

SCIENTIFIC PAPERS ON FILE

1956

C. W. F. Everitt, , Karl-Joseph Hanpen, “Zur experimentellen Bestimmung der Brennweiten und Hauptebenen von asymmetrischen Elektronen-Einzellinsen,” *Optik*, Sonderabdruck 13, B, 1956, Seite 385-398.

1957

J. A. Clegg, E. R. Deutsch, C. W. F. Everitt , P. H. S. Stubbs, “Some Recent Palaeomagnetic Measurements Made at Imperial College, London,” *Philosophical Magazine Supplement*, Vol. 6, No. 22, p. 219, April 1957.

1960

C. W. F. Everitt , J.C. Belshé “Paleomagnetism of the British Carboniferous System,” *Philosophical Magazine*, Vol. 5, No. 55, p. 675, July 1960.

C. W. F. Everitt, “Rock Magnetism and the Origin of the Midland Basalts,” *Geophysical Journal of the Royal Astronomical Society*, Vol. 3, No. 2, 1960.

L. I. Schiff, “Motion of a Gyroscope According to Einstein’s Theory of Gravitation,” *Institute of Theoretical Physics, Department of Physics, Stanford University*, April 19, 1960. *Nonlinear Gravitodynamics, The Lense-Thirring Effect*, A documentary introduction to current research. Editors Remo J. Ruffini, Costantino , pp 427 – 438.

1961

C. W. F. Everitt, “Thermoremanent Magnetization I. Experiments on Single Domain Grains,” *Philosophical Magazine*, Vol. 6, No. 66, p. 713, June 1961.

C. W. F. Everitt, “The Magnetic Properties of Three Carboniferous Sills,” *Philosophical Magazine*, Vol. 65, p. 689, May 1961.

1962

C. W. F. Everitt, “Thermoremanent Magnetization II. Experiments on Multidomain Grains,” *Philosophical Magazine*, Vol. 7, No. 76, p. 583, April 1962.

C. W. F. Everitt, “Thermoremanent Magnetization III. Theory of Multidomain Grains,” *Philosophical Magazine*, Vol. 7, No. 76 p. 599, April 1962.

C. W. F. Everitt, “Self-reversal of Magnetization in a Shale Containing Pyrrhotite,” *Philosophical Magazine*, Vol. 7, No. 77, p. 831, May 1962.

C. W. F. Everitt , J. A. Clegg, “A Field Test of Palaeomagnetic Stability,” *Geophysical Journal of the Royal Astronomical Society*, Vol. 6, No. 3, 1962.

C. W. F. Everitt, K. R. Atkins , A. Denenstein, “Detection of Third Sound in Liquid Helium Films,” *Physical Review Letters*, Vol. 8, No. 4, February 15, 1962.

1963

R. L. Wilson , C. W. F. Everitt, “Thermal Demagnetization of Some Carboniferous Lavas for Palaeomagnetic Purposes,” *The Geophysical Journal of the Royal Astronomical Society*, Vol. 8, No. 2, December 1963.

1964

C. W. F. Everitt, K. R. Atkins, A. Denenstein, "Third Sound in Liquid Helium Films," *The Physical Review*, Vol. 136, No. 6A, A1494-A1499, December 14, 1964.

1966

G. O. Dickson, C. W. F. Everitt, L. G. Parry, F. D. Stacey, "Origin of Thermoremanent Magnetization," *Earth and Planetary Science Letters* 1, pp. 222-224, 1966.

C. W. F. Everitt, W. M. Fairbank, "Application of Low Temperature Techniques to a Satellite Test of General Relativity," *Proceedings of the Xth International Conference on Low Temperature Physics, Moscow USSR*, August 31-September 6, 1966.

W. M. Fairbank, W. O. Hamilton and C. W. F. Everitt, "From Quantized Flux to a Free Precession Nuclear Gyro," *Proceedings of the OAR, Research Applications Conference*, April 5, 1966.

C. W. F. Everitt, W. M. Fairbank, W. O. Hamilton and H. A. Schwettman, "Large Scale Uses of Liquid Helium in Research," 1966.

C. W. F. Everitt, "Satellite Experiment to Test General Relativity,," 1966

C. W. F. Everitt, "Magnetic Measurements on the Shale Containing Pyrrhotite from the Rashiehill Boring," 1966

C. W. F. Everitt, "A Note on the Measurement of Magnetic Hysteresis," 1966.

1967

C. W. F. Everitt, "Maxwell's Scientific Papers," *Applied Optics*, Vol. 6, p. 639, April 1967.

1968

T. D. Bracken and C. W. F. Everitt, "Design of a Gas Spin-up System for an Electrostatically Supported Cryogenic Gyroscope," *Advances in Cryogenic Engineering*, Vol. 13, pp. 168-173, 1968.

1969

S. G. Brush and C. W.F. Everitt, "Maxwell, Osborne Reynolds, and the Radiometer," *Historical Studies in the Physical Sciences*, Volume 1, 1969.

1970

C. W. F. Everitt, W. M. Fairbank and W. G. Hamilton, "General Relativity Experiments Using Low Temperature Techniques," *Relativity* (Plenum Press, 1970).

P. M. Selzer, W. M. Fairbank and C. W. F. Everitt, "A Superfluid Plug for Space," *Advances in Cryogenic Engineering*, Vol. 16.

C. W. F. Everitt, "The Stanford Gyroscope Experiment," Stanford University.

1971

C. W. F. Everitt, W. M. Fairbank and L. I. Schiff, "Theoretical Background and Present Status of the Stanford Relativity-Gyroscope Experiment," *The Significance of Space Research for Fundamental Physics ESRO SP-52* pp. 33-43. May 1971.

W. M. McGucken, "Nineteenth Century Spectroscopy," *Applied Optics*, Vol. 10, p. 697, March 1971.

P. W. Worden, Jr., C. W. F. Everitt and J. Nikirk, "A Superconducting Shielded Container for a Low Noise Amplifier Operating at 200°K," *Proceedings of the XIIIth International Congress of Refrigeration Washington, DC 1971, Volume 1.*

C. W. F. Everitt, "Conspectus of Maxwell's Researches on Gas Theory, Statistical and Molecular Physics, and Thermodynamics," June 1971.

1972

C. W.F. Everitt, W. M. Fairbank and W. O. Hamilton, "From Quantized Magnetic Flux in Superconductors to Experiments on Gravitation and Time-Reversal Invariance."

C. W. F. Everitt and W. M. Fairbank, "Applications of Cryogenic Techniques to the Stanford Gyro Relativity Experiment."

D. B. DeBra, "Drag-Free Satellites," *Systems & Control Encyclopedia.*

C. W. F. Everitt, "Account of Work on Optical Contacting at Stanford University 1965-1972."

J. A. Lipa, C. W. F. Everitt, W. M. Fairbank, "Research at Stanford on the Containment of Liquid Helium in Space..Experiment," 1972.

1973

J. R. Nikirk, R. A. Van Patten and D.B. DeBra, "Fabrication of an Electronic Suspension Subsystem (ESS) for a Cryogenic Electrostatically Suspended Gyroscope for the Relativity Experiment," *Guidance and Control Laboratory, Department of Aeronautics and Astronautics, Stanford University, January 1973.*

P. W. Worden, Jr. and C. W. F. Everitt, "The Gyroscope Experiment. III. Tests of the Equivalence of Gravitational and Inertial Mass Based on Cryogenic Techniques," 1973.

C. W. F. Everitt, "The Gyroscope Experiment I: General Description and Analysis of Gyroscope Performance," *Experimental Gravitation, 1973.*

J. A. Lipa, W. M. Fairbank and C. W.F. Everitt, "The Gyroscope Experiment. II: Development of the London-Moment Gyroscope and of Cryogenic Technology for Space," *Experimental Gravitation, 1973.*

J. S. Bull and D. B. Debra, "Precise Attitude Control of the Stanford Relativity Satellite," *Guidance & Control Laboratory, Department of Aeronautics and Astronautics, Stanford University.*

1974

C. W. F. Everitt, Memo to Paul W. Worden, Jr. "Some thoughts on the Art of Scientific Writing," January 23, 1974.

C. W. F. Everitt and W. M. Fairbank, "London, Heinz."

C. W. F. Everitt, "Maxwell, James Clerk."

The Staff of the Space Dept. Johns Hopkins University and the Staff of the Guidance and Control Laboratory, Stanford University, "A Satellite Freed of All But Gravitational Forces: "Triad I," AIAA Paper No. 74-215, AIAA 12th Aerospace Sciences Meeting, Washington, D. C. January 30 February 1, 1974.

1975

- J. T. Anderson and C. W. F. Everitt, "A High Accuracy All-Angle Gyroscope Readout Using Quantized Flux."
- C. W. F. Everitt, "James Clerk Maxwell: Physicist and Natural Philosopher," Charles Scribner's Sons, 1975, p. 205; illustrations, Book Reviews.
- F. F. Mobley, G. H. Fountain, A. C. Sadilek, P. W. Worden, Jr. and R. A. Van Patten, "Electromagnetic Suspension for the Tip-H Satellite," IEEE Transactions on Magnetics, Vol. Mag-11, No. 6, November 1975.
- F. Graziani, J. V. Breakwell, R. A. Van Patten and C. W. F. Everitt, "Earth Tide Information from Two Counter-Orbiting Polar Satellites," International Astronautical Federation (I. A. F.), XXVIth Congress, Lisbon, 21-27 September 1975.
- R. Hacker, J. Mathiesen and D. B. DeBra, "Caging Mechanism for a Drag-Free Satellite," Guidance and Control Laboratory, Stanford University.

1976

- R. A. Van Patten and C. W. F. Everitt, "Relativity Mission with Two Counter-Orbiting Polar Satellites," Reprinted from "Astrodynamics 1975," Advances in the Astronautical Sciences, 1976, Vol. 33.
- D. Schaechter, J. V. Breakwell, R. A. Van Patten and C. W. F. Everitt, "A Covariance Analysis for Parameters Determined in the Relativity Mission with Two Counter-Orbiting Satellites," Stanford University, AIAA/AAS Astrodynamics Conference, San Diego, California, August 18-20, 1976.
- R. A. Van Patten and C. W. F. Everitt, "A Possible Experiment with Two Counter-Orbiting Drag-Free Satellites to Obtain a New Test of Einstein's General Theory of Relativity and Improved Measurements in Geodesy," Physical Review Letters, Vol. 36, No. 12, pp. 629-632, March 22, 1976.
- D. Schaechter, J. V. Breakwell, R. A. Van Patten and C. W. F. Everitt, "Collision Avoidance for Two Counter Orbiting Satellites," The Journal of Astronautical Sciences, Vol. XXIV, No. 2, pp. 137-146, April-June 1976.
- R. A. Van Patten and C. W. F. Everitt, "Relativity Mission With Two Counter Orbiting Polar Satellites, Astrodynamics," 1975, Vol. 33, Advances in the Astronautical Sciences, 1976 AAS75-041.
- C. W. F. Everitt, "Space Experiments on Gravitation and Relativity Based on Cryogenic Techniques and Drag-Free Satellites," Academia Nazionale Dei Lincei, Pavia, 17-20 Settembre 1976.

