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PHYSICS PUBLICATIONS, REPORTS AND PROPOSALS

Russian works that have not been translated into English are preceded by an asterisk; translations of the titles are in square brackets. Muon (g-2) Collaboration and EDM Collaboration publications are a selection.

Publications

2013

147. William M. Morse, Yuri F. Orlov and Yannis K. Semertzidis, rf Wien filter in an electric dipole moment storage ring: The "partially frozen spin" effect. Phys. Rev. ST Accel. Beams **16**, 114001 (2013)

2012

146. Yuri Orlov, Eanna Flanagan and Yannis Semertzidis, Spin rotation by Earth's gravitational field in a "frozen-spin" ring. Phys. Lett. A, **376**, No. 45, 2822-2829 (2012).

2010

145. Yuri F. Orlov, "Robinson's Sum Rule" Revisited. Phys. Rev. ST Accel. Beams **13**, 024901 (2010).

2009

144. with F. Lin *et al.*, Study by spin tracking of a storage ring for deuteron electric dipole momentum. In D.G. Crabb *et al.*, eds., *Proceedings of the 18th annual spin physics symposium (SPIN 2008), Charlottesville, VA., 6-11 October 2008*. AIP Conf. Proc. **1149**, 777-780.

143. with G.W. Bennett *et al.*, An improved limit on the muon electric dipole moment. Phys. Rev. D, **80**, 052008, 1-18 (2009).

2008

142. with G.W. Bennett *et al.* (Muon g-2 Collaboration), Search for Lorentz and CPT violation effects in muon spin precession. Phys. Rev. Lett. **100**, 091602 (2008).

141. Yuri F. Orlov, A method to remove synchrotron frequency from the spectrum of momentum-forced radial oscillations. Nucl. Instr. Meth. A, 587, 1-6 (2008).

2007

140. with G.W. Bennett *et al.* (Muon g-2 Collaboration), Statistical equations and methods applied to the precision muon (g-2) experiment at BNL. Nucl. Instr. Meth. A, 579, 1096-1116 (2007).

2006

139. Yuri F. Orlov, Spin resonance conditions for intrinsic and induced electric dipole moments of a spin-1 particle. Phys. Lett. A, 357, No. 2, 120-124 (2006).

138. Yuri F. Orlov, William M. Morse and Yannis K. Semertzidis, Resonance method of electric-dipole-moment measurements in storage rings. Phys. Rev. Lett. 96, 214802 (2006).

137. with G.W. Bennett *et al.* (Muon g-2 Collaboration), Final report of the muon E821 anomalous magnetic moment measurement at BNL. Phys. Rev. D, 73, 072003 (2006).

2005

136. Yuri F. Orlov (for the Storage Ring EDM Collaboration), Resonance method of EDM measurements in storage rings. In D. Chiladze, A. Kacharava, H. Stroeher, eds., *Proceedings of STORI '05. 6th International Conference on Nuclear Physics at Storage Rings, Jülich-Bonn, Germany, 23-26 May 2005*. Schriften des Forschungszentrums Jülich: Materie und Material 30, 223-226 (2005).

2004

135. with G.W. Bennett *et al.* (Muon g-2 Collaboration), Measurement of the negative muon anomalous magnetic moment to 0.7 ppm. Phys. Rev. Lett. 92, 161802 (2004).

134. F.J.M. Farley, K. Jungmann, J. P. Miller, W.M. Morse, Y.F. Orlov, Y.K. Semertzidis, A. Silenko, and E. J. Stephenson, A new method of measuring electric dipole moments in storage rings. Phys. Rev. Lett. 93, 052001 (2004).

133. with P. Shagin *et al.* (E821 Collaboration), Recent results of muon g-2 Collaboration. 32nd SLAC Summer Institute on Particle Physics (SSI 2004): Nature's Greatest Puzzles, Menlo Park, CA, 2-13 August 2004. eConfCO40802:TUT007 (2004).

132. with J.P. Miller *et al.* (EDM Collaboration), A new experiment to measure the muon electric dipole moment. In *Intersections of Particle and Nuclear Physics. Proceedings of the 8th Conference on the Intersections of Particle and Nuclear Physics (CIPANP 2003), New York, New York, 19-24 May 2003* (New York, 2003), pp. 196-199. AIP Conf. Proc. 698, 196-199 (2004).

2003

131. Yuri F. Orlov, Quantumlike computation and "thinking" based on classical oscillators. In *Technical Proceedings of the NSTI Nanotechnology Conference and Trade Show, San Francisco, CA, 24-26 February 2003* (NSTI, CD-ROM), Vol. 1, Ch. 5.

130. with Y.K. Semertzidis *et al.*, The Brookhaven muon (g-2) storage ring high voltage quadrupoles. *Nucl. Instr. Meth. A*, 503/3, 458-484 (2003).

129. with Y.K. Semertzidis *et al.* (EDM Collaboration), A new method for a sensitive deuteron EDM experiment. In *Intersections of Particle and Nuclear Physics. Proceedings of the 8th Conference on the Intersections of Particle and Nuclear Physics (CIPANP 2003), New York, New York, 19-24 May 2003* (New York, 2003), pp. 200-204. *AIP Conf. Proc.* 698, 200-204 (2004).

128. with Y.K. Semertzidis *et al.* (Muon g-2 Collaboration), Measurement of the muon anomalous magnetic moment to 0.7 ppm. *Nucl. Phys. B Proc. Suppl.* 117, 373-384 (2003).

127. with David W. Hertzog *et al.* (Muon g-2 Collaboration), The muon anomalous magnetic moment and the standard model. *Nucl. Phys. A*, 721, 161-170 (2003). [Presented at the 16th International Conference on Particles and Nuclei (PANIC 02), Osaka, Japan, 30 September-4 October 2002.]

126. with E.P. Sichtermann *et al.* (Muon g-2 Collaboration), New results from the muon g-2 experiment. In Y.I. Makdisi *et al.*, eds., *Spin 2002: Proceedings of the 15th international spin physics symposium, Upton, NY, 9-14 September 2002*, AIP Conf. Proc. 675, 13-22 (2003).

2002

125. Yuri F. Orlov, Quantumlike bits and logic gates based on classical oscillators. *Phys. Rev. A*, 66, 052324 (2002).

124. Yuri F. Orlov, Classical counterexamples to Bell's inequalities, *Phys. Rev. A*, 65, 042106, 1-7 (2002)

123. Yuri Orlov, Cenap S. Ozben and Yannis K. Semertzidis, Muon revolution frequency distribution from a partial-time Fourier transform of the g-2 signal in the muon g-2 experiment. *Nucl. Instr. Meth. A*, 482, 767-775 (2002).

122. with G.W. Bennett *et al.* (Muon g-2 Collaboration), Measurement of the positive muon anomalous magnetic moment to 0.7 ppm. *Phys. Rev. Lett.* 89, 101804 (2002).

121. with S. Redin *et al.* (Muon g-2 Collaboration). Recent results and current status of the muon g-2 experiment at BNL. *Can. J. Phys.* 80, 1355-1364 (2002).

120. with C. S. Ozben *et al.* (Muon g-2 Collaboration), Precision measurement of the anomalous magnetic moment of the muon. In *Proceedings of the 30th SLAC Summer Institute on Particle Physics: Secrets of the B Meson (SSI 2002), SLAC, Menlo Park, CA, 5-16 August 2002*, pp. 464-479.

119. with M. Deile *et al.* (Muon g-2 Collaboration), Testing CPT and Lorentz invariance with the anomalous spin precession of the muon. In *Proceedings of the Second Meeting on CPT and Lorentz Symmetry, Bloomington, Indiana, 15-18 August 2001* (World Scientific, 2002). arXiv:hep-ex/0110044v1.

118. with M. Deile *et al.* (Muon g-2 Collaboration), News from the muon (g-2) experiment at BNL. In *Application of Quantum Field Theory to Phenomenology. Proceedings of 6th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2002) and 6th Zeuthen Workshop on Elementary Particle Theory (Loops and Legs in Quantum Field Theory), Kloster Banz, Germany, 8-13 September 2002* (Staffelstein, 2002), pp. 215-219. Nucl. Phys. B Proc. Suppl. 116, 215-219 (2003).

117. with J.P. Miller *et al.* (Muon g-2 Collaboration), The muon anomaly: experiment and theory. In J. Lee-Franzoni, F. Bossi, and P. Franzini, eds., *Lepton and Photon Interactions at High Energies. Proceedings of the 20th International Symposium on Lepton and Photon Interactions at High Energies (LP 01), Rome, Italy, 23-28 July 2001* (World Scientific, Singapore, 2002), pp. 408-425 and Int. J. Mod. Phys. A, 17, 3318-3335 (2002).

116. with P.T. Debevec *et al.* (Muon g-2 Collaboration), Recent results from the BNL g-2 experiment. Nucl. Phys. B Proc. Suppl. 111, 200-205 (2002).

115. with V.W. Hughes *et al.* (Muon g-2 Collaboration), Muon g-2 experiment at Brookhaven National Laboratory. Nucl. Phys. B Proc. Suppl. 105, 156-159 (2002).

