

## CURRICULUM VITAE

**B. Glenn Piner, Ph.D.**

### EDUCATION

- 1998: Ph.D., Astronomy, University of Maryland (Title: *Geodetic VLBI Observations of EGRET Blazars*)
- 1995: M.S., Astronomy, University of Maryland
- 1991: B.S., Astronomy, University of Maryland
- 1991: B.S., Physics, University of Maryland

### PRESENT POSITION

- Professor (Department of Physics and Astronomy, Whittier College, Whittier, CA)

### PREVIOUS POSITIONS

- 1998-2000: Caltech Postdoctoral Scholar (U.S. Space VLBI Project, Jet Propulsion Laboratory, California Institute of Technology)
- 1993–1998: Graduate Research Assistant (U.S. Naval Observatory, Earth Orientation Department and NASA Goddard Space Flight Center, Laboratory for High Energy Astrophysics)
- 1992–1994: Graduate Teaching Assistant (Department of Astronomy, University of Maryland)
- 1991–1992: Undergraduate Research Assistant (NASA Goddard Space Flight Center, Laboratory for High Energy Astrophysics)

### TEACHING EXPERIENCE

Whittier College (2000–present). Courses Taught:

- INTD 100 College Writing Seminar (2 semesters)
- INTD 217 Search for Extraterrestrial Life (12 semesters)
- PHYS 90 Astronomy (6 semesters)
- PHYS 100 Astronomy of the Solar System (5 semesters)
- PHYS 101 Astronomy of Stars, Galaxies, and the Universe (5 semesters)
- PHYS 150 Introductory Kinematics and Mechanics (2 semesters)
- PHYS 180 Introductory Electricity, Magnetism, and Thermodynamics (2 semesters)
- PHYS 275 Optics and Modern Physics (3 semesters)
- PHYS 310 Mechanics (8 semesters)
- PHYS 325 Advanced Modern Physics (2 semesters)
- PHYS 330 Electromagnetic Theory (2 semesters)
- PHYS 360 Astrophysics (4 semesters)
- PHYS 499 Senior Seminar (9 semesters)

### RESEARCH AREAS

- Quasars and Active Galactic Nuclei (AGNs), Radio Astronomy: Very Long Baseline Interferometry (VLBI), Gamma-Ray Astronomy

### RESEARCH EXPERIENCE

- 2000-present: Whittier College—Studied quasar jets using data from the VLBA, with funding from NSF and Research Corporation. Involved undergraduate students in all aspects of the data analysis.
- 1998–2000: Jet Propulsion Laboratory—Studied AGNs using space VLBI data from the HALCA satellite. Major participant in the first large survey of quasars using a space-based radio telescope, and in studying gamma-ray sources with space and ground-based VLBI.
- 1994–1998: NASA/GSFC and U.S. Naval Observatory—Worked jointly between NASA/GSFC and the Naval Observatory to image and analyze 10 years of archival geodetic VLBI observations of gamma-ray blazars for doctoral dissertation for the University of Maryland. Analyzed EGRET gamma-ray satellite data. Monitored gamma-ray blazars at optical wavelengths at Rosemary Hill Observatory, University of Florida.

## GRANTS AND FELLOWSHIPS

- Principal Investigator on National Science Foundation Research at Undergraduate Institutions (RUI) grant “VLBA Observations of Blazar Jets: Continuation of a Large Survey and Detailed Studies of Extreme Sources”, awarded August 2007, \$156 K
- Principal Investigator on National Science Foundation Research at Undergraduate Institutions (RUI) grant “VLBA Observations of Quasar Jets: A Large Survey and Detailed Study of Extreme Sources”, awarded May 2003, \$105 K
- Principal Investigator on Research Corporation Cottrell College Science Award grant “The Maximum Speed of Blazar Jets”, awarded May 2003, \$35 K
- Co-Investigator on the NASA Space Interferometry Mission (SIM) Key Science Project “Binary Black Holes, Accretion Disks, and Relativistic Jets: Photocenters of Nearby AGN and Quasars”
- NASA Summer Faculty Fellowships: Summer 2002 and Summer 2003

