

CHARLES L. BENNETT

CURRENT ADDRESS

Code 685, Infrared Astrophysics Branch
NASA Goddard Space Flight Center
Greenbelt, MD 20771

POSITIONS

2004 - Senior Scientist for Experimental Cosmology, NASA-GSFC
1994 - 2000 Head, Infrared Astrophysics Branch, Goddard
1993 - 1994 Acting Head, Infrared Astrophysics Branch, Goddard
(4/93-8/93 and 4/94-8/94)
1984 - 2004 Astrophysicist, NASA-GSFC

EDUCATION

1978-1984 Massachusetts Institute of Technology, Cambridge, MA
PhD Degree, Department of Physics: "The MIT-Green Bank 5 GHz Survey"

1974-1978 University of Maryland, College Park, Maryland
B.S. degree, cum laude, with High Honors in Astronomy

1976-1978 Carnegie Institution of Washington, Washington, D.C.
Summer Trainee Fellow in the Department of Terrestrial Magnetism
in astronomical instrumentation

PROFESSIONAL & SPECIALTIES

Cosmology
Infrared, submillimeter, and radio astrophysics
Large-scale properties of the Galaxy
Astronomical instrumentation

MAJOR PROJECT AND SERVICE RESPONSIBILITIES

2004 Co-Chair Joint Dark Energy Mission (JDEM) Science Definition Team
1996-date P.I. of the Wilkinson Microwave Anisotropy Probe (WMAP) mission
2003-date Co-I of the Legacy Archive for Microwave Background Data Analysis
2004 Collaborator, Big Bang Observer vision mission study (NASA)
2004 Co-I Einstein Inflation Probe mission concept study (NASA)
2001-2002 Scientific Organizing Committee for "The Emergence of Cosmic Structure"
astrophysics conference
1985-1996 COBE Science Working Group
1987-1996 Deputy P.I., Differential Microwave Radiometers (DMR)
instrument on Cosmic Background Explorer (COBE)
Leader of COBE DMR software effort
1993-1995 NASA Infrared, Submm, & Radio Mission Operation Working Group

1994	US/Russia Joint Working Group on Astron. and Astrophysics: Technical Expert
1994-1995	NASA Infrared/Submillimeter/Radio Management Operations Working Group
1994-1995	Scientific Organizing Committee for "Cosmic Abundances" astrophysics conference
1993-1994	Scientific Organizing Committee for "Dark Matter" astrophysics conference
1991-1992	Scientific Organizing Committee for "Back to the Galaxy" astrophysics conference
1989-1990	Scientific Organizing Committee for "After the First Three Minutes" astrophysics conference

AWARDS & HONORS

- 2004 NASA Exceptional Scientific Achievement Medal for WMAP
 2004 NASA Group Achievement Award to WMAP Science Team
 2004 Elected to the American Academy of Arts and Sciences
 2004 Rave Award nomination in "scientist" category, Wired Magazine
 2003 Science Magazine "Breakthrough of the Year" for WMAP/Sloan proof of Dark Energy
 2003 Fellow, American Association for the Advancement of Science (AAAS)
 2003 NASA/GSFC WMAP Cosmology Outreach Team
 2003 NASA Performance Award
 2003 NASA Outstanding Leadership Medal for the development and success of WMAP
 2003 John C. Lindsay Memorial Award for Space Science
 2003 University of Maryland Physics Department "Distinguished Alumnus of the Year"
 2002 NASA/GSFC Group Achievement Award for MAP
 2002 NASA/GSFC Center of Excellence Group Achievement Award for MAP
 2002 Senior Scientist for Experimental Cosmology
 2002 NASA/GSFC Performance Award
 2002 ISI Highly Cited Researchers
 2002 NASA/GSFC Performance Award
 2001 Popular Science "Best of What's New" Award in Aviation and Space for WMAP
 2000 Institutional Support "Vision" Award for Spacecraft Operations Risk Assessment
 1999 Fellow, American Physical Society
 1999 NASA/GSFC Leadership Award
 1998 NASA/GSFC Performance Award
 1997 NASA MIDEX Group Award
 1996 NASA/GSFC Performance Award
 1996 GSFC Group Award for MAP Proposal
 1994 NASA Outstanding Performance
 1992 NASA Exceptional Scientific Achievement Medal for COBE
 1990 NASA Group Achievement Award for COBE
 1989 NASA/GSFC Performance Award
 1988 GSFC Group Achievement Award for COBE
 1985 NASA Outstanding Performance

SELECTED INVITED LECTURES

- 2004 Institute for Advanced Study (IAS) Colloquium, Princeton, NJ
2004 Astro & Particle Physics Conference (DARK 2004), College Station, TX
2004 Public Lecture (Associated with DARK 2004), Texas A&M, College Station
2004 COSPAR International Space Congress Meeting, Paris, France
2004 Beyond Einstein meeting, Stanford, CA
2004 Plenary Speaker, APS "April" Meeting, Denver, CO
2004 AAAS Annual Meeting, Seattle, WA
2003 Georgetown University, Washington, DC
2003 Penn State University Colloquium, State College, PA
2003 IAU Symp. On "Maps of the Cosmos", Sydney, Australia
2003 Carnegie Institution of Washington, DTM, Washington, DC
2003 Space Telescope Science Institute, Baltimore, MD
2003 Scientific Colloquium, Fermilab, Batavia, IL
2003 Space Studies Board, National Academy of Sciences, Washington DC
2003 Physics Department Colloquium, University of Maryland, College Park, MD
2003 Peebles-Wilkinson Seminar, Princeton, NJ
2003 Goddard Science Colloquium, Greenbelt, MD
2001 National Radio Astronomy Observatory, Green Bank, WV
2000 Space Telescope Science Institute, Baltimore, MD
1997 American Astronomical Society, Toronto, Canada
1997 Space Technology & Applications International Forum, Albuquerque, NM
1997 M.I.T. Physics Colloquium, Cambridge, MA
1996 American Association for the Advancement of Science, Baltimore, MD
1996 University of Maryland Astronomy Colloquium, College Park, MD
1995 M.I.T. Astrophysics Colloquium, Cambridge, MA
1994 Int'l Conf on Neutrino Physics and Astrophysics, Eilat, Israel
1994 Space Studies Board, Greenbelt, MD
1993 Univ of Maryland conference on General Relativity, College Park, MD
1993 Smithsonian Institution, Washington, DC, 1993
1993 National Academy of Sciences, "Frontiers of Science", Irvine, CA
1993 STScI Conference on "Galactic Halos", Baltimore, MD
1993 John Hopkins Univ Physics Department Colloquium, Baltimore, MD
1992 COSPAR International Space Congress Meeting, Washington, DC
1992 International Scientific Film Festival, Quebec, Canada
1992 "Evolution of Galaxies and Their Environment", Grand Tetons, WY
1992 M.I.T. Astrophysics Colloquium, Cambridge, MA
1992 American Astronomical Society, Phoenix, AZ
1992 Carnegie Institution, DTM, Washington, DC
1992 "The Confines of the Universe" Summer School, El Escorial, Spain
1990 Johns Hopkins Univ Center for Space Astrophysics, Baltimore, MD
1989 Carnegie Institution, DTM, Washington, DC

AFFILIATIONS

American Association for the Advancement of Science
American Astronomical Society
American Institute of Physics
American Physical Society
International Astronomical Union
Sigma Xi

