

# Science Directorate Publications and Presentations, January 1–December 31, 2001

*Compiled by*

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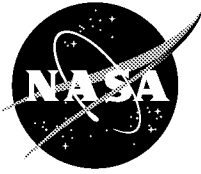
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## TECHNICAL MEMORANDUM

### SCIENCE DIRECTORATE PUBLICATIONS AND PRESENTATIONS JANUARY 1–DECEMBER 31, 2001

#### NASA REPORTS AND OTHER PUBLICATIONS

##### Technical Memorandums

1. Feasibility Study of Thin Thermocouple Piles. MSFC Center Director's Discretionary Fund Final Report, Project No. 99–41, *NASA/TM—2001–210963*, April 2001. C.R. Sisk.
2. Science Directorate Publications and Presentations, January 1–December 31, 2000. *NASA/TM—2001–211143*, July 2001. Compiled by F.G. Summers.
3. National Environmental Change Information System (NECIS) Case Study. *NASA/TM—2001–211410*, November 2001. S.J. Goodman, R. Ritschard, M.G. Estes, Jr., and U. Hatch.

##### Technical Publications

1. Estimating Cosmic-Ray Spectral Parameters From Simulated Detector Responses With Detector Design Implications. *NASA/TP—2001–210962*, April 2001. L.W. Howell.
2. A Recommended Procedure for Estimating the Cosmic Ray Spectral Parameter of a Simple Power Law With Applications to Detector Design. *NASA/TP—2001–210989*, May 2001. L.W. Howell.
3. Decadal Trends of Atlantic Basin Tropical Cyclones (1950–1999). *NASA/TP—2001–210991*, May 2001. R.M. Wilson.
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17. HNX–ECCO. American Physical Society Meeting, Washington, DC, April 28–May 1, 2001. *Bull. APS*, 46(2), 5, 2001. A.J. Westphal.
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22. Living With a Star, the Geospace Mission Definition Team and Aeronomy. 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10–14, 2001. *Eos*, 82(47), F967, 2001. P.M. Kintner, R. Meier, and J.F. Spann, Jr.

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23. Magnetic Characteristics of Active Region Heating Observed With TRACE, SOHO/EIT, and Yohkoh/SXT. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S316, 2001. J.G. Porter, D.A. Falconer, and R.L. Moore.
24. Magnetic Field Structure of Pressure Balanced Structures From Ulysses High Latitudes Observations. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S321, 2001. Y. Yamauchi, S.T. Suess, and T. Sakurai.
25. Mass Density Models Based on the Frequency of Observed Standing Alfvén Waves: AMPTE/CCE Results for  $L = 6–10$ . 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S348, 2001. K. Takahashi, R.E. Denton, and D.L. Gallagher.
26. Modeling the Impact of Winter Snow Cover on the North American Monsoon. 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10–14, 2001. *Eos*, 82(47), F118, 2001. R.J. Oglesby and S. Marshall.
27. Multiple Radially Aligned Plasmaspheric Structures as Evidence of Standing Hydromagnetic Waves: IMAGE EUV Observations and Forward Modeling. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S353, 2001. D.L. Gallagher, M.L. Adrian, and B.R. Sandel.
28. Performance of the Advanced Thin Ionization Calorimeter (ATIC). American Physical Society Meeting, Washington, DC, April 28–May 1, 2001. *Bull. APS*, 46(2), 2001. G. Case, S. Ellison, R. Gould, D. Granger, T.G. Guzik, J. Isbert, B. Price, M. Stewart, J.P. Wefel, J.H. Adams, Jr., J. Chang, W.K.H. Schmidt, G. Bashindzhagyan, M.I. Panasyuk, G. Samsonov, N. Sokolskaya, A. Voronin, V. Zatsepin, D. Wagner, and E.J. Ahn.
29. Plasma and Field Observations at the Day-Side, Equatorial Magnetopause, Boundary Layers and Magnetosphere. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S364, 2001. M.O. Chandler, P.D. Craven, T.E. Moore, and V.N. Coffey.
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34. A Self-Consistent Model of the Interacting Ring Current Ions with Electromagnetic ICWS. 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10–14, 2001. *Eos*, 82(47), F1088, 2001. G.V. Khazanov, V. Jordanova, and E.N. Krivorutsky.
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36. Thermal Electron Contributions to Current-Driven Instabilities: SCIFER Observations in the 1400-km Cleft Ion Fountain and Their Implications to Thermal Ion Energization. 2001 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 10–14, 2001. *Eos*, 82(47), F1085, 2001. M.L. Adrian, C.J. Pollock, T.E. Moore, P.M. Kintner, and R.L. Arnoldy.
37. Transport of Photoelectrons in the Nightside Magnetosphere. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S361, 2001. G.V. Khazanov and M.W. Liemohn.
38. The UAH Spinning Terrella Experiment: A Laboratory Analog for the Earth's Magnetosphere. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S349, 2001. R.B. Sheldon, D.L. Gallagher, and P.D. Craven.
39. X-ray Emissions From Jupiter. 2001 Spring Meeting of the American Geophysical Union, Boston, MA, May 29–June 2, 2001. *Eos*, 82(20), S301, 2001. G.R. Gladstone, J.H. Waite, Jr., D. Grodent, F.J. Crary, R.F. Elsner, M.C. Weisskopf, W.S. Lewis, J.M. Jahn, A. Bhardwaj, J.T. Clarke, D.T. Young, and M.K. Dougherty.

