

## Bibliography

This bibliography combines all references from these Proceedings. The status of “in press” or “submitted” indicates the publication status confirmed as of January 1998. The listing was checked for internal consistency, but not all items were verified against the original publication (especially those cited only once).

## References

- Aaron, S. E. 1996. “VLBA observations of highly misaligned radio jets”, PhD Thesis, Brandeis University.
- Aaron, S. E., Wardle, J. F. C., & Roberts, D. H. 1997. “A multi-frequency VLBA polarization study of 3C 309.1”, *Vistas in Astronomy*, **41**, 225–229.
- Abraham, Z., Carrara, E. A., Zensus, J. A. & Unwin, S. C. 1994. “The ejection rates of superluminal components in 3C 273”, in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 87–90.
- Abraham, Z., Cohen, N. L., Opher, R., Rafaelli, J. C., & Zisk, S. H. 1981. “The giant outburst of the 8 km/s water maser feature in Orion”, *A&A*, **100**, L10–13.
- Akujor, C. E., Porcas, R. W., Lüdke, E., & Shone, D. L. 1993. “3C 216-A galactic-size powerful radio source”, in *Sub-arcsecond Radio Astronomy*, eds. R. J. Davis & R. S. Booth (Cambridge: Cambridge Univ. Press), 265–266.
- Alberdi, A., Krichbaum, T. P., Graham, D. A., Greve, A., Grewing, M., Marcaide, J. M., Witzel, A., Booth, R. S., Bååth, L. B., Colomer, F., Doeleman, S., Marscher, A. P., Rogers, A. E. E., Schalinski, C. J., & Standke, K. 1997a. “The high frequency radio structure of 4C 39.25”, *A&A*, **327**, 513–521.
- Alberdi, A., Lara, L., Marcaide, J. M., Leppänen, K., Patnaik, A., & Porcas, R. 1997b. “Dual high frequency polarization images of the quasar 3C 395” in *Blazars, Black Holes, and Jets*, eds. M. Kidger & J. A. de Diego, *Astrophysics and Space Science* (special issue), in press.
- Alberdi, A., Marcaide, J. M., Marscher, A. P., Zhang, Y. F., Elósegui, P., Gómez, J. L., & Shaffer, D. B. 1993. “The parsec-scale radio jet of 4C 39.25”, *ApJ*, **402**, 160–172.
- Alef, W. 1987. “Techniken für die VLBI-beobachtung schwacher objekte”, PhD Thesis, Friedrich-Wilhelms-Universität zu Bonn.
- Aller, H. D., Hughes, P. A., & Aller, M. F. 1991. “Radio variability of active galactic nuclei”, in *Variability of Active Galactic Nuclei*, eds. H. R. Miller & P. J. Wiita (Cambridge: Cambridge Univ. Press), 172–183.
- Aller, M. F., Aller, H. D., & Hughes, P. A. 1992. “Pearson-Readhead survey sources: Properties of the centimeter-wavelength flux and polarization of a complete radio sample”, *ApJ*, **399**, 16–28.
- Antonucci, R. R. J. 1984. “Optical spectropolarimetry of radio galaxies”, *ApJ*, **278**, 499–520.
- Antonucci, R. R. J. 1993. “Unified models for active galactic nuclei and quasars”, *ARA&A*, **31**, 473–521.
- Appl, S., Sol, H., & Vicente, L. 1996. “Misalignment and curvature effects in extragalactic radio sources”, *A&A*, **310**, 419–437.
- Arias, E. F., Charlot, P., Feissel, M., & Lestrade, J. F. 1995. “The extragalactic reference system of the International Earth Rotation Service (ICRS)”, *A&A*, **303**, 604–608.
- Arons, J., & Barnard, J. J. 1986. “Wave propagation in pulsar magnetospheres—Dispersion relations and normal modes of plasmas in superstrong magnetic fields”, *ApJ*, **302**, 120–137.
- Arons, J., & Scharlemann, E. T. 1979. “Pair formation above pulsar polar caps—Structure of the low altitude acceleration zone”, *ApJ*, **231**, 854–879.
- Arp, H. C. 1987. *Quasars, Redshifts, & Controversies* (Berkeley: Interstellar Media).

- Bääth, L. B. 1987. "Superluminal motion in CTA 102", in *Superluminal Radio Sources*, eds. J. A. Zensus & T. J. Pearson (Cambridge: Cambridge Univ. Press), 206–210.
- Bääth, L. B., Zhang, F. J., & Chu, H. S. 1991. "0735+178: The cosmic conspiracy", *A&A*, **250**, 50–56.
- Bääth, L. B., & Zhang, F. J. 1991. "The radio fine structure of the BL Lacertae object 0735+178", *A&A*, **243**, 328–332.
- Bachiller, R. 1996. "Bipolar molecular outflows from young stars and protostars", *ARA&A*, **34**, 111–154.
- Bajkova, A. T. 1992. "The generalization of maximum entropy method for reconstruction of complex functions", *Astron. & Astroph. Tr.*, **1**, 313–320.
- Bajkova, A. T. 1994. "On the problem of nonlinear distortions of the maximum entropy method", *Izv. Vuzov. Radiofizika*, **38**, 1267–1277.
- Bajkova, A. T., Pyatunina, T. B., & Finkelstein, A. M. 1996. "Radio maps of 39 compact extragalactic radio sources from geodetic VLBI-data", *Communications of IAA*, **87**, 1–46.
- Barkana, R. 1997. "Analysis of time delays in the gravitational lens PG 1115+080", *ApJ*, **489**, 21–28.
- Bare, C., Clark, B. G., Kellermann, K. I., Cohen, M. H., & Jauncey, D. L. 1967. "Interferometer experiment with independent local oscillators", *Science*, **157**, 189–191.
- Barnard, J. J., & Arons, J. 1986. "Wave propagation in pulsar magnetospheres—Refraction of rays in the open flux zone", *ApJ*, **302**, 138–162.
- Baraffe, I., Chabrier, G., Allard, F., & Hauschildt, P. H. 1996. "New evolutionary tracks for very low mass stars", *ApJ*, **446**, L35–38.
- Bartel, N., Bietenholz, M. F. & Rupen, M. P. 1995. "The nuclear region of the spiral galaxy M81", *Proc. Natl. Acad. Sci. USA*, **92**, 11374–11376.
- Bartel, N., Bietenholz, M. F., Rupen, M. P., Conway, J. E., Beasley, A. J., Sramek, R. A., Romney, J. D., Titus, M. A., Graham, D. A., Altunin, V. I., Jones, D. L., Rius, A., Venturi, T., Umana, G., Francis, R. L., McCall, R. L., Richer, M. G., Stevenson, C. C., Weiler, K. W., Van Dyk, S. D., Panagia, N., Cannon, W. H., Popelar, J., & Davis, R. J. 1994a. "The shape, expansion rate, and distance of supernova 1993J from VLBI measurements", *Nature*, **368**, 610–613.
- Bartel, N., Bietenholz, M. F., Rupen, M. P., Conway, J. E., Beasley, A. J., Sramek, R. A., Romney, J. D., Titus, M. A., Graham, D. A., Altunin, V. I., Jones, D. L., Rius, A., Venturi, T., Umana, G., Francis, R. L., McCall, R. L., Richer, M. G., Stevenson, C. C., Weiler, K. W., Van Dyk, S. D., Panagia, N., Cannon, W. H., Popelar, J., & Davis, R. J. 1994b. "First VLBI images of supernova 1993J in the galaxy M81", in *VLBI Technology: Progress and Future Observational Possibilities*, eds. T. Sasao, S. Manabe, O. Kameya, & M. Inoue (Tokyo: Terra), 115–122.
- Bartel, N., Chandler, J. F., Ratner, M. I., Shapiro, I. I., Pan, R., & Cappallo, R. J. 1996. "Toward a frame tie via millisecond pulsar VLBI", *AJ*, **112**, 1690–1696.
- Bartel, N., Herring, T. A., Ratner, M. I., Shapiro, I. I., & Corey, B. E. 1986. "VLBI limits on the proper motion of the 'core' of the superluminal quasar 3C345", *Nature*, **319**, 733–738.
- Bartel, N., Ratner, M. I., Shapiro, I. I., Cappallo, R. J., Rogers, M. I., & Whitney, A. R. 1995. "Investigation of radiation from pulsar PSR 0329+54 using Mark III VLBI observations", *AJ*, **90**, 2532–2539.
- Bartel, N., Shapiro, I. I., Corey, B. E., Marcaide, J. M., Rogers, A. E. E., Whitney, A. R., Cappallo, R. J., Graham, D. A., Romney, J. D., & Preston, R. A. 1982. "The nucleus of M81: Simultaneous 2.3 and 8.3 GHz Mark III VLBI observations", *ApJ*, **262**, 556–563.
- Barthel, P. D. 1989. "Is every quasar beamed?", *ApJ*, **336**, 606–611.
- Barthel, P. D., Conway, J. E., Myers, S. T., Pearson, T. J., & Readhead, A. C. S. 1995. "New superluminal quasar 1633+382 and the blazar-gamma-ray connection", *ApJ*, **444**, L21–24.
- Barthel, P. D., Pearson, T. J., & Readhead, A. C. S. 1988. "3C 216—A new type of superluminal quasar", *ApJ*, **329**, L51–55.