2001

114. Yuri F. Orlov, Snapshots from the 1950's. In M. Shifman, ed., *At the frontier of particle physics: Handbook of QCD. Boris Ioffe Festschrift*, vol. 1 (World Scientific, 2001), pp. 65-78.

113. with V.W. Hughes *et al.* (Muon g-2 Collaboration), The muon anomalous magnetic moment. In E. Arimondo *et al.*, eds., *Atomic Physics 17: XVII International Conference on Atomic Physics (ICAP 2000) Florence, Italy, 4-9 June, 2000*. AIP Conf. Proc. 551, 221-237 (2001).

112. with G.T. Danby *et al.* (Muon g-2 Collaboration), The Brookhaven muon storage ring magnet. Nucl. Instr. Meth. A, 457 (2001) 151-174.

111. with H.N. Brown *et al.* (Muon g-2 Collaboration), Precise measurement of the positive muon anomalous magnetic moment, Phys. Rev. Lett. 86, 2227-2231 (12 March 2001).

110. with E.P. Sichtermann *et al.* (Muon g-2 Collaboration), Precision measurement of the

muon anomalous magnetic moment. In *Cosmology and Elementary Particle Physics* (Fort Lauderdale, 2001), pp. 210-219. AIP Conf. Proc. 624, 210-219 (2002).

109. with H.N. Brown *et al.* (Muon g-2 Collaboration), A precise measurement of the anomalous magnetic moment of the muon. In T. Ohshima and A.I. Sanda, eds., *Proceedings of the 4th International Workshop on B Physics and CP Violation (BCP4), Ise-Shima, Japan, 19-23 February 2001* (World Scientific, 2001)), pp. 48-53.

108. with O. Rind *et al.*, (Muon g-2 Collaboration), Precision measurement of muon g-2 at BNL. In *Proceedings of the 2001 e+e- Physics at Intermediate Energies Workshop, Stanford, California, 30 April-2 May 2001* (Stanford, 2001), pp. 9-15. arXiv:hep-ex/0106101v1.

107. with I.B. Logashenko *et al.* (Muon g-2 Collaboration), Results from the muon g-2 experiment. In *Supersymmetry and Unification of Fundamental interactions. Proceedings of the 9th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY01), Dubna, Russia, 11-17 June 2001* (World Scientific, 2002), pp. 3-11.

106. with B. Lee Roberts *et al.* (Muon g-2 Collaboration), Recent progress on the BNL muon (g-2) experiment. In F. Costantini, G. Isidori and M. Sozzi, eds., *Proceedings of KAON 2001: International Conference on CP Violation, Pisa, Italy 12-17 June 2001*, Frascati Physics Series, Vol. 26 (Istituto Naz. Fis. Nucl., Frascati, Italy, 2001).

105. with C.S. Ozben *et al.* (Muon g-2 Collaboration), Muon g-2 experiment at Brookhaven National Laboratory. Int. J. Mod. Phys. A16, suppl. 1A, 287-291 (2001); *Proceedings of XXI Physics in Collision Conference, Seoul, Korea, 28-30 June, 2001* (Seoul, 2001); *Proceedings of the Workshop on the Spin Structure of the Proton and Polarized Collider Physics, Trento, Italy, 23-28 July 2001* (Trento, 2001), pp. 156-159.

104. with I. Logashenko *et al.* (Muon g-2 Collaboration), A new precise measurement of g-2 of muon. In *High Energy Physics. Proceedings of the International Europhysics Conference on High-Energy Physics (HEP 2001), Budapest, Hungary, 12-18 July 2001* (Budapest, 2001), p. 108.

103. with H.N. Brown *et al.* (Muon g-2 Collaboration), Precision measurement of muon g-2 and accelerator related issues. In *2nd Asian Particle Accelerator Conference. Proceedings of the 2nd Asian Particle Accelerator Conference, Beijing, China, 17-21 September 2001* (Institute of High Energy Physics, Beijing, 2001), pp. 862-866.

102. with P.T. Debevec *et al.* (Muon-2 Collaboration), Recent results from the BNL g-2 experiment. In *Frontiers in Flavor Physics, Proceedings of the 5th KEK Topical Conference: Frontiers in Flavor Physics (KEKTC5) Tsukuba, Ibaraki, Japan, 20-22 November 2001* (Tsukuba, 2001), pp. 200-205. S. Hashimoto and T.K. Komatsubara, eds., *Frontiers in Flavor Physics, Proceedings of the 5th KEK Topical Conference: Frontiers in Flavor Physics (KEKTC5) Tsukuba, Ibaraki, Japan, 20-22 November 2001* (Amsterdam: North-Holland, 2002), pp. 200-205. Nucl. Phys. Proc. Suppl. 111, 200-205 (2002).

101. with Y.K. Semertzidis *et al.* (EDM Collaboration), Sensitive search for a permanent muon electric dipole moment. In Y. Kuno and T. Yokoi, eds., *Proceedings of the*

International Workshop on High Intensity Muon Sources. KEK, Japan, 1-4 December 1999 (World Scientific, Singapore, 2001), pp. 81-97. arXiv:hep-ph/0012087v1.

100. with Y.K. Semertzidis *et al.*, A sensitive search for a muon electric dipole moment. *Int. J. Mod. Phys. A* 16, Suppl. 1B, 690-693 (2001); *AIP Conf. Proc.* 564, 263-268 (2001).

2000

99. with H.N. Brown *et al.* (Muon g-2 Collaboration), Improved measurement of the positive muon anomalous magnetic moment, *Phys. Rev. D*, 62, 091101 (2000).

98. with C.J.G. Onderwater *et al.* (BNL-E821 Collaboration), Recent results on the muon anomalous magnetic moment from BNL E821. In Zohreh Parsa and William J. Marciano, eds., *Intersections of Particle and Nuclear Physics. Proceedings of the 7th Conference on Intersections between Particle and Nuclear Physics (CIPANP 2000) Quebec City, Canada, 22-28 May 2000.* *AIP Conf. Proc.* 549, 917-919 (2000).

97. with R. Prigl *et al.* (Muon g-2 Collaboration) Status of the BNL muon (g-2) experiment. In *Proceedings of RADCOR2000, the 5th International Symposium on Radiative Corrections, Carmel (USA), 11-15 September, 2000.* arXiv:hep-ex/0101042v1.

96. with Y.K. Semertzidis *et al.* (Muon g-2 Collaboration), The muon anomalous magnetic moment experiment at Brookhaven. In *Quantum Electrodynamics and Physics of the Vacuum. Proceedings of the 2nd Workshop on Frontier Tests of Quantum Electrodynamics and Physics of the Vacuum (QED 2000), Trieste, Italy, 5-11 October 2000* (Trieste, 2000). *AIP Conf. Proc.* 564, 200-208 (2001).

95. with Y.K. Semertzidis *et al.* (EDM Collaboration), A sensitive search for a muon electric dipole moment. In *Quantum Electrodynamics and Physics of the Vacuum. Proceedings of the 2nd Workshop on Frontier Tests of Quantum Electrodynamics and Physics of the Vacuum (QED 2000). Trieste, Italy, 5-11 October 2000* (Trieste, 2000), 263-268. *Int. J. Mod. Phys. A* 16, suppl. 1B, 690-694 (2001).

1999

94. Yuri F. Orlov, Origin of quantum indeterminism and irreversibility of measurements. *Phys. Rev. Lett.* 82, 243-246 (1999).

93. Yuri F. Orlov, Complementary histories and collapse into the past in standard quantum mechanics. *Int. J. Mod. Phys. B*, 13, No. 20, 2629-2636 (1999).

92. Yuri F. Orlov, Quantum and classical Gödelian indeterminism, measurement, and informational collapse into the past. In Daniel Greenberger, Wolfgang L. Reiter and Anton Zeilinger, eds., *Epistemological and Experimental Perspectives on Quantum Physics. Proceedings of the International Symposium on Epistemological and Experimental Perspectives on Quantum Physics, Vienna, Austria, 3-6 September 1998* (Kluwer, London,

1999), pp. 89-102.

91. Yuri Orlov, Spin and beam dynamics. In K. Jungmann, H.-J. Kluge, I.B. Khriplovich, eds., *Proceedings of the Workshop on Nuclear Electric Dipole Moment Searches, GSI, Darmstadt, Germany, 9-10 November 1999*.

90. Yu. F. Orlov (for the Muon g-2 Collaboration), Spin and beam dynamics in the muon g-2 storage ring—systematic errors. In N.E. Tyurin *et al.*, eds., *Proceedings of the 13th International Symposium on High Energy Spin Physics, Protvino, Russia, 8-12 September 1998* (World Scientific, Singapore, 1999), pp. 509-511.

89. with R. Prigl *et al.* (Muon g-2 Collaboration), Status of the BNL muon (g-2) experiment. *IEEE Transactions on Instrumentation and Measurement* **48**, 182-185 (1999).

88. with R.M. Carey *et al.* (Muon g-2 Collaboration), New measurement of the anomalous magnetic moment of the positive muon. *Phys. Rev. Lett.* **82**, 1632-1635 (1999).