## PROFESSIONAL SOCIETY MEMBERSHIPS

- American Astronomical Society

## COMMITTEE MEMBERSHIPS AND SERVICE

- Assessment Committee (Fall 2010 – Spring 2012)
- Chair, Department of Physics and Astronomy (August 2007 – August 2010)
- Faculty Executive Committee (Fall 2007 – Spring 2009)
- Admissions Committee, Chair (Fall 2005 – Spring 2006)
- Educational Policies Committee (Fall 2004 - Spring 2005)
- Professional Interests Committee (Fall 2002 - Spring 2004)
- Athletics Committee (Fall 2001 - Spring 2002)
- Liberal Education Committee (Fall 2000 - Spring 2001)

## REFEREED PUBLICATIONS

“Erratic Jet Wobbling in the BL Lacertae Object OJ287 Revealed by Sixteen Years of 7mm VLBA Observations”, Ivan Agudo, Alan P. Marscher, Svetlana G. Jorstad, Jose L. Gomez, Manel Perucho, B. Glenn Piner, Maria Rioja, and Richard Dodson, 2012, *Astrophysical Journal*, in press

“Fermi Large Area Telescope Observations of Markarian 421: The Missing Piece of its Spectral Energy Distribution”, A.A. Abdo, et al., 2011, *Astrophysical Journal*, 736, 131

“Insights into the High-energy  $\gamma$ -ray Emission of Markarian 501 from Extensive Multifrequency Observations in the Fermi Era”, A.A. Abdo, et al., 2011, *Astrophysical Journal*, 727, 129

“The Jets of TeV Blazars at Higher Resolution: 43 GHz and Polarimetric VLBA Observations from 2005-2009”, B. Glenn Piner, Niraj Pant, and Philip G. Edwards, 2010, *Astrophysical Journal*, 723, 1150

“Significant Limb-Brightening in the Inner Parsec of Markarian 501”, B. Glenn Piner, Niraj Pant, Philip G. Edwards, and Kaj Wiik, 2009, *Astrophysical Journal Letters*, 690, L31

“The Parsec-Scale Jets of the TeV Blazars H 1426+428, 1ES 1959+650, and PKS 2155-304: 2001-2004”, B. Glenn Piner, Niraj Pant, and Philip G. Edwards, 2008, *Astrophysical Journal*, 678, 64

“The VSOP 5 GHz Active Galactic Nucleus Survey: V. Imaging Results for the Remaining 140 sources”, R. Dodson, E.B. Fomalont, K. Wiik, S. Horiuchi, H. Hirabayashi, P.G. Edwards, Y. Murata, Y. Asaki, G.A. Moellenbrock, W.K. Scott, A.R. Taylor, L.I. Gurvits, Z. Paragi, S. Frey, Z.Q. Shen, J.E.J. Lovell, S.J. Tingay, M.J. Rioja, S. Fodor, M.L. Lister, L. Mosoni, G. Coldwell, B.G. Piner, and J. Yang, 2008, *Astrophysical Journal Supplement*, 175, 314

“Relativistic Jets in the Radio Reference Frame Image Database I: Apparent Speeds from the First Five Years of Data”, B.G. Piner, M. Mahmud, A.L. Fey, and K. Gospodinova, 2007, *Astronomical Journal*, 133, 2357

“The Fastest Relativistic Jets: VLBA Observations of Blazars with Apparent Speeds Exceeding  $25 c$ ”, B.G. Piner, D. Bhattarai, P.G. Edwards, and D.L. Jones, 2006, *Astrophysical Journal*, 640, 196