PUBLICATIONS: REFEREED PAPERS

1. C. L. Bennett, C. R. Lawrence, & B. F. Burke, "A Search for Neutral Hydrogen Absorption in the Double Quasar 0957+561," *Nature*, 283, 175, 1980.
2. D. H. Roberts, A. E. E. Rogers, B. R. Allen, C. L. Bennett, B. F. Burke, P. E. Greenfield, C. R. Lawrence, & T. A. Clark, "Radio Interferometric Detection of a Travelling Ionospheric Disturbance Excited by the Explosion of Mount St. Helens," *Journal of Geophysical Research*, 87, 6302, 1982.
3. C. R. Lawrence, C. L. Bennett, J. A. Garcia-Barreto, P. E. Greenfield & B. F. Burke, "5 GHz Observations of Sources in the Arecibo 611 MHz Survey," *Astrophysical Journal Supplement*, 51, 67, 1983.
4. C. L. Bennett, C. R. Lawrence, J. A. Garcia-Barreto, J. N. Hewitt, & B. F. Burke, "VLA Source Counts at 6-cm Wavelength," *Nature*, 301, 686, 1983.
5. C. R. Lawrence, D. P. Schneider, M. Schmidt, C. L. Bennett, J. N. Hewitt, B. F. Burke, E. L. Turner, & J. E. Gunn, "Discovery of a New Gravitational Lens System," *Science*, 223, 46, 1984.
6. C. L. Bennett, C. R. Lawrence, & B. F. Burke, "5 GHz Source Variability and the Gain of the NRAO 300 Foot Telescope," *Astrophysical Journal Supplement*, 54, 211, 1984.
7. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, & B. F. Burke, "5 Gigahertz Structure and Optical Identifications of Weak Extragalactic Radio Sources," *Astrophysical Journal Letters*, 278, L95, 1984.
8. C. L. Bennett, C. R. Lawrence, & B. F. Burke, "Source Counts at 5 Gigahertz from the MG Survey," *Astrophysical Journal*, 299, 373, 1985.
9. C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney, "The MIT-Green Bank (MG) 5 GHz Survey," *Astrophysical Journal Supplement Series*, 61, 1, 1986.
10. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, B. F. Burke, & K. C. Turner, "5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts," *Astrophysical Journal Supplement*, 61, 105, 1986.

11. J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel, "The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens," *Astrophysical Journal*, 321, 706, 1987.
12. S. J. Petuchowski & C. L. Bennett, "Detection of the $2_{20} \rightarrow 2_{21}$ Transition of HDO in Orion A: Evidence for Dense Clumped Gas in the Hot Core and Spike Components," *Astrophysical Journal*, 326, 376, 1988.
13. M. A. Toral, R. B. Ratliff, M. C. Lecha, J. G. Maruschak, C. L. Bennett, & G. F. Smoot, "Measurements of Very Low-Sidelobe Level Horn Antennas for the Cosmic Background Explorer (COBE) Satellite," *IEEE Antennas and Propagation*, 37, 171, 1989.
14. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski, "Formaldehyde Absorption Towards W51," *Astrophysical Journal*, 346, 763, 1989.
15. Kogut, S. J. Petuchowski, C. L. Bennett, & G. F. Smoot, "In Situ Measurement of the Cosmic Microwave Background Temperature at a Distance of 7.5 Kiloparsecs," *Astrophysical Journal Letters*, 348, L45, 1990.
16. G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdoch, R. Shafer, R. Silverberg, & E. Wright, "COBE Differential Microwave Radiometers (DMR): Instrument Design and Implementation," *Astrophysical Journal*, 360, 685, 1990.
17. J. C. Mather, E. S. Cheng, R. E. Eplee, R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. G. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdoch, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson, "A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the Cosmic Background Explorer (COBE) Satellite," *Astrophysical Journal Letters*, 354, L37, 1990.
18. S. J. Petuchowski and C. L. Bennett, "A Search for vibrationally excited H₂O at 68 GHz," *Astrophysical Journal*, 367, 168, 1990.
19. Smoot, G. F., Bennett, C. L., Kogut, A., Aymon, J., Backus, C., De Amici, G., Galuk, K., Jackson, P. D., Keegstra, P., Rokke, L., Tenorio, L., Torres, S., Gulkis, S., Hauser, M. G., Janssen, M., Mather, J. C., Weiss, R., Wilkinson, D. T., Wright, E. L., Boggess, N. W., Cheng, E. S., Kelsall, T., Lubin, P., Meyer, S., Moseley, S. H., Murdoch, T. L., Shafer, R., & Silverberg, R. F., "Preliminary Results from the COBE Differential Microwave Radiometers: Large-Angular-Scale Isotropy of the Cosmic Microwave Background," *Astrophysical Journal Letters*, 371, L1, 1991.
20. Wright, E. L., Mather, J. C., Bennett, C. L., Cheng, E. S., Shafer, R. A., Fixsen, D. J., Eplee, R. E., Jr., Isaacman, R. B., Read, S. M., Boggess, N. W., Gulkis, S., Hauser, M. G., Janssen, M., Kelsall, T., Lubin, P. L., Moseley, S. H., Jr., Meyer, S. S., Murdoch, T. L., Silverberg, R. F., Smoot, G. F., Weiss, R., & Wilkinson, D. T., "Preliminary Spectral Observations of the Galaxy with a 7° Beam by the Cosmic Background Explorer (COBE)," *Astrophysical Journal*, 381, 200, 1991.

21. Petuchowski, S. J. & Bennett, C. L., "SO in Starburst Galaxies," *Astrophysical Journal*, 391, 137, 1991.
22. Bennett, C. L., Smoot, G. F., Janssen, M., Gulkis, S., Kogut, A., Hinshaw, G., Backus, C., Hauser, M. G., Mather, J. C., Rokke, L., Tenorio, L., Weiss, R., Wilkinson, D. T., Wright, E. L., De Amici, G., Boggess, N. W., Cheng, E. S., Jackson, P. D., Keegstra, P., Kelsall, T., Kummerer, R., Lineweaver, C., Moseley, S. H., Murdock, T. L., Santana, J., Shafer, R. A., & Silverberg, R. F., "COBE Differential Microwave Radiometers: Calibration Techniques," *Astrophysical Journal*, 391, 466, 1991.
23. Boggess, N. W., Mather, J. C., Weiss, R., Bennett, C. L., Cheng, E. S., Gulkis, S., Hauser, M. G., Janssen, M., A., Kelsall, T., Lubin, P. M., Meyer, S. S., Moseley, S. H., Murdock, T. L., Shafer, R. A., Silverberg, R. F., Smoot, G. F., Wilkinson, D. T., & Wright, E. L. "The COBE Mission: Its Design and Performance Two Years After Launch," *Astrophysical Journal*, 397, 420, 1992.
24. Petuchowski, S. J. & Bennett, C. L. "Galactic Fine Structure Lines: Morphologies of the Warm Ionized Interstellar Medium," *Astrophysical Journal*, 405, 591, 1993.
25. Smoot, G. F., Bennett, C. L., Kogut, A., Wright, E. L., Aymon, J., Boggess, N. W., Cheng, E. S., De Amici, G., Gulkis, S., Hauser, M. G., Hinshaw, G., Lineweaver, C., Loewenstein, K., Jackson, P. D., Janssen, M., Kaita, E., Kelsall, T., Keegstra, P., Lubin, P., Mather, J. C., Meyer, S. S., Moseley, S. H., Murdock, T. L., Rokke, L., Silverberg, R. F., Tenorio, L., Weiss, R., & Wilkinson, D. T. "Structure in the COBE DMR First Year Maps," *Astrophysical Journal Letters*, 396, L1, 1992.
26. Bennett, C. L., Smoot, G. F., Hinshaw, G., Wright, E. L., Kogut, A., De Amici, G., Meyer, S. S., Weiss, R., Wilkinson, D. T., Gulkis, S., Janssen, M., Boggess, N. W., Cheng, E. S., Hauser, M. G., Kelsall, T., Mather, J. C., Moseley, S. H., Jr., Murdock, T. L., & Silverberg, R. F., "Preliminary Separation of Galactic and Cosmic Microwave Emission for the COBE-DMR," *Astrophysical Journal Letters*, 396, L5, 1992.
27. Wright, E. L., Meyer, S. S., Bennett, C. L., Boggess, N. W., Cheng, E. S., Hauser, M. G., Kogut, A., Lineweaver, C., Mather, J. C., Smoot, G. F., Weiss, R., Gulkis, S., Hinshaw, G., Janssen, M., Kelsall, T., Lubin, P. M., Moseley, S. H., Jr., Murdock, T. L., Shafer, R. A., Silverberg, R. F., & Wilkinson, D. T., "Interpretation of the COBE Anisotropy Detected by the COBE DMR," *Astrophysical Journal Letters*, 396, L13, 1992.
28. Kogut, A., Smoot, G. F., Bennett, C. L., Wright, E. L., Aymon, J., De Amici, G., Hinshaw, G., Jackson, P. D., Kaita, E., Keegstra, P., Lineweaver, C., Loewenstein, K., Rokke, L., Tenorio, L., Boggess, N. W., Cheng, E. S., Gulkis, S., Hauser, M. G., Janssen, J. A., Kelsall, T., Mather, J. C., Meyer, S., Moseley, S. H., Murdock, T. L., Shafer, R. A., Silverberg, R. F., Weiss, R., & Wilkinson, D. T., "COBE Differential Microwave Radiometers (DMR): Preliminary Systematic Error Analysis," *Astrophysical Journal*, 401, 1, 1992.
29. Bennett, C. L., Boggess, N. W., Cheng, E. S., Hauser, M. G., Kelsall, T., Mather, J. C., Moseley, S. H., Jr., Murdock, T. L., Shafer, R. A., Silverberg, R. A., Smoot, G. F., Weiss, R., & Wright, E. L., "Scientific Results from COBE," *Advances in Space Research*, 13, (12)409, 1993.

