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Bargeron, C. B., Benson, R. C., Jette, A. N., and Phillips, T. E., "The Structure and Properties of a Phase of Hafnium Oxide Containing Carbon," in *Proc. 15th Conf. on Metal Matrix, Carbon, and Ceramic Matrix Composites*, NASA CP 3133, Part 1, Washington, D.C., pp. 143–152 (1991).

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Cunningham, E. P., *Digital Filtering: An Introduction*, Houghton Mifflin Company, Boston (1992).

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Fowler, K. R. (APL), and North, R. B. (JHMI), "Computer-Optimized Neurological Stimulation," in *Proc. Annual Int. Conf. IEEE Engineering in Medicine and Biology*, Orlando, Fla., pp. 1692–1693 (1991).

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Kinnison, J. D., Maurer, R. H., Carkhuff, B. G., and Conde, R. F. (APL), Buchner, S. P., and Kang, K. (Martin Marietta Labs.), and Stapor, W. J., Campbell, A. B., Herlich, G. A., and Moore, H. C. (NRL), "Radiation Characterization of the ADSP2100A Digital Signal Processor," *IEEE Trans. Nucl. Sci.* **38**(6), 1398–1402 (Dec 1991).

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Mattes, W. W., and Abita, J. L., "Custom LRL Calibration and Techniques for De-Embedding S-Parameters at Device Reference Planes," in *Proc. ATE and Instrumentation Conf.*, Anaheim, Calif., pp. 309–324 (Jan 1992).

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Smart, J. H., Fraser, A. B., and Jose, M. J., "Variability in Optical Properties Across the Gulf of Alaska," in *Proc. IEEE Oceans 91*, pp. 657–666 (1991).

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Williams, D. J., McEntire, R. W., Krimigis, S. M., Roelof, E. C., Jaskulek, S., and Tossman, B. (APL), Wilkin, B., and Studemann, W. (Max Planck Inst., Germany), Armstrong, T. P. (Univ. Kansas), Fritz, T. A. (LANL), Lanzerotti, L. J. (Bell Labs.), and Roederer, J. G. (Univ. Alaska), "Energetic Paricles at Venus: Galileo Results," *Science* **253**, 1525–1528 (Sep 1991).

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Billig, F. S., "Research on Supersonic Propulsion," AIAA 30th Aerospace Sciences Meeting and Exhibit, Reno, Nev. (7–10 Jan 1992).

DeMatt, N. W., and Braunstein, A. P., "Developing a Technology Independent Library," Mid-Atlantic States Local Mentor Users' Group, JHU/APL, Laurel, Md. (4 Dec 1991).

Landshof, J. A., "Orbit Design for Assured Launch Observation," AAS/AIAA Astrodynamics Specialist Conf., Durango, Colo. (19–22 Aug 1991).

Moore, C. R., "MMIC Design for Spacecraft Applications," IEEE Central Pennsylvania Chapter, Pennsylvania State Univ. (19 Dec 1991).

Reichert, R. T., "Dynamic Scheduling of Modern-Robust-Control Autopilot Designs for Missiles," 30th IEEE Conf. on Decision and Control, Brighton, England (13 Dec 1991).

Thompson, M. W., and Friedman, M. A., "Issues Associated with Long Duration High Enthalpy Scramjet Combustor Testing," AIAA 3rd Int. Aerospace Planes Conf., Orlando, Fla. (3–5 Dec 1991).

The following papers were presented at the 1st Symposium on Research and Development, JHU/APL, Laurel, Md. (5–6 Nov 1991):

Apel, J. R., "Internal Solitary Waves and Their Interactions."

Bargeron, C. B., Benson, R. C., Jette, A. N., and Phillips, T. E., "Hafnium Carbide and Hafnium Diboride Oxidation Mechanisms at High Temperature."

Bhat, S., "Nondestructive Testing to Detect Discontinuities in Critical Mechanical Fasteners."

Bockstahler-Brandt, S., "A Flexible, Survivable Architecture for Distributed Computer Systems."

Bohandy, J., Kim, B. F., Phillips, T. E., Moorjani, K., and Adrian, F. J., "Application of Magnetically Modulated Resistance Techniques to the Study of High Temperature Superconductors."

Charles, H. K., Jr., "Electronic Packaging Development at APL."

Coleman, J. R., "Properties of Nitrogen Strengthened Steels."

Conn, E. S., "ELINT Correlation Algorithms and Heuristics for Peacetime and Wartime Environments."

