

Benjamin C. Bromley

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Overview

- Professor of Physics and Astronomy, specializing in theoretical and computational astrophysics (planet formation, galactic dynamics, and relativistic astrophysics).
- 99 refereed publications, 4000+ citations, h-index=42 (normalized: 24; as lead: 19); PI/CoI on 10 grants, ~\$2M total; Supercomputing allocations of ~6M core-hours per year.
- Taught ~3000 students; Courses include Intro Physics, Astronomy and grad-level Computational Physics; Advisees: 18 B.S., 6 M.S. and 6 PhD.
- Administrative positions include Department Chair, Associate Chair, Director of Graduate Studies, University Graduate Council.

Education

Ph.D. Physics, *Dartmouth College*, Hanover, NH, 1994.

Thesis: Wavelet analysis of the large-scale structure of the universe.

M.S. Physics, *University of Vermont*, Burlington, VT, 1987.

Thesis: Information theoretical study of quasi-elastic photon scattering.

B.A. Physics/Chemistry (Honors), *Middlebury College*, Middlebury, VT, 1982.

Thesis: X-ray spectroscopy of supernova remnant Puppis A.

Experience

Professor, Department of Physics and Astronomy, *University of Utah*, Salt Lake City, UT (July, 2006–present).

Associate Professor, Department of Physics, *University of Utah*, Salt Lake City, UT (July, 2003–June, 2006).

Assistant Professor, Department of Physics, *University of Utah*, Salt Lake City, UT (August, 1998–June, 2003).

Postdoctoral Fellow, Department of Physics, *Harvard University*, Cambridge MA (September, 1996–July, 1998).

Postdoctoral Research Fellow, Theoretical Astrophysics, *Los Alamos National Laboratory*, Los Alamos, NM (June, 1994–September, 1996).

Research Interests

Planet formation: beginning-to-end simulation of planetary systems, including observable planetary debris disks, formation of terrestrial planets, and the origin of the Solar System.

Astrophysical black holes: relativistic accretion flows and binary black hole mergers.

Galactic dynamics: hypervelocity stars and the mass distribution of the Galaxy; galaxy pairs.

Astrophysical cosmology: large-scale structure and galaxy clustering.

Parallel computation: parallel algorithm design with message passing models (C++ with MPI).

Honors and Fellowships

University Professor, *University of Utah*, 2005–2006.

NASA GSRP Fellowship, NASA Headquarters, 1991–1993.

Recent Funding Awards

NASA XRP 2 grant (S. Kenyon, J. Najita & B. Bromley), 2024–2027.

NASA Emerging Worlds grant (S. Kenyon & B. Bromley), 2023–2026.

NASA Emerging Worlds grant (S. Kenyon & B. Bromley), 2017–2022.

NASA Advanced Innovative Concepts II grant (C. Mann et al.), 2017–2020.

NASA Outer Planets grant (S. Kenyon & B. Bromley), 2011–2016.

NASA Origins of Solar Systems grant (S. Kenyon & B. Bromley), 2010–2013.

Teaching and Mentoring

Recent courses at University of Utah

The Solar System (ASTR/PHYS 1050; 2024)

The Universe (ASTR/PHYS 1060; 2024)

Physics 4 Computer Lab (PHYS 3010; 2023);

Introduction to Computers in Physics (PHYS 3730/6720; 1998–2014, 2019–2021).

Computational and Statistical Methods in Physics and Astronomy (ASTR/PHYS 7730; 2019)

Foundations of Astronomy (ASTR/PHYS 2500; 2013–2015)

Physics for Scientists & Engineers II (PHYS 2220, E&M; 2001–2004, 2010–2013).

Students/postdocs supervised

Served as research mentor to 18 undergraduates (two honors theses), 6 Master's students, and 6 doctoral students; Supervised 1 post-doc (with R. Price).

Selected Academic Service

Department of Physics and Astronomy

Chair (2016–2018); Associate Chair (2015–2016, 2019–2023); Astronomy Program Task Force (2010–2016, 2018–2024); Director of Graduate Studies (2010–2012);

University

College of Science Council (2024, 2025)

University Graduate Council, Graduate Admissions Committee (2011–2014).

Research community

Reviewer/panelist: NASA (2007–2015, 2018, 2019); DFG (2011–2017, 2019, 2020); RGC (2022); FGF (2015); NSF Astronomy Division (2010, 2014, 2021); CSCS (supercomputing, 2014); DOE (supercomputing, 2011); Canadian Space Agency Mission Concepts (2007).