30. Wright, E. L., Smoot, G. S., Kogut, A., Hinshaw, G., Tenorio, L., Lineweaver, C., Bennett, C. L., & Lubin, P. M., "Comments on the Statistical Analysis of Excess Variance in the COBE DMR Maps," *Astrophysical Journal*, 420, 1, 1993.
31. Kogut, A., Lineweaver, C., Smoot, G. F., Bennett, C. L., Banday, A., Boggess, N. W., Cheng, E. S., De Amici, G., Fixsen, D. J., Hinshaw, G., Jackson, P. D., Janssen, M., Keegstra, P., Loewenstein, K., Lubin, P., Mather, J. C., Tenorio, L., Weiss, R., Wilkinson, D. T., & Wright, E. L., "Dipole Anisotropy in the COBE-DMR First-Year Sky Maps," *Astrophysical Journal*, 419, 1, 1993.
32. Bennett, C. L., Hinshaw, G., Banday, A., Kogut, A., Wright, E. L., Loewenstein, K., & Cheng, E. S., "Noncosmological Signal Contributions to the COBE DMR Anisotropy Maps," *Astrophysical Journal Letters*, 414, L77, 1993.
33. Mather, J. C., Cheng, E. S., Cottingham, D. A., Eplee, R. E., Jr., Fixsen, D. J., Hewagama, T., Isaacman, R. B., Jensen, K. A., Meyer, S. S., Noerdlinger, P. D., Read., S. M., Rosen, L. P., Shafer, R. A., Wright, E. L., Bennett, C. L., Boggess, N. W., Hauser, M. G., Kelsall, T., Moseley, S. H., Jr., Silverberg, R. F., Smoot, G. F., Weiss, R., & Wilkinson, D. T. "Measurement of the Cosmic Microwave Background Spectrum by the COBE FIRAS," *Astrophysical Journal*, 420, 439, 1994.
34. Fixsen, D. J., Cheng, E. S., Cottingham, D. A., Eplee, R. E., Jr., Isaacman, R. B., Mather, J. C., Meyer, S. S., Noerdlinger, P. D., Shafer, R. A., Weiss, R., Wright, E. L., Bennett, C. L., Boggess, N. W., Kelsall, T., Moseley, S. H., Jr., Silverberg, R. F., Smoot, G. F., & Wilkinson, D. T. "Cosmic Microwave Background Dipole Spectrum Measured by the COBE FIRAS," *Astrophysical Journal*, 420, 445, 1994.
35. Fixsen, D. J., Cheng, E. S., Cottingham, D. A., Eplee, R. E., Jr., Hewagama, T., Isaacman, R. B., Jensen, K. A., Mather, J. C., Massa, D. L., Meyer, S. S., Noerdlinger, P. D., Read., S. M., Rosen, L. P., Shafer, R. A., Trenholme, A. R., Weiss, R., Bennett, C. L., Boggess, N. W., Wilkinson, D. T., & Wright, E. L. "Calibration of the Far Infrared Absolute Spectrophotometer (FIRAS) on the Cosmic Background Explorer (COBE)," *Astrophysical Journal*, 420, 457, 1994.
36. Wright, E. L., Mather, J. C., Fixsen, D. J., Kogut, A., Shafer, R. A., Bennett, C. L., Boggess, N. W., Cheng, E. S., Silverberg, R. F., Smoot, G. F., & Weiss, R. "Interpretation of the COBE FIRAS Spectrum," *Astrophysical Journal*, 420, 450, 1994.
37. Sodroski, T. J., Hauser, M. G., Dwek, E., Kelsall, T., Moseley, S. H., Silverberg, R. F., Boggess, N., Bennett, C., Odegard, N., Franz, B., & Weiland, J. L., "Large-Scale Characteristics of Interstellar Dust from COBE DIRBE Observations," *Astrophysical Journal*, 428, 638, 1994.
38. Bennett, C. L., Fixsen, D. J., Mather, J. C., Moseley, S. H., Wright, E. L., Eplee, R. E., Jr., Gales, J., Hewagama, T., Isaacman, R. B., Shafer, R. A., & Turpie, K., "Morphology of the Interstellar Cooling Lines Detected by COBE," *Astrophysical Journal*, 434, 587, 1994.

39. Petuchowski, S. P., Bennett, C. L., Haas, M. R., Erickson, E. F., Lord, S. D., Rubin, R. H., Colgan, S. W. J., & Hollenbach, D. J., "The [N II] 205 Micron Line in M82: The Warm Ionized Medium," *Astrophysical Journal Letters*, 427, L17, 1994.
40. Hinshaw, G., Kogut, A., Gorski, K. M., Banday, A. J., Bennett, C. L., Lineweaver, C., Lubin, P., Smoot, G. F., & Wright, E. L., "Limits on Three-Point Correlations in the COBE DMR First Year Anisotropy Maps," *Astrophysical Journal*, 431, 1, 1994.
41. Smoot, G. F., Tenorio, L., Banday, A. J., Kogut, A., Wright, E. L., Hinshaw, G., & Bennett, C. L., "Statistics & Topology of the COBE DMR First Year Sky Maps," *Astrophysical Journal*, 437, 1, 1994.
42. Kogut, A., Banday, A. J., Bennett, C. L., Hinshaw, G., Loewenstein, K., Lubin, P., Smoot, G. F., & Wright, E. L., "Search for Unresolved Sources in the COBE-DMR Two-Year Sky Maps," *Astrophysical Journal*, 433, 435, 1994.
43. Bennett, C. L., Kogut, A., Hinshaw, G., Banday, A. J., Wright, E. L., Gorski, K., Wilkinson, D. T., Weiss, R., Smoot, G. F., Meyer, S. S., Mather, J. C., Lubin, P., Loewenstein, K., Lineweaver, C., Keegstra, P., Kaita, E., Jackson, P. D., & Cheng, E. S., "Cosmic Temperature Fluctuations from Two Years of COBE DMR Observations," *Astrophysical Journal*, 436, 423, 1994.
44. Wright, E. L., Smoot, G. F., Bennett, C. L., & Lubin, P. M., "Angular Power Spectrum of the Microwave Background Anisotropy Seen by the COBE Differential Microwave Radiometer," *Astrophysical Journal*, 436, 443, 1994.
45. Gorski, K. M., Hinshaw, G., Banday, A. J., Bennett, C. L., Wright, E. L., Kogut, A., Smoot, G. F. & Lubin, "On Determining the Spectrum of Primordial Inhomogeneity from the COBE DMR Sky Maps: II. Results of Two-Year Data Analysis," *Astrophysical Journal Letters*, 430, L89, 1994.
46. Lineweaver, C., Smoot, G. F., Bennett, C. L., Wright, E. L., Tenorio, L., Kogut, A., Keegstra, P. B., Hinshaw, G., & Banday, A. J., "Correlated Noise in the COBE DMR Sky Maps," *Astrophysical Journal*, 436, 452, 1994.
47. Petuchowski, S. J. & Bennett, C. L., "Neutral Gas Contributions to [S II] Emission," *Astrophysical Journal*, 438, 735, 1995.
48. Banday, A. J., Gorski, K. M., Tenorio, L., Wright, E. L., Smoot, G. F., Lineweaver, C. H., Kogut, A., Hinshaw, G., & Bennett, C. L., "On the RMS Anisotropy at 7° and 10° Observed in the COBE-DMR Two Year Sky Maps," *Astrophysical Journal*, 436, L99, 1994.
49. Sodroski, T. J., Odegard, N., Dwek, E., Hauser, M. G., Franz, B. A., Freedman, I., Wall, W. F., Berriman, G. B., Odenwald, S. F., Bennett, C., Reach, W. T., & Weiland, J. L., "The Ratio of H_2 Column Density to ^{12}CO Intensity in the Vicinity of the Galactic Center," *Astrophysical Journal*, 452, 262, 1995.