Deal, F. C., "An Entropy-Based Metric for the Performance of Correlator/Trackers."

Fainchtein, R., Cowan, D. O., deLozanne, A. L., and Murphy, J. C., "Scanning Tunneling Microscopy and Spectroscopy of Organic Conductors and Superconductors."

Fraeman, M., "High Speed Gallium Arsenide (GaAs) Very Large Scale Integrated Circuit Design at APL."

Geckle, W. J., and Szabo, Z., "Factor Analysis and Parametric Imaging of Dynamic PET Studies."

Giles, J., "Submerged Reflectance Measurements as a Function of Visible Wavelength."

Gilreath, H. E., and Pandolfini, P., "Development of an Ammonia-Fueled Vehicle."

Hamill, B. W., and Gersh, J. R., "Cognitive Engineering of Rule-Based Supervisory Control Systems."

Hayes, J. R., "Object Oriented Programming for Small Systems."

Hunter, L. W., "Advanced Structural Materials."

Huting, W. A., "A New Model for Interpreting Experimental Data from a Circular Cylindrical Microwave Cavity."

Jette, A. N., and Benson, R. C., "Modeling of Pulsed Laser Cleaning of Gold Mirror."

Kues, H. A., Monahan, J. C., and Koslov, S., "The Melanin-Free Radical Connection: A Possible Source of Microwave-Induced Ocular Damage."

Kuttler, J. R., and Huffaker, J. D., "Conformal Mapping Methods for Electromagnetic Propagation over Rough Surfaces."

Olsen, D., Ansley, N., Harris, J. C., and Cristion, J. A., "The Development of an Automated Polygraph Scoring System."

Platt, J. A., "Learning in Tree-Structured Bayesian Inference Networks."

Potember, R. S., "Optical Switches Based on Vanadium Dioxide Films Grown by the Sol-Gel Process."

Roberts, J. C., Biermann, P. J., and Wienhold, P. D., "Design of a Composite Material Angle Sample Bending Test Fixture."

Roelof, E., "Imaging the Saturn/Titan System Using Energetic Neutral Atoms."

Sadowsky, J., "Signal and Image Analysis Using Wavelet Decomposition."

Sanderson, T. R., Romenesko, B. M., and Mobley, F. F., "Non-Magnetic Electronics Packaging."

Schaefer, J., and Monchick, L., "Line Broadening of HD Immersed in He and H_2 Gas."

Schemm, C. E., and Manzi, L. P., "The Role of Atmospheric Modeling in the Study of Anomalous Radar Propagation."

Smart, J., Fraser, A. B., and Jose, M. J., "Variability in Optical Properties Across the Gulf of Alaska."

Spicer, J. W. M., Aamodt, L. C., Kerns, W. D., and Murphy, J. C., "The Effect of Normal and Transverse Heat Flow in Time-Resolved Infrared Radiometry (TRIR)."

Stewart, R. L., "Distributed Parallel Tactical Accelerators."

Stoyanov, B. J., Farrell, R. A., and Bird, J. F., "Asymptotic Expansions of Integrals of Two Bessel Functions via Advanced Special Functions."

Sunday, D., and Hume, A., "Fast Algorithms for String Searching."

Terry, D. H., Christens-Barry, W. A., and Boone, B. G., "Multiaperture Optoelectronic Pattern Recognition System Development."

Thews, E. R., and Dockery, G. D., "Surface Based Radar Performance in Anomalous Propagation Environments."

Thompson, K. E., "Advanced Applications of Charge Coupled Devices."

Uy, O. M., Cain, R. P., and Lesho, J. C., "A Particle Monitor for Spacecraft."

Vandervest, C., "A Retrospective Tracking Algorithm for Multiple Over-the-Horizon Sensor Data Fusion."

White, M. E., "The JHU/APL Role in the National AeroSpace Plane Program."

Williams, D. J., McEntire, R. W., Krimigis, S. M., Roelof, E. C., Jaskulek, S., Tossman, B., Wilken, B., Studemann, W., Armstrong, T. P., Fritz, T. A., Lanzerotti, L. J., and Roederer, J. G., "Energetic Particles at Venus: Galileo Results."

The following were poster presentations at the 1st Symposium on Research and Development, JHU/APL, Laurel, Md. (5–6 Nov 1991):

Aamodt, L. C., "Using Heat Flow Patterns to Monitor Coating Integrity, Multilayer Properties, and Defects in Structural Materials."

Alvarez, E. B., "Advanced Computing Systems for Processing, Archiving, and Visualizing Digital Radar Data."

