part 2, p. 1776.

24. B. Starmark, T. Henning, T. Claeson, P. Delsing, and A. N. Korotkov, "Gain-dependent noise in single electron transistors", *22nd International Conference on Low Temperature Physics* (Helsinki, Finland, Aug. 4-11, 1999), Abstracts, p. 256.

25. A. N. Korotkov and K. K. Likharev, "Cooling by resonant Fowler-Nordheim emission", *22nd International Conference on Low Temperature Physics* (Helsinki, Finland, Aug. 4-11, 1999), Abstracts, p. 262.

26. A. N. Korotkov, “Density matrix purification due to continuous quantum measurement”, *22nd International Conference on Low Temperature Physics* (Helsinki, Finland, Aug. 4-11, 1999), Abstracts, p. 283.

Invited talk

27. A. N. Korotkov and V. I. Safarov, “Spin injection in ferromagnetic single-electron transistor”, *Workshop on the Physics of Quantum Dots for Quantum Computing* (Washington, DC, Sept. 13-15, 1999), Abstracts, p. 45.

28. A. N. Korotkov, “Density matrix purification due to continuous quantum measurement”, *Workshop on the Physics of Quantum Dots for Quantum Computing* (Washington DC, Sept. 13-15, 1999), Abstracts, p. 38.

29. A. N. Korotkov and D. V. Averin, “Quantum measurement of Rabi oscillations by a solid-state detector”, *APS March Meeting* (Minneapolis, MN, March 20-24, 2000), *Bulletin of APS* **45**, No. 1, p. 387.

30. V. A. Sverdlov, Y. Kinkhabwala, A. N. Korotkov, and K. K. Likharev, “Shot noise at hopping”, *APS March Meeting* (Minneapolis, MN, March 20-24, 2000), *Bulletin of APS* **45**, No. 1, p. 457.

31. A. N. Korotkov, “New device ideas for terabit-scale digital technologies”, *APS March Meeting* (Minneapolis, MN, March 20-24, 2000), *Bulletin of APS* **45**, No. 1, p. 261.

Invited talk

32. A. N. Korotkov, “Quantum Bayes theorem and continuous feedback control of a solid state qubit”, *APS March Meeting* (Seattle, WA, March 12-16, 2001), *Bulletin of APS* **46**, No. 1, p. 359.

33. V. A. Sverdlov, D. M. Kaplan, A. N. Korotkov, and K. K. Likharev, “Single-soliton avalanches in 2D single-electron arrays”, *APS March Meeting* (Seattle, WA, March 12-16, 2001), *Bulletin of APS* **46**, No. 1, p. 883.

34. Y. A. Kinkhabwala, V. A. Sverdlov, A. N. Korotkov, and K. K. Likharev, “Shot noise at hopping”, *APS March Meeting* (Seattle, WA, March 12-16, 2001), *Bulletin of APS* **46**, No. 1, p. 1038.

35. A. N. Korotkov, “Bayesian quantum measurement of a single-Cooper-pair qubit”, *International workshop on superconducting nano-electronics devices (SNED)* (Naples, Italy, May 28 - June 1, 2001), Abstracts booklet, pp. 3-4.

Invited talk

36. R. Ruskov and A. N. Korotkov, “Quantum feedback control of a solid-state qubit”, *The 200th Meeting of the Electrochemical Society* (San Francisco, CA, September 2-7, 2001), Meeting abstracts, Abs. 1254.

37. A. N. Korotkov, “Bayesian quantum measurement of a qubit”, *5th International symposium on new phenomena in Mesoscopic structures* (Waikoloa, HI, Nov. 25-30, 2001), Abstracts, p. 6.