50. Hinshaw, G., Bennett, C. L., & Kogut, A., "CMB Maps at 0.5° Resolution I: Full-Sky Simulations and Basic Results," *Astrophysical Journal Letters*, 441, L1, 1995.
51. Kogut, A., Hinshaw, G., & Bennett, C. L., "CMB Maps at 0.5° Resolution II: Unresolved Features," *Astrophysical Journal Letters*, 441, L5, 1995.
52. Kogut, A., Banday, A. J., Bennett, C. L., Hinshaw, G., Lubin, P. M., & Smoot, G. F., "Gaussian Statistics of the Cosmic Microwave Background: Correlation of Temperature Extrema in the COBE DMR Two-Year Sky Maps," *Astrophysical Journal*, 439, L29, 1995.
53. Reach, W. T., Dwek, E., Fixsen, D. J., Hewagama, T., Mather, J. C., Shafer, R. A., Banday, A. J., Bennett, C. L., Cheng, E. S., Eplee, R. E. Jr., Leisawitz, D., Lubin, P. M., Read, S. M., Rosen, L. P., Shuman, F. G. D., Smoot, G. F., Sodroski, T. J., & Wright, E. L., "Far-Infrared Spectral Observations of the Galaxy by COBE," *Astrophysical Journal*, 451, 188, 1995.
54. Wall, W. F., Reach, W. T., Hauser, M. G., Arendt, R., Weiland, J. L., Berriman, B. G., Bennett, C., Dwek, E., Leisawitz, D., Mitra, M., Odenwald, S., & Sodroski, T. J., "COBE/DIRBE Observations of the Orion Constellation from the Near- to Far-Infrared," *Astrophysical Journal*, 456, 566, 1996.
55. Petuchowski, S. J., Bennett, C. L., Haas, M. R., Colgan, S. W. J., & Erickson, E. F., "The Height of Ionized Gas in the Inner Galaxy," *Astrophysical Journal*, 459, 181, 1996.
56. Hinshaw, G., Banday, A. J., Bennett, C. L., Gorski, K. M., and Kogut, A. "Three-Point Correlations in the COBE-DMR Two-Year Anisotropy Maps," *Astrophysical Journal*, 446, L67, 1995.
57. Kogut, A., Banday, A. J., Bennett, C. L., Gorski, K., Hinshaw, G. & Reach, W. T., "High-Latitude Galactic Emission in the COBE DMR 2 Year Sky Maps," *Astrophysical Journal*, 460, 1, 1995.
58. Wright, E. L., Hinshaw, G., & Bennett, C. L., "Producing Mega-pixel CMB Maps from Differential Radiometer Data," *Astrophysical Journal Letters*, 458, L1, 1995.
59. Bennett, C. L., Banday, A. J., Gorski, K. M., Hinshaw, G., Jackson, P., Keegstra, P., Kogut, A., Smoot, G. F., Wilkinson, D. T., & Wright, E. L., "4-Year COBE DMR Cosmic Microwave Background Observations: Maps and Basic Results," *Astrophysical Journal Letters*, 464, L1, 1996.
60. Kogut, A., Hinshaw, G., Banday, A. J., Bennett, C. L., Gorski, K., Smoot G. F., & Wright, E. L., "Microwave Emission at High Galactic Latitudes," *Astrophysical Journal Letters*, 464, L5, 1996.
61. Gorski, K. M., Banday, A. J., Bennett, C. L., Hinshaw, G., Kogut, A., Smoot, G. F., & Wright, E. L., "Power Spectrum of Primordial Inhomogeneity Determined from the 4-Year COBE DMR Sky Maps," *Astrophysical Journal Letters*, 464, L11, 1996.
62. Hinshaw, G., Banday, A. J., Bennett, C. L., Gorski, K. M., Kogut, A., Smoot, G. F., & Wright, E. L., "Band Power Spectra in the COBE DMR 4-Year Anisotropy Maps," *Astrophysical Journal Letters*, 464, L17, 1996.

63. Wright, E. L., Bennett, C. L., Gorski, K., Hinshaw, G., & Smoot, G. F., "Angular Power Spectrum of the Microwave Background Anisotropy seen by the COBE Differential Microwave Radiometer," *Astrophysical Journal Letters*, 464, L21, 1996.
64. Hinshaw, G., Banday, A. J., Bennett, C. L., Gorski, K. M., Kogut, A., Lineweaver, C. H., Smoot, G. F., & Wright, E. L., "2-Point Correlations in the COBE DMR 4-Year Anisotropy Maps," *Astrophysical Journal Letters*, 464, L25, 1996.
65. Kogut, A., Banday, A. J., Bennett, C. L., Gorski, K., Hinshaw, G., Smoot, G. F., & Wright, E. L., "Tests for Non-Gaussian Statistics in the DMR Four-Year Sky Maps," *Astrophysical Journal Letters*, 464, L29, 1996.
66. Banday, A. J., Gorski, K. M., Bennett, C. L., Hinshaw, G., Kogut, A., & Smoot, G. F., "Non-cosmological Signal Contributions to the COBE-DMR Four-Year Sky Maps," *Astrophysical Journal Letters*, 468, L85, 1996.
67. Banday, A. J., Gorski, K. M., Bennett, C. L., Hinshaw, G., Kogut, A., Lineweaver, C., Smoot, G. F. & Tenorio, L., "RMS Anisotropy in the COBE-DMR Four-Year Sky Maps," *Astrophysical Journal*, 475, 393, 1996.
68. Kogut, A., Banday, A. J., Bennett, C. L., Gorski, K. M., Hinshaw, G., Jackson, P. D., Keegstra, P., Lineweaver, C., Smoot, G. F., Tenorio, L., & Wright, E. L., "Calibration and Systematic Error Analysis For the COBE-DMR Four-Year Sky Maps," Submitted to the *Astrophysical Journal*, 1996.
69. Fixsen, D. J., Hinshaw, G., Bennett, C. L. & Mather, J. C., "The Spectrum of the Cosmic Microwave Background Anisotropy from the Combined COBE FIRAS and DMR Observations," *Astrophysical Journal*, 486, 623, 1997.
70. Bennett, C. L., Turner, M. S., & White, M., "The Cosmic Rosetta Stone," *Physics Today*, 50, 32, 1997.
71. Fixsen, D. J., Dwek, E., Mather, J. C., Bennett, C. L., & Shafer, R. A., "The Spectrum of the Extragalactic Background from the COBE-FIRAS Observations," *Astrophysical Journal*, 508, 123, 1998.
72. Fixsen, D. J., Bennett, C. L., & Mather, J. C., "COBE Far Infrared Absolute Spectrophotometer Observations of Galactic Lines," *Astrophysical Journal*, 526, 207, 1999.
73. Barnes, C., Limon, M., Page, L., Bennett, C., Bradley, S., Halpern, M., Hinshaw, G., Jarosik, N., Jones, B., Kogut, A., Meyer, S., Motrunich, O., Tucker, G., Wilkinson, D. & Wollack, E., "The MAP Satellite Feed Horns," *Astrophysical Journal*, 143, 567, 2002
74. Bennett, C. L., Bay, M.; Halpern, M.; Hinshaw, G.; Jackson, C.; Jarosik, N.; Kogut, A.; Limon, M.; Meyer, S. S.; Page, L.; Spergel, D. N.; Tucker, G. S.; Wilkinson, D. T.; Wollack, E.; Wright, E. L., "The Microwave Anisotropy Probe (MAP) Mission," *Astrophysical Journal*, 583, 1, 2002