1977

- C. W. F. Everitt, "Scientific and Everyday Language in Physics, with Special Reference to the Theory of Heat," W. W. Hansen Experimental Laboratories of Physics, Stanford, University, Stanford, CA, 1977.
- B. W. Parkinson, P. Axelrad, "A Practical Algorithm for Autonomous Integrity Verification Using the Pseudo Range Residual," Jan. 1977.
- C. W. F. Everitt, "Gravitation, Relativity and Precise Experimentation," Proceedings of the First Marcel Grossmann Meeting General Relativity, North-Holland.
- C. W. F. Everitt, "General Relativity and Precision Experiments."
- D. Schaechter, J. V. Breakwell, R. A. Van Patten, and C. W. F. Everitt, "A Covariance Analysis for a Relativity Mission."
- J. A. Lipa, "Status of the Gyro Relativity Experiment."

J. T. Anderson, et al., R. Decher, et al., “A Short Account of the Gyro Relativity Program,” Research Investigators at Stanford, NASA Marshall Center and the University of Alabama Huntsville, August 1977.

1978

C. W.F. Everitt, D. B. DeBra, “Comments on the Drag-Free Control of a Solar Probe Relativity Mission,” W. W. Hansen Experimental Laboratories, Stanford University, Stanford, CA , 1978.

G. J. Siddall, L. Fellow, “High Precision Roundness Measurement,” Society of Manufacturing Engineers Technical Paper, 1978.

J. A. Lipa, C. W.F. Everitt, “The Role of Cryogenics in the Gyroscope Experiment,” Acta Astronautica, Vol. 5, pp. 119-123, 1978

P. W. Worden, Jr., “Equivalence Principle Tests in Earth Orbit,” Acta Astronautica, Vol. 5, pp.27-42, 1978.

B. Cabrera, “Application of SQUIDS to Measurements in Fundamental Physics,” Physics Department, Stanford, University.

B. Cabrera, Preprint, “Remanent Magnetization of Cryogenic Construction Materials.”

B. Cabrera, J. F. van Kann, “Ultra-Low Magnetic Field Apparatus for Continuing Development of a Cryogenic Gyroscope in an Experiment to Test General Relativity,” Physics Department, Stanford University.

J. T. Anderson and B. Cabrera, “Integration of SQUID 1/f Noise and Its Application to a Superconducting Gyroscope,” W. W. Hansen Laboratories of Physics, Stanford University.

C. W. F. Everitt, “Laser Inertial Rotation Sensors,” Proceedings of the Society of Photo-Optical Instrumentation Engineers, August 30-31, 1978.

D. Schaechter, J. Breakwell, R. A. Van Patten and C. W. F. Everitt. “Orbit Control for the Relativity Mission with Two Counter-Orbiting Drag-Free Satellites,” IFAC 7th Triennial World Congress, Helsinki, June 12-16, 1978.

C. W. F. Everitt, D. B. DeBra, “Comments on the Drag-Free Control of a Solar Probe Relativity Mission,” 1978.

R. A. Van Patten, J. V. Breakwell, D. Schaechter and C. W. F. Everitt, “Error-Analysis of a Relativity Test with Counter-Orbiting Satellites,” Acta Astronautica, Vol. 5, pp-77-86

J. V. Breakwell, C. W. F. Everitt, D. Schaechter and R. A. Van Patten, “Geodesy Information in a Modified Relativity Mission with Two Counter-Orbiting Polar Satellites,” Stanford University.

C. W. F. Everitt, “Measurement of Small Forces,” Nature, Vol. 272, No. 5655, pp. 737-738, April 20, 1978.

B. Cabrera and J. T. Anderson, “Signal Detection in 1/f Noise of SQUID Magnetometers,” Physics Department, Stanford University.

C. W. F. Everitt, “A Superconducting Gyroscope to Test Einstein’s General Theory of Relativity,” SPIE Proceedings Vol. 157, San Diego, California, August 1978.

1979

J. T. Anderson, C. W. F. Everitt, “Limits on the Measurement of Proper Motion and the Implications for the Relativity Gyroscope Experiment,” W. W. Hansen Experimental Laboratories, Stanford University, Stanford, CA, 1979.

J. T. Anderson, B. Cabrera, C. W. F. Everitt, B. C. Leslie and J. A. Lipa, “Progress on the Relativity Gyroscope Experiment Since 1976,” Proceedings of the Second Marcel Grossmann Meeting on General Relativity, July 5-11, 1979.

D. B. DeBra, "Control Technology Challenges for Gravitational Physics Experiments in Space," *Journal of Guidance and Control*, Vol. 2, No. 2, pp. 147-151, March-April 1979.

C. W. F. Everitt, "Experiments on Gravitation: Old and New."

J. A. Lipa, "Gravitation Experiments at Stanford," presented at the Einstein Centenary Summer School, Australia, January 1979.

G. J. Siddall, "Refractive Index and Density Relationships for Fused Quartz," May 1979.

C. W. F. Everitt, J. A. Lipa, G. J. Siddall, "Precision Engineering and Einstein: the Relativity Gyroscope Experiment," *Precision Engineering*.

C. W. F. Everitt, "Experimental Tests of General Relativity: Past, Present and Future," *Physics and Contemporary Needs*, Vol. 4, pp. 529-554, 1979.

J. T. Anderson, B. Cabrera, C. W. F. Everitt, B. C. Leslie, J. A. Lipa, "Progress on the Relativity Gyroscope Experiment Since 1976," *Proceedings of the Second Marcel Grossmann Meeting on General Relativity* ed. R. Ruffini, North-Holland, Amsterdam, 5-11 July, 1979.

1980

R. Vassar, J. V. Breakwell, C. W. F. Everitt and R. A. Van Patten, "Orbit Selection for the Stanford Relativity Gyroscope Experiment," *AIAA 80-167R Journal of Spacecraft and Rockets*, Vol. 19, No. 1, p. 66, 1980.

W. Angle, "Finishing High Precision Quartz Balls," *Precision Engineering*, 1980.

J. A. Lipa and G. J. Siddall, "High Precision Measurement of Gyro Rotor Spherocity," *Precision Engineering*

C. W. F. Everitt, "Experimental Tests of General Relativity: Past, Present and Future," *Physics and Contemporary Needs*, Vol. 4, pp. 529-554, 1980.

1981

B. Cabrera and G. J. Siddall, "Precision Area Measurements Determine Fundamental Physical Constants."

B. Cabrera, S. (Benjamin) Felch and J. T. Anderson, "High Resolution Magnetic Measurements on Rotating Superconductors to Determine h/me ," revised manuscript, September 1981.

B. C. Leslie, Hewlett Packard Company, Palo Alto, CA 94304, "On A. C. Losses in Thin Film Capacitors at Low Temperatures."

G.A. Karr, B. Hendricks and J. A. Lipa University of Alabama, Huntsville, AL, "Cryogenic Gas-Spin-up System for a Superconducting Gyroscope."

J. A. Lipa, B. C. Leslie and T. C. Wallstrom, "A Very High Resolution Thermometer for Use Below 7 K," *Physics Department, Stanford University*.

C. W. F. Everitt "The Springs of Maxwell's Scientific Creativity," *W. W. Hansen Laboratories of Physics, Stanford University*, 1981.

C. W. F. Everitt, "A Survey of Experimental Gravitation," *W. W. Hansen Experimental Laboratories of Physics, Stanford University*, 1981.

C. W. F. Everitt, "Maxwell's Scientific Creativity," 1981.

C. W. F. Everitt James Clerk Maxwell (1831-1879).

B. Cabrera, S. Benjamin and J. T. Anderson, "Determination of h/me in Rotating Superconducting Rings," *Physica 107B*, pp. 19-20, 1981.

C. W. F. Everitt and D. B. DeBra and Richard Van Patten, "Engineering Aspects of the Stanford Relativity Gyro Experiment," American Astronautical Society, January 1981.

B. Cabrera and G. J. Siddal, "Precision Area Measurements Determine Fundamental Physical Constants."

1982

P. W. Worden, Jr. and C. W. F. Everitt, "Resource Letter G1-1: Gravity and Inertia," Resource Letter G1-1, American Association of Physics Teachers, pp. 494-500, June 1982.

P. W. Worden, Jr., C. W. F. Everitt, "Gravity and Inertia," Resource Letter G1-1, American Association of Physics Teachers, pp. 494-500, June 1982.

R. Vassar, J. V. Breakwell, C. W. F. Everitt, R. A. Van Patten, "Orbit Selection for the Stanford Relativity Gyroscope Experiment," Vol. 19, No. 1, p. 66, Journal of Spacecraft and Rockets, AIAA 80-1671R, January-February, 1982.

P. W. Worden, "Measurement of Small Forces with Superconducting Magnetic Bearings," Precision Engineering 0141-6359/82030139.

T. Duhamel, "Study on the Effect of Interruptions in Data in the Stanford Relativity Gyroscope Experiment."

B. Cabrera, "From Flux Quantization to Magnetic Monopoles." To be published in the Proceedings of the Third Workshop on Grand Unification, April 15-17, 1982.

D. B. DeBra and C. W. F. Everitt, "Gravity Probe B: New Control System Technology in Space."

R. A. Van Patten, "Flight Suspension for the Relativity Gyro," presented at the Third Marcel Grossmann Meeting, Shanghai, China, September 1982.

1983

J. T. Anderson, "A Proposed Measurement of the Deflection of Starlight by the Sun Using Hipparcos," 1983.

J. A. Lipa, J. Bourg, "Application of Contour Mapping Techniques to the Measurement of High Precision Spheres," Precision Engineering, 1983.

V. L. Pisacane and D. B. DeBra, "Satellite Technology Developments in Gravity Research," 34th Congress of the International Astronautical Federation, Budapest, Hungary, October 10-15, 1983

J. A. Lipa and T. C. P. Chui, "Very High-Resolution Heat-Capacity Measurements near the Lambda Point of Helium," The American Physical Society, 1983.

P. W. Worden, Jr., "Cryogenic Equivalence Principle Experiment," Proceedings of the Third Marcel Grossmann Meeting, 1983.

G. M. Keiser and B. Cabrera, "Trapped Flux Readout for an Electrostatically Supported Superconducting Gyroscope."

J. A. Lipa, "An Unconventional Gyroscope for Testing Einstein's General Theory of Relativity."

R. A. Van Patten, "Flight Suspension for the Relativity Gyro," Department of Aeronautics and Astronautics, Stanford University, 1983.

A. Fisher, "Testing Einstein (again) with a Relativity Satellite," 1983.

1983

C. W. F. Everitt, "Low Temperature Techniques in Gravitational Experiments, PMGE Proceedings, pp.637-644, January 24-February 2, 1983.

1984

C. M. Marcus, "Effect of Low-frequency Ambient Magnetic Fields on the Control Unit and rf Head of a Commercial SQUID Magnetometer," Rev. Sci. Instrum. 55 (9) September 1984.