- “The Parsec-Scale Jet of PKS 0637-752”, Philip G. Edwards, B. Glenn Piner, Steven J. Tingay, James E.J. Lovell, Jun Kataoka, Roopesh Ojha, and Yasuhiro Murata, 2006, *Proceedings of the Astronomical Society of Japan*, 58, 233
- “VLBA Polarization Observations of Markarian 421 After a Gamma-Ray High State”, B. Glenn Piner and Philip G. Edwards, 2005, *Astrophysical Journal*, 622, 168
- “The VSOP 5 GHz AGN Survey III: Imaging Results for the First 102 Sources”, W.K. Scott, E.B. Fomalont, S. Horiuchi, J.E.J. Lovell, G.A. Moellenbrock, R.G. Dodson, P.G. Edwards, G.V. Coldwell, S. Fodor, S. Frey, L.I. Gurvits, H. Hirabayashi, M.L. Lister, L. Mosoni, Y. Murata, Z. Paragi, B.G. Piner, Z.Q. Shen, A.R. Taylor, and S.J. Tingay, 2004, *Astrophysical Journal Supplement*, 155, 33
- “The VSOP 5 GHz AGN Survey II: Data Calibration and Imaging”, J.E.J. Lovell, G.A. Moellenbrock, S. Horiuchi, E.B. Fomalont, W.K. Scott, H. Hirabayashi, R.G. Dodson, S.M. Dougherty, P.G. Edwards, S. Frey, L.I. Gurvits, M.L. Lister, D.W. Murphy, Z. Paragi, B.G. Piner, Z.Q. Shen, S.J. Tingay, Y. Asaki, D. Moffett, and Y. Murata, 2004, *Astrophysical Journal Supplement*, 155, 27
- “The Parsec-Scale Structure and Jet Motions of the TeV Blazars 1ES 1959+650, PKS 2155-304, and 1ES 2344+514”, B. Glenn Piner and Philip G. Edwards, 2004, *Astrophysical Journal*, 600, 115
- “Parsec Scale Properties of Markarian 501”, M. Giroletti, G. Giovannini, L. Feretti, W.D. Cotton, P.G. Edwards, L. Lara, A.P. Marscher, J.R. Mattox, B.G. Piner, and T. Venturi, 2004, *Astrophysical Journal*, 600, 127
- “Location of the nonthermal optical emission from jets in AGN”, D.L. Jones, A.E. Wehrle, S.C. Unwin, D.L. Meier, and B.G. Piner, 2003, *New Astronomy Reviews*, 47, 681
- “The Speed and Orientation of the Parsec-Scale Jet in 3C 279”, B. Glenn Piner, Stephen C. Unwin, Ann E. Wehrle, Alma C. Zook, C. Megan Urry, and Diane M. Gilmore, 2003, *Astrophysical Journal*, 588, 716
- “The Subluminal Parsec-Scale Jet of Markarian 501”, P.G. Edwards and B.G. Piner, 2002, *Astrophysical Journal Letters*, 579, L67
- “The radio jets and accretion disk in NGC 4261”, Ann E. Wehrle, Dayton L. Jones, David L. Meier, and B. Glenn Piner, 2002, *New Astronomy Reviews*, 46, 235
- “VSOP Space VLBI and Geodetic VLBI Investigations of Southern Hemisphere Radio Sources”, S.J. Tingay, J.E. Reynolds, A.K. Tzioumis, D.L. Jauncey, J.E.J. Lovell, R. Dodson, M.E. Costa, P.M. McCulloch, P.G. Edwards, H. Hirabayashi, D.W. Murphy, R.A. Preston, B.G. Piner, G.D. Nicolson, J.F.H. Quick, H. Kobayashi, and K.M. Shibata, 2002, *Astrophysical Journal Supplement*, 141, 311
- “Quasar Astrophysics with the Space Interferometry Mission”, S.C. Unwin, A.E. Wehrle, D.L. Jones, D.L. Meier, and B.G. Piner, 2002, *Publications of the Astronomical Society of Australia*, 19, 5
- “The Parsec-scale Jets of Extragalactic TeV Gamma-ray Sources”, B.G. Piner, P.G. Edwards, S. Fodor, and T.A. Rector, 2002, *Publications of the Astronomical Society of Australia*, 19, 114
- “Orientation and Speed of the Parsec-Scale Jet in NGC 4261 (3C 270)”, B. Glenn Piner, Dayton L. Jones, and Ann E. Wehrle, 2001, *Astronomical Journal*, 122, 2954
- “The Pearson-Readhead Survey of Compact Extragalactic Radio Sources from Space. I. The Images”, M.L. Lister, S.J. Tingay, D.W. Murphy, B.G. Piner, D.L. Jones, and R.A. Preston, 2001, *Astrophysical Journal*, 554, 948
- “In the Shadow of the Accretion Disk: Higher Resolution Imaging of the Central Parsec in NGC 4261”, Dayton L. Jones, Ann E. Wehrle, B. Glenn Piner, and David L. Meier, 2001, *Astrophysical Journal*, 553, 968
- “Measuring the Brightness Temperature Distribution of Extragalactic Radio Sources with Space VLBI”, S.J. Tingay, R.A. Preston, M.L. Lister, B.G. Piner, D.W. Murphy, D.L. Jones, D.L. Meier, T.J. Pearson, A.C.S. Readhead, H. Hirabayashi, Y. Murata, H. Kobayashi, and M. Inoue, 2001, *Astrophysical Journal Letters*, 549, 55
- “Kinematics of the Parsec-Scale Relativistic Jet in Quasar 3C 279: 1991-1997”, A.E. Wehrle, B.G. Piner, S.C. Unwin, A.C. Zook, W. Xu, A.P. Marscher, H. Terasranta, and E. Valtaoja, 2001, *Astrophysical Journal Supplement*, 133, 297
- “The VSOP 5 GHz AGN Survey I. Compilation and Observations”, H. Hirabayashi, et al., 2000, *Publications of the Astronomical Society of Japan*, 52, 997