Baker, M. A., and Vasholz, D. P., "Effects of Scalar Fluctuations on Laser Propagation: I. Theory."

Ballard, B., and Hayes, J., "The FREJA Magnetic Field Experiment Processing System."

Becraft, W. A., "High Density Digital Recorders for Digital Video Images."

Benson, R. C., Phillips, T. E., Bargeron, C. B., and Uy, O. M., "Analysis of Residual Haze on Mirror Following Laser or Ion Removal of Contaminants."

Blum, B., "Exploring Software Development Paradigms."

Bryden, W. A., Wickenden, D. K., Morgan, J. S., Ecelberger, S. A., and Kistenmacher, T. J., "Electrical and Optical Characterization of Group IIIA Nitride Semiconductors."

Carkhuff, B. G., and Kinnison, J. D, "A RISC-Based Single Event Upset Test System Using FORTH."

Chao, K., Maurer, R. H., Nhan, E., Bargeron, C. B., Benson, R. C., Wickenden, D. K., and Mobley, S. J., "Gallium Arsenide Device Reliability and Failure Analysis."

Chappell, R., Tubbs, L., and Moe, G., "A Digitized Video Image Remapping Processor."

Chin, D., "On the Connection Between Maximum Likelihood Sensitivity Analysis and Nuisance Parameter Analysis."

Christens-Barry, W. A., "Generation of Mid-Infrared Lines Using a Stimulated Raman Scattering Source."

Cohen, P. H., "Failure Analysis of a Clamp Ring Used on a Standard Missile."

Collins, B., Bryden, W. A., and Poehler, T. O., "Measuring Tracer Diffusion in Porous Media by EPR Imaging."

Cotter, T. M., and Duncan, D. D., "Acousto-Optic Tunable Filters for the Ultraviolet."

Decker, R. B., and Cheng, A. F., "Chaotic Particle Orbits in Jupiter's Magnetosphere."

Dennissen, R. A., McCarty, T. A., Valverde, C. R., Trimble, W. C., Chou, K., and Clatterbaugh, G. V., "Design and Fabrication of a 600 MHz Direct Digital Synthesizer for Space Applications."

Dettmer, J. R., and Clampin, M., "Removal of Atmospheric Disturbances in the Visible Range with Adaptive Optics."

Dragonette, R. A., and Suter, J. J., "Barometric Pressure Induced Frequency Offsets in Hydrogen Masers."

Ecelberger, S. A., Morgan, J. S., Kistenmacher, T. J., and Bryden, W. A., "Reactive Magnetron Sputtering of Group IIIA Nitride Semiconductors."

Edwards, M. L., Carpenter, L., Cook, C., Cheng, S., Moore, C., Reinhart, M., and Trimble, W., "The Design of a 2.3 GHz GaAs MMIC Tracking Receiver for Space Application."

Ehrlich, L. W., and Silver, D. M., "Electromagnetic Wave Scattering from Periodic Surfaces: Solving a 3-D Complex Vector Helmholz Equation."

Farrell, R. A., and Freund, D. E., "Near Field Variational Scattering Calculations."

Feldberg, I., "Recovering Data from Anomalous Polygraph Charts."

Fowler, K. R., "Analog Communications for Digital Circuits."

Francomacaro, A. S., Blum, N. A., and Clatterbaugh, G. V., "A Multichip Module Approach for High Speed Digital Circuits Using Low Stress, Thin-Film Polymide."

Freund, D. E., Farrell, R. A., and McCally, R. L., "Light Scattering Investigations of Corneal Structure."

Fry, R. L., and Dunlap, W. B., "Smart Imaging Sensors."

Giannini, J. A., "The Second Painleve Transcendent and Nonlinear Optical Propagation."

Gornick, F., Schuster, P. R., and Potember, R. S, "Formation of Barium Titanate Films via Sol-Gel Chemistry."

Green, W. J., and Jette, A. N., "Modeling of Pulsed Laser Etching of High-T_c Superconductors."

Henshaw, R. M., "A Completely Integrated Instrument Development and Control System."

Hersman, C., "Verification of High Resolution Analog to Digital Converters."

Hill, S. D., and Spall, J. C., "Sensitivity of a Bayesian Analysis to the Prior Distribution."

Hutton, L. V., "Choice Behavior and Steven's Law Can Be Modelled by Neural Networks Using Stochastic Update Rules."

Jablon, A. R., "TOPEX Radar Altimeter Antenna."