## PRESENTATIONS

1. AMSD Alignment Sensitivity Analysis. MSFC Technology Days, MSFC, AL, May 9–10, 2001. P. Reardon and H.P. Stahl.
2. AMSD Test Plan. MSFC Technology Days, MSFC, AL, May 9–10, 2001. H.P. Stahl and J.B. Hadaway.
3. AMSU–A Tropical Cyclone Maximum Sustained Winds and Web Site. Interdepartmental Hurricane Conference, Orlando, FL, March 5–9, 2001. R.W. Spencer.
4. Application of Earth Occultation to the GLAST Burst Monitor. GLAST Science Working Group Meeting, Baltimore, MD, April 3, 2001. B.A. Harmon.
5. Applications of Satellite Total Lightning Observations. Eighth Scientific Assembly of IAMAS, Munich, Germany, July 13, 2001. D.J. Boccippio and H.J. Christian.
6. The ATIC Experiment: First Balloon Flight. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. J.P. Wefel.
7. The ATIC Experiment: Performance of the Scintillator Hodoscope and the BGO Calorimeter. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. J. Isbert.
8. ATIC Flight Data Processing. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. H.S. Ahn.
9. Atmospheric Nitrogen Fluorescence Yield. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. J.H. Adams, Jr., M.J. Christl, W.F. Fountain, J.C. Gregory, K.U. Martens, and P. Sokolsky.
10. Auburn Micrometeoroid Impact Test Data Analysis. MSFC Technology Days, MSFC, AL, May 9–10, 2001. C. Perrygo and S. Best.
11. Australia 2001: An Odyssey in Fibers and Space. Textile Institute 81st World Conference, Melbourne, Australia, April 1, 2001. A.F. Whitaker.
12. Ball Semirigid Advanced Mirror System Demonstrator (AMSD). MSFC Technology Days, MSFC, AL, May 9–10, 2001. S. Kendrick.
13. Band Anticrossing in Highly Mismatched Compound Semiconductor Alloys. 28th International Symposium on Compound Semiconductors, Tokyo, Japan, October 2, 2001. K. Yu, J. Wu, W. Walukiewicz, J.W. Ager, E.E. Haller, I. Miotkowski, A. Ramdas, and C.-H. Su.