75. Page, L., Jackson, C., Barnes, C., Bennett, C., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Spergel, D.N., Tucker, G. S., Wilkinson, D. T., Wollack, E., Wright, E. L., "The Optical Design and Characterization of the Microwave Anisotropy Probe," *Astrophysical Journal*, 585, 566, 2003
76. Jarosik, N., Bennett, C. L., Halpern, M., Hinshaw, G., Kogut, A., Limon, M., Meyer, S. S., Page, L., Pospieszalski, M., Spergel, D. N., Tucker, G. S., Wilkinson, D.T., Wollack, E., Wright, E. L., Zhang, Z., "Design, Implementation and Testing of the MAP Radiometers," *Astrophysical Journal Supplement*, 145, 413, 2003
77. Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Page, L., Spergel, D. N., Tucker, G. S., Wollack, E., Wright, E. L., Barnes, C., Greason, M. R., Hill, R. S., Komatsu, E., Nolta, M. R., Odegard, N., Peiris, H. V., Verde, L., Weiland, J. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Preliminary Maps and Basic Results," *Astrophysical Journal*, 148, 1, 2003
78. Hinshaw, G., Barnes, C., Bennett, C. L., Greason, M. R., Halpern, M., Hill, R. S., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Odegard, N., Page, L., Spergel, D. N., Tucker, G. S., Weiland, J. L., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Data Processing Methods and Systematic Errors Limits," *Astrophysical Journal*, 148, 63, 2003
79. Jarosik, N., Barnes, C., Bennett, C. L., Halpern, M., Hinshaw, G., Kogut, A., Limon, M., Meyer, S. S., Page, L., Spergel, D. N., Tucker, G. S., Weiland, J. L., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: On-Orbit Radiometer Characterization," *Astrophysical Journal*, 148, 29, 2003
80. Page, L., Barnes, C., Hinshaw, G., Spergel, D. N., Weiland, J. L., Wollack, E., Bennett, C. L., Halpern, M., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Tucker, G. S., Wright E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Beam Profiles and Window Functions," *Astrophysical Journal*, 148, 39, 2003
81. Barnes, C., Hill, R. S., Hinshaw, G., Page, L., Bennett, C. L., Halpern, M., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Tucker, G. S., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Galactic Signal Contamination from Sidelobe Pickup," *Astrophysical Journal*, 148, 51, 2003
82. Bennett, C. L., Hill, R. S., Hinshaw, G., Nolta, M. R., Odegard, N., Page, L., Spergel, D. N., Weiland, J. L., Wright, E. L., Halpern, M., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Tucker, G. S., Wollack, E., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Foreground Emission," *Astrophysical Journal*, 148, 97, 2003
83. Hinshaw, G., Spergel, D. N., Verde, L., Hill, R. S., Meyer, S. S., Barnes, C., Bennett, C. L., Halpern, M., Jarosik, N., Kogut, A., Komatsu, E., Limon, M., Page, L., Tucker, G. S., Weiland, J. L., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: The Angular Power Spectrum," *Astrophysical Journal*, 148, 135, 2003

84. Kogut, A., Spergel, D. N., Barnes, C., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Limon, M., Meyer, S. S., Page, L., Tucker, G. S., Wollack, E., Wright, E. L., "Wilkinson Microwave Anisotropy Probe (WMAP) First Year Observations: TE Polarization," *Astrophysical Journal*, 148, 161, 2003
85. Spergel, D. N., Verde, L., Peiris, V., Komatsu, E., Nolta, M. R., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Page, L., Tucker, G. S., Weiland, J. L., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Determination of Cosmological Parameters," *Astrophysical Journal*, 148, 175, 2003
86. Verde, L., Peiris, H. V., Spergel, D. N., Nolta, M. R., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Page, L., Tucker, G. S., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Parameter Estimation Methodology," *Astrophysical Journal*, 148, 195, 2003
87. Peiris, H. V., Komatsu, E., Verde, L., Spergel, D. N., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Page, L., Tucker, G. S., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Implications for Inflation," *Astrophysical Journal*, 148, 213, 2003
88. Page, L., Nolta, M. R., Barnes, C., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Peiris, H. V., Spergel, D. N., Tucker, G. S., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Interpretation of the TT and TE Angular Power Spectrum Peaks," *Astrophysical Journal*, 148, 223, 2003
89. Komatsu, E., Kogut, A., Nolta, M. R., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Limon, M., Meyer, S. S., Page, L., Spergel, D. N., Tucker, G. S., Verde, L., Wollack, E., Wright, E. L., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Tests of Gaussianity," *Astrophysical Journal*, 148, 119, 2003
90. Nolta, M. R., Wright, E. L., Page, L., Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Kogut, A., Limon, M., Meyer, S. S., Spergel, D. N., Tucker, G. S., Wollack, E., "First Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Dark Energy Induced Correlation with Radio Sources," *Astrophysical Journal* (accepted), 2004

PUBLICATIONS: NON-REFEREED CONTRIBUTIONS

1. C. L. Bennett, "The Cosmic Background Explorer (COBE)," in the Proceedings of Green Bank Workshop 18 (30 September - 2 October 1986): Radio Astronomy from Space, ed. K. Weiler, NRAO/AUI, 51, 1987.
2. J. N. Hewitt, E. L. Turner, B. F. Burke, C. R. Lawrence, C. L. Bennett, G. I. Langston, & J. E. Gunn, "A VLA Gravitational Lens Survey," in IAU Symposium 124 on Observational Cosmology, A. Hewitt et al. (eds.), (Dordrecht: Reidel), 747, 1987.