- Batrla, W., Matthews, H. E., Menten, K. M., & Walmsley, C. M. 1987. "Detection of strong methanol masers toward galactic H II regions", *Nature*, **326**, 49–51.
- Baum, S. A., O'Dea, C. P., Giovannini, G., Biretta, J., Cotton, W. B., de Koff, S., Feretti, L., Golombek, D., Lara, L., Macchetto, F. D., Miley, G. K., Sparks, W. B., Venturi, T., & Komissarov, S. S. 1997. "HST and MERLIN observations of 3C 264—A laboratory for jet physics and unified schemes", *ApJ*, **483**, 178–193.
- Becker, R. H., White, R. L., & Helfand, D. J. 1995. "The FIRST survey: Faint images of the radio sky at twenty-centimeters", *ApJ*, **450**, 559–577.
- Begelman, M. C., Blanford, R. D., & Rees, M. J. 1984. "Theory of extragalactic radio sources", *Rev. Mod. Phys.*, **56**, 255–351.
- Begelman, M. C. 1996. "Baby Cygnus A's", in *Cygnus A—Study of a Radio Galaxy*, eds. C. L. Carilli & D. E. Harris (Cambridge: Cambridge Univ. Press), 209–214.
- Benford, G. 1992. "Collective emission from rapidly variable quasars", *ApJ*, **391**, L59–62.
- Berlin, A. B., Kovalev Yu. A., Kovalev, Y. Y., Larionov, G. M., Nizgelsky, N. A., & Soglasnov, V. A. 1992. "A study of long term variability of blazars in multi frequency spectra monitoring program", in *Variability of Blazars*, eds. E. Valtaoja & M. Valtonen (Cambridge: Cambridge Univ. Press), 167–169.
- Bicknell, G. V. 1985. "The relationship of the Fanaroff-Riley classification of extragalactic radio-sources to jet physics", *Proc. Astr. Soc. Austr.*, **6**, 130–137.
- Bicknell, G. V. 1994. "On the relationship between BL Lacertae objects and Fanaroff-Riley I radio galaxies", *ApJ*, **422**, 542–561.
- Bietenholz, M. F., Bartel, N., Rupen, M. P., Conway, J. E., Beasley, A. J., Sramek, R. A., Romney, J. D., Titus, M. A., Graham, D. A., Altunin, V. I., Jones, D. L., Rius, A., Venturi, T., Umana, G., Weiler, K. W., Van Dyk, S. D., Panagia, N., Cannon, W. H., Popelar, J., & Davis, R. J. 1996. "VLBI observations of the ultra compact radio nucleus of the galaxy M81", *ApJ*, **457**, 604–609.
- Bietenholz, M. F., Bartel, N., Rupen, M. P., Conway, J. E., Beasley, A. J., Sramek, R. A., Romney, J. D., Titus, M. A., Graham, D. A., Altunin, V. I., Jones, D. L., Rius, A., Venturi, T., Umana, G., Weiler, K. W., Van Dyk, S. D., Panagia, N., Cannon, W. H., Popelar, J., & Davis, R. J. 1994. "The compact core in M81", in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 109–114.
- Biretta, J. A. 1996. "The structure, kinematics, and evolution of the M87 jet", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 187–198.
- Biretta, J. A. 1993. "The M87 jet", in *Astrophysical Jets*, eds. D. Burgarella, M. Livio, & C. P. O'Dea, 263–304.
- Birkinshaw, M., & Davis, R. L. 1985. "The orientation of the rotation axes of radio galaxies. I. Radio morphologies of bright elliptical galaxies", *ApJ*, **291**, 32–44.
- Blandford, R. D., & Königl, A. 1979. "Relativistic jets as compact radio sources", *ApJ*, **232**, 34–48.
- Blandford, R. D. & Payne, D. G. 1982. "Hydromagnetic flows from accretion discs and the production of radio jets", *MNRAS*, **199**, 883–903.
- Blandford, R. D., & Scharlemann, E. T. 1976. "On the scattering and absorption of electromagnetic radiation within pulsar magnetospheres", *MNRAS*, **174**, 59–85.
- Bloemhof, E. E., Reid, M. J., & Moran, J. M. 1992. "Kinetics of W3(OH): first proper motions of OH masers from VLBI measurements", *ApJ*, **397**, 500–519.
- Blondin, J. M., & Lundqvist, P. 1993. "Formation of the circumstellar shell around SN 1987A", *ApJ*, **405**, 337–352.
- Bloom, S. D., Marscher, A. P., Gear, W. K., Moore, E. M., Teräsranta, H., Valtaoja, E., Aller, H. D., & Aller, M. F. 1997. "Multiwaveband observations of quasars with flat radio spectra and strong millimeter-wave emission", *ApJS*, submitted.
- Bloom, S. D., Marscher, A. P., Gear, W. K., Teräsranta, H., Valtaoja, E., Aller, H. D., & Aller, M. F. 1994. "Radio, millimeter-submillimeter, and infrared spectra of flat-spectrum extragalactic radio sources", *AJ*, **108**, 398–404.
- Boboltz, D. A., Diamond, P. J., & Kembell, A. J. 1997. "R Aquarii: First detection of circumstellar SiO maser proper motions", *ApJ*, **487** L147–150.

- Bolton, J. G., Gardner, F. F., & Mackey, M. B. 1963. "A radio source with a very unusual spectrum", *Nature*, **199**, 682-683.
- Bondi, M., Padrielli, L., Gregorini, L., Mantovani, F., Shapirovskaya, N., & Spangler, S. R. 1994. "One-year modulation in the flux density time series of low frequency variables", *A&A*, **287**, 390-402.
- Bower, G. C., Backer, D. C., Wright, M., Forster, J. R., Aller, H. D., & Aller, M. F. 1997. "A dramatic millimeter wavelength flare in the gamma-ray blazar NRAO 530", *ApJ*, **484**, 118-130.
- Bower, G. A., Wilson, A. S., Heckman, T. M., & Richstone, D. O. 1996. "Double-peaked broad emission lines in the nucleus of M81", *AJ*, **111**, 1901-1907.
- Bowers, P. F. 1991. "Kinematical models of maser shells formed by aspherical stellar outflows (I Orionis; OH 231.8+4.2; Orion-IRC2)", *ApJS*, **76**, 1099-1125.
- Bowers, P. F., & Johnston, K. J. 1994. "VLA positions and distributions of H<sub>2</sub>O masers associated with 15 Mira and semiregular variables", *ApJS*, **92**, 189-218.
- Braatz, J. A., Wilson, A. S., & Henkel, C. 1994. "The discovery of five new H<sub>2</sub>O megamasers in active galaxies", *ApJ*, **437**, L99-103.
- Braatz, J. A., Wilson, A. S., & Henkel, C. 1996. "A survey for H<sub>2</sub>O megamasers in active galactic nuclei. I. Observations", *ApJS*, **106**, 51-64.
- Brand, J., Cesaroni, R., Caselli, P., Catarzi, M., Codella, C., Comoretto, G., Curioni, G. P., Curioni, P., Di Franco, S., Felli, M., Giovanardi, C., Olmi, L., Palagi, F., Palla, F., Panella, D., Pareschi, G., Rossi, E., Speroni, N., & Tofani, G. 1994. "The Arcetri catalogue of H<sub>2</sub>O maser sources update", *A&AS*, **103**, 541-572.
- Brandt, J. C. 1965. "A spectroscopic study of the motions in Messier 33", *MNRAS*, **129**, 309-319.
- Bridle, A. H., Hough, D. H., Lonsdale, C. J., Burns, J. O., & Laing, R. A. 1994. "Deep VLA imaging of twelve extended 3CR quasars", *AJ*, **108**, 766-820.
- Briggs, D. S. 1995. "High fidelity deconvolution of moderately resolved sources", PhD Thesis, New Mexico Institute of Mining and Technology.
- Brinkmann, W., Siebert, J., Feigelson, E. D., Kollgaard, R. I., Laurent-Muehleisen, S. A., Reich, W., Fuerst, E., Reich, P., Voges, W., Truemper, J., & McMahon, R. 1997. "Radio-loud active galaxies in the northern Rosat all-sky survey. II. Multifrequency properties of unidentified sources", *A&A*, **323**, 739-748.
- Brinks, E., & Mundell, C. G. 1996. "H I in AGN", in *ASP Conf. Ser. 106: The Minnesota Lectures on Extragalactic Neutral Hydrogen*, ed. E. D. Skillman (San Francisco: Astron. Soc. of the Pacific), 268-292.
- Brinks, E., Skillman, E. D., Terlevich, R. J., & Terlevich, E. 1997. "H I observations of NGC 1068", *Ap&SS*, **248**, 23-31.
- Brotten, N. W. 1988. "Early days of Canadian long-baseline interferometry: Reflections and reminiscences", *JRASC*, **82**, 233-241.
- Brotten, N. W., Clarke, R. W., Legg, T. H., Locke, J. L., Galt, J. A., Yen, J. L., & Chisholm, R. M. 1969. "Long baseline interferometer observations at 408 and 448 MHz-I", *MNRAS*, **146**, 313-327.
- Brotten, N. W., Clarke, R. W., Legg, T. H., Locke, J. L., McLeish, C. W., Richards, R. S., Yen, J. L., Chisholm, R. M., & Galt, J. A. 1967. "Diameters of some quasars at a wavelength of 66.9 cm", *Nature*, **216**, 44-45.
- Brotten, N. W., Legg, T. H., Locke, J. L., McLeish, C. W., Richards, R. S., Chisholm, R. M., Gush, H. P., Yen, J. L., & Galt, J. A. 1967. "Observations of quasars using interferometer baselines up to 3,074 km", *Nature*, **215**, 38.
- Brown, G. W. 1970. "Long baseline interferometry of Jupiter's decametric radiation", PhD Thesis, University of Florida.
- Brown, G. W., Carr, T. D., & Block, W. F. 1968. "Long-baseline interferometry of S-bursts from Jupiter", *Astrophys. Lett.*, **1**, 89-94.
- Brown, L. F., Roberts, D. H., & Wardle, J. F. C. 1994. "Evolution of the parsec-scale linear polarization structure of the superluminal quasar 3C 345", *ApJ*, **437**, 108-121.
- Browne, I. W. A., Jackson, N. J., Augusto, P., Henstock, D. R., Marlow, D. R., Nair, S., Wilkinson, P. N., de Bruyn, A. G., Koopmans, L., Bremer, M. N., Myers, S. T., Fass-

- nacht, C. D., Blandford, R. D., Pearson, T. J., Readhead, A. C. S., Womble, D., & Patnaik, A. R. 1997. "The JVAS/CLASS gravitational lens surveys", in *Cosmology from Radio Surveys*, eds. M. Bremer & N. J. F. Jackson, in press.
- Bruzual, A. G., & Charlot, S. 1993. "Spectral evolution of stellar populations using isochrone synthesis", *ApJ*, **405**, 538–553.
- Buderi, R. 1996. *The Invention That Changed the World: How a Small Group of Radar Pioneers Won the Second World War and Launched a Technical Revolution* (New York: Simon & Schuster).
- Bujarrabal, V. 1994a. "Numerical calculations of SiO maser emission. I. Intensity and variability", *A&A*, **285**, 953–970.
- Bujarrabal, V. 1994b. "Numerical calculations of SiO maser emission II. Angular extent", *A&A*, **285**, 971–978.
- Burbidge, E. M. 1995. "Spectra of two quasars possibly ejected from NGC 4258", *A&A*, **298**, L1–4.
- Burbidge, E. M. 1997. "Spectra of two X-ray emitting quasi-stellar objects apparently ejected from the Seyfert galaxy NGC 2639", *ApJ*, **484**, L99–101.
- Burbidge, G. 1996. "The reality of anomalous redshifts in the spectra of some QSOs and its implications", *A&A*, **309**, 9–22.
- Burbidge, G., Hoyle, F., & Schneider, P. 1997. "Very close pairs of quasi-stellar objects", *A&A*, **320**, 8–12.
- Burke, B. F. 1969. "Long-baseline interferometry", *Physics Today*, **22**, 54–63.
- Burke, B. F. 1969. "Quantum interference paradox", *Nature*, **223**, 389–390.
- Burke, B. F., Brown, R., & Powell, R. 1979. *Workshop on space radio astronomy (Charlottesville VA, 25–27 June 1979)*.
- Burke, B. F., Clark, R. W., Cohen, M. H., Kellermann, K. I., Moran, J. M., Rogers, A. E. E., & Shapiro, I. I. 1976. *A Proposal to NASA for a VLBI Station on Spacelab 2*, 3 December 1976.
- Burn, B. J. 1966. "On the depolarization of discrete radio sources by Faraday dispersion", *MNRAS*, **133**, 67–83.
- Burrows, C. J., Krist, J., Hester, J. J., Sahai, R., Trauger, J. T., Stapelfeldt, K. R., Gallagher, J. S., Ballester, G. E., Casertano, S., Clarke, J. T., Crisp, D., Evans, R. W., Griffiths, R. E., Hoessel, J. G., Holtzman, J. A., Mould, J. R., Scowen, P. A., Watson, A. M., & Westphal, J. A. 1995. "Hubble Space Telescope observations of the SN 1987A triple ring nebula", *ApJ*, **452**, 680–684.
- Burton, W. B. 1988. "The structure of our Galaxy derived from observations of neutral hydrogen", in *Galactic and Extragalactic Radio Astronomy*, eds. G. L. Verschuur & K. I. Kellermann (Berlin: Springer-Verlag), 295–358.
- Camenzind, M., & Krockenberger, M. 1992. "The lighthouse effect of relativistic jets in blazars—A geometric origin of intraday variability", *A&A*, **255**, 59–62.
- Campbell, R. M., Bartel, N., Shapiro, I. I., Ratner, M. I., Cappallo, R. J., Whitney, A. R., & Putnam, N. 1997. "VLBI-derived trigonometric parallax and proper motion of PSR B2021+51", *ApJ*, **461**, L95–98.
- Campbell, R. M., Lehar, J., Corey, B. E., Shapiro, I. I., & Falco, E. E. 1995. "VLBI observations of the gravitational lens system 0957+561", *AJ*, **110**, 2566–2569.
- Carlos, R. C., & Popper, D. M. 1971. "HD 21242: A spectroscopic binary with H and K emission", *PASP*, **83**, 504–507.
- Carr, T. D., Lynch, M. A., Paul, M. P., Brown, G. W., May, J., Six, N. F., Robinson, V. M., & Block, W. F. 1970. "Very long baseline interferometry of Jupiter at 18 MHz", *Radio Sci.*, **5**, 1223–1226.
- Carr, T. D., May, J., Olsson, C. N., & Walls, G. F. 1965. "Post-detector correlation interferometry of Jupiter at 18 Mc/s", *IEEE NEREM Record*, **7**, 222–223.
- Carrara, E. A., Abraham, Z., Unwin, S. C., & Zensus, J. A. 1993. "The milliarcsecond structure of the quasar 3C 279", *A&A*, **279**, 83–89.
- Carvalho, J. C. 1985. "An evolution model for compact double radio sources", *MNRAS*, **215**, 463–471.