## PRESENTATIONS (Continued)

14. Bridgman Growth of Detached GeSi Crystals. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. M.P. Volz, M. Schweizer, N. Kaiser, S.D. Cobb, F.R. Szofran, L. Vujisic, and S. Motakef.
15. BUNDLE—A Novel Furnace for Performing Controlled Directional Solidification Experiments in a Microgravity Environment. 39th AIAA Aerospace Meeting, Reno, NV, January 8–12, 2001. E.J. Carrasquillo, M.R. Griffin, M.S. Hammond, M.L. Johnson, and R.N. Grugel.
16. Calibration of a Vertical-Scan Long Trace Profiler at MSFC. SPIE Annual Meeting, San Diego, CA, July 29–August 3, 2001. M. Gubarev, T. Kester, and P. Takacs.
17. Cancer Risk Assessment for Space Radiation. International Workshop on Micro and Mini Dosimetry and Its Applications, Sydney, Australia, December 16–20, 2001. R.C. Richmond, A. Cruz, and K. Bors.
18. Carbon Nanotubes Grown by CVD in Various Conditions. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. S. Zhu, C.-H. Su, J.C. Cochrane, S.L. Lehoczky, I. Muntele, and D. Ila.
19. Cellular Spacing Selection During the Directional Solidification of Binary Alloys. A Numerical Approach. Science of Casting and Solidification, Brasov, Romania, May 28, 2001. A.V. Catalina and S. Sen.
20. Chandra ACIS Observations of Jovian X-ray Emission. Jupiter, Planet, Satellites, and Magnetosphere Conference, Boulder, CO, June 25–30, 2001. G. Garmire, R.F. Elsner, E. Feigelson, P. Ford, G.R. Gladstone, K.C. Hurley, A.E. Metzger, and J.H. Waite, Jr.
21. Chandra HRC Observations of X-rays From Jupiter's Aurora. Two Years of Science With Chandra Symposium, Washington, DC, September 5–7, 2001. G.R. Gladstone, T. Majeed, W.S. Lewis, J.H. Waite, Jr., D.C. Grodent, F.J. Crary, J.T. Clarke, D.T. Young, R.F. Elsner, M.C. Weisskopf, A. Bhardwaj, and M.K. Dougherty.
22. Chandra HRC Observations of X-rays From the Jupiter System. Jupiter, Planet, Satellites, and Magnetosphere Conference, Boulder, CO, June 25–30, 2001. G.R. Gladstone, J.H. Waite, Jr., D.C. Grodent, R.F. Elsner, M.C. Weisskopf, W.S. Lewis, J.M. Jahn, A. Bhardwaj, J.T. Clarke, D.T. Young, and M.K. Dougherty.
23. Chandra Observations of Io and the Io Plasma Torus. Two Years of Science With Chandra Symposium, Washington, DC, September 5–7, 2001. R.F. Elsner, G.R. Gladstone, J.H. Waite, Jr., D.C. Grodent, F.J. Crary, A.E. Metzger, K.C. Hurley, P. Ford, E. Feigelson, G. Garmire, T. Majeed, and M.C. Weisskopf.
24. Characterization and In Situ Monitoring of ZnSe Crystal Growth by Seeded PVT for Microgravity Applications. Seminar Series, Frieberg, Germany, June 28, 2001. S. Feth.