38. Y. Kameshwar, A. Orlov, G. Gnider, K. Likharev, and A. Korotkov, "Compensation of background-charge in single-electron memory devices", *APS March Meeting* (Indianapolis, IN, March 18-22, 2002), Bulletin of APS 47, No. 1, p. 287.
39. D. Kaplan, V. Sverdlov, A. Korotkov, and K. Likharev, "Sub-electron transport in single-electron-tunneling arrays", *APS March Meeting* (Indianapolis, IN, March 18-22, 2002), Bulletin of APS 47, No. 1, p. 288.
40. Y. Kinkhabwala, V. Sverdlov, A. Korotkov, and K. Likharev, "Numerical study of 2D hopping", *APS March Meeting* (Indianapolis, IN, March 18-22, 2002), Bulletin of APS 47, No. 1, p. 1115.
41. R. Ruskov and A. Korotkov, "Quantum feedback control of single and entangled qubits", *APS March Meeting* (Indianapolis, IN, March 18-22, 2002), Bulletin of APS 47, No. 1, p. 1083.
42. R. Ruskov and A. N. Korotkov, "Continuous feedback control of single and entangled qubits", *International Quantum Electronics Conference* (Moscow, Russia, June 22-27, 2002), Technical digest, p. 451.
43. Y. Kinkhabwala, V. Sverdlov, A. Korotkov, and K. Likharev, "Describing hopping by nonlinear resistor networks", *APS March Meeting* (Austin, TX, March 3-7, 2003), Bulletin of APS 48, No. 1, p. 1328.
44. K. Yadavalli, A. Orlov, G. Snider, and A. Korotkov, "Experimental realization of background charge insensitive single-electron memories", *APS March Meeting* (Austin, TX, March 3-7, 2003), Bulletin of APS 48, No. 1, p. 955.
45. R. Ruskov, A. N. Korotkov, W. Mao, and D. V. Averin, "Quadratic quantum detection", *APS March Meeting* (Austin, TX, March 3-7, 2003), Bulletin of APS 48, No. 1, p. 369.
46. A. Korotkov, "Quantum feedback of a double-dot qubit", *5th International Conference on Low Dimensional Structures and Devices* (Cancun, Mexico, December 12-17, 2004), Abstracts, p. 29.
47. A. N. Korotkov, "Simple quantum feedback of a solid-state qubit", *APS March Meeting* (Los Angeles, CA, March 21-25, 2005), Bulletin of APS 50, Part 1, p. 400.
48. R. Ruskov, A. N. Korotkov, and A. Mizel, "Signatures of quantum effects in weak measurements of qubits", *APS March Meeting* (Los Angeles, CA, March 21-25, 2005), Bulletin of APS 50, Part 1, p. 338.
49. Q. Zhang, R. Ruskov, and A. N. Korotkov, "Effects of finite bandwidth and delay on Bayesian quantum feedback of a qubit", *APS March Meeting* (Los Angeles, CA, March 21-25, 2005), Bulletin of APS 50, Part 2, p. 978.
50. R. Ruskov, K. Schwab, and A. Korotkov, "Quantum nondemolition squeezing of a nanoresonator", *APS March Meeting* (Los Angeles, CA, March 21-25, 2005), Bulletin of APS 50, Part 2, p. 1308.

51. Q. Zhang, R. Ruskov, and A. N. Korotkov, "Quantum feedback of solid-state qubits", *7th International Symposium on New Phenomena in Mesoscopic Systems* (Kapalua, HI, Nov. 27 – Dec. 2, 2005), Abstracts, pp. 21-22.

52. Q. Zhang, A. Kofman, and A. Korotkov, "Measurement errors for phase qubits," *APS March Meeting* (Baltimore, MD, March 13-17, 2006), Bulletin of APS 51, Part 2, p. 1596.

53. N. Katz, M. Ansmann, R. Bialczek, E. Lucero, R. McDermott, M. Neeley, M. Steffen, E. Weig, A. Cleland, J. M. Martinis, and A. Korotkov, "Evolution and decay of a superconducting Josephson junction qubit due to partial measurement," *APS March Meeting* (Baltimore, MD, March 13-17, 2006), Bulletin of APS 51, Part 2, p. 1546.

54. R. Ruskov, A. N. Korotkov, and A. Mizel, "Quantum Zeno stabilization in weak continuous measurement of two qubits," *APS March Meeting* (Baltimore, MD, March 13-17, 2006), Bulletin of APS 51, Part 2, p. 1287.

55. L. P. Pryadko and A. N. Korotkov, "Quantum kinetics of a Josephson phase qubit continuously monitored for escape," *APS March Meeting* (Denver, CO, March 5-9, 2007), Bulletin of APS.2007.MAR, L33.6.

56. R. Ruskov, A. Mizel, and A. N. Korotkov, "Crossover of phase qubit dynamics in presence of negative-result weak measurement," *APS March Meeting* (Denver, CO, March 5-9, 2007), Bulletin of APS.2007.MAR, L33.7.

57. A. N. Korotkov and A. N. Jordan, "Quantum Undemolition: Undoing quantum measurement by erasing information," *APS March Meeting* (Denver, CO, March 5-9, 2007), Bulletin of APS.2007.MAR, N33.10.