- Castro-Tirado, A. J., Brandt, S., Lund, N., Lapshov, I., Sunyaev, R. A., Shilyapnikov, A. A., Guziy, S., & Pavlencko, E. P. 1994. "Discovery and observations by WATCH of the x-ray transient GRS 1915+105", *ApJS*, **92**, 469–472.
- Cawthorne, T. V., & Wardle, J. F. C. 1988. "Kinematic constraints on models of the BL Lacertae object OJ 287 from VLBI polarization observations", *ApJ*, **332**, 696–701.
- Cawthorne, T. V., Wardle, J. F. C., Roberts, D. H., Gabuzda, D. C., & Brown, L. F. 1993. "Milliarcsecond polarization structure of 24 objects from the Pearson-Readhead sample of bright extragalactic radio sources. I. The images", *ApJ*, **416**, 496–518.
- Cawthorne, T. V., Wardle, J. F. C., Roberts, D. H., & Gabuzda, D. C. 1993. "Milliarcsecond polarization structure of 24 objects from the Pearson-Readhead sample of bright extragalactic radio sources. II. Discussion", *ApJ*, **416**, 519–535.
- Cesaroni, R. 1990. "Water maser variability and disk structure in S255", *A&A*, **223**, 513–522.
- Chambers, K. C., Miley, G. K., & van Breugel, W. 1987. "Alignment of radio and optical orientations in high-redshift radio galaxies", *Nature*, **329**, 604–606.
- Charlot, P. 1990. "Radio-source structure in astrometric and geodetic very long baseline interferometry", *AJ*, **99**, 1309–1326.
- Charlot, P., Sol, H., & Vicente, L. 1997. "EVN observations of the BL Lac object 1219+285", *Vistas in Astronomy*, **41**, 247–251.
- Charlton, J. C., Salpeter, E. E., & Hogan, C. J. 1993. "Equilibrium slab models of Lyman-alpha clouds", *ApJ*, **402**, 493–513.
- Cheng, K. S., Ho, C., & Ruderman, M. 1986. "Energetic radiation from rapidly spinning pulsars. I—Outer magnetosphere gaps", *ApJ*, **300**, 500–521.
- Chevalier, R. A. 1982. "The radio and x-ray emission from type II supernovae", *ApJ*, **259**, 302–310.
- Chevalier, R. A. 1996. "The circumstellar interaction model for radio supernovae", in *ASP Conf. Ser. 93: Radio Emission from the Stars and the Sun*, eds. A. R. Taylor & J. M. Paredes (San Francisco: Astron. Soc. of the Pacific), 125–133.
- Chevalier, R. A., & Dwarkadas, V. V. 1995. "The presupernova H II region around SN 1987A", *ApJ*, **452**, L45–48.
- Chiuderi-Drago, F., & Franciosini, E. 1993. "Flaring and quiescent radio emission of UX Arietis: A time-dependent model", *ApJ*, **410**, 301–308.
- Chu, H. S., Bååth, L. B., Rantakyro, F. T., Zhang, F. J., & Nicholson, G. 1996. "VLBI observations of the puzzling BL Lacertae object 0235+164", *A&A*, **307**, 15–20.
- Chu, H. S., Zhang, F. J., Mutel, R. L., Matveyenko, L. I., & Spencer, R. E. 1992. "Unusual features in QSR 3C 147—A unified explanation of the jets and BLR clouds", in *Subarcsecond Radio Astronomy*, eds. R. J. Davis & R. S. Booth (Cambridge: Cambridge Univ. Press), 249–251.
- Churchwell, E., Witzel, A., Pauliny-Toth, I. I. K., Sieber, W., Huchtmeier, W., & Roland, J. 1977. "Detection of H<sub>2</sub>O maser emission in the galaxy M33", *A&A*, **54**, 969–971.
- Clark, B. G., Cohen, M. H., & Jauncey, D. L. 1967. "Angular size of 3C 273B", *ApJ*, **149**, L151–152.
- Clark, B. G., Kellermann, K. I., Bare, C. C., Cohen, M. H., & Jauncey, D. L. 1968. "High-resolution observations of small-diameter radio sources at 18-centimeter wavelength", *ApJ*, **153**, 705–714.
- Clark, B. G., Kellermann, K. I., Bare, C. C., Cohen, M. H., & Jauncey, D. L. 1968. "Radio interferometry using a base line of 20 million wavelengths", *ApJ*, **153**, L67–68.
- Claussen, M. J., Wilking, B. A., Benson, P. J., Wootten, H. A., Myers, P. C., & Terebey, S. 1996. "A monthly survey of water masers associated with low-mass stars", *ApJS*, **106**, 111–132.
- Cohen, M. H. 1969. "High resolution observations of radio sources", *ARA&A*, **7**, 619–664.
- Cohen, M. H., Jauncey, D. L., Kellermann, K. I., & Clark, B. G. 1968. "Radio interferometry at one-thousandth second of arc", *Science*, **162**, 88–94.
- Cohen, M. H., Cannon, W., Purcell, G. H., Shaffer, D. B., Broderick, J. J., Kellermann, K. I., & Jauncey, D. L. 1971. "The small-scale structure of radio galaxies and quasi-stellar sources at 3.8 centimeters", *ApJ*, **170**, 207–217.

- Cohen, M. H., Gundermann, E. J., & Harris, D. E. 1967. "New limits on the diameters of radio sources", *ApJ*, **150**, 767–782.
- Cohen, M. H., Zensus, J. A., Biretta, J. A., Comoretto, G., Kaufmann, P., & Abraham, Z. 1987. "Evolution of 3C 273 at 10.7 GHz", *ApJ*, **315**, L89–92.
- Cohen, R. J., Rowland, P. R., & Blair, M. M. 1984. "The source of the bipolar outflow in Cepheus A", *MNRAS*, **210**, 425–438.
- Colbert, E. J. M. 1997. "Large scale galactic outflows in Seyfert galaxies", PhD Thesis, University of Maryland.
- Collison, A. J. & Watson, W. D. 1995. "Dust grains and the luminosity of circumnuclear water masers in active galaxies", *ApJ*, **452**, L103–106.
- Condon, J. J., & Broderick, J. J. 1988. "Radio identifications of UGC galaxies: Starbursts and monsters", *AJ*, **96**, 30–61.
- Condon, J. J., & Broderick, J. J. 1991. "Radio properties of extragalactic IRAS sources", *AJ*, **102**, 1663–1679.
- Condon, J. J., Broderick, J. J., Seielstad, G. A., Douglas, K., & Gregory, P. C. 1994. "A 4.85 GHz sky survey. III. Epoch 1986 and combined (1986+1987) maps covering  $0^\circ < \delta < +74^\circ$ ", *AJ*, **107**, 1829–1833.
- Condon, J. J., Condon, M. A., Gisler, G., & Puschell, J. J. 1982. "Strong radio sources in bright spiral galaxies. II. Rapid star formation and galaxy-galaxy interactions", *ApJ*, **252**, 102–124.
- Condon, J. J., Frayer, D. T., & Broderick, J. J. 1991. "UGC galaxies stronger than 25 mJy at 4.85 GHz", *AJ*, **101**, 362–409.
- Condon, J. J., Huang, Z.-P., Yin, Q. F. & Thuan, T. X. 1991. "Compact starbursts in ultraluminous infrared galaxies", *ApJ*, **378**, 65–76.
- Condon, J. J., & Dressel, L. L. 1978. "Compact radio sources in and near bright galaxies", *ApJ*, **221**, 456–467.
- Conway, J. E., & Blanco, P. R. 1995. "H I absorption toward the nucleus of the powerful radio-galaxy Cygnus A: Evidence for an atomic obscuring torus?", *ApJ*, **449**, L131–134.
- Conway, J. E., & Murphy, D. W. 1993. "Helical jets and the misalignment distribution for core-dominated radio sources", *ApJ*, **411**, 89–102.
- Corbelli, E., & Salpeter, E. E. 1993. "Sharp H I edges in the outskirts of disk galaxies", *ApJ*, **419**, 104–110.
- Corbett, E. A., Browne, I. W. A., Wilkinson, P. N., & Patnaik, A. R. 1996. "Radio measurement of the time delay in 0218+357", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 37–42.
- Cornwell, T. J. 1983. "A method of stabilizing the CLEAN algorithm", *A&A*, **121**, 281–285.
- Cornwell, T. J., Anantharamaiah, K. R., & Narayan, R. 1989. "Propagation of coherence in scattering—An experiment using interplanetary scintillation", *J. Opt. Soc. Am.*, **A 6**, 977–986.
- Cornwell, T. J., & Napier, P. J. 1988. "The focal plane coherence function of an imaging antenna and its use in measuring and correcting aberrations", *Radio Sci.*, **23**, 739–748.
- Cotton, W. D., Counselman, C. C., Geller, R. B., Shapiro, I. I., Wittels, J. J., Hinteregger, H. F., Knight, C. A., Rogers, A. E. E., Whitney, A. R., & Clark, T. A. 1979. "3C 279: The case for 'superluminal' expansion", *ApJ*, **229**, L115–117.
- Cowley, A. P. & Crampton, D. 1975. "The spectroscopic binary Scorpius X-1", *ApJ*, **201**, L65–68.
- Crawford, T., Marr, J., Partridge, B., & Strauss, M. A. 1996. "VLA observations of ultraluminous IRAS galaxies: active nuclei or starbursts?", *ApJ*, **460**, 225–243.
- Dabrowski, Y., Lasenby, A., & Saunders, R. 1995. "Testing the angular-size versus redshift relation with compact radio sources", *MNRAS*, **277**, 753–757.
- Daly, R. A., & Marscher, A. P. 1988. "The gas dynamics of compact relativistic jets", *ApJ*, **334**, 539–551.
- Daugherty, J. K., & Harding, A. K. 1994. "Polar cap models of gamma-ray pulsars: Emission from single poles of nearby aligned rotators", *ApJ*, **429**, 325–330.