- “Chandra Discovery of a 100 kiloparsec X-ray Jet in PKS 0637-752”, D.A. Schwartz, H.L. Marshall, J.E.J. Lovell, B.G. Piner, S.J. Tingay, M. Birkinshaw, G. Chartas, M. Elvis, E.D. Feigelson, K.K. Ghosh, D.E. Harris, H. Hirabayashi, E.J. Hooper, D.L. Jauncey, K.M. Lanzetta, S. Mathur, R.A. Preston, W.H. Tucker, S. Virani, B. Wilkes, and D.M. Worrall, 2000, *Astrophysical Journal Letters*, 540, L69
- “Space VLBI Observations of 3C 279 at 1.6 and 5 GHz”, B.G. Piner, P.G. Edwards, A.E. Wehrle, H. Hirabayashi, J.E.J. Lovell, and S.C. Unwin, 2000, *Astrophysical Journal*, 537, 91
- “The Radio Jets and Accretion Disk in NGC 4261”, Dayton L. Jones, Ann E. Wehrle, David L. Meier, and B. Glenn Piner, 2000, *Astrophysical Journal*, 534, 165
- “The First Space VLBI Image of 3C 279”, H. Hirabayashi, P.G. Edwards, A.E. Wehrle, S.C. Unwin, B.G. Piner, J.E.J. Lovell, H. Kobayashi, R. Okayasu, F. Makino, T. Kii, and E. Valtaoja, 2000, *Advances in Space Research*, 26, 689
- “The Pearson-Readhead Survey from Space”, R.A. Preston, S.J. Tingay, D.W. Murphy, D.L. Meier, T.J. Pearson, A.C.S. Readhead, H. Hirabayashi, H. Kobayashi, M. Inoue, and B.G. Piner, 2000, *Advances in Space Research*, 26, 661
- “Space VLBI Observations of 3C 279 with HALCA”, P.G. Edwards, H. Hirabayashi, J.E.J. Lovell, B.G. Piner, S.C. Unwin, and A.E. Wehrle, 1999, *Astronomische Nachrichten*, 320, 230
- “VSOP and Ground-based VLBI Observations of Markarian 421”, B.G. Piner, S.C. Unwin, A.E. Wehrle, P.G. Edwards, A.L. Fey, and K.A. Kingham, 1999, *New Astronomy Reviews* (Proceedings of the 4th EVN/JIVE Symposium), 43, 711
- “VSOP Space VLBI Observations of Pearson-Readhead Survey Sources”, S.J. Tingay, R.A. Preston, B.G. Piner, M.L. Lister, D.W. Murphy, T.J. Pearson, A.C.S. Readhead, H. Hirabayashi, H. Kobayashi, and M. Inoue, 1999, *New Astronomy Reviews* (Proceedings of the 4th EVN/JIVE Symposium), 43, 723
- “VSOP and Ground-based VLBI Imaging of the TeV Blazar Markarian 421 at Multiple Epochs”, B.G. Piner, S.C. Unwin, A.E. Wehrle, P.G. Edwards, A.L. Fey, and K.A. Kingham, 1999, *Astrophysical Journal*, 525, 176
- “Observations of OJ 287 from the Geodetic VLBI Archive of the Washington Correlator”, C.E. Tateyama, K.A. Kingham, P. Kaufmann, B.G. Piner, L.C.L. Botti, and A.M.P. de Lucena, 1999, *Astrophysical Journal*, 520, 627
- “Geodetic VLBI Observations of EGRET Blazars”, B. Glenn Piner and Kerry A. Kingham, 1998, *Astrophysical Journal*, 507, 706
- “Observations of BL Lac from the Geodetic VLBI Archive of the Washington Correlator”, C.E. Tateyama, K.A. Kingham, P. Kaufmann, B.G. Piner, A.M.P. de Lucena, and L.C.L. Botti, 1998, *Astrophysical Journal*, 500, 810
- “A Slower Superluminal Velocity for the Quasar 1156+295”, B. Glenn Piner and Kerry A. Kingham, 1997, *Astrophysical Journal Letters*, 485, L61
- “VLBI Observations of the Gamma-Ray Blazar 1611+343”, B. Glenn Piner and Kerry A. Kingham, 1997, *Astrophysical Journal*, 479, 684
- “Preliminary Results from EGRET Phase 3 Observations of the Virgo Region”, C. Von Montigny, D.L. Bertsch, B.L. Dingus, J.A. Esposito, C.E. Fichtel, R.C. Hartman, S.D. Hunter, G. Kanbach, D.A. Kniffen, Y.C. Lin, M. Merck, H.A. Mayer-Hasselwander, R. Mukherjee, P.F. Michelson, P.L. Nolan, G. Piner, E. Schneid, and D.J. Thompson, 1996, *Astronomy & Astrophysics Supplement*, 120, 519C
- “Nuclear Rings and Mass Inflow in Hydrodynamic Simulations of Barred Galaxies”, B. Glenn Piner, James M. Stone, and Peter J. Teuben, 1995, *Astrophysical Journal*, 449, 508
- “EGRET Detection of High-Energy Gamma Radiation from the OVV Quasar 3C 454.3”, R.C. Hartman, D.L. Bertsch, B.L. Dingus, C.E. Fichtel, S.D. Hunter, G. Kanbach, D.A. Kniffen, Y.C. Lin, J.R. Mattox, H.A. Mayer-Hasselwander, P.F. Michelson, C. Von Montigny, P.L. Nolan, B.G. Piner, E. Schneid, P. Sreekumar, and D.J. Thompson, 1993, *Astrophysical Journal Letters*, 407, L41