## PRESENTATIONS (Continued)

25. Characterization of Surface Features in Detached Grown GeSi Crystals. 52d International Astronautical Congress, Toulouse, France, October 1–5, 2001. S.D. Cobb, M.P. Volz, M. Schweizer, N. Kaiser, P.K. Carpenter, and F.R. Szofran.
26. Characterizing the Use of Ultrasonic Energy in Promoting Uniform Microstructural Dispersions in Immiscible Mixtures. 39th AIAA Aerospace Sciences Meeting, Reno, NV, January 8–12, 2001. R.N. Grugel and A.I. Fedoseyev.
27. COI Structural Analysis Presentation. MSFC Technology Days, MSFC, AL, May 9–10, 2001. T. Cline.
28. Commercial Space Research: Entering a New Stage. 39th AIAA Aerospace Sciences Meeting, Reno, NV, January 8–11, 2001. M.E. Nall.
29. A Compact X-ray System for Support of High Throughput Crystallography. European Crystallographic Meeting, Krakow, Poland, August 25, 2001. E. Ciszak, M. Gubarev, W.M. Gibson, and M.K. Joy.
30. Composite Materials for Radiation Shielding During Deep Space Missions. Metallurgical Society Meeting, New Orleans, LA, February 12, 2001. R.N. Grugel, J. Watts, and J.H. Adams, Jr.
31. Computed Tomography Support for Microgravity Materials Science Experiments. Fourth Annual Conference on *International Space Station* Utilization, Kennedy Space Center, FL, October 15–18, 2001. D.C. Gillies and H.P. Engel.
32. Computer Simulation of the Forces Acting on the Polystyrene Probe Submerged into the Succinonitrile Near Phase Transition. Nanospace 2001, Galveston, TX, March 13–16, 2001. A.V. Bune and W.F. Kaukler.
33. Construction of Power Receiving Rectenna Using Mars In Situ Materials; a Low Energy Materials Processing Approach. 52d International Astronautical Congress, Toulouse, France, October 1–5, 2001. P.A. Curreri.
34. Contact Angles and Surface Tension of Germanium-silicon Melts. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. A. Croell, N. Kaiser, S.D. Cobb, F.R. Szofran, and M.P. Volz.
35. Contagious Coronal Heating From Recurring Emergence of Magnetic Flux. Yohkoh 10th Anniversary Meeting/Solar B Science Meeting, Kailua-Kona, HI, September 17, 2001. R.L. Moore, D.A. Falconer, and A.C. Sterling.
36. Controlling Growth Orientation of Phthalocyanine Films by Electrical Fields. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. S. Zhu, C.E. Banks, D.O. Frazier, D. Ila, I. Muntele, B.G. Penn, and A. Sharma.

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37. Convection Induced by High-frequency Rotating Magnetic Fields in Ionic Aqueous Solutions. 39th AIAA Aerospace Sciences Meeting, Reno, NV, January 8–12, 2001. M.P. Volz and K. Mazuruk.
38. Convective Flow Induced by Localized Traveling Magnetic Fields. ICHMT, Palm Cove, Queensland, Australia, May 23, 2001. K. Mazuruk.
39. Crystal Growth by Physical Vapor Transport—Experiment and Simulation Dynamics. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. N. Ramachandran, A. Worlikar, and C.-H. Su.
40. Crystal Growth of Photorefractive Materials (BSO): Critical Design Issues for Optimized Data Extraction From Space Experiments. Conference on *International Space Station Utilization*, Kennedy Space Center, FL, October 15–18, 2001. R.W. Hyers, S. Motakef, A.F. Witt, and B. Wuensch.
41. CZT Imaging Arrays for Space Applications. 12th International Workshop on Room Temperature Semiconductor X-ray and Gamma Ray Detectors, San Diego, CA, November 5–10, 2001. B.D. Ramsey.
42. Defect Density Comparison of Detached Versus Attached Bridgman-grown Germanium Crystals. American Conference on Crystal Growth and Epitaxy, Burlington, VT, August 12–16, 2001. M. Schweizer, S.D. Cobb, M.P. Volz, and F.R. Szofran.
43. Delta L: An Apparatus for Measuring Macromolecule Crystal growth Rates in Microgravity. Conference on *International Space Station Utilization*, Kennedy Space Center, FL, October 15–18, 2001. R.A. Judge.
44. Demonstration of a Segment Alignment Maintenance System on a Seven-segment Subarray of the Hobby-Eberly Telescope. Optomechanical Design and Engineering 2001 Conference, San Diego, CA, July 26–August 3, 2001. J. Rakoczy.
45. Design and Fabrication of a Fabry-Perot Electro-optic Modulator. 13th Semi-annual Project Review Meeting, Atlanta, GA, February 23, 2001. C.E. Banks, C. Yelleswarapu, A. Sharma, D.O. Frazier, B.G. Penn, and H.A. Abdeldayem.
46. Design and Fabrication of a Fabry-Perot Electro-optic Modulator. Alliance for Nonlinear Optics Conference, El Paso, TX, November 2, 2001. C.E. Banks, C. Yelleswarapu, A. Sharma, D.O. Frazier, B.G. Penn, and H.A. Abdeldayem.
47. Detached Bridgman Growth of Germanium and Germanium-Silicon Alloy Crystals. 52d International Astronautical Congress, Toulouse, France, October 1–5, 2001. F.R. Szofran, M.P. Volz, M. Schweizer, N. Kaiser, S.D. Cobb, S. Motakef, L. Vujisic, A. Croell, and P. Dold.