C. W. F. Everitt, "James Clerk Maxwell," (Ivan Tolstoy), Book Reviews, 1984.

1985

G. M. Keiser, "Suspension Torques on a Gimballed Electrostatically Supported Gyroscope and Requirements on the Gyroscopes and Spacecraft for the Relativity Gyroscope Experiment," February 1985.

C. W. F. Everitt and I. Hacking, "Theory or Experiment, Which Comes First?"

C. W. F. Everitt, "An Informal Critique of the Experiments of Dicke and Braginsky on the Equivalence of Gravitational and Inertial Mass."

H. P. Godfried, E. R. Eliel, J. G. Brisson, J. D. Gillaspay, C. Mallardeau, J. C. Mester, Isaac F. Silvera, "Interaction of Atomic Hydrogen with Undersaturated Helium Films," Phys. Rev. Ltrs. Vol. 55, No. 12, September 16, 1985.

1986

C. W.F. Everitt, "Second Order Terms in the Relativity Gyroscope Experiment," 1986.

D. Bardas, et al., "Hardware Development for Gravity Probe B," Society of Photo-Optical Instrumentation Engineers, 1986.

C. W. F. Everitt, "Gravity Microgravity, and the Approach to Picogravity," Opportunities for Academic Research in a Low Gravity Environment," Vol. 108, of Progress in Astronautics and Aeronautics, AIAA, 1986.

C. W. F. Everitt, D. E. Davidson, R. A. Van Patten, "Cryogenic Star-Tracking Telescope for Gravity Probe-B," SPIE Proceedings, Vol. 619, Los Angeles, California, 23-24 January 1986.

R. A. Van Patten, R. DiEsposi, J. V. Breakwell, "Ultra High Resolution Science Data Extraction for the Gravity Probe-B Gyro and Telescope," SPIE Proceedings, Vol. 619, Los Angeles, California, 23-24 January, 1986.

G. M. Keiser, "Support Dependent Torques in the Relativity Gyroscope Experiment," in: Proceedings of the Fourth Marcel Grossmann Meeting on General Relativity, ed. R. Ruffini, North-Holland, Amsterdam, pp. 465-475, Elsevier Science Publishers 1986.

C. W. F. Everitt, "Experimental Tests of the Equivalence Principle, Possible Anomalies of the Eötvös Experiment, Possible Future Experiments," 1986.

J. P. Turneure, C. W. F. Everitt, B. W. Parkinson, "The Gravity-Probe-B Relativity Gyroscope Experiment: Approach to a Flight Mission," Proceedings of the Fourth Meeting on General Relativity, ed. R. Ruffini, North-Holland, Amsterdam, pp. 411-464. Elsevier Science Publishers 1986.

Staff of Gravity Probe B at Stanford University, "Papers on the Stanford Relativity Gyroscope Experiment (NASA Gravity Probe B)," SPIE Proceedings, Vol. 619, January 23-24, 1986.

1987

A. Giersson, D. B. DeBra, "Kinematic Support Using Elastic Elements," 1987.

J. W. Moffat, "Nonsymmetric Gravitation Theory," Talk given at the International Symposium on Experimental Gravitational Physics, Guangzhou, P. R. China, August 3-8, 1987.

M. P. Morgenthaler, B. W. Parkinson, C. Trimble, "Commercial Applications of Navstar/GPS," Aerospace Century XXI, Vol. 64, Advances in the Astronautical Sciences, AAS 86-345, 1987.

B. W. Parkinson, C. W. F. Everitt, D. DeBra, "The Stanford Relativity Gyro Experiment," Guidance and Control 1987, Vol. 63, Advances in the Astronautical Sciences, AAS 87-011, 1987.

B. W. Parkinson, C. W. F. Everitt, J. P. Turneure, "The Prototype Design of the Stanford Relativity Gyro Experiment," International Astronautical Federation, Brighton, United Kingdom, October 10-17, 1987.

B. W. Parkinson, C. W. F. Everitt, J. P. Turneure, "The Gravity Probe B Relativity Gyroscope Experiment: An Update on Progress," Aerospace Century XXI, Vol. 64, Advances in Astronautical Sciences, AAS 86-319, San Diego, California, 1987.

J. W. Moffat, "Infinite-Component Fields as a Basis for a Finite Quantum Field Theory," October, 1987.

W. S. Cheung, D. Bardas, S. Feteih, S. Fottrell, R. Hoffman, R. Hacker, G. M. Keiser, T. Lydic, D. Y. Pan, J. P. Turneure, R. A. Van Patten, P. Zhou, D. E. Davidson (Optical Instrument Design) Conference on Experimental Gravitational Physics in Guangzhou, China, August 3-8, 1987.

1988

P. Zhou, S. Cheung, T. Lydic, J. P. Turneure, "Development of Sputter Coatings for the Gravity Probe B Gyroscope Housings," Proceedings of the 15th International Conference on Metallurgical Coatings, San Diego, Elsevier Sequoia, April 11-15, 1988.

B. W. Parkinson, N. J. Kasdin, "Twenty Milliarsec Pointing System for the Rolling GP-B Spacecraft," Aerospace Century XXI, Vol. 66, Advances in the Astronautical Sciences, AAS88-005, 1988.

D. Gill, P. Peters, C. Sisk, "Requirements and an Approach for Coating the Gravity Probe B Gyroscope Rotor," Proceedings of the 15th International Conference on Metallurgical Coatings, San Diego, April 11-15, Elsevier Sequoia, 1988.

J. P. Turneure, et al., "The Gravity Probe B Relativity Gyroscope Experiment: Development of the Prototype Flight Instrument," Proceedings from the XXVII Cospar Symposium on Relativistic Gravitation, Espoo, Finland, July 18-29, 1988.

Y. Miki, B. Muhlfelder, J. M. Lockhart, "Low Frequency Noise in Flux-Locked DC SQUIDS," 1988.

Isaac F. Silvera, H. P. Godfried, E. R. Eliel, J. G. Brisson, J. D. Gillaspay, J. C. Mester, C. Mallardeau, "Magnetic-field dependence of resonance recombination in spin-polarized atomic hydrogen," Phys. Review B., Vol. 37, No. 4, February 1, 1988.

S. Feteih, G. M. Keiser, J. V. Breakwell, "Mass Unbalance Analysis for GP_B Rotors." 1988

1989

M. P. Reisenberger, et al., "A Possible Rescue of General Relativity in Di Herculis," Astronomical Journal 97, pp. 216-221, 1989.

- P. Axelrad, B. W. Parkinson, "Closed Loop Navigation and Guidance for Gravity Probe B Orbit Insertion," *Journal of The Institute of Navigation*, Vol. 36, No. 1, Spring 1989.
- M. B. Tapley, J. V. Breakwell, C. W. F. Everitt, "Contribution of the Gravity Probe B Mission to Geodesy and to Satellite Navigation," IAG Conference in Edinburgh, August 1989.
- X. Qin, J. V. Breakwell, B. W. Parkinson, "Science Mission Data Reduction for the Stanford Relativity Gyro Experiment," AAS/AAIAA Astrodynamics Specialist Conference, Stowe, Vermont, August 7-10, 1989.
- S. Feteih, G. M. Keiser, J. V. Breakwell, Y. Xiao, "Results of Dynamic Testing of GP-B Spherical Gyroscopes," American Institute of Aeronautics and Astronautics, Inc. 1989
- D. Bardas, M. A. Taber, et al., "The Gravity Probe B Relativity Gyroscope Experiment: Preparations for the First Integrated Systems Test," Stanford University, January 1989.
- B. W. Parkinson, P. Axelrad, "Closed Loop Orbit Trim Using GPS," 40th International Astronautical Congress Symposium on Astrodynamics, Malaga, Spain, October 1989.
- P. Wiktor, J-H. Chen, D. B. DeBra, "Optimal Thruster Configurations for the GP-B Spacecraft," Xth IFAC Symposium on Automatic Control in Aerospace, Tsukuba, Japan, July 17-21, 1989.
- C. W. F. Everitt, et al., "Gravity Probe B as a Geodesy Mission and Its Implications for TOPEX, April 1989.
- G. B. Green, P. Axelrad, "Space Applications of GPS," Institute of Navigation National Technical Meeting, San Mateo, CA, January 1989.
- G. B. Green, C. W. F. Everitt, B. W. Parkinson and the Stanford University Gyroscope Team "The Flight Test Program of the 10^{-11} Degree/Hour Gyroscope," Fourteenth Biennial Guidance Test Symposium, Department of the Air Force, Headquarters 6585th Test Group (AFSC), Holloman Air Force Base, New Mexico, October, 1989.

1990

- C. W. F. Everitt, et al., "The Merits of Space and Cryogenic Operation in the Gravity Probe B Relativity Gyroscope Mission," The First William Fairbank Meeting, Rome, Italy, 1990.
- B. W. Parkinson, J. R. Crier, "Phase-Lock Roll Control for Inertially-Pointing Spacecraft by Correlations of Star Intensity Profiles with a Stored Reference," 13th Annual AAS Guidance and Control Conference, Keystone, Colorado, February 3-7, 1990.
- S. Buchman, Y. M. Xiao, L. Pollak, D. Kleppner, T. J. Greytak, "The Recombination of Atomic Hydrogen Below 1K," *Physica B*, Proceedings of the 19th International Conference on Low Temperature Physics LT-19 ed. David S. Betts, Brighton, Sussex, p. 745 August 1990.
- H. T. Chou, "A Robust Filter Configuration for DGPS Users," ION GPS-90, (ION Satellite Division 3rd International Technical Meeting), Colorado Springs, Colorado, September 1990.
- H. T. Chou, "An Anti-SA Filter for Non-differential GPS Users," ION GPS-90, (ION Satellite Division 3rd International Technical Meeting), Colorado Springs, Colorado, September 1990.
- B. W. Parkinson, P. Axelrad, "Techniques for Autonomous GPS Integrity Monitoring," AGARDograph No. 314, Advisory Group for Aerospace Research & Development, NATO Loughton, Essex, June 1990.
- C. Kee, B. W. Parkinson, P. Axelrad, "Wide Area Differential GPS", ION GPS-90 (ION Satellite Division 3rd International Technical Meeting), Colorado Springs, Colorado, September 1990.
- T. Walter, J. P. Turneure, S. Buchman, C. W. F. Everitt, G. M. Keiser, "An Ultra High Vacuum Low Temperature Gyroscope Clock," *Physica B*, Proceedings of the 19th International Conference on Low Temperature Physics LT-19, ed. David S. Betts, Brighton, Sussex, P. 155 August 1990.

B. W. Parkinson, N. J. Kasdin "A Magnetic Attitude Control System for Precision Pointing of the Rolling GP-B Spacecraft," *Acta Astronautica*, Vol. 21, No. 6/7, pp. 477-486, January 23, 1990, Great Britain, Pergamon Press.

C. E. Cohen, G. M. Keiser, B. W. Parkinson, "Tracking Gravity Probe B Gyroscope Polhode Motion," AIAA Guidance, Navigation and Control Conference, Portland, Oregon, August 20-22, 1990.

J. M. Lockhart, R. L. Fagaly, L. W. Lombardo, B. Muhlfelder, "Magnetic Susceptibility of Instrument Materials Below 10K, *Physica B*. 165 & 166 (1990) 147-148.