3. J. N. Hewitt, E. L. Turner, B. F. Burke, C. R. Lawrence, & C. L. Bennett, "A Search for Gravitational Lenses: Search Strategies and a Preliminary Upper Limit on the Density of Lenses," Proceedings of the Thirteenth Texas Symposium on Relativistic Astrophysics, World Scientific Publishing Company, pp 317-320, 1987.
4. S. Torres, J. Aymon, C. Backus, C. L. Bennett, S. Gulkis, R. Hollenhorst, D. Hon, Q. H. Huang, M. Janssen, S. Keihm, L. Olson, G. Smoot, & E. Wright, "Cosmic Background Explorer (COBE) Satellite Anisotropy Experiment Data Analysis Techniques," in Data Analysis in Astronomy, June 20-27, V. di Gesu, L. Scarsi, & M.C. Maccarone eds., 319, 1988.
5. S. J. Petuchowski & C. L. Bennett, "Vibrationally Excited H₂O in Orion A", Submillimetre and Millimetre Wave Astronomy, G. D. Watt & A.S. Webster eds., Kluwer Press, p 275, 1990.
6. Kogut, G. F. Smoot, S. J. Petuchowski, & C. L. Bennett, "H₂CO Absortion Toward W51," in Molecular Clouds in the Milky Way and External Galaxies, R. L. Dickman, R. L. Snell, and J. S. Young eds., Springer-Verlag Lecture Notes in Physics 315, pp 40-41, 1988.
7. L. Bennett & G. F. Smoot, "The COBE 3 K Anisotropy Experiment: A Gravity Wave and Cosmic String Probe," in Relativistic Gravitational Experiments from Space, R. W. Hellings, ed., NASA Conference Publication 3046, p 114, 1989.
8. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski, "Formaldehyde Measurements at 2 mm," Particle Astrophysics: Forefront Experimental Issues, E. Norman ed, World Scientific, pp 128-129, 1989.
9. J. C. Mather, M. G. Hauser, C. L. Bennett, N. W. Boggess, E. S. Cheng, R. E. Eplee, H. T. Freudenreich, R. B. Isaacman, T. Kelsall, C. M. Lisse, S. H. Moseley, Jr., R. A. Shafer, R. F. Silverberg, J. Spiesman, G. N. Toller, J. L. Weiland, S. Gulkis, M. Janssen, P. M. Lubin, S. S. Meyer, R. Weiss, T. L. Murdock, G. F. Smoot, D. T. Wilkinson, & E. L. Wright, "Early Results from the Cosmic Background Explorer (COBE)," IAU Symposium 123: Observatories in Earth Orbit and Beyond Y. Kondo, ed. Kluwer, Dordrecht, pp 9-18, 1990.
10. J. C. Mather, M. G. Hauser, C. L. Bennett, N. W. Boggess, E. S. Cheng, R. E. Eplee, H. T. Freudenreich, R. B. Isaacman, T. Kelsall, C. M. Lisse, S. H. Moseley, Jr., R. A. Shafer, R. F. Silverberg, J. Spiesman, G. N. Toller, J. L. Weiland, S. Gulkis, M. Janssen, P. M. Lubin, S. S. Meyer, R. Weiss, T. L. Murdock, G. F. Smoot, D. T. Wilkinson, & E. L. Wright, "Early Results from the Cosmic Background Explorer (COBE)," (COSPAR Conference Proceedings), Advances in Space Research, 11, 181-191, 1991.
11. Smoot, G. F., Bennett, C. L., Kogut, A., Aymon, J., Backus, C., De Amici, G., Galuk, K., Jackson, P. D., Keegstra, P., Rokke, L., Tenorio, L., Torres, S., Gulkis, S., Hauser, M. G., Janssen, M., Mather, J. C., Weiss, R., Wilkinson, D. T., Wright, E. L., Boggess, N. W., Cheng, E. S., Kelsall, T. L., Lubin, P., Meyer, S., Moseley, S. H., Murdock, T. L., Shafer, R. A., & Silverberg, R. F., "First Results of the COBE Satellite Measurements of the Anisotropy of the Cosmic Microwave Background Radiation," (COSPAR Conference Proceedings No. S.8.2.2), Advances in Space Research, 11, 193-205, 1991.

12. J. C. Mather, M. G. Hauser, C. L. Bennett, N. W. Boggess, E. S. Cheng, R. E. Eplee, H. T. Freudenreich, S. Gulkis, R. B. Isaacman, M. Janssen, T. Kelsall, C. M. Lisse, P. M. Lubin, S. S. Meyer, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, G. F. Smoot, W. J. Spiesman, G. N. Toller, J. L. Weiland, R. Weiss, D. T. Wilkinson, & E. L. Wright, "Early Results from the Cosmic Background Explorer (COBE)," Proc. 29th Liege International Astrophysical Colloquium From Ground-Based to Space-Borne Sub-mm Astronomy, Liege, Belgium, 3-5 July 1990, ESA SP-314, 25, December 1990.
13. G. F. Smoot, C. L. Bennett, J. Aymon, C. Backus, D. De Amici, K. Galuk, P. D. Jackson, P. Keegstra, L. Rokke, L. Tenorio, S. Gulkis, M. G. Hauser, M. Janssen, J. C. Mather, R. Weiss, D. Wilkinson, E. L. Wright, N. W. Boggess, E. S. Cheng, T. Kelsall, P. Lubin, S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, & R. F. Silverberg, "Preliminary DMR Measurements of the CMB Isotropy" in After The First Three Minutes, S. S. Holt, C. L. Bennett, & V. Trimble, editors, AIP Conference Proceedings 222, pp 95, 1991.
14. L. Bennett, "Workshop Epilog" in After The First Three Minutes, S. S. Holt, C. L. Bennett, & V. Trimble, editors, AIP Conference Proceedings 222, pp 583, 1991.
15. L. Bennett, "Recent Results from the Differential Microwave Radiometer" in IAU Highlights of Astronomy, ed. J. Bergeron, (Dordrecht:Kluwer-Reidel), 9, 335, 1993.
16. Bennett, "Mapping the cold glow of the big bang," in New Scientist, 35, 10 August 1991.
17. Keegstra, P. B., Smoot, G. F., Bennett, C. L., Aymon, J., Backus, C., De Amici, G., Hinshaw, G., Jackson, P. D., Kogut, A., Lineweaver, C., Rokke, L. A., Santana, J., & Tenorio, L, "Daily Quality Assurance Software for a Satellite Radiometer System," in Astronomical Data Analysis Software and Systems I, (San Francisco: ASP), 530, 1992.
18. Jackson, P. D., Smoot, G. F., Bennett, C. L., Aymon, J., Backus, C., De Amici, G., Hinshaw, G., Keegstra, P. B., Kogut, A., Lineweaver, C., Rokke, L. A., Santana, J., & Tenorio, L, "COBE Differential Microwave Radiometer (DMR) Data Processing Techniques," in Astronomical Data Analysis Software and Systems I, (San Francisco: ASP), 382, 1992.
19. Bennett, C. L., Boggess, N. W., Hauser, M. G., Mather, J. C., Smoot, G. F., & Wright, E. L., "Recent Results from COBE," in The Environment and Evolution of Galaxies, Shull, J. M. & Thronson, H. A. eds., (Kluwer: Dordrecht), 1993, pp 27-58.
20. Petuchowski, S. J. & Bennett, C. L. "Probes of the Warm Ionized Medium," in Back to the Galaxy, S. S. Holt & F. Verter eds., AIP:New York, pp 295-298, 1993.
21. Bennett, C. L. & Hinshaw, G., "Cooling of the Interstellar Gas: Results from COBE," in Back to the Galaxy, S. S. Holt & F. Verter, eds., AIP:New York, pp 257-266, 1993.
22. Janssen, M. A., Gulkis, S., Bennett, C. L., & Kogut, A., "Design and Results of Differential Microwave Radiometers (DMR) on COBE," SPIE, 2019, 211, 1993.

23. Bennett, C. L., "COBE Views the Cold Universe," in *The Cold Universe, XIIIth Moriond Astrophysics Meeting*, eds. T. Montmerle, C. J. Lada, I. F. Mirabel & J. Tran Thanh Van (Gif-sur Yvette: Editions Frontieres), p 23, 1994.
24. Bennett, C. L., Boggess, N. W., Cheng, E. S., Hauser, M. G., Kelsall, T., Mather, J. C., Moseley, S. H., Jr., Murdock, T. L., Shafer, R. A., Silverberg, R. F., Smoot, G. F., Weiss, R., & Wright, E. L., "Scientific results from the Cosmic Background Explorer," *Proceedings of the National Academy of Sciences, USA*, 90, pp 4766-4773, 25. 1993.
26. Mather, J. C., Bennett, C. L., Boggess, N. W., Hauser, M. G., Smoot, G. F., & Wright, E. L., "Recent Results from COBE," in *General Relativity and Gravitation 1992*, R. J. Gleiser, C. N. Kozameh, & O. Moreschi, eds., Institute of Physics Pub, Bristol, pp 151-178, 1993.
27. Bennett, C. L., Boggess, N. W., Cheng, E. S., Hauser, M. G., Kelsall, T., Mather, J. C., Moseley, S. H., Jr., Murdock, T. L., Shafer, R. A., Silverberg, R. F., Smoot, G. F., Weiss, R., & Wright, E. L., "Scientific results from COBE," in *Unified Symmetry: In the Small and in the Large*, NOVA Science Publ., Inc., New York, 1993.
28. Bennett, C. L., "Observations of the Cosmic Microwave Background," *Nucl. Phys. B (Proc. Suppl.)* 38, 415, 1995.
29. Keegstra, P. B., Bennett, C. L., & Smoot, G. F., "An Approach for Obtaining Polarization Information from COBE-DMR," *Proc. ADASS*, in press, 1994.
30. Hinshaw, G., Bennett, C. L., & Kogut, A., "Simulated CMB Maps at 0.5° Resolution: Basic Results," in *Dark Matter*, S. S. Holt & C. L. Bennett eds., AIP Conf Proc 336, page 485, 1995.
31. Kogut, A., Hinshaw, G. & Bennett, C. L., "CMB Anisotropy at 0.5° Angular Scales II: Analysis of Peaks," in *Dark Matter*, S. S. Holt & C. L. Bennett eds., AIP Conf Proc 336, page 489, 1995.
32. Bennett, C. L., Banday, A., Gorski, K., Hinshaw, G., Kogut, A., & Wright, E. L., "COBE-DMR Two-Year Large Scale Anisotropy Results," in *Dark Matter*, S. S. Holt & C. L. Bennett eds., AIP Conf Proc 336, page 477, 1995.
33. Banday, A. J., Gorski, K. M., Kogut, A., Hinshaw, G., Bennett, C. L., Lineweaver, C. H., Smoot, G. F. & Tenorio, L., "On the RMS Anisotropy at 7° and 10° Observed in the COBE-DMR Two Year Sky Maps," in *Dark Matter*, S. S. Holt & C. L. Bennett eds., AIP Conf Proc 336, page 481, 1995.
34. Kogut, A., Banday, A. J., Hinshaw, G., Bennett, C. L., Smoot, G. F. & Lubin, P. M., "Limits on Non-Gaussian Statistics in the Cosmic Microwave Background," *BAPS*, 40, 940, 1995.
35. Hinshaw, G., Kogut, A. & Bennett, C. L., "Three-Point Correlations in the COBE DMR Anisotropy Maps," *BAPS*, 40, 940, 1995.