Ad hoc reviewer: Astron. J., Astrophys. J., Icarus, Parallel & Distributed Computing, Mon. Not. Royal Astron. Soc., Nature, New Astron., Phys. Rev. Letters, Science, Space Sciences Review.

Outreach

Presentations to grade schools in Salt Lake valley (misc. dates since 1998).

In the Media, including Astronomy magazine, BBC, CNN, Der Spiegel, Christian Science Monitor, FoxNews, MSNBC, New York Times, Science News, Scientific American, Washington Post; Public Radio (Australia, Germany, U.S.).

Publications

Refereed articles

- King, A. J., & Bromley, B. C. 2024, "Light echoes of protoplanetary disks," *Astrophysical Journal*, 976, 103.
- Bromley, B. C., Sandick, P. E., & Shams Es Haghi, B. 2024, "Supermassive black hole binaries in ultralight dark matter," *Phys. Rev. D* 110, 023517.
- King, A. J., Bromley, B. C., Harris, P., & Kenyon, S. J. 2024, "Polarization of circumstellar debris disk light echoes," *Astronomical Journal*, 167, 143.
- Veras, D., Ida, S., Greshin, E., Kenyon, S. J., & Bromley, B. C. 2023, "Planetesimals drifting through dusty and gaseous white dwarf debris discs: Types I, II and III-like migration," *Mon. Not. Royal Astron. Soc.* 524, 1.
- Whiting, M. L., Hill, J. B., Bromley, B. C., & Kenyon, S. J. 2023, "A catalog of nearby accelerating star candidates in Gaia DR3," *Astronomical Journal*, 165, 193.
- Bromley, B. C., Khan, S. H., & Kenyon, S. J. 2023, "Dust as a solar shield," *PLOS Climate*, 2(2), e0000133.
- Bromley, B. C., & Kenyon, S. J. 2022, "Magnetic interactions in orbital dynamics," *Astronomical Journal*, 164, 229.
- Kenyon, S. J., & Bromley, B. C. 2022, "A Pluto-Charon Sonata IV. Improved Constraints on the Dynamical Behavior and Masses of the Small Satellites," *Astronomical Journal*, 163, 238.
- Najita, J. R., Kenyon, S. J., & Bromley, B. C. 2022, "From Pebbles and Planetesimals to Planets and Dust: the Protoplanetary Disk–Debris Disk Connection," *Astrophysical Journal*, 925, 45.
- Bromley, B. C., Leonard, A., Quintanilla, A., King, A. J., Mann, C., & Kenyon, S. J. & 2021, "Seeking echoes of circumstellar disks in Kepler light curves," *Astronomical Journal* 162, 98.
- Kenyon, S. J., & Bromley, B. C. 2021, "A Pluto-Charon Concerto. II. Formation of a Circumbinary Disk of Debris after the Giant Impact," *Astronomical Journal*, 161, 211.
- Bromley, B. C., & Kenyon, S. J. 2021, "On the Estimation of Circumbinary Orbital Properties," *Astronomical Journal*, 161, 25.
- Kenyon, S. J., & Bromley, B. C. 2020, "Craters on Charon: Impactors From a Collisional Cascade Among Trans-Neptunian Objects," *Planetary Science*, 1, 40.
- Bromley, B. C., & Kenyon, S. J. 2020, "A Pluto-Charon Concerto: An Impact on Charon as the Origin of the Small Satellites," *Astronomical Journal*, 160, 85.
- Kenyon, S. J., & Bromley, B. C. 2019, "A Pluto-Charon Sonata III: Growth of Charon from a Circum-Pluto Ring of Debris," *Astronomical Journal*, 158, 142.
- Kenyon, S. J., & Bromley, B. C. 2019, "A Pluto-Charon Sonata: Dynamical Limits on the Masses of the Small Satellites," *Astronomical Journal*, 158, 69.
- Bromley, B. C., & Kenyon, S. J. 2019, "Ohmic heating of asteroids around magnetic stars," *Astrophysical Journal*, 876, 17.
- Kenyon, S. J., & Bromley, B. C. 2019, "A Pluto-Charon Sonata: The Dynamical Architecture of the Circumbinary Satellite System," *Astronomical Journal*, 157, 79.
- Bromley, B. C., Kenyon, S. J., Brown, W. R., & Geller, M. J. 2018, "Nearby high-speed stars in Gaia DR2," *Astrophysical Journal*, 868, 25.
- Mann, C., Tellesbo, C. A., Bromley, B. C., & Kenyon, S. J. 2018, "A framework for planet detection with faint lightcurve echoes," *Astronomical Journal*, 156, 200.
- Kenyon, S. J., Bromley, B. C., Brown, W. R., & Geller, M. J. 2018, "Impact of the Galactic Disk and Large Magellanic Cloud on the Trajectories of Hypervelocity Stars Ejected from the Galactic Center," *Astrophysical Journal*, 864, 130.
- Meisner, A. M., Bromley, B. C., Kenyon, S. J., Anderson, T. E. 2018, "A 3π search for Planet Nine at $3.4 \mu\text{m}$ with WISE and NEOWISE," *Astronomical Journal*, 155, 166.
- Kenyon, S. J., & Bromley, B. C. 2017, "Numerical Simulations of Gaseous Disks Generated from Collisional Cascades at the Roche Limits of White Dwarf Stars," *Astrophysical Journal*, 850, 50.