Kistenmacher, T. J., Bryden, W. A., Wickenden, D. K., Morgan, J. S., and Ecelberger, S. A., "X-Ray Scattering Studies on the Structure and Growth Morphology of Thin Films of the Group IIIA Metal Nitrides."

Kopp, B. A., and Sanderson, T. R., "Compact Thin-Film Microwave Digital Phase Shifters for T/R Module Applications."

Lin, R.-Q., and Apel, J. R., "A Study of the Astronomical Theory of Ice Ages in a Two-Dimensional Nonlinear Climate Model."

Linevsky, M. L., Thomas, M. E., Sova, R. M., Joseph, R. I., and Mark, F. F., "High Temperature Optical Properties of Oxide Ceramics and Crystals."

Lohr, D. A., "Very Low Noise Magnetometer Electronics."

Mack, S. A., Baker, M. A., Hochheimer, B., and Hopkins, J. E., "Effects of Scalar Fluctuations on Laser Propagation: II. Experiments."

Maltagliati, R., "Enhanced RF Sensor Angle Discrimination."

Maryak, J. L., and Asher, M. S., "Isolating Errors in Models of Complex Systems, with Application to Inertial Navigation."

Matsuzawa, M., Fields, R. D., Fitzgerald, S. C., Nelson, P. G., and Potember, R. S., "The Controlled Construction of Functionally Effective Synapse on Biomolecular Guide Lines."

Mattes, W. W., Jr., Lambros, M. L., Hemler, J. B., Bradford, H. B., and Carkuff, B. G., "Obtaining the De-embedded Two-Port Scattering Parameters of Microwave GaAs Field Effect Transistor Chips Using the LRL Method of Calibration and Locating Reference Planes."

Mauk, B. H., Keath, E. P., Krimigis, S. M., and Cheng, A. F., "Hot Plasmas and Energetic Particles in the Vicinity of Neptune."

McCally, R. L., and Moorjani, K., "Magnetic and Hyperfine Properties of Amorphous Iron–Phosphorus Alloys."

McCarty, T. A., Blum, N. A., Clatterbaugh, G. V., and Francomacaro, A. S., "A Multichip Module High Speed Digital Synthesizer Using Low K, Low Temperature Cofired Ceramic."

Meyer, J. H., Rowland, J. R., Grubelich, M. C., Miller, R. E., and Allison, J. B., "A Yo–Yo Low Level Atmospheric Sounding Instrument."

Miragliotta, J., and Benson, R. C., "Nonlinear Optical Studies of Surfaces Using Second-Harmonic and Sum-Frequency Generation."

Monchick, L., and Swaminathan, P. K., "'Harpoon' Mechanisms and Electronic Energy Transfer Between O Atoms and NO Molecules."

Morgan, J. S., Fainchtein, R., Bryden, W. A., Wickenden, D. K., Ecelberger, S. A., and Kistenmacher, T. J., "Microscopy and Morphology of Group IIIA Nitride Thin Films."

Nelson, C. V., and Allison, J. B., "A Low Cost, Expendable Meteorological System for Ocean and Land Measurements."

Nelson, J. B., "The Use of Ordinary Differential Equations for Developing New Algorithms in Numerical Linear Algebra."

Phillips, T. E., Benson, R. C., Romenesko, B. M., and Uy, O. M., "Electrical Current Leakage Investigations in Microcircuits."

Pineda, F. J., "A Simplified Wavefront Sensor for Adaptive Optics."

Raul, R., Ku, H. C., Gilreath, H. E., and Ehrlich, L. W., "Fluid Dynamics Program in Research Center."

Rosenberg, A., "Possible Measurement of Ocean Warming Using Light Propagation in Optical Fibers."

Rouseff, D., and Konstanzer, G. C., "Simulation of Electromagnetic Propagation Through Boundary Layer Turbulence Using the Parabolic Equation Method."

St. Ville, J. A., Ecker, J. A., and Winget, J. M., "Three-Dimensional Finite Element Analysis of a Human Total Hip Arthroplasty."

Sanders, J. T., "Statistical Process Control in Surface Finishing of Aluminum."

Sarabun, C. C., Jr., "High Frequency Mixing and Transport Processes in the Chesapeake Bay: A Decade of Field Observations by APL."

Schuster, P. R., Viands, C. A., and Potember, R. S., "Nonlinear Optical Response in Suspensions of Organic and Inorganic Colloidal Systems."

Semmel, R. D., "Using Design Knowledge to Automate Query Formulation."