## OTHER PUBLICATIONS

- “Doubling the Sample of Jet Speed Measurements for the TeV Blazars”, B. Glenn Piner, V.C. Tiet, and P.G. Edwards 2011, *Bulletin of the American Astronomical Society*, 218, 327.05

- “A Complete Set of VSOP Observations of 3C279”, N.D. Pant, B.G. Piner, P.G. Edwards, H. Hirabayashi, A.E. Wehrle, and S.C. Unwin, 2009, in *Approaching Micro-Arcsecond Resolution with VSOP-2: Astrophysics and Technologies*, eds. Yoshiaki Hagiwara, Ed Fomalont, Masato Tsuboi, and Yasuhiro Murata, (ASP: San Francisco), p. 213
- “Prospects for Observing Quasars and AGN with the Space Interferometry Mission”, Ann E. Wehrle, N. Zacharias, K. Johnston, D. Boboltz, A. Fey, R. Gaume, D.L. Meier, D.W. Murphy, D.L. Jones, R. Ojha, B. Piner, and S.C. Unwin, 2009, *Bulletin of the American Astronomical Society*, 213, 456.01
- “Quasar astrophysics with the Space Interferometry Mission”, S.C. Unwin, A.E. Wehrle, D.L. Meier, D.L. Jones, and B.G. Piner, 2008, in *A Giant Step: from Milli- to Micro-arcsecond Astrometry*, IAU Symposium No. 248, p. 288
- “Accretion Disks, Jets and Black Holes: Precision Astrometry of Quasars with SIM”, Stephen C. Unwin, A. Wehrle, D. Jones, D. Meier, and G. Piner, 2007, *Bulletin of the American Astronomical Society*, 211, 45.20
- “The Misalignment Angle Distribution of Relativistic Jets from the Radio Reference Frame Image Database”, B.G. Piner, 2006, in *Challenges of Relativistic Jets*, Published online at <http://www.oa.uj.edu.pl/2006jets/posters.html>
- “New VLBA Observations Of The Parsec-Scale Structures Of The TeV Blazars 1ES 1426+428, 1ES 1959+650, And PKS 2155-304”, B.G. Piner, N. Pant, and P.G. Edwards, 2006, *Bulletin of the American Astronomical Society*, HEAD meeting 9, 7.43
- “Confirmation of Apparent Speeds Exceeding  $25c$  in the Jets of Three EGRET Blazars”, B.G. Piner, D. Bhattarai, P.G. Edwards, and D.L. Jones, 2006, in *Blazar Variability Workshop II: Entering the GLAST Era*, eds. H. R. Miller, K. Marshall, J. R. Webb, and M. F. Aller, (ASP: San Francisco), p. 163
- “QSO Astrophysics with the Space Interferometry Mission”, D. Londish, A.E. Wehrle, S.C. Unwin, D.L. Jones, D.L. Meier, and B.G. Piner, 2006, in *Blazar Variability Workshop II: Entering the GLAST Era*, eds. H. R. Miller, K. Marshall, J. R. Webb, and M. F. Aller, (ASP: San Francisco), p. 225