Publications

Refereed articles (cont.)

- Dall'Asen, Y. G., Dimas, S. I., Tyler, S. J., Johnston, J. F., Anderton, T. R., Ivans, I. I., Gerton, J. M., Bromley, B. C., Kenyon, S. J. 2017, "Mapping the composition of chondritic meteorite Northwest Africa 3118 with micro-Raman spectroscopy," *Spectroscopy Letters*, 50, 417.
- Kenyon, S. J., & Bromley, B. C. 2017, "Numerical Simulations of Collisional Cascades at the Roche Limits of White Dwarf Stars," *Astrophysical Journal*, 844, 116.
- Bromley, B. C., & Kenyon, S. J. 2017, "Terrestrial Planet Formation: Dynamical Shake-up and the Low Mass of Mars," *Astronomical Journal*, 153, 216.
- Kenyon, S. J., & Bromley, B. C. 2017, "Variations on Debris Disks. IV. An Improved Analytical Model for Collisional Cascades," *Astrophysical Journal*, 839, 38.
- Meisner, A. M., Bromley, B. C., Nugent, P. E., Schegel, D. J., Kenyon, S. J., Schlafly, E. F., Dawson, K. S. 2017, "Searching for Planet Nine with Coadded WISE and NEOWISE-Reactivation Images," *Astronomical Journal*, 153, 65.
- Kenyon, S. J., Najita, J. R., & Bromley, B. C. 2016, "Rocky Planet Formation: Quick and Neat," *Astrophysical Journal*, 831, 8.
- Bromley, B. C., & Kenyon, S. J. 2016, "Making Planet Nine: A Scattered Giant in the Outer Solar System," *Astrophysical Journal*, 826, 46.
- Kenyon, S. J., & Bromley, B. C. 2016, "Making Planet Nine: Pebble Accretion at 250–750 AU in a Gravitationally Unstable Ring," *Astrophysical Journal*, 825, 33.
- Kenyon, S. J., & Bromley, B. C. 2016, "Variations on Debris Disks III. Collisional Cascades and Giant Impacts in the Terrestrial Zones of Solar-type Stars," *Astrophysical Journal*, 817, 51.
- Kenyon, S. J., & Bromley, B. C. 2015, "Collisional Cascade Calculations for Irregular Satellite Swarms in Fomalhaut b," *Astrophysical Journal*, 811, 60.
- Bromley, B. C., & Kenyon, S. J. 2015, "Evolution of a Ring Around the Pluto-Charon Binary," *Astrophysical Journal*, 809, 88.
- Bromley, B. C., & Kenyon, S. J. 2015, "Planet Formation Around Binary Stars: Tatooine made easy," *Astrophysical Journal*, 806, 98.
- Kenyon, S. J., & Bromley, B. C. 2015, "Formation of Super-Earth Mass Planets at 125-250 AU from a Solar-type Star," *Astrophysical Journal*, 806, 42.
- Bromley, B. C., & Kenyon, S. J. 2014, "The Fate of Scattered Planets," *Astrophysical Journal*, 796, 141.
- Czaja, B., & Bromley, B. C. 2014, "Distortion of the cosmic microwave background by the Milky Way," *Physical Review D*, 90, 047302.
- Kenyon, S. J., Bromley, B. C., Geller, M. J., & Brown, W. R. 2014, "Predicted space motions for hypervelocity and runaway stars: proper motions and radial velocities for the GAIA era," *Astrophysical Journal*, 793, 122.
- Kenyon, S. J., Currie, T., & Bromley, B. C. 2014, "Fomalhaut b as a cloud of dust: Testing aspects of planet formation theory," *Astrophysical Journal*, 786, 70.
- Kenyon, S. J., & Bromley, B. C. 2014, "Coagulation Calculations of Icy Planet Formation Around 0.1–0.5 M_{\odot} Stars: Super-Earths From Large Planetestimals," *Astrophysical Journal*, 780, 4.
- Kenyon, S. J., & Bromley, B. C. 2014, "The formation of Pluto's low mass satellites," *Astronomical Journal*, 147, 8.
- Bromley, B. C., & Kenyon, S. J. 2013, "Migration of small moons in Saturn's rings," *Astrophysical Journal*, 764, 192.
- Currie, T., Burrows, A., Madhusudhan, N., et al. 2013, "A Combined Very Large Telescope and Gemini Study of the Atmosphere of the Directly Imaged Planet, β Pictoris b," *Astrophys. Journal*, 776, 15
- Bromley, B. C., Kenyon, S. J., Geller, M. J., & Brown, W. R. 2012, "Binary Disruption by Massive Black Holes: Hypervelocity Stars, S Stars, and Tidal Disruption Events," *Astrophys. J. Letters*, 749, L42.