- Davis, R. J., & Booth, R. S., eds. 1993. *Sub-arcsecond Radio Astronomy* (Cambridge: Cambridge Univ. Press).
- Davis, R. J., Diamond, P. J., & Goss, W. M. 1996. "MERLIN and EVN observations of small-scale structure in the interstellar H I", *MNRAS*, **283**, 1105–1114.
- de Bruyn, A. G., & Wilson, A. S. 1976. "A 1415 MHz survey of Seyfert and related galaxies", *A&A*, **53**, 93–105.
- de Vaucouleurs, G., & de Vaucouleurs, A. 1971. "Radial velocities of H II regions in M33 and M101 from interference filter scans", *Astrophys. Lett.*, **8**, 17–20.
- de Vries, W. H., Barthel, P. D., & O'Dea, C. P. 1997. "Radio spectra of GHz peaked spectrum radio sources", *A&A*, **321**, 105–110.
- de Vries, W. H., O'Dea, C. P., Baum, S. A., Sparks, W. B., Biretta, J., de Koff, S., Golombek, D., Lehnert, M. D., Macchetto, F., McCarthy, P., & Miley, G. K. 1997. "Hubble Space Telescope imaging of compact steep-spectrum radio sources", *ApJS*, **110**, 191–211.
- de Young, D. S. & Axford, W. I. 1967. "Inertial confinement of extended radio sources", *Nature*, **216**, 129–131.
- Dermer, C. D., & Schlickeiser, R. 1993. "Model for the high-energy emission from blazars", *ApJ*, **416**, 458–484.
- Desai, K. M., Gwinn, C. R., Reynolds, J. R., King, E. A., Jauncey, D. L., Flanagan, C. S., Nicolson, G., Preston, R. A., & Jones, D. L. 1992. "A speckle hologram of the interstellar plasma", *ApJ*, **393**, L75–78.
- Desch, S. J., Wallin, B. K., & Watson, W. D. 1997. "Radiative cooling and viscous dissipation in molecular accretion disks at the nuclei of galaxies", *ApJ*, submitted.
- Desmurs, J.-F., Baudry, A., & Graham, D. 1997b. "EVN maps of 5 cm line OH emission from star-forming regions", *Vistas in Astronomy*, **41**, 169–174.
- Despringre, V., & Fraix-Burnett, D. 1997. "Two-fluid model for VLBI jets. I. Homogeneous and stationary synchrotron emission simulations", *A&A*, **320**, 26–32.
- Dewey, R. J., Ojeda, M. J., Gwinn, C. R., Jones, D. L., & Davis, M. M. 1996. "VLBI astrometry of the millisecond pulsar PSR 1937+21", *AJ*, **111**, 315–319.
- Diamond, P. J., Goss, W. M., Romney, J. D., Booth, R. S., Kalberla, P. M. W., & Mebold, U. 1989. "The structure of the interstellar medium at the 25 AU scale", *ApJ*, **347**, 302–306.
- Diamond, P. J., Kembell, A. J., Junor, W., Zensus, A., Benson, J., & Dhawan, V. 1994. "Observation of a ring structure in SiO maser emission from late-type stars", *ApJ*, **430**, L61–64.
- Diamond, P. J., Martinson, A., Dennison, B., Booth, R. S., Winnberg, A. 1988. "Preliminary results from a 7 station VLBI survey of OH masers in the galactic plane", in *Radio Wave Scattering in the Interstellar Medium*, eds. J. M. Cordes, B. J. Rickett, & D. C. Backer (New York: AIP), **174**, 195–198.
- Dicke, R. H., Beringer, R., Kyhl, R. L., & Vane, A. B. 1946. "Atmospheric absorption measurements with a microwave radiometer", *Phys. Rev.*, **70**, 340–348.
- Dickson, R. 1997. PhD Thesis, University of Sheffield.
- Doeleman, S. S., Lonsdale, C. J., & Greenhill, L. J. 1997. "VLBI imaging of the 86 GHz SiO maser emission in the circumstellar envelope of VX Sgr", *ApJ*, submitted.
- Draper, P. W., Scarrott, S. M., & Tadhunter, C. N. 1993. "The optical polarization of the low-redshift radio galaxies 3CR 33, 305, 321, and 459", *MNRAS*, **262**, 1029–1036.
- Dreher, J. W., Carilli, C. L., & Perley, R. A. 1987. "The Faraday rotation of Cygnus A: Magnetic fields in cluster gas", *ApJ*, **316**, 611–625.
- Drinkwater, M. J., Combes, F., & Wiklind, T. 1996. "A search for molecular absorption in the tori of active galactic nuclei", *A&A*, **312**, 771–776.
- Duncan, G. C., & Hughes, P. A. 1994. "Simulations of relativistic extragalactic jets", *ApJ*, **436**, L119–122.
- Durouchoux, Ph., Sood, R. K., Vilhu, O., Campbell-Wilson, D., & Wallyn, P. 1997. "GX 339-4: An Exotic Black Hole Candidate?", *ApJ*, submitted.
- ESA 1997. *The Hipparcos and Tycho Catalogues*, ESA SP-1200.

- Ebbers, A., & Bartel, N. 1995. "Astrometric VLBI data reduction with a real-time phase-connection software package", *JRASC*, **89/4**, 186.
- Eckart, A., Cameron, M., Genzel, R., Jackson, J. M., Rothermel, H., Stutzki, J., Rydbeck, G., & Wiklind, T. 1990. "Molecular absorption-lines toward the nucleus of Centaurus A", *ApJ*, **365**, 522-531.
- Eckart, A., & Genzel, R. 1996. "Observations of stellar proper motions near the Galactic Centre", *Nature*, **383**, 415-417.
- Eckart, A., & Genzel, R. 1997. "Stellar proper motions in the central 0.1 pc of the Galaxy", *MNRAS*, **284**, 576-598.
- Eckart, A., Witzel, A., Biermann, P., Johnston, K. J., Simon, R., Schalinski, C., & Kühr, H. 1987. "Investigation of a complete sample of flat spectrum radio sources from the S5 survey. II. Results", *A&AS*, **67**, 121-146.
- Edelson, R., Krolik, J., Madejski, G., Maraschi, L., Pike, G., Urry, C. M., Brinkmann, W., Courvoisier, T. J.-L., Ellithorpe, J., Horne, K., Treves, A., Wagner, S., Wamsteker, W., Warwick, R., Aller, H. D., Aller, M. F., Ashley, M., Blecha, A., Bouchet, P., Bratschi, P., Bregman, J. N., Carini, M., Celotti, A., Donahue, M., Feigelson, E., Filippenko, A. V., Fink, H., George, I., Glass, I., Heidt, J., Hewitt, J., Hughes, P., Kollgaard, R., Kondo, Y., Koratkar, A., Leighly, K., Marscher, A., Martin, P. G., Matheson, T., Miller, H. R., Noble, J. C., O'Brien, P., Pian, E., Reichert, G., Saken, J. M., Shull, J. M., Sitko, M., Smith, P. S., Sun, W.-H., & Tagliaferri, G. 1995. "Multi-wavelength monitoring of the BL Lac object PKS 2155-304. IV. Multi-wavelength analysis", *ApJ*, **438**, 120-134.
- Eilek, J. A., & Shore, S. N. 1989. "The energetics and evolution of jet-fed radio sources", *ApJ*, **342**, 187-207.
- Elgered, G., Davis, J. L., Herring, T. A., & Shapiro, I. I. 1991. "Geodesy by radio interferometry: Water vapor radiometry for estimation of the wet delay", *J. Geophys. Res.*, **96**, 6541-6555.
- Elitzur, M. 1993. "Coherence and incoherence in astronomical masers", in *Astrophysical Masers*, eds. A. W. Clegg & G. E. Nedoluha, Lecture Notes in Physics, Springer-Verlag, 33-36.
- Elitzur, M., Goldreich, P., & Scoville, N. 1976. "OH-IR stars. II. A model for the 1612 MHz masers", *ApJ*, **205**, 384-396.
- Elitzur, M., Hollenbach, D. J., & McKee, C. F. 1989. "H<sub>2</sub>O masers in star-forming regions", *ApJ*, **346**, 983-990.
- Elmegreen, B. G., & Morris, M. 1979. "Disk structure in protostellar H<sub>2</sub>O maser sources", *ApJ*, **229**, 593-603.
- Endo, N., Noda, C., & Kizu, S. 1994. "TOSHIBA HDTV Recorder GBR-1000", in *IEEE Denshi Tokyo*, No. 33, 236-239.
- Eracleous, M., & Halpern, J. P. 1994. "Double-peaked emission lines in active galactic nuclei", *ApJS*, **90**, 1-30.
- Evans, I. N., Tsvetanov, Z., Kriss, G. A., Ford, H. C., Caganoff, S., & Koratkar, A. P. 1993. "Hubble Space Telescope imaging of the narrow-line region of NGC 4151", *ApJ*, **417**, 82-89.
- Fabbiano, G., Trinchieri, G., Elvis, M., Miller, L., & Longair, M. 1984. "An x-ray survey of a complete sample of 3CR radio galaxies", *ApJ*, **277**, 115-131.
- Fairall, A. P. 1986. "Some new bright southern Seyfert galaxies", *MNRAS*, **218**, 453-455.
- Falcke, H. 1996. "What is Sgr A\*?", in *Unsolved Problems of the Milky Way*, eds. L. Blitz & P. J. Teuben (Dordrecht: Kluwer), 169-180.
- Falco, E. E., Lehár, J., & Shapiro, I. I. 1997. "HST observations and models of the gravitational lens system MG 0414+0534", *AJ*, **113**, 540-549.
- Fanaroff, B. L. & Riley, J. M. 1974. "The morphology of extragalactic radio sources of high and low luminosity", *MNRAS*, **167**, 31P-35P.
- Fanti, C., Fanti, R., Dallacasa, D., Schilizzi, R. T., Spencer, R. E., & Stanghellini, C. 1995. "Are compact steep spectrum sources young?", *A&A*, **302**, 317-326.
- Fanti, C., Fanti, R., Parma, P., Schilizzi, R. T., & van Breugel, W. J. M. 1985. "Compact steep spectrum 3CR radio sources. VLBI observations at 18 cm", *A&A*, **143**, 292-306.