- “How Stable will the Post-SIM Radio-Optical Frame Tie Be?”, D.L. Jones, A.E. Wehrle, S.C. Unwin, D.L. Meier, and B.G. Piner, 2005, *Bulletin of the American Astronomical Society*, 207, 117.08
- “Blazars (VLBA & GLAST)”, B. G. Piner, 2005, in *Future Directions in High Resolution Astronomy: The 10th Anniversary of the VLBA*, eds. J. Romney and M. Reid, (ASP: San Francisco), p. 55
- “The VSOP 5 GHz Continuum Survey: The Initial Imaging Results”, W.K. Scott, A.R. Taylor, S. Horiuchi, E.B. Fomalont, M.L. Lister, G.A. Moellenbrock, R.G. Dodson, P.G. Edwards, H. Hirabayashi, Y. Murata, Z.Q. Shen, J.E.J. Lovell, S. Tingay, S. Frey, L. Mosoni, L. Gurvits, Z. Paragi, G. Piner, S. Fodor, and G.V. Coldwell, 2005, in *Future Directions in High Resolution Astronomy: The 10th Anniversary of the VLBA*, eds. J. Romney and M. Reid, (ASP: San Francisco), p. 125
- “The AGN Key Project for SIM Planetquest”, A.E. Wehrle, S.C. Unwin, D.L. Jones, D.L. Meier, B.G. Piner, and D. Londish, 2005, *Bulletin of the American Astronomical Society*, 206, 14.15
- “Confirmation of Apparent Speeds Exceeding  $25c$  in Three Blazar Jets”, B.G. Piner, D. Bhattarai, P.G. Edwards, and D.L. Jones, 2004, *Bulletin of the American Astronomical Society*, 205, 110.14
- “Current Results from the RRFID Kinematic Survey: Apparent Speeds from the First Five Years of Data”, B.G. Piner, A.L. Fey, and M. Mahmud, 2004, in *Proceedings of the 7th Symposium of the European VLBI Network on New Developments in VLBI Science and Technology*, eds. R. Bachiller, F. Colomer, J.F. Desmurs, and P. de Vicente, p. 99
- “Radio Observations of VERITAS Sources: Imaging the Parsec-Scale Jets”, B.G. Piner, 2004, *Bulletin of the American Astronomical Society*, HEAD meeting 8, 30.03
- “Relativistic Jet Speeds from the Radio Reference Frame Image Database: The 60 Best-Observed Sources”, B.G. Piner, A.L. Fey, M. Mahmud, and K. Gospidinova, 2003, *Bulletin of the American Astronomical Society*, 203, 92.07
- “VLBI Observations of TeV Gamma-Ray Emitting AGN”, Philip G. Edwards and Glenn Piner, 2003, in *Quasar Cores and Jets*, 25th meeting of the IAU, Joint Discussion 18
- “Tracking the moving optical photocenters of active galaxies: binary black holes, accretion disks and relativistic jets”, Ann E. Wehrle, Stephen C. Unwin, Dayton L. Jones, David L. Meier, and B.G. Piner, 2003, *Proceedings of the SPIE*, 4852, 152