Shukla, O. B., Boone, B. G., and Terry, D. H., "Feature Extraction Using Optical Implementations of the Radon Transform and Angular Correlation Algorithms."

Sigillito, V. G., and Weaver, S. J., "Memory Capacity of a Backpropagation BAM."

Sloan, R. F., Bokulic, R. S., and Sinsky, J. H., "Solid State X-Band Transmitter for High Data Rate Spacecraft Applications."

Sova, R. M., Grabow, B. E., and Boone, B. G., "Optical and Microwave Detection Using Granular Bi-Sr-Ca-Cu-O Thin Films."

Sova, R. M., and Thomas, M. E., "Optical Phonon Characteristics of Fused Silica."

Spall, J. C., and Cristion, J. A., "Efficient Weight Estimation in Neural Networks for Control of Uncertain Systems."

Srinivasan, R., and Murphy, J. C., "Molecular Studies of Condensed Layers on Solid Electrodes."

Stilwell, R. K., "Satellite Applications of the Bifilar Helix Antenna."

Suter, J. J., Poret, J. C., and Rosen, M., "Fiber Optic Ionizing Radiation Detector."

Telford, J. K., "The Number of Tests Needed to Detect a Change in a Failure Rate."

Tilley, D. G. "Oceanography with Synthetic Aperture Radar."

Valenzuela, C. A., and Potember, R. S., "A Multiple Bit Optical Storage System Based on Organic Thin Films."

Valverde, C. R., Russo, A. A., and Daniels, J., "Design of a Space-Based Angle-Tracking Radar System for the MSX Program."

Vasholz, D. P., and Lu, N. Q., "Stratified Flow Green's Functions."

Wajer, S. D., McLeod, D. S., and Lutty, G. A., "Image Analysis of Confocal and Histological Sections from Human Retina."

Wickenden, A. E., and Wickenden, D. K., "Optical Characterization of Semiconductor Films Using Luminescence Techniques."

Wickenden, D. K., Kistenmacher, T. J., Bryden, W. A., and Wickenden, A. E., "MOCVD Growth of GaN on Sapphire."

Williams, K. E., and Edwards, T. G., "Prediction of Solar Activity Using a Neural Network."

Wong, M. S. P., "Intelligent, Programmable Control Sequencer."

Wozniak, J. J., "Hopkins Auto-Destruct Syringe."

Zarriello, P. R., and Fainchtein, R., "A Novel Technique for Electrochemical STM Tip Fabrication with Full Control of the Etching Conditions."

The following papers were presented at the Mid-Atlantic Regional Probability and Statistics Day Meeting, Baltimore, Md. (9 Nov 1991):

Chin, D. C., "On the Connection Between Maximum Likelihood Sensitivity Analysis and Nuisance Parameter Analysis."

Maryak, J. L., and Asher, M. S., "Isolating Errors in State-Space Models of Complex Systems, with Application to Inertial Navigation."

Spall, J. C., "Multivariate Stochastic Approximation Based on a Simultaneous Perturbation Gradient Approximation."

COLLOQUIA

6 Dec 1991—"Imaging and Surface Modification with the Scanning Probes: The Tunneling and Force Microscopes," C. F. Quate, Stanford University.

13 Dec—"The Redshift Controversy and Correlation-Induced Changes in Spectra," E. Wolf, University of Rochester.

3 Jan 1992—"Two Topics in Robotics: Kinematic Redundancy and Uncertain Environments," G. Cook, George Mason University.

10 Jan—"Structure of the Dopamine Transporter: Receptor for Cocaine and Parkinson's Disease Neurotoxins," G. R. Uhl, Johns Hopkins University and National Institute for Drug Abuse.

17 Jan—"Fixing the Hubble Space Telescope," C. J. Burrows, Space Telescope Science Institute.

24 Jan—"Emerging Areas in Materials Research," J. Narayan, National Science Foundation and North Carolina State University.

31 Jan—"What the Hubble Telescope Is Telling Us," S. P. Maran, NASA Goddard Space Flight Center.

7 Feb—"Droplet Coalescence: Physics Application and Aesthetics," P. Meakin, Du Pont Company.

14 Feb—"A Fault-Tolerance Super Network of the U.S. Air Force's Major Operational Commands," T. Mitchell, North Carolina State University.