36. Bennett, C. L., "Two Parameters from a Billion Data Samples: Cosmology from Space Data," Research and Technology Report, Goddard Space Flight Center, p 38, 1995.
37. Barnes, C., Bennett, C. L., Greason, M., Halpern, M., Hill, R. S., Hinshaw, G., Jarosik, N., Kogut, A., Komatsu, E., Landsman, W., Limon, M., Meyer, S. S., Nolta, M. R., Odegard, N., Page, L., Peiris, H. V., Spergel, D. N., Tucker, G. S., Verde, L., Weiland, L., Wollack, E., Wright E. L., "Wilkinson Microwave Anisotropy Probe (WMAP): Explanatory Supplement," Limon, M. and Wollack, E. (eds.), <http://lambda.gsfc.nasa.gov>.

PUBLICATIONS: BOOKS

1. S. S. Holt, C. L. Bennett, & V. Trimble, **After The First Three Minutes**, AIP Conference Proceedings 222, ISBN 0-88318-828-7, 1991.
2. S. S. Holt & C. L. Bennett, **Dark Matter**, AIP Conference Proceedings 336, ISBN 1-56396-438-4, 1995.

PUBLICATIONS: ABSTRACTS

1. C. L. Bennett, C. R. Lawrence, & B. F. Burke, "5 GHz Source Counts from the MG Survey," BAAS, 16, 1015, 1984.
2. C. L. Bennett, C. R. Lawrence, J. N. Hewitt, & B. F. Burke, "The MIT-Green Bank (MG) 5 GHz Survey," BAAS, 15, 935, 1984.
3. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, & B. F. Burke, "5 GHz Structure and Optical Identifications of Weak Extragalactic Sources," BAAS, 1984.
4. C. R. Lawrence, D. Schneider, M. Schmidt, C. L. Bennett, J. N. Hewitt, B. F. Burke, E. L. Turner, & J. E. Gunn, "A New Example of Gravitational Lensing: 2016+112," BAAS, 15, 936, 1984.
5. E. L. Turner, J. E. Gunn, C. R. Lawrence, C. L. Bennett, B. F. Burke, & J. N. Hewitt, "Models and Implication of the New Gravitational Lens 2016+112," BAAS, 15, 936, 1984.
6. C. L. Bennett, G. Chin, S. Petuchowski, & D. Buhl, "A 803 GHz (374 Micron) Laser Heterodyne Receiver," BAAS, 17, 571, 1985.
7. C. L. Bennett & S. J. Petuchowski, "Detection of the $2_{20} \rightarrow 2_{21}$ Transition of HDO in Orion A: Evidence for Dense Clumped Gas in the Hot Core and Spike," BAAS, 18, 931, 1986.
8. M. G. Hauser, J. C. Mather, & C. L. Bennett, "The Cosmic Background Explorer Mission," BAAS, 18, 949, 1986.

9. Kogut, G. F. Smoot, S. J. Petuchowski, & C. L. Bennett, "H₂CO Absorption Toward W51: The Temperature of the Cosmic Background Radiation at 2.1 mm," *Molecular Clouds in the Milky Way and External Galaxies*, 1-4 November 1987, Springer-Verlag 1988.
10. L. Bennett, C. Backus, G. S. Smoot, M. Janssen, "The Microwave Anisotropy Experiment Aboard COBE: Instrument Design and Calibration," *BAAS*, 20, 976, 1989.
11. Kogut, G. S. Smoot, C. L. Bennett, & S. J. Petuchowski, "Formaldehyde Absorption Toward W51," *BAAS*, 20, 1059, 1989.
12. G. F. Smoot, C. L. Bennett, S. Gulkis, M. A. Janssen, P. L. Lubin, & D. T. Wilkinson, "COBE: The Differential Microwave Radiometers," *BAAS*, 21, 1220, 1989.
13. Bennett, G. Smoot, J. Aymon, G. De Amici, S. Levin, L. Tenorio, A. Kogut, S. Torres, L. Rokke, P. Jackson, C. Backus, K. Galuk, Q. Huang, P. Keegstra, S. Gulkis, M. Janssen, P. Lubin, D. Wilkinson, M. Hauser, J. Mather, & R. Weiss, "Early Results from the Differential Microwave Radiometers (DMR)," *BAPS*, 35, 971, 1990.
14. E. L. Wright, E. S. Cheng, E. Dwek, C. L. Bennett, N. W. Boggess, J. C. Mather, R. A. Shafer, M. G. Hauser, T. Kelsall, S. H. Moseley, Jr., R. F. Silverberg, G. F. Smoot, R. E. Eplee, R. B. Isaacman, S. S. Meyer, R. Weiss, S. G. Gulkis, M. Janssen, P. M. Lubin, T. L. Murdoch, & D. T. Wilkinson, "Preliminary Millimeter and Sub-Millimeter COBE Observations of the Milky Way Galaxy with a 7 Degree Beam," *BAAS*, 22, 874, 1990.
15. Bennett, G. Smoot, A. Kogut, P. Jackson, L. Rokke, C. Backus, K. Galuk, Q. Huang, P. Keegstra, J. Aymon, G. De Amici, L. Tenorio, S. Gulkis, M. Janssen, & P. Lubin, "Results from the COBE DMR Instrument at 'Six Months' After Launch," *BAAS*, 22, 874, 1990.
16. S. Cheng, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, J. C. Mather, S. S. Meyer, S. H. Moseley, Jr., T. L. Murdoch, R. A. Shafer, R. F. Silverberg, G. F. Smoot, R. Weiss, D. T. Wilkinson, & E. L. Wright, "Status of the COBE Satellite," *BAAS*, 22, 876, 1990.
17. L. Bennett, G. F. Smoot, & A. Kogut, "COBE DMR Maps of the Microwave Sky," *BAAS*, 22, 1336, 1990.
18. Kogut, G. F. Smoot, & C. L. Bennett, "COBE DMR Limits to CMB Quadrupole Anisotropy," *BAAS*, 22, 1336, 1990.
19. Smoot, G. F. & The COBE Team, "COBE-DMR I. Cosmic Microwave Background Anisotropy Measurements," Spring 1992 APS Meeting, Washington, D. C.
20. Hinshaw, G. & The COBE Team, "COBE-DMR II. Instrument Operations and Systematic Error Analysis," Spring 1992 APS Meeting, Washington, D. C.