- “Binary Black Holes, Accretion Disks and Relativistic Jets: Photocenters of Nearby AGN and Quasars”, Ann E. Wehrle, Dayton L. Jones, David L. Meier, B. Glenn Piner, and Stephen C. Unwin, 2002, in *Science with the Space Interferometry Mission*, eds. Stephen Unwin and Slava Turyshev, p. 22
- “Relativistic Jet Speeds from the Radio Reference Frame Image Database: The 23 Best-Observed Sources”, B.G. Piner, A.L. Fey, J. Milne, and M. Mahmud, 2002, *Bulletin of the American Astronomical Society*, 200, 45.01
- “VSOP Observations of 3C 279”, P.G. Edwards, H. Hirabayashi, and B.G. Piner, 2001, in *Asia-Pacific Radio Science Conference AP-RASC '01*, p. 390
- “Chandra Observations of the PKS 0637-752 X-ray Jet”, D.A. Schwartz, M. Elvis, D.E. Harris, E.J. Hooper, W.H. Tucker, S. Virani, B. Wilkes, H.L. Marshall, J.E.J. Lovell, S.J. Tingay, D.L. Jauncey, B.G. Piner, R.A. Preston, M. Birkinshaw, D.M. Worrall, G. Chartas, E.D. Feigelson, K.K. Ghosh, H. Hirabayashi, K.M. Lanzetta, and S. Mathur, 2001, in *X-ray Astronomy 2000*, eds. R. Giacconi, S. Serio, and L. Stella, (ASP: San Francisco), p.493
- “Quasar Astrometry with the Space Interferometry Mission”, S.C. Unwin, A.E. Wehrle, D.L. Jones, D.L. Meier, and B.G. Piner, 2001, *Bulletin of the American Astronomical Society*, DDA meeting 32, 03.05
- “TeV Blazars on the Milli-Arcsecond Scale”, P.G. Edwards, B.G. Piner, S. Fodor, and T.A. Rector, 2001, in *High Energy Gamma-Ray Astronomy*, eds. F.A. Aharonian and H.J. Volk, (AIP: Melville, NY), p. 672
- “The Parsec-Scale Structure of TeV Blazars”, B.G. Piner, P.G. Edwards, and S. Fodor, 2001, in *Blazar Demographics and Physics*, Eds. P. Padovani and C.M. Urry, (ASP: San Francisco), p. 18
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- “The Parsec-Scale Jets of Extragalactic TeV Gamma-Ray Sources”, B.G. Piner, P.G. Edwards, S. Fodor, and T.A. Rector, 2001, *Bulletin of the American Astronomical Society*, 198, 73.01
- “Spatial Analysis of the PKS0637-752 X-ray Jet”, D.A. Schwartz, H.L. Marshall, J.E.J. Lovell, S.J. Tingay, D.L. Jauncey, B.G. Piner, R.A. Preston, M. Birkinshaw, D.M. Worrall, G. Chartas, E.D. Feigelson, M. Elvis, E.J. Hooper, W.H. Tucker, S. Virani, K.K. Ghosh, H. Hirabayashi, K.M. Lanzetta, and S. Mathur, 2000, *Bulletin of the American Astronomical Society*, 197, 75.13
- “Orientation of the Parsec-Scale Jet and Accretion Disk in NGC 4261”, B.G. Piner, D.L. Jones, A.E. Wehrle, and D.L. Meier, 2000, *Bulletin of the American Astronomical Society*, 197, 134.08
- “Results of a VLBI Monitoring Campaign on TeV Blazars”, B.G. Piner, P.G. Edwards, S. Fodor, and T.A. Rector, 2000, *Bulletin of the American Astronomical Society*, HEAD meeting 5, 05.11
- “VLBI and space VLBI of TeV gamma-ray sources”, P.G. Edwards, B.G. Piner, and S. Fodor, 2000, in *EVN Symposium 2000, Proceedings of the 5th European VLBI Network Symposium*, p. 39
- “The Pearson-Readhead Survey from Space”, R.A. Preston, S.J. Tingay, M. Lister, B.G. Piner, D.W. Murphy, D.L. Jones, D.L. Meier, T.J. Pearson, A.C.S. Readhead, H. Hirabayashi, H. Kobayashi, and M. Inoue, 2000, in *Galaxies and their Constituents at the Highest Angular Resolution*, IAU Symposium No. 205
- “Co-ordinated VSOP and Chandra Observations of 0836+710”, D.W. Murphy, H. Marshall, C. Canizares, P. Coppi, R. Preston, G. Piner, M. Lister, and P. Edwards, 2000, in *Galaxies and their Constituents at the Highest Angular Resolution*, IAU Symposium No. 205
- “VLBI Observations of Extragalactic TeV Gamma-Ray Sources”, P.G. Edwards, B.G. Piner, and D.W. Murphy, 2000, in *Galaxies and their Constituents at the Highest Angular Resolution*, IAU Symposium No. 205
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