Publications

Refereed articles (cont.)

- Kenyon, S. J., & Bromley, B. C. 2012, "Coagulation Calculations of Icy Planet Formation at 15–150 AU: A Correlation between the Maximum Radius and the Slope of the Size Distribution for Transneptunian Objects," *Astronomical Journal*, 143, 63.
- Bromley, B. C. 2011, "Gravitationally focused dark matter around compact stars," *Astrophysical Journal Suppl.*, 197, 37.
- Bromley, B. C., & Kenyon, S. J. 2011, "Migration of planets embedded in a circumstellar disk," *Astrophysical Journal*, 735, 29.
- Bromley, B. C., & Kenyon, S. J. 2011, "A New Hybrid N-Body-Coagulation Code for the Formation of Gas Giant Planets," *Astrophysical Journal*, 731, 101.
- Kenyon, S. J., & Bromley, B. C. 2010, "Variations on Debris Disks II. Icy Planet Formation as a Function of the Bulk Properties and Initial Sizes of Planetesimals," *Astrophysical Journal Suppl.*, 188, 242.
- Bromley, B. C., Kenyon, S. J., Brown, W. R., & Geller, M. J. 2009, "Runaway Stars, Hypervelocity Stars, and Radial Velocity Surveys," *Astrophysical Journal*, 706, 925.
- Kenyon, S. J., & Bromley, B. C. 2009, "Rapid Formation of Icy Super-Earths and the Cores of Gas Giant Planets," *Astrophysical Journal Letters*, 690, 140.
- Brown, W. R., Geller, M. J., Kenyon, S. J., & Bromley, B. C., 2009, "The Anisotropic Spatial Distribution of Hypervelocity Stars," *Astrophysical Journal Letters*, 690, 69.
- Kenyon, S. J., & Bromley, B. C. 2008, "Variations on Debris Disks: Icy Planet Formation at 30–150 AU around 1–3 Solar Mass Main Sequence Stars," *Astrophysical Journal Supplement Series*, 179, 451.
- Kenyon, S. J., Bromley, B. C., Geller, M. J., & Brown, W. R. 2008, "Hypervelocity Stars: From the Galactic Center to the Halo," *Astrophysical Journal*, 680, 312.
- Kenyon, S. J., Bromley, B. C., O'Brien, D. P., & Davis, D. R. 2008, "Formation and Collisional Evolution of Kuiper Belt Objects," in *The Solar System Beyond Neptune*, Barucci et al. eds. (Tucson: University of Arizona Press), 293.
- Currie, T., Kenyon, S. J., Rieke, G., Balog, Z., Bragg, A., & Bromley, B. C., 2008, "The Rise and Fall of Debris Disks: MIPS Observations of η and χ Persei and the Evolution of Mid-IR Emission from Planet Formation," *Astrophysical Journal*, 672, 558.
- Brown, W. R., Geller, M. J., Kenyon, S. J., Kurtz, M. J., & Bromley, B. C. 2007, "Hypervelocity Stars III: The Space Density and Ejection History of Main Sequence Stars from the Galactic Center," *Astrophysical Journal*, 671, 1708.
- Beetle, C., Bromley, B., Hernández, N., & Price, R. H. 2007, "Periodic standing-wave approximation: Post-Minkowski computations" *Physical Review D*, 76, 084016.
- Currie, T., Kenyon, S. J., Rieke, G., Balog, Z., & Bromley, B. C., 2007, "Terrestrial Zone Debris Disk Candidates in η & χ Persei," *Astrophysical Journal Letters*, 663, 105.
- Kennedy, G. M., Kenyon, S. J., & Bromley, B. C. 2007, "Planet formation around M-dwarfs: the moving snow line and super-Earths," *Astrophysics and Space Science*, 311, 9.
- Brown, W. R., Geller, M. J., Kenyon, S. J., Kurtz, M. J., & Bromley, B. C. 2007, "Hypervelocity Stars II: The Bound Population," *Astrophysical Journal*, 660, 331.
- Nagasawa, M., Thommes, E. W., Kenyon, S. J., Bromley, B. C., & Lin, D. N. C. 2007, "The Diverse Origins of Terrestrial Planet Systems," in *Protostars and Planets V*, V. B. Reipurth, D. Jewitt, and K. Keil, eds. (Tucson: University of Arizona), 639.
- Bromley, B. C., Kenyon, S. J., Geller, M. J., Barcikowski, E., Brown, W. R., & Kurtz, M. J. 2006, "Hypervelocity Stars: Predicting the Spectrum of Ejection Velocities," *Astrophysical Journal*, 653, 1194.
- Kennedy, G. M., Kenyon, S. J., & Bromley, B. C. 2006, "Planet formation around low mass stars: the moving snow line and super-Earths," *Astrophysical Journal Letters*, 650, 139.
- Yoshida, S., Bromley, B. C., Read, J. S., Uryu, K., Friedman, J. L. 2006, "Models of Helically Symmetric Binary Systems," in *Classical and Quantum Gravity*, 23, 599.