87. with L. Nodulman *et al.* (Muon g-2 Collaboration), Status of the new muon (g-2) experiment. In *Weak Interactions and Neutrinos. Proceedings of the 17th International Workshop on Weak Interactions and Neutrinos (WIN 90), Cape Town, South Africa, 24-30 January 1999* (Cape Town, 1999), pp. 28-32.

86. with M. Grosse Perdekamp *et al.* (Muon g-2 Collaboration), Status of the g-2 experiment at BNL. Presented at the 5th International Workshop on Tau Lepton Physics (TAU 98), Santander, Spain, 14-17 September 1998. *Nucl. Phys. B Proc. Suppl.* **76** (1999) 253-260.

85. with Y.K. Semertzidis *et al.* (Muon g-2 Collaboration), The muon (g-2) experiment at BNL. In *Probing Luminous and Dark Matter. Proceedings of the Conference on Probing Luminous and Dark Matter, Rochester, NY, 24-25 September 1999* (Rochester, 1999) pp. 72-89.

84. with K. Jungmann *et al.* (Muon g-2 Collaboration), A new measurement of the muon magnetic anomaly. In *Physics and detectors for DAPHNE. Proceedings of the 3rd Workshop on Physics and Detectors for DAPHNE (DAPHNE 99), Frascati, Italy, 16-19 November 1999* (Frascati, 1999), pp. 547-557.

1998

83. with D.W. Hertzog *et al.* (Muon g-2 Collaboration), The new Brookhaven (g-2)(mu) experiment. In *Particles, Strings and Cosmology. Proceedings of the 6th International Symposium on Particles, Strings and Cosmology (PASCOS 98), Boston, MA, 22-27 March 1998* (Boston, 1998), pp. 186-197.

82. with R.M. Carey *et al.* (Muon g-2 Collaboration), The anomalous magnetic moment of the muon. In *Frontier Tests of QED and Physics of the Vacuum. Proceedings of the Workshop on Frontier Tests of Quantum Electrodynamics and Physics of the Vacuum, Sandanski, Bulgaria, 9-15 June 1998* (Sandanski, 1998), pp. 97-116.

81. with Y.Y. Lee *et al.* (Muon g-2 Collaboration), The muon g-2 storage ring magnet. In

Stockholm 1998, EPAC 98. *Proceedings of the 6th European Particle Accelerator Conference (EPAC 98), Stockholm, Sweden, 22-26 June 1998* (Stockholm, 1998), pp. 1999-2001.

80. with C. Timmermans *et al.* (Muon g-2 Collaboration), A new measurement of the muon anomalous magnetic moment at BNL. In *High Energy Physics. Proceedings of the 29th International Conference on High-Energy Physics (ICHEP 98), Vancouver, British Columbia, Canada, 23-29 July 1998* (Vancouver, 1998), vol. 1, pp. 550-554.

79. with A. Grossmann *et al.* (Muon g-2 Collaboration), First results from the new muon (g-2) experiment. In *Trapped Charged Particles and Fundamental Physics. Proceedings of the International Conference on Trapped Charged Particle and Fundamental Physics, Pacific Grove, Monterey, CA, 31 August-4 September 1998* (Asilomar, 1998), pp. 52-56.

1997

78. Yu. F. Orlov, Origins of quantum Hilbert space and indeterminism. In I.M. Dremin and A.M. Semikhatov, eds., *Moscow 1996, Physics. Proceedings of the 2nd International A.D. Sakharov Conference on Physics, Moscow, Russia, 20-24 May 1996* (World Scientific, Singapore, 1997), pp. 302-311.

77. with J.P. Miller *et al.* (Muon g-2 Collaboration), Status of the BNL muon (g-2) experiment. In *Intersections between Particle and Nuclear Physics. Proceedings of the 6th Conference on the Intersections of Particle and Nuclear Physics (CIPANP 97), Big Sky, MT, 27 May-2 June 1997* (Big Sky, 1997), pp. 792-800.

1996

76. with B.L. Roberts *et al.* (E821 Collaboration), Status of the new muon (g-2) experiment. In ICHEP '96. *Proceedings of the 28th International Conference on High-energy Physics (ICHEP 96), Warsaw, Poland, 25-31 July 1996* (Warsaw, 1996), vol. 2, pp. 1035-1039 and (World Scientific, River Edge, NJ, 1997), pp. 1035-1039.

1994

75. Y.F. Orlov, The logical origins of quantum mechanics. *Annals of Physics* **234**, 245-259 (1994).

1993

74. Y.F. Orlov and A. Soffer, Precise measurement of muon momentum distribution measurement in the muon (g-2) experiment. In T. Hasegawa, N. Horikawa, A. Masaike and S. Sawada, eds., *Frontiers of High Energy Spin Physics. Proceedings of the 10th International Symposium on High Energy Spin Physics, Nagoya, Japan, Nov. 9-14, 1992* (Universal Academy Press, Tokyo, 1993), pp. 723-726.

73. Y. Orlov, Equivalent equations and incoherent lifetime calculated from e^+e^- beam-beam

simulation. In *Particle Accelerator. Proceedings, IEEE Particle Accelerator Conference (PAC 93) Washington, D.C., 17-20 May 1993* (IEEE, PAC 93), vol. 5, pp. 3488-3490.

1992

72. Yuri Orlov and A. Soffer, Fourier analysis of high order coherent and incoherent resonances in beam-beam interaction. In *Proceedings of Conference on Tsukuba B Factories* (Tsukuba, 1992), pp. 89-93.

71. Y. F. Orlov, C. M. O'Neill and A. Soffer, Fourier analysis of $x^k y^l$ moments in beam-beam simulations. In *Proceedings of the XVth International Conference on High Energy Accelerators, Hamburg, Germany, 20-24 July 1992* (World Scientific, Singapore, 1992), vol. 2, pp. 1166-1168.

1991

70. D. Sagan and Y. Orlov, Ion trapping in the CESR B-factory. In *Accelerator science and technology. Proceedings of the IEEE Particle Accelerator Conference (APS Beam Physics), San Francisco, 6-9 May 1991* (IEEE, 1991), vol. 3, pp. 1839-1841.

69. Y. Orlov, C. O'Neill, J. Welch, and R.H. Siemann, B factory optics and beam-beam interaction for millimeter β^* and locally shortened bunches. *Ibid.*, pp. 2838-2840.

68. with V.W. Hughes *et al.* (Muon g-2 Collaboration), The anomalous magnetic moment of the muon. In K.-H. Althoff and W. Meyer, eds., *High Energy Spin Physics. Vol. 1: Conference Report. Proc of the 9th International Symposium on High Energy Spin Physics SPIN 90, Bonn, Germany, 10-15 September 1990* (Springer, Berlin, 1991), pp. 367-382.

1990

67. J. Marriner, D. Möhl, Y. Orlov, A. Poncet, and S. van der Meer, Experiments and practice in beam shaking. *Particle Accelerators* 30, 13-20 (1990).

66. Y. Orlov, Bunch length compression using crab cavities. In A. M. Sessler, ed., *Proceedings of a Workshop on Beam Dynamics Issues of High-Luminosity Asymmetric Collider Rings, Berkeley, CA, 12-16 February 1990* (AIP Conference Proceedings 214), pp. 336-346. *AIP Conf. Proc.* 214, 336-346 (1990).

65. with P. Baigley, M. Donald, *et al.*, Summary of the Working Group on Lattice Design. *AIP Conf. Proc.*, *ibid.*, 6-18.

64. with B. Autin *et al.*, Anti-proton accumulator complex (AAC) performance. In *EPAC 90. Proceedings of the 2nd European Particle Accelerator Conference, Nice, France, 12-16 June 1990* (Nice, 1990), vol. 1, pp. 614-616.

63. with D. Brown *et al.* (Muon g-2 Collaboration), An ultraprecise storage ring for the muon g-2 measurement. (with superconducting coils). In T. Sekiguchi and S. Shimamoto, eds.,

11th Annual Conference on Magnet Technology. Proceedings of the 11th International Conference on Magnet Technology, Tsukuba, Japan, 28 August -1 September 1989, (Elsevier, London, 1990), vol. 1, pp. 360-365.

1989

62. Y. Orlov, J. Marriner, D. Möhl, S. van der Meer, and A. Poncet, Ion shaking in anti-p and e rings. In M. Goldberg and S. Stone, eds., *Proceedings of a Workshop Towards Establishing a B-factory* (Syracuse University, Syracuse, NY, 1989), pp. 3.82-3.89.

61. G. Carron, D. Möhl, Y. Orlov, F. Pedersen, A. Poncet, S. van der Meer, D.J. Williams and P. Krejcik, Observation of transverse quadrupole mode instabilities in intense cooled antiproton beams in the AA. In *Proceedings of the IEEE Particle Accelerator Conference: Accelerator Science and Technology, Chicago, Illinois, 20-23 March 1989* (Chicago, 1989), vol. 2, 803-805.

60. R. Alves Pires, D. Möhl, Y. Orlov, F. Pedersen, A. Poncet, and Simon van der Meer, On the theory of coherent instabilities due to coupling between a dense cooled beam and charged particles from the residual gas, *ibid.*, 800-802.