P. Axelrad, R. H. Vassar, B. W. Parkinson, "GP-B Orbit Modeling and Injection Requirements," AAS91-164, Winter of 1990.

M. Taber, et al., "Results from the First Integrated System Tests of the Gravity Probe B Experiment." The First William Fairbank Meeting, sponsored by ASI, ESA, ISSA, NASA, Rome, Italy, September 10-14, 1990.

D. Kalligas, "Do Cosmic Strings Violate the Equivalence Principle?" Proceedings from The First William Fairbank Meeting on Relativistic Gravitational Experiments in Space held at the University of Rome, Advanced Series in Astrophysics, and Cosmology, Vol. 7. September 10-14, 1990.

1991

C. E. Cohen, B. W. Parkinson, "Expanding the Performance Envelope of GPS-Based Attitude Determination," ION GPS, Albuquerque, N. M. September 9-13, 1991.

G. B. Green, et al., "Calibration and Test of the World's Most Accurate Gyroscope," The ION National Technical Meeting, Phoenix, Arizona, January, 1991.

M. Tapley, et al., "Gradiometry Coexperiments to the Gravity Probe B and STEP Missions," *Adv. Space Res.* Vol. II, No. 6, pp. (6) 182-1991.

G. M. Gutt, et al., "An Ultralow Noise Amplifier for Superconductive Detectors," Third International Superconductive Electronics Conference, University of Strathclyde, Glasgow, Scotland June 25-27, 1991.

J. P. Turneure, J. Halbritter, H. A. Schwettman, "The Surface Impedance of Superconductors and Normal Conductors: The Mattis-Bardeen Theory," *Journal of Superconductivity*, Vol. 4, No. 5, 1991.

C. E. Cohen, B. W. Parkinson, "Mitigating Multipath Error in GPS Based Attitude Determination." Reprinted from *Guidance and Control* 1991, Vol. 74, *Advances in Astronautical Sciences*.

C. W. F. Everitt, "Gravity Probe B: I. The Scientific Implications," Proceedings of the Sixth Marcel Grossmann Meeting on Relativity, Kyoto, Japan, eds. H. Sato and T. Nakamura, World Scientific, pp. 1632-1644, 1991*

D. Bardas, et al., "Gravity Probe: II Hardware Development; Progress Towards the Flight Instrument," presented at the Sixth Marcel Grossmann Meeting on Relativity, Kyoto, Japan, June 23-29, 1991.*

Y. M. Xiao, et al., "Gravity Probe B: III. The Precision Gyroscope," Proceedings of the Sixth Marcel Grossmann Meeting on General Relativity, Kyoto, Japan, eds. H. Sato and T. Nakamura, World Scientific, pp. 394-398, 1991*

Y. M. Xiao, G. M. Keiser, "Observations of Flux Motion in Niobium Films," *IEE Transactions on Magnetics*, Vol. 27, No. 2, March, 1991.

C. Kee, B. W. Parkinson, P. Axelrad, "Wide Area Differential GPS," *NAVIGATION, Journal of The Institute of Navigation*, Vol. 38, No. 2, Summer 1991.

* Three Papers on Gravity Probe B presented at the Sixth Marcel Grossmann Meeting, in Kyoto, Japan, 1991 are bound together.

G. M. Gutt, J. S. Kim, M. R. Condrón II, J. M. Lockhart, B. Muhlfelder, "An Ultralow Noise Amplifier for Superconductive Detectors," *Supercond. Sci. Technol.* Vol. 4, 1991.

Y. M. Xiao, "Effects of Trapped Magnetic Flux on the GP-B Experiment, unpublished, July, 1991.

John G. Brisson, John C. Mester, Isaac F. Silvera, "Third sound of helium on a hydrogen substrate," *Phys. Rev. B*, Vol. 44, No. 22, December 1, 1991-II.

1992

E. T. Will, "Screening programme to select a resin for Gravity Probe B composites." *Cryogenics* 1991, Vol. 32, No.2.

C. E. Cohen, G. M. Keiser, B. W. Parkinson, "Estimation of Gyroscope Polhode Motion Using Trapped Magnetic Flux." Reprinted from *Journal of Guidance, Control and Dynamics*, Vol. 15, Number 1, pp.152-158, January-February 1992.

Y. M. Xiao, S. Buchman, L. Pollack, K. Kleppner, T. J. Greytak, "Observation of Nonstatistical Ortho-para Ration Hydrogen Recombination at Low Temperatures, *J.Chem. Phys.* Vol. 96, March 1992.

D. Kalligas, P. Wesson, C. W. F. Everitt, "Flat FRW Models with Variable G and L General Relativity and Gravitation," Vol. 24, No. 4, 1992.

Y. M. Xiao, W. Felson, C.H. Wu, G. M. Keiser, J. P. Turneure, "Observation of the London Moment and Trapped Flux in Precision Gyroscopes," *Proceedings of the Applied Superconductivity Conference, Chicago, Ill, August 24-28, 1992.*

Y. Jafry, J. Vanden Beukel, "Ultralow Density Plume Measurements Using a Helium Mass Spectrometer," *J. Vac. Sci, Technol. A*, Vol. 10, No. 4 July/August 1992.

P. Zhou, S. Buchman, K. Davis, C. Gray, J. P. Turneure, "Multilayer Ti-Cu Sputter Films for the Gravity Probe B Gyroscope Housings," *Surface and Coatings Technology*, 54/55) 548-551 1992.

C. H. Wu, "Modeling and Simulation of the AC Suspension System by Linear and Nonlinear Analysis, December 3, 1992, (unpublished)

M. R. Condrón II, et al., "Noise Measurements on DC-SQUIDS with Varied Design," H. Koch and H. Lübbig, Springer-Verlag, Berlin, pp. 312-6, 1992.

J. A. Lipa, D. H. Gwo, R. K. Kirschman, "Status of the Cryogenic Inertial Reference System for the Gravity Probe B Mission," *Proceedings July 23-24, 1992, San Diego, CA, SPIE Vol. 1765 Cryogenic Optiala Systems and Instruments V/85 (1992).*

R. K. Kirschmann, S. V. Lemoff, J. A. Lipa, "Evaluation of GaAs FETs for Cryogenic Readout," *Proceedings from Conference on Infrared Readout Electronics, Orlando, Florida, SPIE Vol. 1684, April 21-22, 1992.*

C. E. Cohen, B. W. Parkinson, "Integer Ambiguity Resolution of the GPS Carrier for Spacecraft Attitude Determination, 15th Annual AAS Guidance and Control Conference, Keystone, Colorado, February 8-12, 1992.

C. Kee, B. W. Parkinson, "Algorithims and Implementation of Wide Area Differential GPS", *Proceedings of IONGPS-92*, pp. 565-572, Albuquerque, September 1992.

N. J. Kasdin "Discrete Frequency Disturbance Rejection in Multivariable Digital Controllers with Application to Gravity Probe B," presented at The 12th IFAC Symposium on Automatic Control in Aerospace, Ottobrunn, Germany, September 7-11, 1992.

G. M. Gutt, N. J. Kasdin, M. R. Condrón II, B. Muhlfelder, J. M. Lockhart, M. W. Cromar, "A Method for Simulating a Flux-Locked dc SQUID," Paper EBC-2, 1992, Applied Superconductivity Conference, Chicago, IL, August 23-28, 1992. Being considered for the *IEEE Transactions on Applied Superconductivity.*

N. J. Kasdin, T. Walter, "Discrete Simulation of Power Law Noise," Proceedings of the 1992 IEEE Frequency Control Symposium, Hersey, PA, May 27-29, 1992.

John C. Mester, Eric S. Meyer, Tito E. Huber, Meritt W. Reynolds, Isaac F. Silvera, Department of Physics, Lyman Laboratory, Harvard University, Cambridge MA 02138, "Measurements of Giant Cross Sections in Low Temperature ^4He - ^4He Scattering", Journal of Low Temperature Physics, Vol. 89, Nos. 314, 1992.

1993

H. Teague, B. W. Parkinson, "Translation, Rotation, and Vibration Control of Large Space Structures Using Self-Differential GPS (SDGPS)," Proceedings of the AAS Guidance & Control Conference, February 6-10, 1993.

S. Buchman, T. Quinn, G. M. Keiser, D. Gill, "Gravity Probe B Gyroscope Charge Control Using Field Emission Cathodes," J. Vac.Sci. Technol. B11 (2) March/April 1993.

M. B. Tapley, C. W. F. Everitt, "Co-Co-Experiments in Gravitational Physics with GP-B and STEP," Adv. Space Res. Vol. 13, No. 7, pp. (7) 77-(7) 80, printed in Great Britain.

H. Uematsu, B. W. Parkinson, J. M. Lockhart, B. Muhlfelder, "The Gravity Probe B 'Niobium Bird' Experiment Verifying the Data Reduction Scheme for Estimating the Relativistic Precession of Earth-Orbiting Gyroscopes," Spaceflight Mechanics, Vol. 82, Advances in the Astronautical Sciences, 1993.

P. Wiktor, "Temperature Control of a Liquid Helium Propulsion System" Journal of Propulsion and Power, Vol. 9, Number 4, pp. 536-544, July-August 1993.

M. A. Taber, D. O. Murray, J. M. Lockhart, D. J. Frank, D. Donegan, "Production of Ultralow Magnetic Fields for Gravity Probe B (GP-B) , Ad. Cryo. Eng., 39A 161, 1993.

J. Zhu, J. Mester, J. Lockhart, J. P. Turneaure, "Critical States in 2D Disk-shaped Type-II Superconductors in Periodic External Magnetic Field, Physica C212 216-222, (1993).

S. Buchman, B. Muhlfelder, J. Lockhart, "Testing Einstein with Superconductors," Superconductor Industry, pp.12-17, Winter 1993.

C. E. Cohen, B. D. McNally, B. W. Parkinson, "Flight Tests of Attitude Determination Using GPS Compared Against an Inertial Navigation Unit," ION National Technical Meeting, San Francisco, California, January, 1993.

R. K. Kirschman, J. A. Lipa, "Further Evaluation of GaAsFETs for Cryogenic Readout," Proceedings from Conference on Infrared Detectors and Instrumentation SPIE Vol. 1946, pp. 350-364, April 12-16, 1993.

C. Kee, B. W. Parkinson, "High Accuracy GPS Positioning in the Continent: Wide Area Differential GPS," presented at the DSNS 93 Conference March 30, 1993.

C. E. Cohen, B. Pervan, H. S. Cobb, D. Lawrence, J. D. Powell, B. W. Parkinson, "Real-Time Cycle Ambiguity Resolution Using a Pseudolite for Precision Landing of Aircraft with GPS," Amsterdam, The Netherlands, March-April, 1993.

E. G. Lightsey, C. E. Cohen, B. W. Parkinson, "Applications of GPS Attitude Determination to Gravity Gradient Stabilized Spacecraft," AIAA, Monterey, CA, August 1993.

C. E. Cohen, E. G. Lightsey, B. W. Parkinson, "Space Flight Tests of Attitude Determination Using GPS: Preliminary Results," ION GPS-93 (The Institute of Navigation), Salt Lake City, Vol. I, pp. 625-632, September, 22-24, 1993.