Publications

Refereed articles (cont.)

- Beetle, C., Bromley, B. C., Price, R. H. 2006, "Eigenspectral computations for linear gravity and nonlinear toy models," *Physical Review D*, 74, 024013.
- Bromley, B. C. & Kenyon, S. J., 2006, "A Hybrid N -body–Coagulation Code for Planet Formation" *Astronomical Journal*, 131, 2737.
- Kenyon, S. J., & Bromley, B. C. 2006, "Terrestrial Planet Formation I. The Transition from Oligarchic to Chaotic Growth," *Astronomical Journal*, 131, 1837.
- Bromley, B. C., Owen, R., & Price, R. H. 2005, "Periodic standing-wave approximation: Nonlinear scalar fields, adapted coordinates, and the eigenspectral method," *Physical Review D* 71, 105017.
- Kenyon, S. J., & Bromley, B. C. 2005, "Prospects for Detection of Catastrophic Collisions in Debris Disks," *Astronomical Journal* 130, 269.
- Kenyon, S. J., & Bromley, B. C. 2004, "Stellar encounters as the origin of distant Solar System objects in highly eccentric orbits," *Nature*, 432, 598.
- Kenyon, S. J., & Bromley, B. C. 2004, "The Size Distribution of Kuiper Belt Objects," *Astronomical Journal*, 128, 1916.
- Andrade, Z., Beetle, C., Blinov, A., Bromley, B. C., Burko, L. M., Cranor, M., Owen, R., & Price, R. H. 2004, "The Periodic Standing-Wave Approximation: Overview and Three Dimensional Scalar Models," *Physical Review D*, 70, 064001.
- Kenyon, S. J., & Bromley, B. C. 2004, "Detecting the Dusty Debris of Terrestrial Planet Formation," *Astrophysical Journal Letters*, 602, 133.
- Kenyon, S. J., & Bromley, B. C. 2004, "Collisional Cascades in Planetesimal Disks II. Embedded Planets," *Astronomical Journal*, 127, 513.
- Kenyon, S. J., & Bromley, B. C. 2002, "Dusty Rings: Signposts of Recent Planet Formation," *Astrophysical Journal Letters*, 577, 35.
- Kenyon, S. J., & Bromley, B. C. 2002, "Collisional Cascades in Planetesimal Disks I. Stellar Flybys," *Astronomical Journal*, 123, 1757.
- Bromley, B. C., Melia, F., & Liu, S. 2001, "Polarimetric Imaging of the Massive Black Hole in the Galactic Center," *Astrophysical Journal Letters*, 555, 83.
- Melia, F., Bromley, B. C., Liu, S., & Walker, C. K. 2001, "Measuring the Black Hole Spin in Sgr A*," *Astrophysical Journal Letters*, 554, 37.
- Pariev, V. I., Bromley, B. C., & Miller, W. A. 2001, "On the Estimation of Relativistic Accretion Disk Parameters from Iron Emission Lines," *Astrophysical Journal*, 547, 649.
- Barton, E. J., Geller, M. J., Bromley, B. C., van Zee, L., & Kenyon, S. J. 2001, "The Tully-Fisher Relation as a Measure of Luminosity Evolution: A Low Redshift Baseline for Evolving Galaxies," *Astronomical Journal*, 121, 625.