21. Bennett, C. L. & The COBE Team, "COBE-DMR III. Identification of Galactic Emission," Spring 1992 APS Meeting, Washington, D. C.
22. Wright, E. L. & The COBE Team, "COBE-DMR IV. Implications for Large Scale Structure Models," Spring 1992 APS Meeting, Washington, D. C.
23. Kogut, A. & The COBE Team, "COBE-DMR V. Summary and Cosmological Implications," Spring 1992 APS Meeting, Washington, D. C.
24. Petuchowski, S. J. & Bennett, C. L., "Morphologies of the Warm Ionized Medium," BAAS, 24, 762.
25. Petuchowski, S. J., Bennett, C. L., Haas, M. R., Erickson, E. F., Lord, S. D., Hollenbach, D. J., Rubin, R. H., & Colgan, S. W. J., "Detection of Both N II Fine Structure Lines in M82," BAAS, 24, 764.
26. Bennett, C. L., "Cosmology and the Cosmic Background Explorer (COBE)," BAAS, 24, 1270, 1992.
27. Petuchowski, S. J. & Bennett, C. L., "Neutral Gas Contribution to Galactic-Scale [S II] Forbidden Line Emission," BAAS, 24, 1272, 1992.
28. Banday, A., Smoot, G. F., Bennett, C. L., Aymon, J., De Amici, G., Hinshaw, G., Jackson, P., Kaita, E., Keegstra, P., Kogut, A., Loewenstein, K., Santana, J., & Tenorio, L., "Relict 1 and COBE-DMR Results: A Comparison," BAPS, 38, 1065, 1993.
29. Keegstra, P., Smoot, G. F., Bennett, C. L., Aymon, J., Banday, A., De Amici, G., Hinshaw, G., Jackson, P., Kaita, E., Kogut, A., Loewenstein, K., Santana, J., & Tenorio, L., "COBE-DMR Systematic Errors from the Earth's Magnetic Field," BAPS, 38, 1065, 1993.
30. Kogut, A., Smoot, G. F., Bennett, C. L., Aymon, J., Banday, A., De Amici, G., Hinshaw, G., Jackson, P., Kaita, E., Keegstra, P., Loewenstein, K., Santana, J., & Tenorio, L., "Relict 1 and COBE-DMR Results: A Comparison," BAPS, 38, 1065, 1993.
31. Petuchowski, S. J., Bennett, C. L., Haas, M. R., Colgan, S. W. J., & Erickson, E. F., "Galactic Scale Heights of [N II] and [C II] Emission," BAAS, 25, 1387, 1993.
32. Bennett, C. L., Mather, J. C., Fixsen, D. J., Hinshaw, G., & Wright, E. L., "The COBE-FIRAS Far-IR Spectral Survey of the Galaxy," BAAS, 25, 1463, 1993.
33. Hinshaw, G., Kogut, G., Loewenstein, K., Keegstra, P., Kaita, E., Jackson, P. D., Bennett, C. L., Mather, J. C., Cheng, E. S., Banday, A., Gorski, K., Wright, E. L., Wilkinson, D. T., Weiss, R., Smoot, G. F., Lineweaver, C., Meyer, S. S., & Lubin, P., "CMB Anisotropy from COBE-DMR Two Year Sky Maps," BAPS, 39, 1094, 1994.
34. Kutyrev, A. S., Bennett, C. L., Moseley, S. H., & Roesler, F. L., "High Resolution Near IR Spectrometer for the Diffuse Interstellar Medium," BAAS, 26, 1323, 1994.

37. Bennett, C. L., "The Cosmic Microwave Background Anisotropy," BAAS, 26, 1360, 1994.
38. Banday, A. J., Gorski, K. M., Tenorio, L., Smoot, G. F., Lineweaver, C. H., Kogut, A., Hinshaw, G. & Bennett, C. L., "On the RMS Anisotropy at 7° and 10° Observed in the COBE-DMR Two Year Sky Maps," BAAS, 26, 1408, 1994.
39. Bennett, C. L., Kogut, A., Hinshaw, G., Banday, A. J., Lubin, P. M., & Smoot, G. F., "Non-Gaussian Statistics at Large Angular Scales: COBE DMR 2-Year Sky Maps," BAAS, 26, 1408, 1994.
40. Kogut, A., Hinshaw & Bennett, C. L., "Phenomenology of Medium-Scale CMB Anisotropy," BAAS, 26, 1409, 1994.
41. Petuchowski, S. J., Bennett, C. L., Colgan, S. W. J., Haas, M. R. & Erickson, E. F., "Assignment of Emission at 203 μ m to Collisionally Excited CH," BAAS, 26, 1458, 1994.
42. Veeraraghavan, S. & Bennett, C. L., "Cluster Peculiar Velocities through the Kinematic Sunyaev-Zel'dovich Effect," BAAS, 26, 1517, 1994.
43. Kutyrev, A., Bennett, C. L., Moseley, S. H., Reynolds, R. J., & Roesler, F. L., "The First Detection of the Galactic Diffuse Ionized Hydrogen with a Cooled IR Fabry-Perot Spectrometer," BAAS, 27, 1350, 1995.
44. Bennett, C. L., Hinshaw, G., Jarosik, N., Mather, J. C., Meyer, S. S., Page, L., Skillman, D., Spergel, D. N., Wilkinson, D. T., & Wright, E. L., "The Microwave Anisotropy Probe (MAP) Mission Concept," BAAS, 27, 1385, 1995.
45. Kogut, A., Banday, A. J., Gorski, K. M., Bennett, C. L., & Reach, W. T., "Spatial Correlation Between Dust and the Warm Ionized Interstellar Medium," BAAS, 27, 1451.
46. Kutyrev, A., Bennett, C. L., Moseley, S. H., & Roesler, F. L., "Cooled Near-IR Fabry-Perot Spectrometer with Large Array Detector," BAAS, 28, 1370, 1996.
47. Bennett, C. L., "The Microwave Anisotropy Probe (MAP) Mission," BAAS, 28, 1391. 1391, 1996.
48. Hinshaw, G., Fixsen, D., Bennett, C. L., & Mather, J., "A joint Analysis of the COBE FIRAS and DMR Anisotropy Data," BAAS, 28, 1428, 1996.
49. Kutyrev, A. S., Bennett, C. L., Moseley, S. H., Reynolds, R. J., Roesler, F. L., "Brackett- γ line survey of the ionized hydrogen in the Galactic plane," BAAS, 29, 1216, 1997.
50. Bennett, C. L., Halpern, M., Hinshaw, G., Jarosik, N., Limon, M., Mather, J., Meyer, S. S., Page, L., Spergel, D. N., Tucker, G., Wilkinson, D. T., Wollack, E., Wright, E. L. (The MAP Science Team), "The Microwave Anisotropy Probe (MAP) Mission," BAAS, 29, 1353, 1997.

51. Spergel, D. N.; Bennett, C. L.; Halpern, M.; Hinshaw, G.; Jarosik, N.; Kogut, A.; Limon, M.; Mather, J.; Meyer, S. S.; Page, L.; Tucker, G. Wilkinson, D. T.; Wollack, E.; & Wright, E. L., "Cosmic Seeds," BAAS, 1999
52. Fletcher, A. B.; Burke, B. F.; Conner, S. R.; Herold, L. K.; Lehar, J.; Winn, J. N.; Hewitt, J. N.; Langston, G. I.; Lawrence, C. R.; Bennett, C. L., "A Preliminary MIT-VLA Snapshot Survey Catalog: 8000 MG/PMN Sources at 4.8/8.4 GHz and 0.''3 Resolution," BAAS, 2000.
53. Kutyrev, A. S.; Bennett, C. L.; Moseley, S. H.; Rapchun, D. A.; Stewart, K., "Cryogenic temperature tunable solid Fabry-Perot spectrometer for the near-IR," American Astronomical Society Meeting 201, #18.02, 2002.
54. Bennett, C.L., "The Undiscovered World: Cosmology from WMAP," BAPS, 49, 65, 2004.