- Fanti, C., Fanti, R., Parma, P., Venturi, T., Schilizzi, R. T., Nan Rendong, Spencer, R. E., Muxlow, T. W. B., van Breugel, W. J. M. 1989. "Three prototype compact steep spectrum radio sources", *A&A*, **217**, 44–56.
- Fanti, C., Fanti, R., Schilizzi, R. T., Spencer, R. E., & van Breugel, W. J. M. 1986. "The peculiar morphology of the compact steep spectrum radio source 3C 119", *A&A*, **170**, 10–19.
- Fanti, R., Fanti, C., Schilizzi, R. T., Spencer, R. E., Rendong, N., Parma, P., Van Breugel, W. J. M., & Venturi, T. 1990. "On the nature of compact steep spectrum radio sources", *A&A*, **231**, 333–346.
- Fanti, R., Kellermann, K. I., & Setti, G., eds. *IAU Symp. 110: VLBI and Compact Radio Sources* (Dordrecht: Reidel).
- Fassnacht, C. D., Womble, D. S., Neugebauer, G., Browne, I. W. A., Readhead, A. C. S., Matthews, K., & Pearson, T. J. 1996. "1608+656: A gravitationally lensed poststarburst radio galaxy", *ApJ*, **460**, L103–106.
- Fejes, I., Murphy, D. W., Taylor, A. R., Yakimov, V., & Young, G. 1994. "Space VLBI User Assistance Software", in *VLBI Technology: Progress and Future Observational Possibilities*, eds. T. Sasao, S. Manabe, O. Kameya, & M. Inoue (Tokyo: Terra), 59–69.
- Fender, R. P. 1997. "New radio observations of Circinus X-1", in *The Fourth Compton Symposium*, eds. C. D. Dermer & J. D. Kurfess (New York: Amer. Inst. of Physics), in press.
- Fender, R. P., Bell-Burnell, S. J., & Waltman, E. B. 1997. "The radio-jet x-ray binaries", *Vistas in Astronomy*, **41**, 3–7.
- Fender, R. P., Pooley, G. G., Brocksopp, C., & Newell, S. J. 1997. "Rapid infrared flares in GRS 1915+105: Evidence for infrared synchrotron emission", *MNRAS*, **290**, 165–169.
- Fender, R. P., Spencer, R. E., Newell, S. J., & Tzioumis, A. K. 1997. "High resolution radio observations of the black hole candidate GX 339-4", *MNRAS*, **286**, L29–32.
- Feretti, L., Comoretto, C., Giovannini, G., Venturi, T., & Wehrle, A. E. 1993. "VLBI observations of a complete sample of radio galaxies. III. The two-sided milliarcsecond structure of 3C 338", *ApJ*, **408**, 446–451.
- Ferrarese, L., Ford, H. C., & Jaffe, W. 1996. "Evidence for a massive black hole in the active galaxy NGC 4261 from Hubble Space Telescope images and spectra", *ApJ*, **470**, 444–459.
- Fey, A. L., & Charlot, P. 1997. "VLBA observations of radio reference frame sources. II. Astrometric suitability based on observed structure", *ApJS*, **111**, 95–142.
- Fey, A. L., Clegg, A. W., & Fomalont, E. B. 1996. "VLBA observations of radio reference frame sources. I.", *ApJS*, **105**, 299–330.
- Fey, A. L., Spangler, S. R., & Cordes, J. M. 1991. "VLA and VLBI angular broadening measurements: The distribution of interstellar scattering at low galactic latitudes", *ApJ*, **372**, 132–160.
- Fiebig, D., & Güsten, R. 1989. "Strong magnetic fields in interstellar H<sub>2</sub>O maser clumps", *A&A*, **214**, 333–338.
- Filippenko, A. V. 1996. "An Introduction to LINERs", in *ASP Conf. Ser. 103: The Physics of Liners*, eds. M. Eracleous, A. Koratkar, C. Leitherer, & L. Ho (San Francisco: Astron. Soc. of the Pacific), 17–43.
- Findlay, J. W., ed. 1970. *Symposium on VLBI, Radio Sci.*, **5**, 1221–1292.
- Folkner, W. M., Charlot, P., Finger, M. H., Williams, J. G., Sovers, O. J., Newhall, X. X., & Standish, E. M. 1994. "Determination of the extragalactic-planetary frame tie from joint analysis of radio interferometric and lunar laser ranging measurements", *A&A*, **287**, 279–289.
- Fomalont, E. B., & Geldzahler, B. J. 1991. "The radio lobes of Scorpius X-1 are unrelated background objects", *ApJ*, **383**, 289–294.
- Forbes, D. A., Crawford, C. S., Fabian, A. C., & Johnstone, R. M. 1990. "Extended emission-line gas around the quasars 3C 254 and 3C 309.1; Very massive cooling flows", *MNRAS*, **244**, 680–690.
- Forster, J. R., & Caswell, J. L. 1989. "The spatial relationship of OH and H<sub>2</sub>O masers", *A&A*, **213**, 339–350.

- Fosbury, R. A. E., Bird, M. C., Nicholson, W., & Wall, J. V. 1987. "The identification and nature of the powerful radio galaxy PKS 1934-63", *MNRAS*, **225**, 761-768.
- Fosbury, R. A. E., Mebold, U., Goss, W. M., & van Woerden, H. 1977. "A radio and optical study of the galaxy PKS 1718-649", *MNRAS*, **179**, 89-97.
- Foster, R. S., Waltman, E. B., Tavani, M., Harmon, B. A., Zhang, S. N., Paciesas, W. S., & Ghigo, F. D. 1996. "Radio and x-ray variability of the galactic superluminal source GRS 1915+105", *ApJ*, **467**, L81-84.
- Fraix-Burnet, D., Despringre, V., & Baudry, A. 1997. "EVN+MERLIN observations of 3C 66B", *Vistas in Astronomy*, **41**, 237-240.
- Fransson, C., Lundqvist, P., & Chevalier, R. A. 1996. "Circumstellar interaction in SN 1993J", *ApJ*, **461**, 993-1008.
- Freeland, R. E., Bilyeu, G. D., & Veal, G. R. 1995. "Development of flight hardware for a large inflatable-deployable antenna experiment", 46th International Astronautical Congress, Paper IAF-95-1.5.0.1.
- Frey, S. 1995. "The status of Hungarian Space VLBI assistance software", in *YERAC*.
- Frieden, B. R., & Bajkova, A. T. 1994. "Bayesian cross-entropy reconstruction of complex images", *Appl. Opt.*, **33**, 219-226.
- Frieden, B. R., & Bajkova, A. T. 1995. "Reconstruction of complex signals using minimum Renyi information", *Appl. Opt.*, **34**, 4086-4093.
- Frye, B., Welch, W. J., & Broadhurst, T. 1997. "Resolving redshifted molecular absorption toward the gravitational lens PKS 1830-211", *ApJ*, **478**, L25-28.
- Gabuzda, D. C., & Kochanov, P. Y. 1997. "VLBI polarization observations of intraday variability", *Vistas in Astronomy*, **41**, 219-223.
- Gabuzda, D. C., Kollgaard, R. I., Roberts, D. H., & Wardle, J. F. C. 1993. "Is 1308+326 a BL Lacertae object or a quasar?", *ApJ*, **410**, 39-43.
- Gabuzda, D. C., Mullan, C. M., Cawthorne, T. V., Wardle, J. F. C., & Roberts, D. H., 1994. "Evolution of the milliarcsecond total intensity and polarization structures of BL Lac objects", *ApJ*, **435**, 140-161.
- Gabuzda, D. C., Wardle, J. F. C., & Roberts, D. H. 1989. "Linear polarization structure of the BL Lacertae object 0735+178 at milliarcsecond resolution", *ApJ*, **338**, 743-751.
- Gabuzda, D. C., Wardle, J. F. C., & Roberts, D. H. 1989. "Superluminal motion in the BL Lacertae object OJ 287", *ApJ*, **336**, L59-62.
- Gabuzda, D. C., Wardle, J. F. C., Roberts, D. H., Aller, M. F., & Aller, H. D. 1994. "Unusual evolution in the VLBI structure of 0735+178", *ApJ*, **435**, 128-139.
- Gaensler, B. M., Manchester, R. N., Staveley-Smith, L., Tzioumis, A. K., Reynolds, J. E., & Kesteven, M. J. 1997. "The asymmetric radio remnant of SN 1987A", *ApJ*, **479**, 845-858.
- Gaidos, J. A., Akerlof, C. W., Biller, S., Boyle, P. J., Breslin, A. C., Buckley, J. H., Carter-Lewis, D. A., Catanese, M., Cawley, M. F., Fegan, D. J., Finley, J. P., Boussöns Gordo, J., Hillas, A. M., Krennrich, F., Lamb, R. C., Lessard, R. W., McEnery, J. E., Masterson, C., Mohanty, G., Moriarty, P., Quinn, J., Rodgers, A. J., Rose, H. J., Samuelson, F., Schubnell, M. S., Sembroski, G. H., Srinivasan, R., Weekes, T. C., Wilson, C. L., & Zweerink, J. 1992. "Extremely rapid bursts of TeV photons from the active galaxy Markarian 421", *Nature*, **383**, 319-320.
- Gallimore, J. F., Baum, S. A., & O'Dea, C. P. 1996. "The subarcsecond radio structure in NGC 1068. II: Implications for the central engine and unifying schemes", *ApJ*, **464**, 198-211.
- Gallimore, J. F., Baum, S. A., & O'Dea, C. P. 1996. "VLBA + VLA radio continuum imaging of the parsec scale torus in NGC 1068", *BAAS*, **28**, 1421.
- Gallimore, J. F., Baum, S. A., & O'Dea, C. P. 1997. "A direct image of the obscuring disk surrounding the active galactic nucleus of NGC 1068", *Nature*, **388**, 852-854.
- Gallimore, J. F., Baum, S. A., & O'Dea, C. P. 1997. "A direct image of the inner torus", *Ap&SS*, **248**, 253-260.
- Gallimore, J. F., Baum, S. A., O'Dea, C. P., Brinks, E., & Pedlar, A. 1994. "Neutral hydrogen absorption in NGC 1068 and NGC 3079", *ApJ*, **422**, L13-16.