Y. Chao, B. W. Parkinson, "The Statistics of Selective Availability and its Effect on Differential GPS," ION-GPS93 (The Institute of Navigation) Salt Lake City, September 22-24, 1993.

C. Kee, B. W. Parkinson, "Static Test Results of Wide Area Differential GPS," Proceedings of ION GPS-93, Salt Lake City, Utah, pp. 1233-1243, September 1993.

J. Ceva, B. W. Parkinson, "Multiple Interference in Orbiting Receivers Due to Earth Surface Reflections," presented at ION GPS-93, Salt Lake City, Utah, September 1993.

J. C. Mester, Eric S. Meyer, Meritt W. Reynolds, Tito E. Huber, Zuyu Zhao, Barry Freedman, Jinha Kim, and Isaac F. Silvera, Lynman Laboratory of Physics, Harvard University, Cambridge, MA, "Cold Collisions of Ground State ^4He : Giant S-Wave Scattering Cross Sections", Physical Review Letters, Vol. 71, No. 9 August 30, 1993.

Eric S. Meyer, John C. Mester, Isaac F. Silvera, "Comment on "The weakest bond: Experimental observation of helium dimer," (J. Chem. Phys. 98, 3564 (1993).

Eric S. Meyer, John C. Mester, Isaac F. Silvera, "Novel Technique for Producing Ultracold ^4He Beams," Ohys. Rev. Ltrs. Vol. 70, No. 7, February 15, 1993.

1994

Y. Xiao, S. Buchman, G. M. Keiser, B. Muhlfelder, J. P. Turneaure, C. H. Wu, "Magnetic Flux Distribution on a Spherical Superconducting Shell," Physica B, Physica B 194-196 65-66, North-Holland, (1994).

R. W. Brumley, S. Buchman, Y. M. Xiao, "Trapped Flux Reduction in a Spherical Niobium Shell at 1 mG," Physica B 194-196, 1793-1794, 1994.

T. Walter, B. Pervan and P. Enge, "Autonomous Integrity Monitoring and Wide Area DGPS," presented at ION National Technical Meeting, San Diego, California, January 1994.

H. S. Cobb, C. E. Cohen, B. W. Parkinson, "Theory and Designs of Pseudolites," ION 1994 National Technical Meeting, The Institute of Navigation, San Diego, California, pp. 69-75, January 24-26, 1994.

C. E. Cohen, B. Pervan, H. S. Cobb, D. Lawrence, J. D. Powell, and B. W. Parkinson, "Achieving Required Navigation Performance Using GNSS for Category III Precision Landing," DSNS-94, London, United Kingdom, April 18-22, 1994.

C. Kee and B. W. Parkinson, "Wide Area Differential GPS as a Future Navigation System in the U.S.," PLANS 1994, Conference, April 13, 1994.

B. S. Pervan, C. E. Cohen and B. W. Parkinson, "Autonomous Integrity Monitoring for Precision Approach using DGPS and a Ground-Based Pseudolite," NAVIGATION, Journal of the Institute of Navigation, Vol. 41, No. 2, Summer 1994.

B. S. Pervan, C. E. Cohen and B. W. Parkinson, "Integrity in Cycle Ambiguity Resolution for GPS-Based Precision Landing," DSNS-94, London, England, April 1994.

S. P. Pullen, B. S. Pervan and B. W. Parkinson, "A New Approach to GPS Integrity Monitoring Using Prior Probability Models and Optimal Threshold Search," presented at PLANS conference, Las Vegas, Nevada, April 1994.

C. E. Cohen, B. S. Pervan, D. G. Lawrence, H. S. Cobb, J. D. Powell, B. W. Parkinson, "Real-Time Flight Testing Using Integrity Beacons for GPS Category III Precision Landing," NAVIGATION: Journal of the Institute of Navigation, Vol. 41, No. 2, Summer 1994.

H. Uematsu, B. W. Parkinson, "Antenna Baseline and Line Bias Estimation Using Pseudolites for GPS Based Attitude Determination," submitted and presented at ION-GPS-94, Salt Lake City, Utah, September 22, 1994.

C. Kee, B. W. Parkinson, "Calibration of Multipath Errors on GPS Pseudorange Measurements," ION GPS-94, Salt Lake City, Utah, September 1994.

T. Walter, et al., "Flight Trials of the Wide-Area Augmentation System (WAAS)," ION GPS-94, Salt Lake City, Utah, September 1994.

E. G. Lightsey, C. E. Cohen, B. W. Parkinson, "Development of a GPS Receiver for Reliable Real-Time Attitude Determination in Space," presented at the ION GPS-94, Salt Lake City, Utah, September 23, 1994.

J. M. De Freitas, M. A. Player, "Optical Homogeneity of Gyroscope Blanks for the Gravity Probe B Experiment," presented at the Applied Optics and Opto-electronic Conference, University of York, UK, September 5-8, 1994.

Peter J. Wiktor, "Minimum Control Authority Plot: A Tool for Designing Thruster Systems," *Journal of Guidance, Control, and Dynamics*, Vol. 17, No. 5 September-October 1994.

C. R. Lages and Rodney H. Torii, "Network Model of Cryogenic Phase Separators," *Cryogenics*, Vol. 34, ICEC Supplement, 1994.

H. P. Jin, P. Wiktor D. B. DeBra, "An Optimal Thruster Configuration Design and Evaluation for Quick STEP," Reprints, 13th IEAC Symposium, Automatic Control in Aerospace-Aerospace Control, 1994.

C. E. Cohen, D. G. Lawrence, B. S. Pervan, H. S. Cobb, A. K. Barrows, J. D. Powell, B. W. Parkinson, "Flight Test Results of Autocoupled Approaches Using GPS and Integrity Beacons," presented at ION GPS-94, Salt Lake City, UT, September 20-23, 1994.

J. C. Mester, C. W. F. Everitt, B. W. Parkinson, J. P. Turneure, "Gravity Probe B: Status and Flight Plans," *Proceedings of the Symposium on the Early Universe*, Madras, India (Dec. 1994).

John Mester, Eric Meyer, Tito Huber, Meritt Reynolds, Isaac Silvera, Dept. of Physics, Harvard University, "Low Temperature Scattering of Helium and Hydrogen," *Physica B* 194-196 (1994) 887-888.

Eric S. Meyer, John C. Mester, Meritt W. Reynolds, Tito E. Huber, Zuyu Zhao, Barry Freedman, Jinha Kim, Isaac F. Silvera, "Observation of Giant Scattering Cross Sections in ^4He ," *Physica B*. 194-196 885-886, 1994.

Eric S. Meyer, Zuyu Zhao, John C. Mester, Isaac F. Silvera, "Nonlocal distribution of the recombination energy in spin-polarized atomic hydrogen," *Phys. Rev. B*, Vol. 50, No. 13, October 1, 1994-I

Zuyu Zhao, Eric S. Meyer, Barry Freedman, Jinha Kim, John C. Mester, Isaac F. Silvera, "Surface Recombination in Spin-Polarized Hydrogen: Where Does the Heat Go?" *Physica B* 194-196 (1994) 917-918.

1995

H. Dougherty, D. Hegel, J. Kierschenbaum, J. Vanden Buekel, W. Reeve, N. J. Kasdin, "Relativity Mission Spacecraft Control Systems," *Control Eng. Practice*, Vol. 3 No. 8. pp.1119-1123, 1995

S. Buchman, T. Quinn, G. M. Keiser, D. Gill and T. J. Sumner, "Charge Measurement and Control for the Gravity Probe Gyroscopes," *Rev. Sci Instruments*, Vol. 66, No. 1 Part 1, January 1995.

Y-C. Chao, C. Kee, Y-J. Tsai, P. Enge, T. Walter, B. W. Parkinson, "The Ionospheric Model Improvement for the Stanford WASS Network," Department of Aeronautics and Astronautics, Stanford University, Stanford, CA, January 20, 1995.

G. T. Haupt, G. Gutt, J. M. Lockhart, N. J. Kasdin, G. M. Keiser, B. W. Parkinson, "The Stanford Relativity Mission, "Niobium Bird." Verification of the Science Mission by Experimental Application of a New Nonlinear Estimation Algorithm," 18th Annual AAS Guidance and Control Conference, Keystone, Colorado, February 1-5, 1995.

N. J. Kasdin, "A Runge-Kutta Algorithm for the Numerical Integration of Stochastic Differential Equations," *The Journal of Guidance, Control, and Dynamics*, Vol. 18, Number 1, pp. 114-120, January-February 1995.

N. J. Kasdin, "Discrete Simulation of Colored Noise and Stochastic Processes and $1/f_x$ Power Law Noise Generation," The Proceedings of the IEEE, Vol 83, No. 5 May 1995.

J. Zhu, J. Lockhart, J. P. Turneaure, "Field-dependent Critical Currents in Thin Nb Superconducting Disks," Physica C, Vol. 241, pp. 17-24, 1995.

D. Kalligas, P. S. Wesson, C. W. F. Everitt "The Classical Tests in Kaluza-Klein Gravity," The Astrophysical Journal, Vol. 439, No. 2, Part 1, February 1, 1995.

V. B. Johri, D. Kalligas, G. P. Singh, C. W. F. Everitt, "Gravitational Energy in the Expanding Universe," General Relativity and Gravitation, Vol. 27, No. 3, pp. 313-318, 1995.

S. Buchman, J. P. Turneaure, J. A. Lipa, "Prospects for an Improved Superconducting Cavity Stabilized Oscillator Clock," presented at the Dark Matter in Cosmology, Clocks and Tests of Fundamental Laws Conference, Cedex, France.

S. Buchman, et al., "A Low Temperature Gyroscope Clock for Gravitational Redshift Experiment."

P. Zhou et al., "Multilayer Films of TiC, Ti and Cu for the Gravity Probe B Relativity Mission Gyroscopes," presented at ICMCTF-95, San Diego, California, April 24-28, 1995, Surface & Coatings Technology 76-77 516-520 (1995).

E. H. Teague, J. P. How, L. G. Lawson, B. W. Parkinson, "GPS as a Structural Deformation Sensor," Proceedings of the AIAA Guidance Navigation and Control Conference, Baltimore, August 1995.

C. R. Lages, R. H. Torii and D. B. DeBra, "Evaporation of Superfluid Helium in a Capillary," Cryogenics Vol. 35, No. 1, 1995.

B. W. Parkinson, T. Stansell, R. Bard, K. Gromov, "A History of Satellite Navigation," Navigation Journal of the Institute of Navigation, Vol. 42, No. 1, Special Issue, March 1995.

D. Kalligas, P. S. Wesson, C. W. F. Everitt, "Bianchi Type I Cosmological Models with Variable G and Δ Comment," Reprinted from General Relativity and Gravitation, Vol. 27, No. 6, 1995.

A. S. Silbergleit, "Nonlinear Motions Against the Newtonian Uniform Expansion Background: The Case of the Unperturbed Density," J. Math. Phys. 36 (2), 847 – 862.