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48. Determination of a Two-phase Structure of Nanocrystals: GzN and SiC. Nanospace 2001, Galveston, TX, March 13–16, 2001. W. Palosz, B. Palosz, E. Grzanka, S. Gierlotka, S. Stel'makh, R. Pielaszek, W. Lojkowski, U. Bismayer, N. Neufeind, H. Weber, J. Janik, and R. Wells.
49. Differentiation and Genomic Instability in a Human Mammary Cell Model. 2001 NASA Cell Science Conference, Houston, TX, March 7, 2001. R.C. Richmond, R. Kale, and O. Pettengill.
50. Discovery of Weak EXO 2030+375 Outbursts with BATSE. GAMMA 2001 Symposium, Baltimore, MD, April 4–6, 2001. C.A. Wilson, M.H. Finger, M.J. Coe, and S. Laycock.
51. Discovery of Weak Outbursts from EXO 2030+357. Southampton University, United Kingdom, April 19, 2001. C.A. Wilson.
52. Distribution and Spectroscopy of Green Fluorescent Protein and Acyl-CoA: Cholesterol Acyltransferase in Sf21 Insect Cells. Second Pan-Pacific Basin Workshop on Microgravity Sciences, Pasadena, CA, May 1–4, 2001. R.C. Richmond, H.K. Mahtani, X. Lu, T.Y. Chang, and H. Malak.
53. Dynamic Fatigue of ULE Glass. XIX International Congress on Glass, Edinburgh, Scotland, July 2–6, 2001. D.S. Tucker.
54. Dynamic Magnetic Field Applications for Materials Processing. 13th American Conference on Crystal Growth and Epitaxy, Burlington, VT, August 12–16, 2001. K. Mazuruk, R.N. Grugel, and S. Motakef.
55. The Effect of the Wall Contact and Post-growth Cool-down on Defects in CdTe Crystals Grown by 'Contactless' PVT. Second Pan-Pacific Basin Workshop on Microgravity Sciences, Pasadena, CA, May 1–4, 2001. W. Palosz, K. Grasza, M. Dudley, B. Raghothamachar, L. Cai, K. Durose, D. Halliday, N.M. Goyall.
56. The Effect of the Wall Contact and Post-growth Cool-down on Defects in CdTe Crystals Grown by 'Contactless' PVT. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. W. Palosz, K. Grasza, M. Dudley, B. Raghothamachar, L. Cai, K. Durose, D. Halliday, and N.M. Boyall.
57. Effective Gravitational Temperature in Sedimentation. Nanoparticles Conference, Orlando, FL, February 26, 2001. P.N. Segre, F. Liu, P. Umbanhowe, and D.A. Weitz.
58. Electrodeposition of Low Stress Nickel Phosphorous Alloys for Precision Component Fabrication. AESF's SUR/FIN 2001—The Finishers "Opry-tunity," Nashville, TN, June 25–28, 2001. D. Engelhaupt, B.D. Ramsey, and C.O. Speegle.
59. Electronic Model of a Ferroelectric Field Effect Transistor. 13th Symposium on Integrated Ferroelectrics, Colorado Springs, CO, March 11, 2001. T.C. MacLeod and F.D. Ho.