21 Feb—"C_{60} from Soot to Superconductivity," A. F. Hebard, AT&T Bell Laboratories.

28 Feb—"Transforming the Russian Economy," S. H. Hanke, Johns Hopkins University.

U.S. PATENTS (1991)

R. H. Lapp, *Overmoded Waveguide Elbow and Fabrication Process*, No. 5,003,687, 2 Apr:

A method for fabricating an elbow section of sheathed-helix circular waveguide useful for practical overmoded applications.

A. F. Hogrefe, *Minimum Interface Biomedical Monitoring System*, No. 5,016,631, 21 May:

An interface apparatus for interconnecting an implanted device, such as a cardiac pacemaker or a medication infusion pump, to a plurality of implanted sensor modules using a minimum of interconnection lines.

J. H. Higbie, *Adaptive Locally-Optimum Detection Signal Processor and Processing Methods*, No. 5,018,088, 21 May:

A signal processing technique that suppresses interference in a spread-spectrum communications system by optimizing the signal detection process dynamically against the current interference.

A. F. Hogrefe, *Pulse to Zero Digital (PZ) Modulation*, No. 5,025,454, 18 Jun:

A simplified pulse modulation/demodulation method, for use in digital communications, wherein the carrier is amplitude modulated to generate bit marks, and such bit marks are generated only at the start of each "0" in the bit stream. The absence of a bit mark is decoded as a "1" bit.

J. C. Firman, R. E. Rouse, and W. H. Zinger, *Solid State Modulator for Microwave Transmitters*, No. 5,038,051, 6 Aug:

A switching modulator for microwave radar transmitters that is reliable and power efficient, permits variable duty cycle, and has modular design to facilitate maintenance.

N. S. Rothman, W. Seamone, P. J. Biermann, and F. C. Jurgens, *Wheelchair Toileting Module and Method*, No. 5,039,165, 13 Aug:

An improved structure adapted to a standard wheelchair to permit toileting of a wheelchair-bound person without the need for an attendant to lift the person.

B. F. Kim, J. Bohandy, F. J. Adrian, and K. Moorjani, *Magnetometer Based on the Magnetically Modulated Resistance of a Superconductor*, No. 5,039,944, 13 Aug:

A magnetometer device that detects a magnetic field by measuring the magnetically modulated resistance of a superconductor maintained at its phase transition temperature (T_c).

A. L. Newman and W. D. Stanbro, *Continuous Flow Competitive Assay with Reference System*, No. 5,045,479, 3 Sep:

A continuous flow competitive assay system capable of on-line detection and measurement of chemical and biochemical analyte concentrations.

J. A. Krill, M. M. Jesurun, and W. H. Zinger, *Computer Aided Design for TE_{01} Mode Circular Waveguide*, No. 5,046,016, 3 Sep:

A computer aided design (CAD) method for designing circular overmoded waveguide systems, including straight and bent sections, with optimal operating characteristics. Optimal designs for both lined-dielec-

tric and sheathed-helix waveguides, at S- and X-band, have resulted.

R. H. Lapp and R. R. Gardner, *Glass to Metal Attachment Device and Method Therefor*, No. 5,052,793, 1 Oct:

An apparatus for rapidly attaching a glass member to a metal support structure without cracking the glass. The apparatus is particularly useful for mounting mirrors and optical lenses.

M. W. Roth and G. E. Mitzel, *Over-the-Horizon Targeting System and Method*, No. 5,056,740, 15 Oct:

A system for over-the-horizon targeting comprises a satellite that reenters the atmosphere and deploys a balloon on command. The balloon maintains an approximately geostationary position to collect target data and then transmit it to a receiver that is over-the-horizon from the target.

J. Bohandy, B. F. Kim, T. E. Phillips, F. J. Adrian, and K. Moorjani, *Microwave Method for Detection of Weak Links in Superconductors*, No. 5,059,891, 22 Oct:

A method for detecting weak conduction links in a superconductor sample by measuring the magnetically modulated resistance of the sample.

R. H. Lapp, *Mirror Micro-Radian Angular Adjustment, Locking, and Mounting Device and Process*, No. 5,065,974, 19 Nov:

A simplified structure for mounting, adjusting, and locking a mirror assembly to a support plate. The structure permits microradian adjustments of the mirror to be preserved during the locking process and is designed with an extremely high structural stiffness at the point of adjustment/locking, to achieve vibration immunity.

H. A. C. Eaton and R. S. Fisher, *Magnetic Nerve Stimulator*, No. 5,066,272, 19 Nov:

A magnetic stimulator circuitry capable of generating a rapid train of large-amplitude, short-duration magnetic pulses for stimulating brain tissue and peripheral nerves.