1988

59. Y. Orlov, The suppression of transverse instabilities caused by trapped ions in the AA by shaking of \bar{p} beam. In R.W. Hasse, I. Hofmann, and D. Liesen, eds., *Proceedings of the Workshop on Crystalline Ion Beams* (Wertheim, 1988), pp. 133-139.

58. Yu. F. Orlov, A possible way to cool anti-protons. In J. Hagel and E. Keil, eds., *Lugano, 1988, Proceedings of the Second Advanced ICFA Beam Dynamics Workshop on Aperture-Related Limitations of the Performance and Beam Lifetime in Storage Rings, Lugano, Switzerland, 11-16 April 1988* (CERN, Geneva, 1988), pp. 84-86.

1982-81

The following two articles were smuggled out of Prison Camp 37-2, the Urals, USSR, and not reviewed by the author:

57. Yuri F. Orlov, The wave logic of consciousness: A hypothesis. *Int. J. Theor. Phys.* 21, 37-53 (1982). Trans. from the Russian by Valentin F. Turchin.

56. Yuri F. Orlov, A quantum model of doubt. *Annals of N.Y. Acad. of Sci.* 373, 84-92 (1981). Trans. from the Russian by Valentin F. Turchin.

1979

55. Yu. F. Orlov, Group theory approach to logic—the wave logic. *Philosophia Naturalis* 17, 120-129 (1979).

1978

54. Yu .F. Orlov, Wave calculus based upon wave logic. *Int. J. Theor. Phys.* 17, No. 8, 585-98 (1978). Trans. from the Russian by Valentin F. Turchin.

53. Г. А. Нагорский и Ю.Ф Орлов, Лазерное разделение частиц высоких энергий по массам. *ЖТФ* 48, 1, стр. 129-132, 1978.

G.A. Nagorsky and Yu. F. Orlov , Laser separation of high-energy particles by mass. *Soviet Physics—Technical Physics* 23, 76-78, 1978.

1974

52. В. Л. Серов, Ю.Ф Орлов и А. И. Барышев, Оптимизация мощности системы резонаторов при ускорении редких сгустков. *Атомная энергия* 37, вып. 1, стр. 39-42, 1974.

V.L. Serov, Yu. F. Orlov and A.I. Baryshev, Optimizing resonator-system power when accelerating widely spaced bunches. *Soviet Physics—Atomic Energy* 37, 716-720 (1974).

51. *Ю.Ф Орлов, Источники быстрых нейтронов,"Знание," Москва, 1974.

[Yu. F. Orlov, *Sources of Fast Neutrons* (Znaniye, Moscow, 1974).]

1973

50. Г. А. Нагорский и Ю.Ф Орлов, Устойчивое движение и ускорение заряженной частицы в линейно-поляризованной электромагнитной волне в газовой среде. *ЖЭТФ* 64, 3, стр. 761-767, 1973.

G.A. Nagorsky and Yu. F. Orlov, Stable motion and acceleration of a charged particle in a linearly polarized electromagnetic wave in a gaseous medium. *JETP* 37, 387-389 (1973).

49. *Р. А. Меликян, Ю.Ф Орлов и С. А. Хейфец, Квантовая теория движения электрона в синхротроне с учетом автофазирующего поля, *Известия АН Арм. ССР. Физика* 8, вып. 2, стр. 85-92, 1973.

[R.A. Melikian, Yu. F. Orlov and S.A. Kheifets, Quantum theory of electron motion in a synchrotron taking into account an autophasing field. 1. Wave functions. *Bulletin of the Armenian Academy of Sciences, Physics* 8, No. 2, 85-92 (1973).]

1972

48. *с Р. О. Абрамяном и др., Система вывода электронов из Ереванского синхротрона. *Труды II Всесоюзного Совещания по ускорителям заряженных частиц. Том II*, стр. 187. "Наука," Москва, 1972.

[with R.O. Abramian *et al.*, Ejection of electrons from the Yerevan synchrotron. In *Proceedings of the 2nd USSR Conference on Charged Particle Accelerators* (Science, Moscow, 1972), vol. 2, p. 187.

1970

47. С. А. Хейфец и Ю.Ф Орлов, Неустойчивость движения частиц в синхротроне с

жесткой фокусировкой при больших частотах ускоряющего поля. ПТЭ 1, стр. 29-31, 1970.

S.A. Kheifets and Yu. F. Orlov, Instability of the motion of particles in a synchrotron for high frequencies of the accelerating field. *Instruments and Experimental Techniques* 1, 24-27 (1970).

46. *с С. К. Есиным и др., Исследование и настройка магнитного поля Ереванского синхротрона. Труды Всесоюзного Совещания по ускорителям заряженных частиц. Том I, стр. 200, Москва, 1970.

[with S.K. Esin *et al.*, Investigation and tuning of the magnetic field of the Yerevan synchrotron. *Proceedings of the USSR Conference on Charged Particle Accelerators* (Moscow, 1970), vol. 1, p 200-206.]

45. *с А. И. Алиханяном, С. К. Есиным и др., Электрон-позитронный синхротрон с размножением частиц. Труды 7 Международной конференции по ускорителям заряженных частиц. Том II, стр. 103, Ереван, 1970.

[with A.I. Alikhanian, S K. Esin *et al.*, Electron-positron synchrotron with particle multiplication. In *Proceedings of the 7th International Conference on High-Energy Accelerators, Yerevan-Tsakhkadzor, Armenia, 27 August-2 September 1969* (Armenian Academy of Sciences, 1970), vol. 2, pp. 103-112.]

44. Yu. F. Orlov, Elektronen-Kreisbeschleuniger für höchste Energien, Ideen des exakten Wissens. *Wissenschaft und Technik der Sowjetunion* 8 (1970) 479.

1968

43. with S.K. Esin *et al.*, Control and adjustment of the magnetic field of the Erevan synchrotron. English translation from the Russian in A.A. Vasilev, ed., *Proceedings of the USSR National Particle Accelerator Conference, Moscow, USSR, 9-16 October 1968* (Israel Program for Scientific Translations, Jerusalem, 1972), pp. 200-206.

42. А. В. Бархударян и Ю.Ф Орлов, Комбинационные резонансы, вызванные поперечными компонентами высокочастотного ускоряющего поля в кольцевых ускорителях и накопителях. ПТЭ 4, стр. 17-20, 1968.

A.V. Barkhudaryan and Yu. F. Orlov, Combinatorial resonances caused by the transverse components of the high-frequency accelerating field in ring accelerators and storage systems. *Instruments and Experimental Techniques* 4, 776-779 (1968).

1967

41. with A.I. Alikhanian *et al.*, Status report of the Erevan Electron Synchrotron. In *Proceedings of the 6th International Conference on High Energy Accelerators, Cambridge, MA, 11-15 September 1967* (Cambridge, MA, 1967), pp. 401-403.

1966

40. В. В. Вечеславов и Ю.Ф Орлов, Основные свойства нелинейной фокусировки. *Атомная энергия* 20, вып. 2, стр. 112-117, 1966.

V.V. Vecheslavov and Yu. F. Orlov, Major properties of nonlinear focusing. *Soviet Physics—Atomic Energy* 20,134-140 (1966).

39. *Лекции по квантовой механике. Ереван, выпуск ЕГУ, 1966.

[*Lectures on Quantum Mechanics* (Yerevan State University, Yerevan, 1966).]

38. with L. L. Goldin, V.V. Vladimirsky, E.K. Tarasov *et al.*, Status report of the ITEP proton synchrotron operation. In *Proceedings of the 5th International Conference on High-Energy Accelerators, Frascati, Italy, 9-16 September 1965* (Comitato Nazionale per l'Energia Nucleare, Rome, 1966), p. 85.

37. V.V. Vecheslavov and Yu. F. Orlov, Fundamental properties of nonlinear focusing. *Ibid.*, p. 451.

36. V.N. Baier and Yu. F. Orlov, Electrons in a magnetic field. Quantum depolarization. *Ibid.*, p. 569.

1965

35. *Ю.Ф Орлов, Ускоритель с размножением числа частиц и античастиц. Автор. свид. No. 31776 (1965).

[Yu. F. Orlov, An accelerator with multiplication of particles and anti-particles. Design patent (1965).]

34. В. Н. Байер и Ю.Ф Орлов, Квантовая деполяризация электронов в магнитном поле. ДАН 165, вып. 4, стр. 783-785, 1965.

V.N. Baier and Yu. F. Orlov, Quantum depolarization of electrons in a magnetic field. *Soviet Physics—Doklady* 10, 1145-1147 (1966); SLAC-TRANS-0031.

33. В. В. Вечеславов и Ю.Ф Орлов, Ускоритель с нелинейной спиральной фокусировкой. Атомная энергия 18, вып. 3, стр. 209-213, 1965.

V.V. Vecheslavov and Yu. F. Orlov, Accelerator with non-linear spiral focusing. *Atomic Energy (USSR)* 18, 262-267 (1965). *J. Nucl. Energy, Part C* 8, No. 2, 191 (1966).