## PRESENTATIONS (Continued)

60. The Energetic Trans-iron Composition Experiment (ENTICE) on the Heavy Nuclei Explorer (HNX). International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. M.H. Israel, J.H. Adams, Jr., et al.
61. The Ever-changing X-ray Sky: X-ray Transients Observed With BATSE. Presentation at University of Southampton, United Kingdom, January 11, 2001. C.A. Wilson.
62. An Examination of Organizational Subculture Differences. American Society for Engineering Management, Huntsville, AL, October 11–13, 2001. K.F. Robinson.
63. Experimental and Computational Studies of the Control of Convection of Nonconducting Liquids During Solidification by Means of a Magnetic Field Gradient. AIAA 39th Aerospace Sciences Meeting, Reno, NV, January 8–12, 2001. C.D. Seybert, J.W. Evans, F.W. Leslie, and W.K. Jones.
64. Experimental and Theoretical Investigations of the Solidification of Eutectic Al-Si Alloy. International Conference on Solidification Science and Processing, Bangalore, India, February 18, 2001. S. Sen and A.V. Catalina.
65. Expression of the Acyl-coenzyme A: Cholesterol Acyltransferase GFP Fusion Protein in Sf21 Insect Cells. 2001 NASA Cell Science Conference, Houston, TX, March 7, 2001. H.K. Mahtani, R.C. Richmond, and T.Y. Chang.
66. Fabricating High-resolution Mirrors for Hard X-ray Astronomy, Optical Society of America, OSA Optics in the Southeast. Optical Society of America, OSA Optics in the Southeast, Clemson, SC, October 4–5, 2001. C.O. Speegle, B.D. Ramsey, and D. Engelhaupt.
67. Fabrication of Fiber-Optic Gratings Over a Wide Range of Bragg Wavelengths Using a Single Phase Mask. Bragg Gratings, Photosensitivity, and Poling in Glass Waveguides, Stresa Congress Center, Stresa, Italy, July 4–6, 2001. J. Grant, Y. Wang, and A. Sharma.
68. Facility for Iterative Biological Crystallization Onboard the *International Space Station*. Conference on *International Space Station* Utilization, Kennedy Space Center, FL, October 15–18, 2001. L. Monaco, S.F. Spearing, A. Rice, M.L. Pusey, C.E. Kundrot, M.J. van der Woerd, D. Sherrill, and M.M. Brasseur.
69. The First Flight of ATIC: Preliminary Results on CNO Nuclei. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. A. Fazely and R. Gunasingha.
70. The First Flight of ATIC: Preliminary Results on Li, Be, B Nuclei. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. V.I. Zatsepin.
71. First Materials Science Research Rack (MSRR-1) Capabilities and Design Features. Conference on *International Space Station* Utilization, Kennedy Space Center, FL, October 15–18, 2001. D.A. Schaefer, R. King, and S.D. Cobb.