- Kenyon, S. J., & Bromley, B. C. 2001, "Gravitational Stirring in Planetary Debris Disks," *Astronomical Journal*, 121, 538–551.
- Tegmark, M., & Bromley, B. C. 2000, "Bias is Complicated," *Physica Scripta*, T85, 59.
- Bromley, B. C., & Tegmark, M. 1999, "Is the Cosmic Microwave Background really non-Gaussian?" *Astrophysical Journal Letters*, 542, 79.
- Tegmark, M., & Bromley, B. C. 1999, "Observational Evidence for Stochastic Biasing," *Astrophysical Journal Letters*, 518, 69.
- Barton, E. J., Bromley, B. C., & Geller, M. J. 1999, "Kinematic Effects of Tidal Interaction on Galaxy Rotation Curves," *Astrophysical Journal Letters*, 511, 25.
- Pariev, V. I., & Bromley, B. C. 1998, "Line emission from an Accretion Disk around a Black Hole: Effects of Disk Structure," *Astrophysical Journal*, 508, 590.
- Bromley, B. C., Press, W. H., Lin, H., & Kirshner, R. P. 1998, "Spectral Classification and Luminosity Function of Galaxies in the Las Campanas Redshift Survey," *Astrophysical Journal*, 505, 25.

Publications

Refereed articles (cont.)

- Bromley, B. C., Miller, W. A., & Pariev, V. I. 1998, "The inner radius of the accretion disk around a supermassive black hole," *Nature*, 391, 54.
- Bromley, B. C., Warren, M. S., & Zurek, W. H. 1997, "Estimating Ω from Galaxy Redshifts: Linear Flow Distortions and Nonlinear Clustering," *Astrophysical Journal*, 475, 414.
- Bromley, B. C., Chen, K., & Miller, W. A. 1997, "Line Emission from an Accretion Disk Around a Rotating Black Hole: Toward a Measurement of Frame Dragging," *Astrophysical Journal* 475, 57.
- Bromley, B. C. 1996, "Quasirandom Number Generators for Parallel Monte Carlo Algorithms," *Journal of Parallel and Distributed Computing*, 38, 101.
- Brainerd, T. G., Bromley, B. C., Warren, M. S., & Zurek, W. H. 1996, "Velocity Dispersion and the Redshift Space Power Spectrum," *Astrophysical Journal Letters*, 464, 103.
- Bromley, B. C. 1996, "Finite-Size Gravitational Microlenses," *Astrophysical Journal*, 476, 537.
- Tegmark, M. & Bromley, B. C. 1995, "Real-Space Cosmic Fields from Redshift-Space Distributions: A Green Function Approach," *Astrophysical Journal*, 453, 533.
- Bromley, B. C. 1994, "Sampling Functions for Measuring the Cosmic Mass Density," *Astrophysical Journal Letters*, 423, 81.
- Bromley, B. C. 1994, "Correlations in Cosmic Density Fields," *Astrophysical Journal*, 437, 541.
- Bromley, B. C. 1992, "Detecting Faint Echoes in Stellar-Flare Light Curves," *Publication of the Astronomical Society of the Pacific*, 104, 1057.