1964

32. Ю.Ф Орлов, Нелинейнофокусирующие ускорители и системы со встречными пучками. "Труды международной конференции по ускорителям, 1963," Москва, Атомиздат, 1964, 90-95.

Yu. F. Orlov, Accelerators and colliding beam systems with nonlinear focusing. In *Proceedings of International Accelerator Conference, Dubna, Russia, 1963* (Atomizdat, Moscow, 1964), pp. 90-96.

31. *с А. И. Алиханяном, В. М. Харитоновым, С. А. Хейфецем и др., Ереванский электронный синхротрон на энергию 6 ГэВ. *Ibid.*, стр. 235.

[with A.I. Alikhanian, V.M. Kharitonov, S.A. Kheifets *et al.*, Yerevan 6 GeV electron synchrotron. *Ibid.*, p. 235.]

30. *Ю.Ф Орлов, Автофазировка нелинейных колебаний в нелинейно-фокусирующих ускорителях. "Вопросы физики элементарных частиц," стр. 578, Ереван, 1964.

[Yu. F. Orlov, Auto-phasing of nonlinear oscillations in nonlinear focusing accelerators. In *Problems of Elementary Particle Physics. 4th Session of the Spring School of Experimental and Theoretical Physics, Nor-Amberd, Armenia, 16-26 April 1964* (Yerevan, 1964), p. 578.]

1963

29. Ю.Ф Орлов, Движение заряженной частицы в четырехзаходном прямолинейном магнитном поле. ЖЭТФ 45, вып. 10, стр. 932-935, 1963.

Yu. F. Orlov, Motion of a charged particle in a straight helical-cubic magnetic field. JETP 18, 644-646 (1964).

28. *Ю.Ф Орлов, Теория нелинейнофокусирующих ускорителей на высокие энергии. "Вопросы физики элементарных частиц," стр. 510, Ереван, 1963.

Yu. F. Orlov, Theory of high-energy nonlinear focusing accelerators. In A. I. Alikhanian, ed., *Modern Aspects of Particle Physics. 3rd Session of the Spring School of Experimental and Theoretical Physics, Nor-Amberd, Armenia, 3-13 April 1963* (Israel Program for Scientific Translations, Jerusalem, 1965), p. 441.

27. Ю.Ф Орлов и С. А. Хейфец, О радиационном затухании свободных колебаний. ДАН 151, вып. 2, стр. 318, 1963.

Yu. F. Orlov and S.A. Kheifets, Damping of free oscillations by radiation. Soviet Physics—Doklady 8, 689-690 (1964).

26. *Ю.Ф Орлов и С. А. Хейфец, Потери частиц из-за квантовых флуктуаций излучения (фазовые колебания.) ЖЭТФ 45 (1963).

[Yu. F. Orlov and S. A. Kheifets, Particle losses due to quantum fluctuation of radiation (phase oscillations). JETP 45 (1963).]

25. С. А. Хейфец и Ю.Ф Орлов, К теории радиационного затухания радиальных колебаний электрона в магнитном поле. ЖЭТФ 45, вып. 10, стр. 1125-1129, October, 1963.

S.A. Kheifets and Yu. F. Orlov, On the radiative attenuation theory of radial oscillations of an electron in a magnetic field. JETP 18, 844-846 (1964).

24. Х. А. Симонян и Ю.Ф Орлов, Аномальный резонансный переворот спина в магнитном поле. ЖЭТФ 45, вып. 2, стр. 173-176, 1963.

Kh. A. Simonyan and Yu. F. Orlov, Anomalous resonance spin flip of a particle in a magnetic field. JETP 18, 123-125 (1964).

1962

23. Ю.Ф Орлов, Устойчивые бетатронные колебания в нелинейном магнитном поле. ЖЭТФ 43, вып. 10, стр. 1308-1314, 1962.

Yu. F. Orlov, Stable betatron oscillations in a nonlinear magnetic field. JETP 16, 928 (1963).

22. Ю.Ф Орлов, Получение встречных пучков протонов высоких энергий в ускорителе с нелинейной фокусировкой. "Вопросы физики элементарных частиц," стр. 318, Ереван, 1962.

Yu. F. Orlov, Colliding beams of high energy protons in an accelerator with non-linear focusing. Lectures given at the 2nd Session of the Spring School of Theoretical and Experimental Physics, Nor-Amberd, Armenia, 27 March-6 April, 1962. In A.I. Alikhanian, ed., *Problems of Elementary Particle Physics* (Yerevan, Armenian Acad. Sci., 1962). Trans. E. Fischer, CERN Internal Report AR/Int. SR/63-6 (May 1963).

21. Ю.Ф Орлов и С. А. Хейфец, Потери частиц из-за многократного кулоновского рассеяния в циклическом ускорителе. ЖТФ 32, вып. 8, стр. 919-23, 1962.

Y.F. Orlov and S.A. Kheifets, Particle loss due to multiple Coulomb scattering in a cyclical accelerator. *Soviet Physics— Technical Physics* 7, 671-673 (1963).

1961

20. *С. А. Хейфец и Ю.Ф Орлов, Расчет параметров жесткофокусирующего ускорителя с учетом полей рассеяния. "Электронные Ускорители." Труды III Межвузовской конференции, стр. 148. Томск, 1961.

[S.A. Kheifets and Yu. F. Orlov, Calculations of accelerator parameters, taking into account end fields. In *Electron Accelerators. Proceedings of the 3rd Inter-University Conference* (Tomsk, 1961), p. 148.]

19. С. А. Хейфец, Ю.Ф Орлов и Г. В. Генджоян, Потери частиц в электронных ускорителях из-за квантовых флуктуаций излучения (фазовые колебания), ЖТФ 31, вып. 7, стр. 824-829, 1961.

S.A. Kheifets, Yu. F. Orlov and G.V. Gendzhoyan, Particle losses in electron accelerators due to quantum fluctuations in radiation (phase oscillations). *Soviet Physics— Technical Physics* 6, 595-598 (1962).

1960

18. *Ю.Ф Орлов и С. А. Хейфец, Деполяризация пучка при движении в неоднородном магнитном поле. Известия АН Арм. ССР. XIII, 1, стр. 169, 1960.

[Yu. F. Orlov and S.A. Kheifets, Depolarization effects in an inhomogeneous magnetic field. *Bulletin, Armenian Academy of Sciences, Phys.-Mat. Sci. Series*, No. 13, 169-71 (1960).]

1959

17. Ю.Ф Орлов, Применение квадратичной нелинейности в ускорителе с жесткой фокусировкой. ПТЭ 2, стр. 8-11, 1959.

Yu. F. Orlov, The use of quadratic nonlinearity in an accelerator with strong focusing. *Instruments and Experimental Techniques* 2, 183-187 (1959).

16. Ю.Ф Орлов, Е. К. Тарасов и С. А. Хейфец, Демпфирование колебаний частиц в электронном синхротроне с жесткой фокусировкой. ПТЭ 1, стр. 17-20, 1959.

Yu. F. Orlov, E.K. Tarasov and S.A. Kheifets, Damping of particle oscillations in an electron synchrotron with strong focusing. *Instruments and Experimental Techniques* 1, 17-21 (1959); *Proceedings of International Conference on High-Energy Accelerators and Instrumentation* (CERN, Geneva, 1959), p. 306.

15. Yu. F. Orlov and E.K. Tarasov, Non-linear theory of betatron oscillations. In *Proceedings of International Conference on High-Energy Accelerators and Instrumentation* (CERN, Geneva, 1959), p. 263.

14. Yu. F. Orlov and S.A. Kheifets, Losses of particles in ring accelerators, taking damping into account. *Ibid.*, pp. 303-311.

13. with A. Ts. Amatuni *et al.*, Injection of particles into a strong-focusing accelerator. *Ibid.*, p. 621.

1958

12. Ю.Ф Орлов и С. А. Хейфец, Искажение магнитного поля металлической вакуумной камерой в сильнофокусирующем ускорителе. ПТЭ 6, стр. 15, 1958.

Yu. F. Orlov and S.A. Kheifets, Distortion of the magnetic field by a metallic vacuum chamber in a strongly focusing accelerator. *Instruments and experimental techniques* 1, 21-23 (1959).

11. Ю.Ф Орлов и Е. К. Тарасов, Затухание колебаний в электронном циклическом ускорителе. ЖЭТФ 34, вып. 1, стр. 651-657, 1958.

Yu. F. Orlov and E.K. Tarasov, Damping of oscillations in a cyclic electron accelerator. *JETP* 34(7), 449-453 (September, 1958).

10. Ю.Ф Орлов и С. А. Хейфец, Деполяризация электронов из-за излучения в магнитном поле. ЖЭТФ 35, вып. 2, стр. 513-514, 1958.

Yu. F. Orlov and S.A. Kheifets, Depolarization of electrons due to radiation in a magnetic field. *JETP* 35, 354 (1958).

9. Ю.Ф Орлов, О механизме затухания свободных колебаний в циклическом ускорителе. ЖЭТФ 35, вып. 2, стр. 525-527, 1958.

Yu. F. Orlov, On the mechanism of damping of free oscillations in a cyclic accelerator. *JETP* 35, 362-364 (1958).