58. A. N. Korotkov, "Quantum efficiency of binary-outcome solid-state detectors," *APS March Meeting* (New Orleans, LA, March 10-14, 2008), Bulletin of APS.2008.MAR, Y15.3.

59. A. G. Kofman and A. N. Korotkov, "Analysis of Bell inequality violation in superconducting phase qubits," *APS March Meeting* (New Orleans, LA, March 10-14, 2008), Bulletin of APS.2008.MAR, H15.5.

60. A. N. Korotkov, "Wavefunction uncollapse: theory and experiment", *Fundamentals of Electronic Nanostructures* (St. Petersburg, Russia June 28 – July 4, 2008), Abstracts, pp. 20-21.

Invited talk

61. A. N. Korotkov, A. N. Jordan, N. Katz, M. Neeley, M. Ansmann, R. C. Bialczak, M. Hofheinz, E. Lucero, A. O'Connell, H. Wang, A. N. Cleland, and J. M. Martinis, "Quantum uncollapsing: theory and experiment", 39th Winter Colloquium on the Physics of Quantum Electronics (Snowbird, UT, January 4 – January 8, 2009), Abstracts, p. 157.

62. A. N. Korotkov, "Weak measurement of a solid-state qubit revealed in low-frequency noise," *APS March Meeting* (Pittsburgh, PA, March 16-20, 2009), Bulletin of APS.2009.MAR, P17.12.

Conferences without abstracts/proceedings

1. A. N. Korotkov, D. V. Averin, and K. K. Likharev, "Single-electron effects in quantum wells and dots", *5th all-union conference on physical processes in semiconductor heterostructures* (Kaluga, Russia, 1990).

Invited talk

2. A. N. Korotkov, Talk at the rump session "Between deep-submicron CMOS and single electronics - is there a practical device technology in the middle?" of *the 53rd Annual Device Research Conference DRC'95* (Charlottesville, VA, June 19-21, 1995).

Invited talk

4. A. N. Korotkov, "Coulomb blockade and single-electron digital devices", *Annual RIKEN Symposium on Physics and Technology of Nano-structures* (Tokyo, Japan, July 5, 1996).

Invited talk

5. A. N. Korotkov, "Bayesian quantum measurement of a solid-state qubit: Physics and applications," *Quantum Electromechanics workshop* (Caltech, Pasadena, CA, April 18-20, 2001). (Invited)

6. A. N. Korotkov, "Continuous quantum measurement of solid-state qubits", *QUEST'02 workshop* (Santa Fe, NM, August 5-9, 2002). (Invited)

7. A. N. Korotkov, "Quantum measurement and control of solid-state qubits and nanoresonators", *QUEST'04 workshop* (Santa Fe, NM, August 9-13, 2004). (Invited)

8. A. N. Korotkov, "Quantum feedback control in solid-state mesoscopics", *35th Winter Colloquium on the Physics of Quantum Electronics* (Snowbird, Utah, January 2-6, 2005). (Invited)

9. A. N. Korotkov, "Possible experiments on continuous quantum measurement and quantum feedback of solid-state qubits" (poster), *Quantum Nanoscience* (Noosa Heads, Queensland, Australia, January 22-26, 2006).

10. A. N. Korotkov, "Few recent topics in continuous quantum measurement of solid-state qubits", *QUEST'06 workshop* (Santa Fe, NM, August 21-25, 2006). (Invited)

11. A. N. Korotkov and A. N. Jordan, "Undoing a weak quantum measurement of a solid-state qubit," (poster) *SQuInT'07 workshop* (Caltech, Pasadena, CA February 16-18, 2007).

12. A. N. Korotkov, "Continuous quantum measurement of solid-state systems", *NSF workshop on Quantum Information Processing and Nanoscale Systems*, (Arlington, VA, September 10, 2007). (Invited)

13. A. N. Korotkov, "Few topics in non-projective measurement of solid-state qubits", *workshop on Analog Quantum Information Processing with Electrical Circuits*, (Boulder, CO, October 29-November 2, 2008). (Invited)

Patents

1. L. A. Voloshin, A. N. Korotkov, and N. E. Korotkov, "Devices for weighted addition of the discrete signals", Patent RU 2002371 C1 (Russia). Official Bulletin of the Russian Federation Committee on Patents and Trademarks: Inventions, 1993, vol. 39-40, p. 180.