[L. A. Bakaleinikov, A. Silbergleit, "On the Applicability of the Approximate Poincaré Mapping to the Analysis of Dynamics Induced by ODE Systems I. Proximity of Mappings," Physica D 83 \(1995\) 326-341.](#)

L. A. Bakaleinikov, A. S. Silbergleit, "On the Applicability of the Approximate Poincaré Mapping to the Analysis of Dynamics Induced by ODE Systems II. Proximity of Coordinate Partial Derivatives of Poincaré Mappings," Physica D 83 (1995) 342-354.

[A.S.Silbergleit, N.N. Lebedev, "Expansion of an Arbitrary Function in an Integral Involving Confluent Hypergeometric Functions", Differential Equations \(Differentsial'nye Uravneniya, in Russian\), 31 \(3\), 534 – 537.](#)

J. M. DeFreitas, M. A. Player, "Ultrahigh Precision Measurements of Optical Heterogeneity of High Quality Fused Silica," Applied Physics Letter 66 (26) June 26, 1995.

J. M. DeFreitas, M. A. Player, "Polarization Effects in Heterodyne Interferometry," Journal of Modern Optics, Vol. 42, No. 9, 1875-1899, 1995.

G. Haupt, N. Kasdin, G. Keiser, and B. Parkinson, "An Optimal Recursive Iterative Algorithm for Discrete Nonlinear Least-Squares Estimation," AIAA Guidance, Navigation, and Control Conference, August 7-10, 1995 AIAA-95-3218.

J. Ceva, W. Bertiger, R. Muellerschoen, T. Yunck, B. Parkinson, "Incorporation of Orbital Dynamics to Improve Wide-Area Differential GPS," September 12, 1995.

1996

C. Kee, B. W. Parkinson, "Wide Area Differential GPS (WADGPS): Future Navigation System, IEEE Transactions on Aerospace and Electronic Systems, Vol. 32, No. 2 April 1996.

S. Buchman, M. Taber, J. Lockhart, B. Muhlfelder, C. W.F. Everitt, J. P. Turneure, B. Parkinson, "Applications of Superconductivity to Space-Based Gravitational Experiments."

Samuel P. Pullen, et al., "Effects of Local Ionospheric Anomalies on Navigation Performance and Integrity using WAAS," IEEE PLANS, Atlanta, Georgia, April, 1996.

C. W. F. Everitt, "Fritz London," (A Scientific Biography KOSTAS GAVROGLU. Cambridge University Press, New York, xxiv, 299 pp). Science Magazine, Vol. 272, pp. 1273-1274, May 31, 1996.

R. Brumley, S. Buchman, J. Mester, "Measurements of the Thermal Emissivity of a Superconducting Niobium Film," Proceedings of the 21st International Conference on Low Temperature Physics Prague, August 8-14, 1996, Czechoslovak Journal of Physics, Vol 46 (1996), Suppl S5.

J. C. Mester, J. M. Lockhart, "Remanent Magnetization of Instrument Materials for Low Magnetic Field Applications," Proceedings of the 21st International Conference on Low Temperature Physics, Prague, August 8-14, 1996, Czechoslovak Journal of Physics, Vol 46 (1996), Suppl. S5.

E. V. Galaktionov, A. S. Zilbergleit, Yu. A. Polovko, É. A. Tropp, "On the-Types of Quasistationary States of a Coupled Spin System of Optically Oriented Electrons and Nuclei in Semiconductors," Tech. Phys. 41 (3), March 1996.

[A. S.Silbergleit, Yu.I.Kopilevich, "Spectral Theory of Guided Waves" \(book\), IOP Publishers, Bristol and Philadelphia, 310 p.p.](#)

R. V. Wagoner, A. S.Silbergleit, D. E. Lehr, M. A. Nowak, "Relativistic Diskoseismology with XTE," Presented at the High Energy Astrophysics Board of American Astronautic Soc., San Diego, May 1996.

Matthew C. Sullivan, John Mester, James Lockhart, "Superconducting Thin-Film Absolute Field Magnetometer," Proceedings of the 21st International Conference on Low Temperature Physics Prague, August 8-14, 1996. Part S5-Techniques and applications: Cryodevices and magnetometers.

Saps Buchman, Francis Everitt, Brad Parkinson, John Turneure, Mac Keiser, Mike Taber, Doron Bardas, Jim Lockhart, Barry Muhlfelder, John Mester, Yueming Xiao, Gregory Gutt, Dale Gill, Robert Brumley and Brian DiDonna, "Experimental techniques for gyroscope performance enhancement for the Gravity Probe B relativity mission," Class. Quantum Grav. 13 (1996) A185-A191, 1996.

Y. Jafry, T. J. Sumner, S. Buchman, "Electrostatic charging of space-borne test bodies used in precision experiments," Class. Quantum Grav. 13 Ap7-A106, 1996.

M. L. O'Connor, T. Bell, G. H. Elkaim, B. W. Parkinson, "Automatic Steering of Farm Vehicles Using GPS." Proceedings of the Third International Conference on Precision Agriculture, June 1996, Minneapolis, MN.

G.H. Elkaim, M. L. O'Connor, T. Bell, B. Parkinson, "System Identification of a Farm Vehicle Using Carrier-Phase Differential GPS," Proceedings of ION GPS '96, Kansas City, MO, September 1996..

M. L. O'Connor, G. H. Elkaim, B. W. Parkinson, "Carrier Phase DGPS for Closed-Loop Control of Farm and Construction Vehicles," *Navigation, Journal of the Institute of Navigation*, reprinted from Summer 1996, Vol. 48 No. 2 pp. 167-178.

N. Jeremy Kasdin, Christian Gauthier, "Gravity Gradient Gyroscope Drifts in the NASA Relativity Mission/Gravity Probe A Experiment," *The Journal of the Astronautical Sciences*, Vol. 44, pp. 129-147, No. 2, April-June 1996

J. P. Turneare, C. W. F. Everitt, et al, "Development of the Gravity Probe B Flight Mission" (submitted to *Adv. In Space Research*) (Unpublished as at May 17, 2000) COSPAR 1996

M. A. Taber, D. Bardas, et. al, "Gravity Probe B Payload Verification and Test Program" (submit to *Adv. In Space Research*) (Unpublished as at May 17, 2000) COSPAR 1996

1997

M. L. O'Connor, T. Bell, G. H. Elkaim, B. W. Parkinson, "Real-Time CDGPS Initialization for Land Vehicles Using a Single Pseudolite." *Proceedings of ION National Technical Meeting, Santa Monica, CA, January 1997*

Mark T. Sullivan, et al., "Detector mount system for thermal isolation," *SPIE -The International Society for Optical Engineering*, Volume 3132, 31 July - August 1997.

P. Zhou, S. Buchman, C. Gray, J. Turneare, "Stress and Its Effect on Surface Morphology in Multi-Layer Ti-Cu Films," *Materials Research Society Mat. Res. Soc. Symp. Proc. Vol 441 Dec. 1997.*

S. Buchman, Y. Jafry, "Cosmic Radiation Issues for Gravitational Experiments in Space," *Proceedings of the XXXII Ind Rencontres de Moriond, Very High Energy Phenomena in the Universe, Series: Moriond Workshop,*

P. Zhou, S. Buchman, C. Gray, J. Turneare, "Stress and Its Effect on Surface Morphology in Multi-Layer Ti-Cu Films," *Mat. Res. Soc. Symp. Proc. Vol. 441 Materials Research Society, Dec. 1997*

[A. S. Silbergleit, G. M. Keiser, "On Eddy Currents from Moving Point Sources of Magnetic Field in the Gravity Probe B Experiment", *Integral methods in Science and Engineering, Volume One: Analytical Methods, Eds. C. Costanda, J. Saranen, S. Seikala, Longman, 1997, 169 – 173.*](#)

[A. Perez, A. S. Silbergleit, R. V. Wagoner, and D. E. Lehr, "Relativistic Diskoseismology I. Analytical results for Gravity Modes", *Astrophys. J.* 476 \(Feb. 20, 1997\) 589 – 604.](#)

Matthew Rabinowitz, Bradford W. Parkinson, "The Application of LEOS to Cycle Ambiguity Resolution on Navstar Transmissions for Kinematic Carrier-Phase Positioning." *Institute of Navigation, Kansas City, September 1997.*

C. W. F. Everitt, "Metrology, Stars & Ships and Superfluids," *Nature Magazine*, Vol. 386, #6625, p 551-? (Note: no papers available on file with GP-B)

1998

Saps Buchman, C. W. F. Everitt, B. Parkinson, J. P. Turneare, R. Brumley, D. Gill, G. M. Keiser, Y. Xiao, "Gyroscopes and Charge Control for the Relativity Mission Gravity Probe B." *Proceedings of the 32nd COSPAR, Scientific Assembly in Nagoya, Japan, July 12-19 July, 1998. To be published in *Advances in Space Research. Published Adv, Space Res. 25(6) 1181, Year 2000.**

Suwen Wang, D.-H Gwo, K. A. Bower, L. W. Huff, J. A. Lipa, "Status of the Cryogenic Telescope and Guide Star for Gravity Probe B." *Proceedings of the 32nd COSPAR Scientific Assembly in Nagoya, Japan, July 12-19, 1998.*

S. Wang, D.-H Gwo, K. A. Bower, L. W. Huff, R. K. Kirschman, J. A. Lipa, M. Jhabvala, S. Babu, N. Das, "Testing the GP-B Telescope Readout Electronics on a Flight Quality Telescope." *J. Phys. IV France 8 (1998)*

Saps Buchman, William Bencze, Robert Brumley, Bruce Clarke, G. M. Keiser, "The Design and Testing of the Gravity Probe B Suspension and Charge Control Systems," W. W. Hansen Experimental Physics Laboratory, Stanford University, ©1998 *The American Institute of Physics* 1-56396-848-7/98

Saps Buchman, C. W. F. Everitt, B. Parkinson, J. P. Turneure, D. DeBra, D. Bardas, W. Bencze, R. Brumley, D. Gill, G. Gutt, D. H. Gwo, G. M. Keiser, J. Lipa, J. Lockhart, J. Mester, B. Muhlfelder, M. Taber, S. Wang, Y. Xiao, and P. Zhou "The Gravity Probe B Relativity Mission," Proceedings of the 32nd COSPAR Scientific Assembly in Nagoya, Japan, July 12- 19 July, 1998. To be published in *Advances in Space Research*. Published Adv. Space Res. 25(6), 1177, Year 2000.

J. C. Mester, J. M. Lockhart, B. Muhlfelder, D. Murray, M. Taber, "Ultralow Magnetic Fields and Gravity Probe B Gyroscope Readout," Proceedings of the 32nd COSPAR Scientific Assembly in Nagoya, Japan. July 12-19, 1998, to be published in *Advances in Space Research* .

Suwen Wang, D-H. Gwo, K. A. Bower, L. W. Huff, J. A. Lipa, "Status of the Cryogenic Telescope and Guide Star for Gravity Probe B." Conference proceedings for the 32nd Scientific Assembly of COSPAR, July 1998.