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72. First Mirror Review. MSFC Technology Days, MSFC, AL, May 9–10, 2001. K.J. Dodson and S.J. Connell.
73. First Protein Crystallization Experiments on the *International Space Station*: Sweet Success in Space with Thaumatin. American Crystallographic Association, Los Angeles, CA, July 21, 2001. C.E. Kundrot, C.L. Barnes, E.H. Snell, and A. Achari.
74. Flight Manifesting Process for NASA Microgravity Payloads. AIAA Space 2001 Conference and Exposition, Albuquerque, NM, August 28–30, 2001. B.P. Matisak, M.E. Boudreaux, S.H. Anderson, and W.E. Ramage.
75. Float Zone Growth of Alloy Semiconductor Crystals: Influence of Solutocapillary Convection. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. P. Dold, M. Schweizer, A. Croell, T.A. Campbell, S. Boschert, and K.W. Benz.
76. Formation of Residual Gases From Source Material: Closed Crystal Growth Systems. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. W. Palosz.
77. The Future of Satellite-based Lightning Detection. Eighth Scientific Assembly of IAMAS, Munich, Germany, July 13, 2001. D.J. Boccippio and H.J. Christian.
78. Gamma-ray Bursts—An Update. Auburn University Presentation, Auburn, AL, April 20, 2001. G.J. Fishman.
79. The GLAST Burst Monitor. Gamma-ray Burst and Afterglow Astronomy 2001 Workshop, Woods Hole, MA, November 5–9, 2001. C.A. Meegan.
80. Gravity Effects in Carbon Nanotube Growth by Thermal Chemical Vapor Deposition. Second Pan-Pacific Basin Workshop on Microgravity Sciences, Pasadena, CA, May 1–4, 2001. S. Zhu, C.-H. Su, J.C. Cochrane, S.L. Lehoczky, Y. Cui, and A. Burger.
81. High-energy-electron and Gamma-ray Detection with ATIC. International Cosmic Ray Conference, Hamburg, Germany, August 7–15, 2001. J. Chang and W.K.H. Schmidt.
82. High-pressure Synthesis of Metal-ceramic Nano-composites. Nanospace 2001, Galveston, TX, March 13–16, 2001. W. Palosz, S. Gierlotka, B. Palosz, E. Ekimov, E. Grzanka, S. Stel'makh, W. Lojkowski, and U. Bismayer.
83. Hydrogen Absorbing Materials for Use as Radiation Shielding During Extended Space Flight Missions. Fourth Pacific Rim International Conference, Honolulu, HI, December 11–15, 2001. R.N. Grugel.
84. Hysteresis and Wavenumber Vacillation in Unstable Baroclinic Flows. Wave Phenomena III: Waves in Fluids From the Microscopic to the Planetary Scale, Edmonton, Alberta, Canada, June 11–15, 2001. S.-H. Chou.



## PRESENTATIONS (Continued)

85. IABG CsiC Mirror. MSFC Technology Days, MSFC, AL, May 9–10, 2001. H.P. Stahl.
86. Inducing Lift on Spherical Particles by Traveling Magnetic Fields. 39th AIAA Aerospace Sciences Meeting, Reno, NV, January 8–12, 2001. K. Mazuruk and R.N. Grugel.
87. Inertial Screening in Sedimentation. APS Division of Fluid Dynamics 54th Meeting, San Diego, CA, November 18–20, 2001. P.N. Segre.
88. Infrared Fibers for Use in Space-based Smart Structures. Eighth International Conference on Composites Engineering, Tenerife, Spain, August 5–11, 2001. D.S. Tucker and A.T. Nettles.
89. Initial Results From the Jovian Electrodynamical Tether Systems (JETS) Study. Forum on Innovative Approaches to Outer Planetary Exploration, Houston, TX, February 21–22, 2001. D.L. Gallagher, G.P. Garbe, J. Moore, and C. Talley.
90. Innovative Technologies for a Space Station Microgravity Furnace. Conference and Exhibit on *International Space Station Utilization*, Kennedy Space Center, FL, October 15–18, 2001. B. Carswell, M.R. Crouch, J. Farmer, S. Breeding, and F. Rose.
91. Instrument Development for X-ray Astronomy. Meeting at The Tata Institute of Fundamental Research, Bombay, India, September 8–16, 2001. B.D. Ramsey.
92. Interannual Variability of Tropical Precipitation: How Well Do Climate Models Agree With Current Satellite Estimates. AMS Conference, Albuquerque, NM, January 15–19, 2001. F.R. Robertson, S. Marshall, J. Roads, R.J. Oglesby, and D.E. Fitzjarrald.
93. Interferometer Characterization. MSFC Technology Days, MSFC, AL, May 9–10, 2001. R. Eng.
94. Interstellar X-ray Absorption Spectroscopy of the Crab Pulsar With the LETGS. Two Years of Science With Chandra Symposium, Washington, DC, September 5–7, 2001. F. Paerels, M.C. Weisskopf, A.F. Tennant, S.L. O'Dell, D.A. Swartz, S. Kahn, E. Behar, and W. Becker.
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98. Jupiter: The Solar System's Giant. Meeting at Von Braun Planetarium, Huntsville, AL, March 24, 2001. D.L. Gallagher.