- Gallimore, J. F., Baum, S. A., O'Dea, C. P., Brinks, E., & Pedlar, A. 1996. "H<sub>2</sub>O and OH masers as probes of the obscuring torus in NGC 1068", *ApJ*, **462**, 740–745.
- Garay, G., Moran, J. M., & Hashick, A. D. 1989. "The Orion KL super water maser", *ApJ*, **338**, 244–261.
- Gardner, F. F., & Whiteoak, J. B. 1986. "Observations of 1.4-GHz H I and 1.667-GHz OH transitions in NGC 5793, a spiral galaxy with a very luminous radio nucleus", *MNRAS*, **221**, 537–542.
- Gardner, F. F., Whiteoak, J. B., Norris, R. P., & Diamond, P. J. 1992. "VLBI observations of H I absorption in the highly luminous galaxy NGC 5793", *MNRAS*, **258**, 296–300.
- Garrett, M. A., Calder, R. J., Porcas, R. W., King, L. J., Walsh, D., & Wilkinson, P. N. 1994a. "Global VLBI observations of the gravitational lens system 0957+561 A,B", *MNRAS*, **270**, 457–464.
- Garrett, M. A., Nair, S., Porcas, R. W. & Patnaik, A. R. 1996b. "A search for dark matter in the halos of lensing galaxies using VLBI", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 189–190.
- Garrett, M. A., Nair, S., Porcas, R. W. & Patnaik, A. R. 1997. "Multi-epoch VLBA 15 and 43 GHz observations of the gravitational lens PKS 1830-211: Extending VLBI towards the micro-arcsecond scale", *Vistas in Astronomy*, **41**, 281–285.
- Garrett, M. A., Patnaik, A. R. & Porcas, R. W. 1994b. "Wide-field VLBI observations of gravitational lenses", in *Proc. 2nd EVN/JIVE Symposium*, eds. A. J. Kus, R. T. Schilizzi, K. M. Borkowski, & L. I. Gurvits (Torun: TRAO), 73–77.
- Garrett, M. A., Porcas, R. W., Nair, S., & Patnaik, A. R. 1996. "Wide-field EVN observations of the gravitational lens system 2016+112", *MNRAS*, **279**, L7–11.
- Garrington, S. T., & Conway, R. G. 1991. "The interpretation of asymmetric depolarization in extragalactic radio sources", *MNRAS*, **250**, 198–208.
- Gehrz, R. D., Hayward, T. L., Houck, J. R., Miles, J. W., Hjellming, R. M., Jones, T. L., Woodward, C. E., Prentice, R., Forrest, W. J., Libonate, S., & Solomon, S. 1995. "RY Scuti: Infrared and radio observations of the mass-loss wind of a massive binary system", *ApJ*, **439**, 417–430.
- Genzel, R., Downes, D., Moran, J. M., Johnston, K. J., Spencer, J. H., Walker, R. C., Haschick, A., Matveenko, L. I., Kogan, L. R., Kostenko, V. I., Rönnäng, O. E., Rydbeck, O. E., & Moiseev, I. G. 1978. "Structure and kinematics of H<sub>2</sub>O sources in clusters of newly-formed OB stars", *A&A*, **66**, 13–29.
- Genzel, R., Reid, M. J., Moran, J. M., & Downes, D. 1981. "Proper motions and distances of H<sub>2</sub>O maser sources. I—The outflow in Orion KL", *ApJ*, **244**, 884–902.
- Georganopoulos, M., & Marscher, A. P. 1997. "Modelling the multiwavelength variability of the BL Lacertae object PKS 2155-304", in *Relativistic Jets in AGNs—Cracow'97*, eds. M. Sikora et al., in press.
- Ghisellini, G., Padovani, P., Celotti, A., & Maraschi, L. 1993. "Relativistic bulk motion in active galactic nuclei", *ApJ*, **407**, 65–82.
- Ghosh, T., & Rao, A. P. 1992. "Low-frequency variability and the galactic distribution of electron-density fluctuation", *A&A*, **264**, 203–216.
- Giovannini, G., Feretti, L., & Comoretto, G., 1990. "VLBI observations of a complete sample of radio galaxies. I. Snapshot data", *ApJ*, **358**, 159–163.
- Giovannini, G., Feretti, L., Venturi, T., Lara, L., Marcaide, J., Rioja, M., Spangler, S. R., & Wehrle, A. E. 1994. "VLBI observations of a complete sample of radio galaxies. IV. The radio galaxies NGC 2484, 3C 109, and 3C 382", *ApJ*, **435**, 116–127.
- Goetz, J. A., Pipher, J. L., Forrest, D. M., Watson, D. M., Hughes, V. A., Greenhouse, M. A., Smith, H., Fischer, J., & Woodward, C. E. 1985. "Jet associated with the highly obscured star formation region, Cep A", *BAAS*, **27**, 1318.
- Goldreich, P., & Julian, W. H. 1969. "Toward a theory of interstellar turbulence 2. Strong Alfvénic turbulence", *ApJ*, **157**, 869–888.
- Goldreich, P., & Scoville, N. Z. 1976. "OH-IR stars. I. Physical properties of circumstellar envelopes", *ApJ*, **205**, 144–154.

- Gómez, J. L., Alberdi, A., Marcaide, J. M., Marscher, A. P., & Travis, J. P. 1994. "Synchrotron emission from bent shocked relativistic jets. III. Aberration of light and time delay effects", *A&A*, **292**, 33–44.
- Gómez, J. L., Martí, J. M<sup>2</sup>., Marscher, A. P., Ibáñez, J. M<sup>2</sup>., & Alberdi, A. 1997. "Hydrodynamical models of superluminal sources", *ApJ*, **482**, L33–36.
- Gómez, J. L., Martí, J. M<sup>2</sup>., Marscher, A. P., Ibáñez, J. M<sup>2</sup>., & Marcaide, J. M. 1995. "Parsec-scale synchrotron emission from hydrodynamic relativistic jets in active galactic nuclei", *ApJ*, **449**, L19–21.
- Goodman, J. W. 1968. *Introduction to Fourier Optics* (New York: McGraw-Hill).
- Goodman, J. W. 1985. *Statistical Optics* (New York: Wiley).
- Gopal-Krishna, & Wiita, P. J. 1991. "Gaseous halos of elliptical galaxies, the cosmic evolution of their radio sizes, and the phenomenon of compact steep spectrum sources", *ApJ*, **373**, 325–335.
- Götz, M. M. A., Preuss, E., Alef, W., & Kellermann, K. I. 1987. "Strong structural variability in the lobe-dominated radio galaxy 3C 111", *A&A*, **176**, 171–174.
- Greenhill, L. J., Colomer, F., Moran, J. M., Backer, D. C., Danchi, W. C. & Bester, M. 1995. "Interferometric observations of the SiO masers and dust shell of VX Sagittarii", *ApJ*, **449**, 365–375.
- Greenhill, L. J., Gwinn, C. R., Antonucci, R. R. J., & Barvainis, R. E. 1996. "VLBI imaging of water maser emission from the nuclear torus of NGC 1068", *ApJ*, **472**, L21–24.
- Greenhill, L. J., Henkel, C., Becker, R., Wilson, T. L., & Wouterloot, J. G. A. 1995. "Centripetal acceleration within the subparsec nuclear maser disk in NGC 4258", *A&A*, **304**, 21–33.
- Greenhill, L. J., Jiang, D. R., Moran, J. M., Reid, M. J., Lo, K. Y., & Claussen, M. J. 1995. "Detection of a subparsec diameter disk in the nucleus of NGC 4258", *ApJ*, **440**, 619–627.
- Greenhill, L. J., Moran, J. M. & Herrnstein, J. R. 1997. "The distribution of H<sub>2</sub>O maser emission in the nucleus of NGC 4945", *ApJ*, **481**, L23–26.
- Greenhill, L. J., Moran, J. M., Reid, M. J., Gwinn, C. R., Menten, K. M., Eckart, A., & Hirabayashi, H. 1990. "First images of water vapor masers in the galaxy M33", *ApJ*, **364**, 513–526.
- Greenhill, L. J., Moran, J. M., Reid, M. J., Menten, K. M., & Hirabayashi, H. 1993. "Microarcsecond proper motions of extragalactic water vapor masers in M33", *ApJ*, **406**, 482–488.
- Gregory, P. C., & Condon, J. J. 1991. "The 87GB catalog of radio sources covering ( $0^\circ < \delta < 75^\circ$ ) at 4.85 GHz", *ApJS*, **75**, 1011–1291.
- Gregory, P. C., Scott, W. K., Douglas, K., & Condon, J. J. 1996. "The GB6 Catalog of Radio Sources", *ApJS*, **103**, 427–432.
- Grogin, N. A., & Narayan, R. 1996. "A new model of the gravitational lens 0957+561 and a limit on the Hubble constant", *ApJ*, **464**, 92–113.
- Gubbay, J. S., Legg, A. J., Robertson, D. S., Craske, N., & Nicolson, G. D. 1971. "The structure of P 1934–63", *AJ*, **76**, 965–969.
- Gubbay, J. S., & Robertson, D. S. 1967. "Nine million wavelength baseline interferometer measurements of 3C 273B", *Nature*, **215**, 1157–1158.
- Güijosa, A., & Daly, R. A. 1996. "Equipartition Doppler factors for a sample of active galactic nuclei", *ApJ*, **461**, 600–608.
- Guirado, J. C., Marcaide, J. M., Alberdi, A., Elósegui, P., Ratner, M. I., Shapiro, I. I., Kilger, R., Mantovani, F., Venturi, T., Rius, A., Ros, E., Trigilio, C., & Whitney, A. R. 1995. "Proper motion of components in 4C 39.25", *AJ*, **110**, 2586–2596.
- Guirado, J. C., Marcaide, J. M., Elósegui, P., Ratner, M. I., Shapiro, I. I., Eckart, A., Quirrenbach, A., Schalinski, C. J., & Witzel, A. 1995. "VLBI differential astrometry of the radio sources 1928+738 and 2007+777 at 5 GHz", *A&A*, **293**, 613–625.
- Guirado, J. C., Reynolds, J. E., Lestrade, J.-F., Preston, R. A., Jauncey, D. L., Jones, D. L., Tzioumis, A. K., Ferris, R. H., King, E. A., Lovell, J. E. J., McCulloch, P. M., Johnston, K. J., Kingham, K. A., Martin, J. O., White, G. L., Jones, P. A., Arenou, F., Froeschlé,