8. Ю.Ф Орлов и Е. К. Тарасов, Возбуждение колебаний в электронном циклическом ускорителе квантовыми флуктуациями излучения. ПТЭ 5, стр. 17-20, 1958.

Yu. F. Orlov and E.K. Tarasov, Excitation of oscillations in a cyclic electron accelerator by quantum radiation fluctuations. *Instruments and experimental techniques* 5, September-October, 1958, 605-609.

7. Ю.Ф Орлов и Е. К. Тарасов, Возникновение неустойчивости при большом градиенте в электронном ускорителе с жесткой фокусировкой. ПТЭ 6, стр. 15-18, 1958.

Yu. F. Orlov and E.K. Tarasov, Instability produced by a high gradient in a strong-focusing electron accelerator. *Instruments and Experimental Techniques* 6, 728-732 (1958).

6. Д. Г. Кошкарёв и Ю.Ф Орлов, Параметрические резонансы фазовых колебаний в синхротроне. ПТЭ 6, стр. 19-22, 1958.

D.G. Koshkarev and Yu. F. Orlov, Parametric resonances of phase oscillations in a synchrotron. *Instruments and Experimental Techniques* 6, 732-737 (1958).

1957

5. Ю.Ф Орлов, Нелинейная теория бетатронных колебаний в синхротроне с жесткой фокусировкой. ЖЭТФ 32, вып. 2, стр. 316, 1957.

Yu. F. Orlov, The non-linear theory of betatron oscillations in the strong-focusing synchrotron. *JETP* 5, 195-200 (1957).

4. Ю.Ф Орлов, Возбуждение бетатронных колебаний синхротронными колебаниями импульса в ускорителе с жесткой фокусировкой. ЖЭТФ 32, вып. 1, стр. 130, 1957.

Yu. F. Orlov, Excitation of betatron oscillations by synchrotron momentum oscillations in a strong-focusing accelerator. *JETP* 5, 45-48 (1957).

1956

3. Ю.Ф Орлов, Энергетический спектр ионизирующих частиц высоких энергий после прохождения толстого слоя. ЖЭТФ 30, вып. 3, стр. 613-614, 1956.

Yu. F. Orlov, Energy spectrum of high energy ionizing particles passed through a thick layer of matter. *JETP* 3, 647-649 (1956).

2. Ю.Ф Орлов, Влияние близости внешнего резонанса на величину критической энергии в ускорителе с жесткой фокусировкой. ЖЭТФ 30, вып. 5, стр. 953, 1956.

Yu. F. Orlov, The influence of the proximity of an external resonance on the magnitude of transition energy in a strong-focusing accelerator. *JETP* 3, 950-952 (1956).

1. Yu. F. Orlov, The non-linear theory of betatron oscillations in the strong-focusing synchrotron, 1. *Nuovo Cimento* 3, 252-259 (1956).

Reports and proposals

2014

149. A formula for SCT. (Unnumbered EDM Note, 1 June 2014.)

148. Cancellation of the RF magnetic gradient $\partial B_x / \partial y$. (Unnumbered EDM Note, 7 April 14; slightly revised and formula (31) added, 15 April 2014.)

147. On the RF radial magnetic field. (Unnumbered EDM Note, 17 February 2014).

2013

146. with Yannis K. Semertzidis, Modulating the vertical magnetic field cannot produce a measurable EDM signal. Unnumbered EDM Note (21 August 2013).

145. On chromaticity, orbit lengthening, and pitch effects in magnetic rings. Unnumbered EDM Note (10 March 2013).

144. Some remarks on the $m = 0$ case. Unnumbered EDM Note (17 February 2013).

143. My Trento talk, "Spin coherence time analytical estimations": some details. Unnumbered EDM Note (23 January 2013).

2012

142. Spin coherence time analytical estimations. Workshop, EDM Searches at Storage Rings, ECT Trento, Italy, 4 October 2012.

141. Report on Yuri Orlov, Eanna Flanagan and Yannis Semertzidis, "Spin rotation by Earth's gravitational field in a 'frozen-spin' ring." Workshop, EDM Searches at Storage Rings, ECT Trento, Italy, 5 October 2012.

140. On lengthening in the SCT experiment. Unnumbered EDM Note (2 August 2012).

139. On the partially-frozen-spin method. Unnumbered EDM Note (21 March 2012).

2011

138. with V. Anastassopoulos *et al.*, A proposal to measure the proton electric dipole moment with 10^{-29} e·cm sensitivity. Submitted by the EDM Collaboration to DOE NP (November 2011).

137. Explanation of the YS-effect. Unnumbered EDM Note (23 June 2011).

136. Comment on Bill Morse's 23 June 2011 Note "Off-Momentum Closed Orbit." Unnumbered EDM Note (23 June 2011).

135. On the virial theorem and spin rotations. Unnumbered EDM Note (13 June 2011).

134. On spin rotation. Unnumbered EDM Note (18 June 2011).

2010

133. Weak X-focusing, strong Y-focusing triplets. Unnumbered EDM Note (27 September 2010).

132. Electric ring: SCT. Unnumbered EDM Note (27 September 2010).

131. A design of an electric pEDM ring, taking into account a B(R) perturbation. Unnumbered EDM Note (29 May 2010).

2009

130. with R.M. Carey *et al.*, A new (g-2) experiment: A proposal to measure the muon anomalous magnetic moment to ± 0.14 ppm precision. Fermilab proposal 0989 (February 2009).

129. A CW-CCW symmetric lattice for the proton EDM experiment. Unnumbered EDM Note (29 November 2009).

128. Simulations and measurements for SCT. Unnumbered EDM Note (30 November 2009).

127. About the correct lattice for an EDM ring with two simultaneous CW and CCW beams. Unnumbered EDM Note (25 October 2009)

126. Spin decoherence and the BMT equations. Unnumbered EDM Note (20 September 2009).

125. Fields and Lorentz equations in the ideal proton EDM ring. Stage I. Unnumbered EDM Note (12 July 2009).

124. Pre-review of the EDM Collaboration Plan: Additional Notes. I. Including acceleration by the radial E-field in simulations. Unnumbered EDM Note (26 June 2009).

123. Using BMT equations to analyze spin decoherence and resonances. Unnumbered EDM Note (22 June 2009; 2 August 2009).

122. The direct influence of the earth's gravitational field on spin (a general relativity effect). Unnumbered EDM Note (17 June 2009).

121. Spin Coherence Time (SCT), V. The estimated normal co-ordinates in the proton EDM ring. Unnumbered EDM Note (16 June 2009).

120. Solutions to the $x^2 - y^2$ separation problem. Remarks on the William Morse Note "SCT Lattice" of 2/20/09). Unnumbered EDM Note (1 March 2009).

2008

119. Comparison of current simulations with old analytical predictions. Unnumbered EDM Note (12 October 2008).
118. Physical and geometrical phases. Unnumbered EDM Note (18 September 2008).
117. Some details of the EDM ring. Unnumbered EDM Note (6 August 2008).
116. All simulations of the azimuthally homogeneous ring are correct (so far): 1. Unnumbered EDM Note (2 August 2008).
115. EDM Note 10 (The main theoretical aspects of spin dynamics in the muon EDM experiment) revised. Unnumbered EDM Note (28 June 2008).
114. Spin Coherence Time (SCT), IV. The normal co-ordinates. Unnumbered EDM Note (22 June 2008).
113. Spin Coherence Time (SCT), III. Preliminary approximate values of the 12 SCT parameters. Unnumbered EDM Note (18 June 2008).
112. Spin Coherence Time (SCT), II. What needs to be "measured" by SCT simulations, and in what order. Unnumbered EDM Note (14 June 2008).
111. Spin Coherence Time (SCT), I. Using normal co-ordinates in the analysis of SCT. Unnumbered EDM Note (2 June 2008).
110. with A. Anastassopoulos *et al.*, AGS Proposal: Search for a permanent electric dipole moment of the deuteron nucleus at the 10^{-29} e · cm level (April, 2008).
109. Questions on some ring versions. Unnumbered EDM Note (25 March 2008).
108. On the contribution of vertical oscillations to spin decoherence. Unnumbered EDM Note (2 March 2008).
107. Analysis of the Bill Morse example regarding spin coherence time. Unnumbered EDM Note (23 February 2008).
106. Systematics caused by temperature gradients in materials used in the frozen spin EDM method. Unnumbered EDM Note (19 January 2008).

2007

105. Spin resonance systematics in a storage ring for the resonance method of EDM measurement: a new method for canceling most parasitic spin resonances. Unnumbered EDM Note (28 March 2007).

104. The EDM ring-detector without parasitic spin resonances linked to the vertical betatron oscillations. Unnumbered EDM Note (16 March 2007).

103. A possible "one shot" cancellation of all parasitic spin resonances coupled to vertical beam oscillations in the EDM storage ring experiment. Presented at the EDM Collaboration Meeting, Brookhaven National Laboratory, 5 March 2007.

102. with the Storage Ring EDM Collaboration, Deuteron EDM Systematic Error Study Plan (March 2007).