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99. Killing of *Bacillus Megaterium* Spores by X-rays at the Phosphorus K-edge. 48th Radiation Research Society, San Juan, Puerto Rico, April 22, 2001. R.C. Richmond, S.P. Frigo, and C.F. Ehret.
100. Kodak AMSD Concept Overview and Status (Semi-rigid Mirror With Sparse Activators). MSFC Technology Days, MSFC, AL, May 9–10, 2001. G. Matthews.
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129. Observations of GRBs: Current Research and Planning for a Next-generation GRB Observatory. The Jan van Paradijs Memorial Symposium, Amsterdam, The Netherlands, June 6–8, 2001.
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131. Orientational Growth of Carbon Nanotube for Applications. 2001 MRS Fall Meeting, Boston, MA, November 26, 2001. S. Zhu, C.-H. Su, J.C. Cochran, S.L. Lehoczky, Y. Cui, and A. Burger.
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143. Recent Enhancements of the Phased Array Mirror Extendible Large Aperture (PAMELA) Telescope Testbed at MSFC. MSFC Technology Days, MSFC, AL, May 9–10, 2001. J. Rakoczy.
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157. The Storm-time Plasmasphere by IMAGE/EUV. Geospace Environment Modeling Conference, Snowmass, CO, June 17–22, 2001. D.L. Gallagher.
158. Structural Analysis of a 50-cm-Diameter Open-back Triangular Cell Beryllium Mirror in a Cryogenic Environment. MSFC Technology Days, MSFC, AL, May 9–10, 2001. L. Craig.
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163. Synthesis of Carbon Nanotubes Array by CVD. NanoSpace 2001 Conference, Galveston, TX, March 13–16, 2001. S. Zhu, C.-H. Su, J.C. Cochrane, S.L. Lehoczky, I. Muntele, and D. Ila.
164. Synthesis of ZnO: As Films Using Off-axis Sputtering Deposition. 13th International Conference on Crystal Growth, Kyoto, Japan, July 30–August 4, 2001. S. Zhu, C.-H. Su, and S.L. Lehoczky.
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166. Telescience Support Center (TSC) at MSFC. SAE International Conference on Environmental Systems (ICES), Orlando, FL, July 9–12, 2001. C.T. Owen.
167. Thermal Modeling and Analysis of a Subcompact Seebeck Furnace. Second Pan-Pacific Basin Workshop on Microgravity Sciences, Pasadena, CA, May 1–5, 2001. F.C. Wang and P.N. Peters.
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172. University of Arizona NMSD. MSFC Technology Days, MSFC, AL, May 9–10, 2001. J. Burge.
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174. Utilization of Infrared Fiber Optics in the Automotive Industry. Seventh International Glass Processing Days, Tampere, Finland, June 18–21, 2001. D.S. Tucker.
175. Vapor Growth of Binary and Ternary Chalcogenides in Preparation for Microgravity Experiments. Infrared Materials Workshop, Fisk University, Nashville, TN, April 1–3, 2001. C.-H. Su.

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176. Vibration Compensated Interferometer. MSFC Technology Days, MSFC, AL, May 9–10, 2001. J. Hayes.
177. X-ray Characterization of Structural Defects in Seeded and Self-seeded ZnSe Crystal Grown by PVT in Horizontal and Vertical Configurations. 13th American Conference on Crystal Growth and Epitaxy, Burlington, VT, August 12, 2001. B. Raghochamachar, M. Dudley, C.-H. Su, and R. Matyi.
178. XRCF Testing Capabilities. MSFC Technology Days, MSFC, AL, May 9–10, 2001. C. Reily and J. Kegley.



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