Selected conference proceedings

- Fernando, S. I., *et al.*. 2024, "Chernoff information for creating maximally distinctive engineered point spread functions for multi-color single molecule imaging," in *Proceedings of the SPIE*, 12848, id. 1284802.
- Kenyon, S. J., & Bromley, B. C. 2005, "Formation of planets and debris disks in the terrestrial zone" in *Star Formation in the Era of Three Great Observatories*, Cambridge, MA cxc.harvard.edu/stars05/agenda/program.html, p. 20.
- Vassiliev, V. V., *et al.*, 2003, "Search for TeV Annihilation Radiation from Supersymmetric Dark Matter in nearby Galaxies", in *International Cosmic Ray Conference*, 5, p. 2679.
- Bromley, B. C., & Kenyon, S. J. 2004, "Numerical calculations of terrestrial planet formation," in *The Second TPF/Darwin International Conference*, San Diego, CA (<http://planetquest1.jpl.nasa.gov/TPFDarwinConf/confProceedings.cfm>).
- Kenyon, S. J., & Bromley, B. C. 2002, "Evolution of planetesimals in planetary debris disks," in *Astrophysical Supercomputing using Particle Simulations: Proceedings of IAU Symposium 208 in Tokyo*, eds. J. Makino & P. Hut (San Francisco: A. S. P.).
- Pariev, V. I., Bromley, B. C., & Miller, W. A., 2001, "Estimation of Relativistic Accretion Disk Parameters from Iron Line Emission," in *20th Texas Symposium on relativistic astrophysics, Austin, Texas, 10-15 December 2000*, eds. J. C. Wheeler & H. Martel (New York: AIP).
- Rybicki, G. B., & Bromley, B. C. 1998, "Spectral signatures of a relativistic accretion disk," in *Accretion Processes in Astrophysical Systems: Proceedings of the 8th Annual Astrophysics Conference in Maryland*, eds. S. Holt & T. Kallman (New York: AIP).
- Bromley, B. C., Miller, W. A., & Pariev, V. I. 1998, "Bounds on the inner radius of emission around supermassive black holes," in *Accretion Processes in Astrophysical Systems: Proceedings of the 8th Annual Astrophysics Conference in Maryland*, eds. S. Holt & T. Kallman (New York: AIP).
- Bromley, B. C., Laflamme, R., Warren, M. S., & Zurek, W. H. 1996, "The Distribution of Matter Around Luminous Galaxies," in *Dark Matter in Cosmology, Quantum Measurements, Experimental Gravitation, 31st Rencontre de Moriond*.

Selected conference proceedings (cont.)

- Bromley, B. C., Brainerd, T. G., Warren, M. S., & Zurek, W. H. 1996, "Cosmic Structure on Small Scales: Results on Cluster Cores and Redshift-Space Power Spectra," in *Mapping, Measuring and Modeling the Universe, Valencia Proceedings*, ed. P. Coles (San Francisco: A. S. P. Conf. Ser.).
- Bromley, B. C., Brainerd, T. G., Warren, M. S., Zurek, W. H., & Quinn, P. J. 1995, "On Cluster Cores and Power Spectra" in *Clustering in the Universe, Proceedings of the XXXth Moriond Meeting*.
- Bromley, B. C., Warren, M. S., Zurek, W. H., & Quinn, P. J. 1995, "Rich Cluster Simulation: Dynamics and Mass Estimates" in *Dark Matter, Proceedings of the Fifth Annual Astrophysics Conference in Maryland*, eds. S. Holt & D. Bennett (New York: AIP). pp. 433–436.
- Bromley, B. C. 1993, "Multiresolution Analysis in Two or More Dimensions," in *Astronomical Data Analysis Software and Systems II*, ed. Hanisch, R., Brissenden, R., & Barnes, J. (San Francisco: A. S. P. Conf. Ser.).
- Bromley, B. C. 1992, "The Large-Scale Structure of the Universe: A Multiresolution Analysis," in *IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis*, ed. Atlas, L. E., & Mallat, S. (Piscataway: IEEE).

Selected Invited Talks and Presentations

- Bromley, B. C., 2020, "Charon's legacy? On the origin of Pluto's small moons," invited presentation to the New Horizons GGI team.
- Dall'Asén, A. G., *et al.* 2020, "Analyzing the Thermal Metamorphism Process of Carbonaceous Chondrites Using Raman Spectroscopy," *Lunar and Planetary Science Conference*, 51, 2920.
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