101. A plan for canceling systematic errors caused by spin resonances. Unnumbered EDM Note (7 February 2007).

2006

100. Systematic errors caused by spin resonances. Unnumbered EDM Note (16 November 2006).

99. with M. Bai *et al.*, LOI, Development of a resonance method to search for a deuteron electric dipole moment using a charged particle storage ring (August 2006).

98. W.M. Morse, Y.F. Orlov, and Y.K. Semertzidis, Corrections of systematic errors in the two sub-beam technique of resonance EDM measurement. Unnumbered EDM Note (May 2006).

97. A solution to the problem of getting long spin coherent times for both beams of the resonance EDM ring design. Unnumbered EDM Note (2 February 2006).

2005

96. An EDM spin resonance ring with minimized spin resonance perturbations. EDM Note 88 (17 September 2005).

95. Remarks on a future feedback system preserving the equality $\omega_r = \omega_a$. EDM Note 86 (7 September 2005).

94. On tensor electric polarizability in the BMT equations. EDM Note 91 (6 September 2005).

93. An RF system producing dv/dt oscillating in resonance with g-2 rotations. "Linear" version. EDM Note 83 (24 August 2005, revised 7 September 2005).

92. Using resonance between magnetic moment rotations and velocity oscillations to measure electric dipole moment. Unnumbered EDM Note (21 July 2005).

91. Corrections of the first-order false EDM signal in the EDM resonance ring. EDM Note 76 (May, 2005).

90. Vertical spin precession due to quadrupole and quadrupole-like interactions in the resonance EDM ring. EDM Note 79 (May, 2005).

89. CW/CCW technique in the resonance method of EDM measurement. EDM Note 73 (January, 2005).

88. B-field oscillations in the resonance EDM ring. Non-existence of first order spin-resonance perturbations in the RF cavities. EDM Note 74 (January, 2005).

2004

87. The resonance method of EDM measurement. 4. Synchrotron parameters. EDM Note 72 (December, 2004).

86. The resonance method of EDM measurement. 3. Betatron parameters. EDM Note 71 (December, 2004).

85. The resonance method of EDM measurement. 2. Zero dispersion function. EDM Note 70 (November, 2004).

84. The resonance method of edm measurements in storage rings: conceptual design. EDM Note 69 (October, 2004).

83. with M. Aoki *et al.*, Deuteron EDM proposal: search for a permanent deuteron electric dipole moment at the 10^{-27} e · cm level. (August, 2004).

82. Principal scheme of a deuteron EDM ring with a long spin coherence time. (Cancellation of the second-order perturbations in $\Delta\omega_a$.) EDM Note 61 (February, 2004).

2003

81. Changes of muon betatron amplitudes during their lifetime as a possible source of a small g-2 error. EDM Note 59 and g-2 Note 440 (4 November 2003).

80. W. M. Morse, Y. F. Orlov and Y. K. Semertzidis, Cancellation of the "twist and "saucer" effects by using the CW and CCW injections. EDM Note 62 (November 2003).

79. Correction of the E_v field in the deuteron EDM experiment by the trapping into resonance method. EDM Note 43 (21 July 2003).

78. J. Paley, C. Polly, W. Morse and Y. Orlov, Why were the muon losses higher in the low n than the high n 2001 data? g-2 Note 433 (30 April 2003).

77. Spin rotations around the longitudinal axis due to correlation $\omega_R \delta\omega_a \sin\phi$. EDM Note No. 35 (31 January 2003).

76. EDM perturbations caused by a $\Delta p/p$ spread. EDM Note No. 36 (29 January 2003).

75. Yuri F. Orlov and Yannis K. Semertzidis, To get rid of CBO (and to get scraping without resonance crossings). EDM Note 32 (21 January 2003) and g-2 Note 431 (23 January 2003).

74. Vertical spin rotation caused by the correlation $\langle \theta_H(s)B_L(s) \rangle$. Muon EDM Note No. 34 (23 January 2003).

73. Which equations do not follow from BMT equations? EDM Note 33 (22 January 2003).

72. with A Silenko, *et al.* (EDM Collaboration), J-PARC Letter of Intent. Search for a permanent muon electric dipole moment at the 10^{-24} e·cm level (9 January 2003).

2002

71. Y. Orlov, M. Diele, W.M. Morse, C.S. Ozben, and Y. K. Semertzidis, Results with the jumping windows method. Muon g-2 Note No. 411 (10 June 2002).

70. In the EDM experiment, the radial electric field must compensate the vertical magnetic field locally, not on the average. EDM Note 26 (5 December 2002).

2001

69. Main formulas and numbers related to the g-2 beam and spin resonances. Muon g-2 Note 396 (6 June 2001).

68. Yuri Orlov, Cenap S. Ozben, and Yannis K. Semertzidis, Muon revolution frequency distribution from a partial-time Fourier transform of the g-2 signal in the Muon g-2 Experiment. Muon g-2 Note 392 (1 May 2001).

67. Observational spin resonances in the BNL g-2 experiment (the James Miller, Robert Carey, Long Duong effect vs. the usual CBO effect). Muon g-2 Note 386 (28 February 2001).

66. Physical spin resonances in the BNL g-2 experiment. Muon g-2 Note 384 (24 January 2001).

65. The possible parameters of the RF systems for the muon EDM experiment (preliminary estimates). EDM Note 18 (30 November 2001).

64. Spin resonance method of the EDM measurements. EDM Note 15 (16 August 2001) and g-2 Note 399 (5 September 2001).

2000

63. Yuri Orlov and Cenap Ozben, It is possible (and necessary) to know about muon momentum distributions at different times after injection. Note prepared for g-2 Collaboration meeting, University of Illinois at Urbana-Champaign, 14-15 July 2000.

62. Why a change of the n-value will not decrease the influence of coherent radial oscillations, and a remark about the fit. *Ibid.*
61. Yuri Orlov, Cenap S. Ozben, Yannis K. Semertzidis, Fourier analysis for the g-2 fast rotation data. Muon g-2 Note 364 (15 May 2000).
60. About the influence of coherent radial oscillations. Muon g-2 Note 359 (16 May 2000).
59. with Y.K. Semertzidis *et al.*, Sensitive search for a permanent muon electric dipole moment. EDM Note 13 (April 2000).
58. The possibility of precise measurements of the E_V -field using trapping into resonance. EDM Note 12 (18 March 2000).
57. with R. Carey, *et al.*, AGS Letter of Intent—Search for a permanent muon electric dipole moment (7 February 2000).
56. The main theoretical aspects of spin dynamics in the muon EDM experiment. EDM Note 10 (January, 2000; revised 28 June 2008).

1999

55. Complementary histories, collapse into the past, and EPR 'nonlocality' in standard quantum mechanics. CLNS-99-1616 (1999).
54. A radical solution to the E-field correction problem. Muon g-2 Note 203 (July 1999).
53. Perturbation of the observed (g-2) signal by coherent radial betatron oscillations. (The physics revised.) Muon g-2 Note 341 (4 June 1999). *Proceedings, g-2 Collaboration Meeting, Heidelberg, June 8-9, 1999*, pp. 523-532.
52. Some rules for binning. Muon g-2 Note 336 (1 March 1999).
51. Beam dynamics during quadrupole scraping. Muon g-2 Note 335 (25 January 1999).
50. Fourier analysis for the muon momentum distribution beginning at any late time: Why Yannis [Semertzidis'] approach is correct. Muon g-2 Note 337 (25 January 1999).
49. How to calculate the average deviations $\left\langle \frac{\Delta p}{p} \right\rangle$, $\langle \theta_x \rangle$, $\langle \theta_y \rangle$ and other data using fiber beam monitors. Muon g-2 Note 338 (25 January 1999).

1998

48. Perturbation of the observed (g-2) signal by coherent radial betatron oscillations. Unnumbered Muon g-2 Note (28 December 1998).

47. Investigation of the logical-linguistic origins of quantum mechanics: a possible cognitive experiment, University of Bergen, Norway, Center for the Study of the Sciences and the Humanities, Working Paper 4/1998.

46. Origins and meaning of peculiarities of quantum mechanics: a semantic interpretation, University of Bergen, Norway, Center for the Study of the Sciences and the Humanities, Working Paper 5/1998.

45. The origin of quantum indeterminism and irreversibility of measurements, CLNS-98-1558 (1998).

44. The difference between a measuring apparatus and a target, CLNS-98-1559 (1998).

43. Yuri F. Orlov (for the g-2 Collaboration), Spin and beam dynamics in the muon g-2 storage ring: systematic errors, CLNS-98-1588 (1998).

1997

42. with R. Carey *et al.*, AGS Letter of Intent—Search for an electric dipole moment of muon at the 10^{-24} e·cm level. Muon EDM Note No. 4 (October 1997).

41. Spin and beam dynamics. II. Muon g-2 Note 290 (21 August 1997).

40. Redefinitions of histories by measurements. An explanation of "nonlocality" observed in EPR-Bohm experiments, CLNS-97-1475 (May 1997).