- M., Kovalevsky, J., Martin, C., Lindegren, L., & Söderhjelm, S. 1997. "Astrometric detection of a low mass companion orbiting the star AB Doradus", *ApJ*, **490**, 835–839.
- Gurvits, L. I. 1994. "Apparent milliarcsecond sizes of active galactic nuclei and the geometry of the universe", *ApJ*, **425**, 442–449.
- Gurvits, L. I., Ulvestad, J. S., & Linfield, R. P. 1996. "A second-generation space VLBI mission: The case and concept", in *Large Antennas in Radio Astronomy*, ed. C. G. M. van't Klooster (Noordwijk: ESTEC), 81–88.
- Gwinn, C. R., Antonucci, R. R. J., Barvainis, R., Ulvestad, J., & Neff, S. 1993. "Toward weighing a hidden Seyfert nucleus", in *Sub-arcsecond Radio Astronomy*, eds. R. J. Davis & R. S. Booth (Cambridge: Cambridge Univ. Press), 331–332.
- Gwinn, C. R. 1994a. "Hypersonic acceleration and turbulence of H<sub>2</sub>O masers in W49 N", *ApJ*, **429**, 241–252.
- Gwinn, C. R. 1994b. "Physical structure of H<sub>2</sub>O masers in W49 N", *ApJ*, **429**, 253–267.
- Gwinn, C. R. 1994c. "Scattered halos around H<sub>2</sub>O masers", *ApJ*, **431**, L123–126.
- Gwinn, C. R., Britton, M. C., Reynolds, J. E., Jauncey, D. L., King, E. A., McCulloch, P. M., Lovell, J. E. J., & Preston, R. A. 1997. "Interstellar optics", *ApJ*, submitted.
- Gwinn, C. R., Danen, R. M., Middleditch, J., Ozernoy, L. M., & Tran, T. K. 1991. "The Galactic Center radio source shines below the Compton limit", *ApJ*, **381**, L43–46.
- Gwinn, C. R., Moran, J. M., & Reid, M. J. 1992. "Distance and kinematics of the W49 N H<sub>2</sub>O maser outflow", *ApJ*, **393**, 149–164.
- Gwinn, C. R., Ojeda, M. J., Britton, M. C., Reynolds, J. E., Jauncey, D. L., King, E. A., McCulloch, P. M., Lovell, J. E. J., Flanagan, C. S., Smits, D. P., Preston, R. A., & Jones, D. L. 1997. "Size of the Vela pulsar's radio emission region: 500 kilometers", *ApJ*, **483**, 53–59.
- Haarsma, D. B., Hewitt, J. N., Lehár, J., & Burke, B. F. 1997. "The 6cm light curves of B0957+561, 1979–1994: New features and implications for the time delay", *ApJ*, **479**, 102–118.
- Habing, H. J. 1996. "Circumstellar envelopes and asymptotic giant branch stars", *A&A Rev.*, **7**, 97–207.
- Hagiwara, Y., Kohno, K., Kawabe, R., & Nakai, N. 1997. "Detection of a water-vapor megamaser in the active galaxy, NGC 5793", *PASJ*, **49**, 171–177.
- Hall, D. S. 1976. "The Rs CVn binaries and binaries with similar properties", in *Multiple Periodic Variable Stars*, ed. W. S. Fitch (Dordrecht: Reidel), 287–290.
- Halpern, J. P., & Eracleous, M. 1994. "Emergence of double-peaked emission lines in the broad-line radio galaxy Pictor A", *ApJ*, **433**, L17–20.
- Hamilton, D., & Keel, W. C. 1987. "The host galaxy of Markarian 231", *ApJ*, **321**, 211–224.
- Hardee, P. E. 1982. "The jet in M87", *ApJ*, **261**, 457–462.
- Hardee, P. E. 1987. "Spatial stability of relativistic jets—Application to 3C 345", *ApJ*, **318**, 78–92.
- Hardee, P. E. 1987. "Spatial stability of relativistic jets: The nonaxisymmetric fundamental and reflection modes", *ApJ*, **313**, 607–622.
- Hardee, P. E., Cooper, M. A., & Clarke, D. A. 1994. "On jet response to a driving frequency and the jets in 3C 449", *ApJ*, **424**, 126–137.
- Hardee, P. E., Clark, D. A., & Howell, D. A. 1995. "The stability and collimation of three dimensional jets", *ApJ*, **441**, 644–664.
- Hardee, P. E., & Norman, M. L. 1989. "The role of oblique reflection shocks in astrophysical jets", *ApJ*, **342**, 680–685.
- Harrison, B., Pedlar, A., Unger, S. W., Burgess, P., Graham, D. A., & Preuss, E. 1986. "The parsec-scale structure of the radio nucleus of NGC 4151", *MNRAS*, **218**, 775–784.
- Hartman, R. C., Webb, J. R., Marscher, A. P., Travis, J. P., Dermer, C. D., Aller, H. D., Aller, M. F., Balonek, T. J., Bennett, K., Bloom, S. D., Fujimoto, R., Hermsen, W., Hughes, P., Jenkins, P., Kii, T., Kurfess, J. D., Makino, F., Mattox, J. R., von Montigny, C., Ohashi, T., Robson, I., Ryan, J., Sadun, A., Schoenfelder, V., Smith, A. G., Teräsraanta, H., Tornikoski, M., & Turner, T. J. L. 1996. "Simultaneous multiwavelength spectrum and variability of 3C 279 from 10<sup>9</sup> to 10<sup>24</sup> Hz", *ApJ*, **461**, 698–712.

- Haschick, A. D., & Baan, W. A. 1985. "A very bright water vapour maser source in the galaxy NGC 3079", *Nature*, **314**, 144–146.
- Hasinger, G., & van der Klis, M. 1989. "Two patterns of correlated x-ray timing and spectral behaviours in low mass x-ray binaries", *A&A*, **225**, 79–96.
- Hayashi, S. S., Hasegawa, T., Tanaka, M., Hayashi, M., Aspin, C., McLean, I. S., Brand, P. W. J. L., & Gatley, I. 1990. "Infrared images of ionized and molecular hydrogen emission in S106", *ApJ*, **354**, 242–246.
- Haynes, R. F., Jauncey, D. L., Murdin, P. G., Goss, W. M., Longmore, A. J., Simons, L. W. J., Milne, D. K., & Skellern, D. J. 1978. "Simultaneous radio and optical observations of Cir X-1", *MNRAS*, **185**, 661–671.
- Heckman, T. M. 1980. "An optical and radio survey of the nuclei of bright galaxies—Activity in normal galactic nuclei", *A&A*, **87**, 152–164.
- Heckman, T. M., van Breugel, W., Miley, G. K., & Butcher, H. R. 1983. "Optical spectroscopy of the radio-loud nuclei of spiral galaxies: Starbursts or monsters?", *AJ*, **88**, 1077–1087.
- Heeschen, D. S. 1984. "Flickering of extragalactic radio sources", *AJ*, **89**, 1111–1123.
- Heeschen, D. S., Krichbaum, T. P., Schalinski, C. J., & Witzel, A. 1987. "Rapid variability of extragalactic radio sources", *AJ*, **94**, 1493–1507.
- Heiles, C. 1997. "Tiny-scale structure and the cold neutral medium", *ApJ*, **481**, 193–204.
- Heisler, C. A. 1991. "Galaxies with spectral energy distributions peaking at 60 microns: morphology and activity explained by interactions", PhD Thesis, Yale University.
- Heisler, C. A., Lumsden, S. L., & Bailey, J. A. 1997. "Visibility of scattered broad-line emission in Seyfert 2 galaxies", *Nature*, **385**, 700–702.
- Helfer, T. T., & Blitz, L. 1995. "High-resolution berkeley-illinois-maryland association observations of CO, HCN, and  $^{13}\text{CO}$  in NGC 1068", *ApJ*, **450**, 90–110.
- Helou, G., & Bica, M. D. 1993. "A physical model of the infrared-to-radio correlation in galaxies", *ApJ*, **415**, 93–100.
- Henkel, C., Güsten, R., Thum, C., & Downes, D. 1984. "Water maser in NGC 3079", *IAU Circ.*, **3983**, 1.
- Henkel, C., Güsten, R., Wilson, T. L., Biermann, P., Downes, D., & Thum, C. 1984. "Strong  $\text{H}_2\text{O}$  maser emission from the peculiar galaxy NGC 3079", *A&A*, **141**, L1–3.
- Henry, T. J., & McCarthy, D. W. 1993. "The mass-luminosity relation for stars of mass 1.0 to  $0.08 M_{\odot}$ ", *AJ*, **106**, 773–789.
- Henstock, D. R., Browne, I. W. A., & Wilkinson, P. N. 1994. "Redshifts of flat-spectrum radio sources", *Spectrum* (Newsletter of the Royal Observatorys), **4**, 26–27.
- Henstock, D. R., Browne, I. W. A., Wilkinson, P. N., & McMahon, R. G. 1997. "Redshifts for flat-spectrum radio sources in the second Caltech-Jodrell Bank VLBI sample", *MNRAS*, **290**, 380–400.
- Henstock, D. R., Browne, I. W. A., Wilkinson, P. N., Taylor, G. B., Vermeulen, R. C., Pearson, T. J., & Readhead, A. C. S. 1995. "The second Caltech-Jodrell Bank VLBI survey. II. Observations of 102 of 193 sources", *ApJS*, **100**, 1–36.
- Herbig, T., & Readhead, A. C. S. 1992. "A compendium of radio spectra and luminosities for three complete samples of radio sources", *ApJS*, **81**, 83–124.
- Herrnstein, J. R. 1997. "Observations of the sub-parsec maser disk in NGC 4258", PhD Thesis, Harvard University.
- Herrnstein, J. R., Greenhill, L. J., & Moran, J. M. 1996. "The warp in the subparsec molecular disk in NGC 4258 as an explanation for persistent asymmetries in the maser spectrum", *ApJ*, **468**, L17–20.
- Herrnstein, J. R., Moran, J. M., Greenhill, L. J., Diamond, P. J., Miyoshi, M., Nakai, N., & Inoue, M. 1997. "Discovery of a subparsec jet 4000 radii from the central schwarzschild engine of NGC 4258", *ApJ*, **475**, L17–20.
- Hewitt, A., & Burbidge, G. 1980. "A revised optical catalogue of quasi-stellar objects", *ApJS*, **43**, 57–158.
- Hirabayashi, H. 1991. "Initial VSOP astronomical requirements", in *Frontiers of VLBI*, eds. H. Hirabayashi, M. Inoue, & H. Kobayashi (Tokyo: Universal Academy Press), 15–19.