Suwen Wang, D.-H. Gwo, K. A. Bower, L. W. Huff, R. K. Kirschman, J. A. Lipa, "Testing of the GP-B Telescope Readout Electronics on a Flight Quality Telescope." Conference proceedings of the Third Workshop of Low Temperature Electronics, June 1998.

Y. Ohshima, Y. Xiao, "Magnetic Readout for Electrostatically Suspended Vacuum Gyroscopes." Proceedings of The First Pan-Pacific Basin Workshop and The Fourth Japan-China Workshop on Microgravity Sciences, July 1998.

Y. Xiao, Y. Ohshima, "Performance of Electrostatically Suspended Vacuum Gyroscope with Circular Electrodes." In proceedings of The First Pan-Pacific Basin Workshop and The Fourth Japan-China Workshop on Microgravity Sciences, July 1998.

J. E. Berberian, A. S. Silbergleit, "Analytical Approach to Spherically-Symmetric Solutions of the Einstein Scalar Field Equations II." Published in *Analytical and Numerical Approaches to Relativity Sources of Gravitational Radiation*, 1998, 229-236.

[M.C. Begelman, D.E. Lehr, M.A. Nowak, A.S. Silbergleit, R.V. Wagoner, "Relativistic Diskoseismology: Search for a Definitive Black Hole Signature", Eighteenth Texas Symposium on Relativistic Astrophysics and Cosmology, Eds. A.V. Olinto, J.A. Frieman, and D.N. Schramm, World Scientific, 1998, p. 785.](#)

Matthew Rabinowitz, "Multi-layer Nonlinear Adaptive Filters." NASA TECH BRIEFS.

Matthew Rabinowitz, "A Newton-Like Optimization Technique for Adapting IIR and FIR Nonlinear Filters using Input-Output Truth Models." NSIP 99 Conference (not yet accepted – submitted in 12/98).

Matthew Rabinowitz, Gregory M. Gutt and Gene F. Franklin "An Adaptive Gauss-Newton Algorithm for Training Multilayer Nonlinear Filters Which Have Embedded Memory." CSSP: (Circuits Systems Signal Processing).

Matthew Rabinowitz, "Method and System for Training Dynamic Nonlinear Adaptive Filters which have Embedded Memory." Patent application to USPTO. Assignee: Stanford University.

Y. Ohshima, Y. Xiao, "Magnetic Readout for Electrostatically Suspended Vacuum Gyroscopes," Joint 1st Pan-Pacific Basin Workshop and 4th Japan-China Workshop on Microgravity Sciences, Tokyo, Japan, July 1998.

M. Rabinowitz, B. W. Parkinson, C. E. Cohen, D. Lawrence, IntegriNautics Corporation "A System Using LEO Satellites for Centimeter-Level Navigation," filed March 1998.

M. Rabinowitz, Inventor, "Patent Application: Method and System for Training Dynamic Nonlinear Adaptive Filters which have Embedded Memory." Filed with USPTO, December 1998.

Matthew Rabinowitz, Bradford W. Parkinson, *Stanford University*, Clark E. Cohen, Michael L. O'Connor, David G. Lawrence, *Integrionautics Corporation*, "A System Using LEO Telecommunication Satellites for Rapid Acquisition of Integer Cycle Ambiguities," IEEE Plans 1998, Position, Location and Navigation Symposium, April 1998.

D. Bardas, M. A. Taber, J. P. Turneure, S. Buchman, G. Keiser, J. Lockhart, B. Muhlfelder, J. Mester, E. Alcorta, T. Borsz, D. Debra, P. Ehrensberger, C. W. F. Everitt, D. Gill, C. Gray, G. Gutt, J. Gwo, N. Kasdin, J. Lipa, B. Parkinson, J. Stamets, M. Sullivan, B. Taller, J. Wade, S. Wang, C. Warren, Y. Xiao, and LMSC Group-S. Calhoun, P. Dineen, D. Donegan, T. Muench, D. Murray, A. Nakashima, R. Parmley, G. Reynolds, L. Sands, P. Schweiger, "Development of the Gravity Probe B Payload." Proceedings of the Eighth Marcel Grossman Meeting on General Relativity. Ed: Tsvi Piran, World Scientific, Singapore Part B, pp 1135-1138, 1999.

S. Buchman, F. Everitt, B. Parkinson, J. P. Turneure, D. Debra, D. Bardas, W. Bencze, R. Brumley, D. Gill, G. Green, G. Gutt, J. Gwo, J. Kasdin, M. Keiser, J. Lipa, J. Lockhart, J. Mester, B. Muhlfelder, M. Taber, S. Wang, Y. Xiao, P. Zhou, "The Technology Heritage of the Relativity Mission, Gravity Probe B." Proceedings of the Eighth Marcel Grossmann Meeting on General Relativity. Ed: Tsvi Piran, World Scientific Singapore, , Part A, pp 1139-1150, 1999.

G. M. Keiser, W. Bencze, D. Debra, "The Expected Performance of the Gravity Probe B Electrically Suspended Gyroscopes as Differential Accelerometers." Second International LISA Symposium on the Detection and Observation of Gravitational Waves in Space, AIP Conference 1998, Proceedings 456, p 188.

J. P. Turneure, J. A. Lipa, M. Dong, K. M. Cumbermack, S. Wang, "A Superconducting Microwave Oscillator Clock for Use on the Space Station." Proceeding of 1998 IEEE International Frequency Control Symposium, pp 534.

J. P. Turneure, J. Lipa, M. Dong, S. Wang, "Relativity Experiments with an Improved Superconducting Cavity Oscillator." Proceeding of the 197 NASA/JPL Microgravity Fundamental Physics Workshop. NASA Document D-15677 40, (1998).

M. Dong, J. Lipa, J. Turneure, S. Wang, "Superconducting Cavity Stabilized Oscillators and Gyroscope Clocks for Space-Based Experiments." Proceedings of COSPAR, 1998.

S. Buchman, J. P. Turneure, J. A. Lipa, M. Dong, K. M. Cumbermack, S. Wang, "A Superconducting Microwave Oscillator Clock for Use on the Space Station" in Proceedings of 1998 IEEE International Frequency Control Symposium (IEEE Catalog No. 98CH36165, 1998), pp 534-9.

S. Buchman, J. P. Turneure, J. Lipa, M. Dong, S. Wang, "Relativity Experiments with an Improved Superconducting Cavity Oscillator" in Proceedings of the 1997 NASA/JPL Microgravity Fundamental Physics Workshop. NASA Document D-15677 40, (1998).

S. Buchman, M. Dong, J. Lipa, J. Turneure, S. Wang, "Superconducting Cavity Stabilized Oscillators and Gyroscope Clocks for Space-Based Experiments." to be published in Proceedings of COSPAR, 1998.

1999

M. Rabinowitz, G. M. Gutt, G. F. Franklin, "An Adaptive Newton-Like Training Algorithm for Nonlinear Filters Which Have Embedded Memory," IEEE NSIP 1999, IEEE Nonlinear Signal and Image Processing, Antalya, Turkey, June 1999.

M. Rabinowitz, G. F. Franklin, *Fellow, IEEE*, "Beyond Backpropagation Through Time: An Adaptive Newton-Like Algorithm for Training Dynamic Compensators," IEEE Vims 99 IEEE Virtual and Intelligent Measurement Systems. Italy, May 1999.

M. Rabinowitz, G. M. Gutt, G. F. Franklin, Fellow, IEEE, "Adaptive Post-Linearization of Dynamic Nonlinear Systems with Artificial Neural Networks," ASME (American Society of Mechanical Engineers) Journal of Dynamic Systems, Measurement and Control, September/October 1999.

Matthew Rabinowitz, "Beyond Backpropagation Through Time": "An Adaptive Newton-Like Algorithm for Training Dynamic Compensators." VIMS 99 (1999 IEEE International Workshop on Virtual and Intelligent Measurement Systems).

P. Zhou, S. Buchman, C. Gray, P. Bayer, J. Turneaure, "Multilayer based Films for the Gyroscope Housings of the Gravity Probe Relativity Mission." Proceedings of APS, Atlanta, Georgia, March 20-26, 1999.

Saps Buchman, Stanford University, John Mester, Stanford University, T. J. Sumner, Imperial College, "Charge Measurement," © by CRC Press LLC, 1999. The Measurement, Instrumentation, and Sensors Handbook.

M. Nemenman, A. S. Silbergleit, "Explicit Green's Function of a Boundary Value Problem for a Sphere and Trapped Flux Analysis in Gravity Probe B Experiment", Journ. of Applied Physics 86 (1), 614 – 624..

R. Wagoner, A. S. Silbergleit, "An Analytic Approximation for Plane-Parallel Compton Scattering Near Accretion Disks." The Astrophysical Journal, 527 (December 10, 1999), 264 - 261.

J. Li, A. Ndili, L. Ward, S. Buchman, "GPS Receiver Satellite/Antenna Selection Algorithm for the Stanford Gravity Probe B Relativity Mission." The Institute of Navigation conference held in San Diego, CA, January 25-27, 1999. Proceedings of 1999 National Technical Meeting, pp.541-550.

D. Yale, A. Ndili, J. Li, E. Ng, E. Bean, S. Buchman, "Rolling GPS Receiver Development and Verification Testing for Space Application." GPS-99, 12th International Technical Meeting, September 14-17, 1999. The Institute of Navigation, Nashville, Tennessee. To be published.

M. I. Heifetz, C.W. F. Everitt, G. M. Keiser, A. S. Silbergleit, "Data Reduction, Error and Analysis and Identification of Systemic Errors in the Gravity Probe B Experiment." Proceedings of the Eighth Marcel Grossman Meeting on General Relativity. Ed: Tsvi Piran, World Scientific, Singapore, Part A, pp 259-268, 1999.

M. I. Heifetz, G. M. Keiser, "Data Analysis in the Gravity Probe B Relativity Experiment." Proceedings of the Second International Conference on Information Fusion, Volume II, *FUSION*'99.

C. W. F. Everitt, Brad Parkinson, J. P. Turneaure, G. M. Keiser, "Cryogenic Gyroscopes for the Relativity Mission." Physica B (LT 22, 1999).

B. Muhlfelder, J. M. Lockhart, M. Luo, T. McGinnis, "A Robust SQUID System for Space Use." Proceedings of the Eighth Marcel Grossman Meeting on General Relativity. Ed: Tsvi Piran, World Scientific, Singapore, Part A, pp 1154-1159, 1999.

E. Acworth, "Optical and Pneumatic Vibration Isolation for Optimal Performance of an Artificial Star" submitted to Precision Engineering: Journal of the American Society for Precision Engineering

S. Buchman, C. W. F. Everitt, Brad Parkinson, J. P. Turneaure, G. M. Keiser, "Cryogenic Gyroscopes for the Relativity Mission" to be published in Physica B (LT 22, 1999).

M. Bukshpun, J. H. Goebel, H. P. Demroff, P. D. Ehrensberger, Jr., R. P. Farley, M. T. Sullivan, M. R. Bye, "Reliability of Cryogenic 3-Dimensional Flexible Circuit for Gravity Probe B Satellite Telescope Readout Electronics" submitted to Review of Scientific Instruments.