39. Quantum-type coherence as a combination of symmetry and semantics, CLNS-97-1476 (May 1997).

38. Measurement of beam parameters $\langle \theta_z^2 \rangle$, $\left\langle \frac{\delta p}{p} \right\rangle$ and $\left\langle \left(\frac{\delta p}{p} \right)^2 \right\rangle$ using traceback system

and fiber beam monitors, Muon g-2 Note 284 (17 February 1997).

1996

37. Spin and beam dynamics. I. Muon g-2 Note 279 (28 December 1996).

36. Peculiarities of quantum mechanics: origins and meaning, CLNS-96-1443 (1996). (Revised version of CLNS-96-1399.) Prepared for the Nordic Symposium on Basic Problems in Quantum Physics, Rosendal Barony, Hardanger, Norway, 4-10 June 1997.

35. Possibilities of experimental proof of the logical-linguistic origins of quantum mechanics. CLNS-96-1439 (1996).

1995

34. Helical separation of e^+e^- beams: (x-y) coupling and vertical dispersion, CLNS-95-1344 (27 July 1995).

33. How Fourier analysis of the electron decay signal works. Muon g-2 Addendum to Note 241 (October 1995).

32. Remarks on Note 241: How to measure muon momentum distributions at late times. Muon g-2 Note 241 (September 1995).

1994

31. A radical solution to the E-field correction problem. Muon g-2 Note 203 (July 1994).

1993

30. The logical origins of quantum mechanics, CLNS-93-1208 (1993).

1992

29. Yuri Orlov and A. Soffer, Fourier analysis of high order coherent and incoherent resonances in beam-beam interaction, I. Incoherent spectroscopy, CLNS-92-1178 (1992).

28. Y.F. Orlov and A. Soffer, Precise Measurement of Muon Momentum Distribution Using Fourier Analysis of Decay-Electrons. Muon g-2 Note 128 (October 1992).

1991

27. Compensating for the crossing angle without crab and RF cavities, CLNS-91-1062 (1991).

26. Y.F. Orlov and A. Soffer, Precise measurement of muon momentum distribution in the muon (g-2) experiment. CLNS-91-1063 (1991).

25. Trapped ions transverse distribution, CBN 91-3 (1991).

24. Yuri F. Orlov, Christopher O'Neill, J. Welch, and Robert H. Siemann, B-factory optics and beam-beam interaction for millimeter β^* and locally shortened bunches, CLNS-91-1092/CBN-91-9 (1991).

23. with D. Sagan, Ion trapping in the CESR B factory. CBN-91-2 (May 1991).

22. Y. Orlov and D. Sagan, Calculation of the crab rotation angle from the one turn transport matrix. CBN-91-4 (Mar. 1991).

21. with K. Berkelman *et al.*, CESR-B: Conceptual design for a B-factory based on CESR,

CLNS-91-1050 (1991).

1990

20. Tolerances in the Measurement of the Cyclotron Frequency of Heavy Ions in the Homogenous (g-2) Magnetic Field. Muon g-2 Note 52 (16 July 1990).

1989

19. J. Marriner, D. Möhl, Y. Orlov, A. Poncet and S. Van der Meer, Experiments and practice in beam shaking. CERN/PS/89-48 AR (1989).

18. The suppression of transverse instabilities caused by trapped ions in the AA by shaking the p beam. CERN/PS/89-01 (1989).

17. A. Poncet and Y. Orlov, EPA machine experiment note—ion shaking tests. PS/ML/Note 89-1 (1989).

1987

16. Tolerances on turns of (g-2) magnets around azimuthal and radial axes. Muon g-2 Note 360 (1987).

1971

15. *с А. И. Алиханяном, Б. Л. Иоффе, Проект электронно-позитронно-протонного сильноточного синхротрона на энергию 50-200 ГэВ с программой встречных пучков e^+e^- , $e\gamma$, $\gamma\gamma$, e^-p . встречных адронных пучков pp , pn , nn , $p\pi$, $\pi\pi$ и др. и прямых пучков повышенной интенсивности. Ротопринт ЕРФИ. Ереван, 1971.

[with A.I. Alikhanian and B.L. Ioffe, Proposal for a 50-200 GeV high-current collider-synchrotron with a program of e^+e^- , $e\gamma$, $\gamma\gamma$, e^-p colliding beams; pp , pn , nn , $p\pi$, $\pi\pi$ and other hadron colliding beams; and of high-intensity direct beams. Yerevan Physics Institute, 1971.]

1968

14. *с А. И. Алиханяном, Электронный синхротрон на энергию 50-60 ГэВ. Препринт ЕрФИ. Ереван, 1968.

[with A.I. Alikhanian, 50-60 GeV electron-synchrotron. Yerevan Physics Institute Proposal, 1968.]

13. *с А. И. Барышевым, В. С. Погосяном, Переходный режим в ускоряющих резонаторах, вызываемый нагрузкой пучком. Препринт ЕрФИ-УФТ-1 (69), Ереван, 1968.

[with A.I. Baryshev and V.S. Pogosian, Transitional regime in RF-resonators caused by beam-loading effects. Yerevan Physics Institute, 1968.]

12. *с С. А. Хейфецем, Неустойчивость движения частиц в синхротроне при больших

частотах ускоряющего поля. Препринт ЕрФИ-УФТ-4 (69), Ереван, 1968.

[with S.A. Kheifets, Instability of particle motion in the synchrotron due to high-frequency acceleration fields. Yerevan Physics Institute, 1968.]

1963

11. *Ю.Ф Орлов, Докторская диссертация. ИЯФ им. Будкера, Новосибирск, 1963.

[Yu. F. Orlov, Doctoral dissertation (for second Ph.D), Budker Institute of Nuclear Physics, Novosibirsk, 1963.]

10. *Ю.Ф Орлов, Автореферат докторской диссертации. Ереван, 1963.

[Yu. F. Orlov, Dissertation summary (for second Ph.D), Yerevan Physics Institute, Yerevan, 1963.]

1959

9. *с А. И. Алиханяном, В. М. Харитоновым, С. А. Хейфецем, Е. К. Тарасовым, А. Ц. Амадуни и др., Проект электронного синхротрона на энергию 6 Гэв. ЕрФИ. Ереван, 1959.

[with A.I. Alikhanian, V.M. Kharitonov, S.A. Kheifets, E.K. Tarasov, A.T. Amatuni *et al.*, 6 GeV electron-synchrotron. Yerevan Physics Institute (YPI) Proposal, 1959.]

1958

8. *Ю.Ф Орлов, Кандидатская диссертация: Нелинейная теория бетатронных колебаний в синхротроне с жесткой фокусировкой, Ереван, 1958.

[Yu. F. Orlov, Nonlinear theory of betatron oscillations in the strong-focusing synchrotron. Dissertation (for first Ph.D), Yerevan Physics Institute, 1958.]

1956

7. *Ю.Ф Орлов, Автореферат кандидатской диссертации: Нелинейная теория бетатронных колебаний в синхротроне с жесткой фокусировкой, Москва, 1956.

[Yu. F. Orlov, Nonlinear theory of betatron oscillations in the strong-focusing synchrotron. Dissertation summary (for first Ph.D), ITEP, Moscow, 1956.]

1955

6. *Ю.Ф Орлов, Квадратичные резонансы в ускорителе с жесткой фокусировкой. Отчет АН СССР. ИТЭФ, 1955.

[Yu. F. Orlov, Quadratic resonances in the strong-focusing accelerator. ITEP Report, 1955.]

5. *с Ю. Курским, Кубические резонансы в ускорителе с жесткой фокусировкой. Отчет АН СССР. ИТЭФ, 1955.

[with Y. Kurski, Cubic resonances in the strong-focusing accelerator. ITEP Report, 1955.]

4. *с В. В. Владимирским, Л. Л. Гольдином, В. Б. Берестецким, Е. К. Тарасовым, Д. Г. Кошкаревым и др., Физическое задание на сооружение протонного синхротрона с жесткой фокусировкой на энергию 7 Гэв. ИТЭФ, 1955.

[with V.B. Vladimirovsky, L.L. Goldin, V.B. Berestetsky, E.K. Tarasov, D.G. Koshkarev *et al.*, Strong-focusing 7 GeV Proton-Synchrotron. ITEP Proposal, 1955.]

1954

3. *Ю.Ф Орлов, Некоторые вопросы нелинейной теории бетатронных колебаний в синхротроне с жесткой фокусировкой. Отчет АН СССР. ИТЭФ, 1954.

[Yu. F. Orlov, Some problems of the nonlinear theory of betatron oscillations in the strong-focusing synchrotron. ITEP Report, 1954.]

2. *Ю.Ф Орлов, Энергетический спектр релятивистских ионизирующих частиц. Отчет АН СССР. ИТЭФ, 1954.

[Yu. F. Orlov, Energy spectrum of relativistic ionizing particles. ITEP Report, 1954.]

1953

1. *Ю.Ф Орлов, Влияние нелинейности магнитного поля на устойчивость траекторий в синхротроне с жесткой фокусировкой. Отчет АН СССР. ИТЭФ, 1953.

[Yu. F. Orlov, Influence of magnetic field nonlinearities on the stability of motion in the strong-focusing synchrotron. ITEP Report, 1953.]