C. W. F. Everitt, "Review of *The Natural Philosophy of James Clerk Maxwell* by P. M. Harman," Physics Today, August 1999, Part 1.

C.W.F. Everitt., "James Clerk Maxwell," to be published in the *Macmillan Encyclopedia of Energy*.

R.J. Adler, "Metric for an Oblate Earth," *General Relativity and Gravitation*, 1999.

R. J. Adler and D.I. Santiago, "Gravity and the Uncertainty Principle," *Mod. Phys. Let. A*, 1371, 1999.

Robert V. Wagoner and Alexander S. Silbergleit, "An Analytic Approximation for Plane-Parallel Compton Scattering Near Accretion Disks," *The Astrophysics Journal*, 527: 254-261, December 10, 1999.

K. Gromov, D. Akos, S. Pullen, P. Enge and B. Parkinson, "GIDL: generalized Interference Detection and Localization System." 1999.

S. Matsumoto, S. Pullen, M. Rotkowitz and B. Pervan, "GPS Ephemeris Verification for Local Area Augmentation System (LAAS) Ground Stations," 1999

2000

C. W. F. Everitt, et al, "Gravity Probe B: Countdown to Launch." Year 2000.

A. Cavalleri, R. Dolesi, G. Fontana, M. Hueller, J. Turneaure, S. Vitale, and W. Weber, "Progress in the Development of Position Sensor for LISA Drag-Free Control." *Classical and Quantum Gravity*, 200

R. J. Adler, I. M. Nemenman, J. M. Overduin, and D. I. Santiago, "On the Detectability of Quantum Spacetime Foam with Gravitational Wave Interferometers," *Phys. Let. B* 477, 424, 2000.

[R. J. Adler and A. S. Silbergleit, "General Treatment of Orbiting Gyroscope Precession," *International Journal of Theoretical Physics*, 39 \(5\) 1287 – 1313.](#)

C. Kee, D. Yun, H. Jun, B.W. Parkinson, T. Langenstein, and S. Pullen, "Precise Calibration of Pseudolite Positions in Indoor Navigation System," *Proceedings of ION GPS 1999*. Nashville, TN., Sept. 14 - 17, 1999, pp. 1499 - 1508.

M. Luo, S. Pullen, J. Zhang, S. Gleason, G. Xie, J. Yang, D. Akos, P. Enge, and B. Pervan, "Development and Testing of the Stanford LAAS Ground Facility Prototype," *Proceedings of ION 2000 National Technical Meeting*. Anaheim, CA., Jan. 26 - 28, 2000, pp. 210 - 219.

M. I. Heifetz, G. M. Keiser, A. S. Krechetov, and A. S. Silbergleit, "Multisensor Data Integration in the NASA/Stanford Gravity Probe B Relativity Mission," *Proceedings of the Third International Conference on Information Fusion*, July 10-13, 2000, Paris, France.

Manuel Ortega-Rodriguez, Robert V. Wagoner, "On the Perturbations of Viscous rotating Newtonian Fluids," *Astrophysical Journal* 537: 922-926, July 2000.

D. I. Santiago and A. S. Silbergleit, "Global Dynamics of Cosmological Expansion with a Minimally Coupled Scalar Field," *Physics Letters A* 268 (April 3, 2000), 69 - 74.

David I. Santiago and Alexander S. Silbergleit, "On the Energy-Momentum Tensor of the Scalar Field in Scalar-Tensor Theories of Gravity," *General Relativity and Gravitation*, 32 (4), 565 - 581.

A. J. Van Dierendonck, D. Akos, S. Pullen, R.E. Phelts, and P. Enge, "Practical Implementation Considerations in the Detection of GPS Satellite Signal Failures," *Proceedings of IAIN World Congress/ION 56th Annual Meeting*. San Diego, CA., June 26 - 28, 2000, pp. 250 – 259

Elliot Mandel, "Precise Trapped Flux Signal Analysis in Gravity Probe B Experiment," *Physics Undergraduate Honors Thesis*, supervised by Alexander S. Silbergleit, June 2000.

Changdon Kee, Haeyoung Jun, and Doohee Yun, Seoul National University, B. Kim and Y. Kim NAVICOM, Bradford W. Parkinson, Thomas Langenstein Sam Pullen and JungTack Lee, Stanford University,

“Development of Indoor Navigation System Using Asynchronous Pseudolites,” Proceedings of ION GPS 2000. Salt Lake City, UT., September 19-22, 2000, p. 1038

2001

M. A. Taber, D. O. Murray, J. R. Maddocks, K. M. Burns, “Operational Cryogenic Experience with the Gravity Probe B Payload.” To be published in *Advances in Cryogenic Engineering*, Vol. 47, 2002

[A. S. Silbergleit, R.V. Wagoner, and M. Ortega-Rodriguez, “Relativistic Diskoseismology II. Analytical Results for C-Modes”, *Astrophys. J.*, 548 \(Feb. 10, 2001\), 335–347.](#)

[R.V. Wagoner, A. S. Silbergleit, and M. Ortega-Rodriguez, “`Stable’ Quasi-Periodic Oscillations and Black Hole Properties from Diskoseismology”, *Astrophys. J.*, 559 \(Sept. 20, 2001\), L25–L28.](#)

[A. S. Silbergleit, “On a Nonlinear Transformation of a Modulated Signal”, *Questions in mathematical Physics and Applied Mathematics. Collection of papers in honor of centennial anniversary of Prof. G.A.Grinberg, St. Petersburg, A.F.Ioffe Physics-Technical Institute, 2001, 181 – 189 \(in Russian\).*](#)

2002

D. Debra, B. Parkinson, G. Keiser, C. W. F. Everitt, S. Buchman, “Credibility of GP-B’s Gyroscope Test of General Relativity” (0.2milliarseconds per year), Gravity Probe B Stanford University. Presentation at the 25th Annual AAS Guidance and Control Conference, February 6-10 2002, Breckenridge, Colorado, Sponsored by Rocky Mountain Section.

[A.D. Chernin, D.I. Santiago, A.S. Silbergleit, “Interplay between Gravity and Quintessence: a Set of New GR Solutions, *Phys. Lett. A*294, 79-83.](#)

[M. Ortega-Rodriguez, A. S. Silbergleit, and R.V. Wagoner, “Relativistic Diskoseismology III. Low-frequency Fundamental P-Modes”, *Astrophys. J.*, 567 \(March. 10, 2002\), 1034 – 1056.](#)

[A. S. Silbergleit, “On Cosmological Expansion with the Lamda – Term and Any Linear Equation of State”, *Astronom. And Astrophys. Transactions*, 21 \(4-6\), 171 – 181.](#)

2003

B. Muhlfelder, J. M. Lockhart and G. M. Gutt, “The Gravity Probe B Gyroscope Readout System” 2003 COSPAR Adv. Space Res. Vol. 32, No. 7, pp. 1397-1400, 2003.

D. H. Gwo, S. Wang, K. A. Bower, D. E. Davidson, P. Ehrensberger, L. Huff, E. Romero, M. T. Sullivan, K. Triebes and J. A. Lipa, “The Gravity Probe B Star Tracking Telescope,” Adv. Space Res. Vol. 32, No. 7, pp. 1401-1405, 2003.

R. T. Parmley, G. A. Bell, D. J. Frank, D. O. Murray, and R. A. Whelan, “Performance of the Relativity Mission Superfluid Helium Flight Dewar,” Adv. Space Res. Vol. 32, No. 7, pp. 1407-1416, 2003. COSPAR 2003.

S. Wang, R. P. Farley, J. H. Goebel, M. Heietz, J. A. Lipa and J. P. Turneure, “Science Telescope for Gravity Probe B,” Proceedings of SPIE Vol. 5172 Cryogenic Optical Systems and Instruments X, edited by James B. Heaney, Lawrence G. Burriesci, (SPIE, Bellingham, WA, 2003), page 108.

[R.J.Adler, A.S.Silbergleit, “ General Treatment of Geodetic and Lense – Thirring effects on an Orbiting Gyroscope”, *Nonlinear Gravitodynamics. The Lense – Thirring Effect*, Eds. R. Ruffini, C. Sigizmondi, World Scientific, New Jersey-London-Singapore-Hong-Kong, 2003, 145 – 154.](#)

A.S.Silbergleit, M.I. Heifetz, G.M. Keiser, “ Classical Torque Errors in Gravity Probe B Experiment”, *Nonlinear Gravitodynamics. The Lense – Thirring Effect*, Eds. R. Ruffini, C. Sigizmondi, World Scientific, New Jersey-London-Singapore-Hong-Kong, 2003, 155 – 171.

M.I. Heifetz, A.S.Silbergleit, G.M. Keiser, “Data Reduction in Gravity Probe B Experiment: Optimal Estimation and Filtering”, *Nonlinear Gravitodynamics. The Lense – Thirring Effect*, Eds. R. Ruffini, C. Sigizmondi, World Scientific, New Jersey-London-Singapore-Hong-Kong, 2003, 172 – 181.

A. S. Silbergleit, R.V. Wagoner “Relativistic Diskoseismology: C-Modes and the Lense – Thirring Effect”, *Nonlinear Gravitodynamics. The Lense – Thirring Effect*, Eds. R. Ruffini, C. Sigizmondi, World Scientific, New Jersey-London-Singapore-Hong-Kong, 2003, 316 – 329.

A. S. Silbergleit, I.M.Nemenman, I.V.Mandel, “On the Interaction of Point Charges in an Arbitrary Domain, *Tech. Phys.* 48 (2), 146 – 151.

A. S. Silbergleit, I.V.Mandel, I.M.Nemenman, “Potential and Field Singularity at a Surface Point Charge Domain, *J. of Math. Phys.* 44 (10), 4460 – 4466.

Scientific Papers and Articles. This page allows you to review previous and ongoing Shroud research. Here you will find, in their entirety whenever possible, links to papers and articles written about the Shroud of Turin. The papers are listed below alphabetically by title. You can also find them listed alphabetically by author on the Website Library page. Each listing includes a brief description of its content. Find papers alphabetically by title. Here is the online description: "This paper examines the various methods that have been employed to examine the suspected bloodstains on the Shroud of Turin and the various arguments that have been proposed by scholars either for or against the authenticity and validity of the techniques." [Editor's Note: Fr. Scientific papers are often structured chronologically, thus reflecting the progression of the research project. Still, effective papers typically break the chronology in several ways to present their content in the order in which the audience will most likely want to read it. As such, they are critical to the evolution of modern science, in which the work of one scientist builds upon that of others. To reach their goal, papers must aim to inform, not impress. They must be highly readable – that is, clear, accurate, and concise. They are more likely to be cited by other scientists if they are helpful rather than cryptic or self-centered. Scientific papers on file. scipaperupdated04/28/04. 1956. C. W.F. Everitt, "Scientific and Everyday Language in Physics, with Special Reference to the Theory of Heat," W. W. Hansen Experimental Laboratories of Physics, Stanford, University, Stanford, CA, 1977. B. W. Parkinson, P. Axelrad, "A Practical Algorithm for Autonomous Integrity Verification Using the Pseudo Range Residual," Jan.