- Hirabayashi, H., & Edwards, P. 1997. "Fringes", in *VSOP Newsletter No. 63*, 16 May 1997 (Tokyo: ISAS).
- Hirabayashi, H., Nishimura, T., Hirose, H., Kobayashi, H., Morimoto, M., Inoue, M., Chikada, Y., & Kawaguchi, N. 1992. "Observing with VSOP", in *International Symposium on Space Technology and Science*, **18**, 1813–1820.
- Hirose, H., & Hirabayashi, H. 1995. "VLBI Space Observatory Programme (VSOP) Satellite", *IEEE AES Systems Magazine*, **10-6**, 17–23.
- Hirose, H., & Hirabayashi, H. 1996. "Design and Development of the Space VLBI Satellite for the VSOP (VLBI Space Observatory Programme)", *Space Technology*, **16**, 161–167.
- Hjellming, R. M., & Han, X. 1995. "Radio properties of x-ray binaries", in *X-Ray Binaries* (Cambridge: Cambridge Univ. Press), 308–330.
- Hjellming, R. M., & Johnston, K. J., 1988. "Radio emission from conical jets associated with x-ray binaries", *ApJ*, **328**, 600–609.
- Hjellming, R. M., & Johnston, K. J. 1981. "An analysis of the proper motions of SS 433 radio jets", *ApJ*, **246**, L141–145.
- Hjellming, R. M., & Rupen, M. P. 1995. "Episodic ejection of relativistic jets by the x-ray transient GRO J1655-40", *Nature*, **375**, 464–468.
- Ho, L. C., Filippenko, A. V., & Sargent, W. L. W. 1995. "A search for 'dwarf' Seyfert nuclei of nearby galaxies. II. An optical spectral atlas of the nuclei of nearby galaxies", *ApJS*, **98**, 477–593.
- Ho, L. C., Filippenko, A. V., & Sargent, W. L. W. 1996. "New insights into the physical nature of LINERs from a multiwavelength analysis of the nucleus of M81", *ApJ*, **462**, 183–202.
- Ho, L. C., Filippenko, A. V., & Sargent, W. L. W. 1997. "A search for 'dwarf' Seyfert nuclei. III. Spectroscopic parameters and properties of host galaxies", *ApJS*, **112**, 315–390.
- Hodges, M. W., & Mutel, R. L. 1987. "Are compact doubles misaligned superluminals?", in *Superluminal Radio Sources*, eds. J. A. Zensus & T. J. Pearson (Cambridge: Cambridge Univ. Press), 168–173.
- Högbom, J. A. 1974. "Aperture synthesis with a non-regular distribution of interferometer baselines", *A&AS*, **15**, 417–426.
- Hollenbach, D. J., Elitzur, M., & McKee, C. F. 1993. "A shock origin for interstellar H<sub>2</sub>O masers", in *Astrophysical Masers*, eds. A. Clegg & G. Nedoluha (Berlin: Springer), 159–163.
- Hollenbach, D. J., & McKee, C. F. 1979. "Molecule formation and infrared emission in fast interstellar shocks. I. Physical processes", *ApJS*, **41**, 555–592.
- Hollenbach, D. J., & McKee, C. F. 1989. "Molecule formation and infrared emission in fast interstellar shocks. III. Results for J shocks in molecular clouds", *ApJ*, **342**, 306–336.
- Hooda, J. S., Mangalam, A. V., & Wiita, P. J. 1994. "Long-term hydrodynamical simulations of extragalactic radio jet", *ApJ*, **423**, 116–130.
- Hook, I. M., McMahan, R. G., Irwin, M. J., & Hazard, C. 1996. "A survey for high-redshift radio-loud quasars: Optical spectroscopy of S>0.2 Jy, flat-spectrum radio sources", *MNRAS*, **282**, 1274–1298.
- Houck, J. C. & Fransson, C. 1996. "Analysis of the late optical spectra of SN 1993J", *ApJ*, **456**, 811–832.
- Hough, D. H. 1994. "Relativistic motion in lobe-dominated quasars", in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 169–174.
- Hough, D. H., Vermeulen, R. C., Wood, D. A., Standifird, J. D., & Cross, L. L. 1996. "Multiple-epoch monitoring of the lobe-dominated superluminal quasar 3C 245", *ApJ*, **459**, 64–72.
- Hough, D. H., Zensus, J. A., & Porcas, R. W. 1996. "Evidence for acceleration and nonradial motion of parsec-scale jet components in the lobe-dominated superluminal quasar 3C 263", *ApJ*, **464**, 715–723.
- Hoyle, F. & Burbidge, G. 1996. "Anomalous redshifts in the spectra of extragalactic objects", *A&A*, **309**, 335–344.
- Hoyle, F., Burbidge, G., & Narlikar, J. V. 1993. "A quasi-steady state cosmological model with creation of matter", *ApJ*, **410**, 437–457.

- Hoyle, F., Burbidge, G., & Narlikar, J. V. 1994a. "Astrophysical deductions from the quasi-steady-state cosmology", *MNRAS*, **267**, 1007-1019.
- Hoyle, F., Burbidge, G., & Narlikar, J. V. 1994b. "Further astrophysical quantities expected in a quasi-steady state universe", *A&A*, **289**, 729-739.
- Hoyle, F., Burbidge, G., & Narlikar, J. V. 1995. "The basis theory underlying the quasi-steady-state cosmology", *Proc. Roy. Soc. (London) A*, **448**, 191-212.
- Hughes, P. A., Aller, H. D., & Aller, M. F. 1985. "Polarized radio outbursts in BL Lacertae. II. The flux and polarization of a piston-driven shock", *ApJ*, **298**, 301-315.
- Hughes, P. A., Aller, H. D., & Aller, M. F. 1989. "Synchrotron emission from shocked relativistic jets. I. The theory of radio-wavelength variability and its relation to superluminal motion", *ApJ*, **341**, 54-79.
- Hughes, P. A., Aller, H. D., & Aller, M. F. 1989. "Synchrotron emission from shocked relativistic jets. II. A model for the centimeter wave band quiescent and burst emission from BL Lacertae", *ApJ*, **341**, 68-79.
- Hughes, P. A., Aller, H. D., & Aller, M. F. 1991. "Synchrotron emission from shocked relativistic jets. III. Models for the centimeter wave band quiescent and burst emission from 3C 279 and OT 081", *ApJ*, **374**, 57-71.
- Hughes, V. A. 1985. "Observational evidence on the early development of stars in Cepheus A", *ApJ*, **298**, 830-837.
- Hughes, V. A. 1991. "Time-dependent radio sources in the star-forming region Cepheus A (East)", *ApJ*, **383**, 280-288.
- Hughes, V. A. 1993. "Is Cepheus A East a Herbig-Haro object?", *AJ*, **105**, 331-338.
- Hughes, V. A. 1997. "An evolving radio source in the young star-forming region Cepheus A", *ApJ*, **481**, 857-865.
- Hughes, V. A., & Wouterloot, J. G. A. 1984. "The star-forming region in Cepheus A", *ApJ*, **276**, 204-210.
- Hummel, C. A., Muxlow, T. W. B., Krichbaum, T. P., Quirrenbach, A., Schalinski, C. J., Witzel, A., & Johnston, K. J. 1992. "MERLIN and VLBI observations of the quasar 0836+710—Morphology of a parsec-kiloparsec scale jet", *A&A*, **266**, 93-100.
- Hummel, C. A., Krichbaum, T. P., Witzel, A., Wüllner, K. H., Steffen, W., Alef, W., & Fey, A. 1997. "The radio jet of quasar 0153+744", *A&A*, **324**, 857-869.
- Hummel, C. A., Schalinski, C. J., Krichbaum, T. P., Witzel, A., & Johnston, K. J. 1988. "The quasar 0153+74", *A&A*, **204**, 68-72.
- Hutchings, J. B., & Neff, S. G. 1987. "Morphology and nuclear spectroscopy of Markarian 231", *AJ*, **93**, 14-21.
- Hutchison, J. M. & Cawthorne, T. V. 1997. "A polarization study of quasar 4C 71.07", *Vistas in Astronomy*, **41**, 231-235.
- Impey, C. 1996. "Quasars, blazars, and the gamma-ray sky", *AJ*, **112**, 2667-2683.
- Impey, C. D., Foltz, C. B., Petry, C. E., Browne, I. W. A., & Patnaik, A. R. 1996. "Hubble Space Telescope observations of the gravitational lens system B1422+231", *ApJ*, **462**, L53-57.
- Impey, C. D., Lawrence, C. R., & Tapia, S. 1991. "Optical polarization of a complete sample of radio sources", *ApJ*, **375**, 46-68.
- Inoue, M., Tabara, H., Kato, T., & Aizu, K. 1995. "Search for high rotation measures in extragalactic radio sources. I. Multi-channel observations at 10 GHz", *PASJ*, **47**, 725-737.
- Irwin, J. A., & Seaquist, E. R. 1988. "Nuclear jets in the radio lobe spiral galaxy NGC 3079", *ApJ*, **335**, 658-667.
- Irwin, J. A., & Seaquist, E. R. 1991. "The neutral hydrogen distribution of NGC 3079", *ApJ*, **371**, 111-130.
- Israel, F. P., van Dishoeck, E. F., Baas, F., de Graauw, T., & Phillips, T. G. 1991. "CO J=1-0, 2-1 and 3-2 absorption and emission toward the nucleus of Centaurus A\*: Probing the circumstellar disk", *A&A*, **245**, L13-16.

- Jackson, N., de Bruyn, A. G., Myers, S., Bremer, M. N., Miley, G. K., Schilizzi, R. T., Browne, I. W. A., Nair, S., Wilkinson, P. N., Blandford, R. D., Pearson, T. J., & Readhead, A. C. S. 1995. "1600+434: A new gravitational lens system", *MNRAS*, **274**, L25-29.
- Jackson, N., Nair, S., Browne, I. W. A., Wilkinson, P. N., Sykes, C. M., de Bruyn, A. G., Koopmans, L., & Myers, S. T. 1997. "Disk galaxy gravitational lenses in the CLASS survey", *ApJ*, submitted.
- Jauncey, D. L., Bare, C. C., Clark, B. G., Kellermann, K. I., & Cohen, M. H. 1970. "High-resolution radio interferometry at 610 MHz", *ApJ*, **160**, 337-339.
- Jauncey, D. L., Reynolds, J. E., Tzioumis, A. K., Ferris, R. H., Norris, R. P., Sinclair, M. W., Migenes, V., Gough, R. G., Wark, R. M., Preston, R. A., Meier, D. L., Murphy, D. W., Jones, D. L., Hoard, D. W., St. John, M. E., Skjerve, L., King, E. A., McCulloch, P. M., Lovell, J. E. J., Hamilton, P. A., Costa, M. E., Blair, D. G., Edwards, P., Clay, R. W., Campbell-Wilson, D., Amy, S. W., McAdam, W. B., White, G. L., Jones, P. A., & Nicolson, G. D. 1994. "The Southern Hemisphere VLBI experiment program, SHEVE", in *IAU Symp. 158: Very High Angular Resolution Imaging*, eds. W. J. Tango & J. G. Robertson (Dordrecht: Kluwer), 131-133.
- Jauncey, D. L., Tingay, S. J., Preston, R. A., Reynolds, J. E., Lovell, J. E. J., McCulloch, P. M., Tzioumis, A. K., Costa, M. E., Murphy, D. W., Meier, D. L., Jones, D. L., Amy, S. W., Biggs, J. D., Blair, D. G., Clay, R. W., Edwards, P. G., Ellingson, S. P., Ferris, R. H., Gough, R. G., Harbison, P., Jones, P. A., King, E. A., Kembal, A. J., Migenes, V., Nicolson, G. D., Sinclair, M. W., Van Ommen, T., Wark, R. M., & White, G. L. 1995. "Subparsec-scale structure and evolution of Centaurus A (NGC 5128)", *Proc. Natl. Acad. Sci. USA*, **92**, 11368-11370.
- Jauncey, D. L., White, G. L., Batty, M. J., & Preston, R. A. 1986. "1934-638 revisited", *AJ*, **92**, 1036-1038.
- Jenkins, C. R. 1983. "Neutral hydrogen in elliptical radio galaxies", *MNRAS*, **205**, 1321-1327.
- Jennison, R. C. 1958. "A phase sensitive interferometer technique for the measurement of the Fourier transforms of spatial brightness distributions of small angular extent", *MNRAS*, **118**, 276-284.
- Johnston, K. J., Fey, A. L., Zacharias, N., Russell, J. L., Ma, C., de Vegt, C., Reynolds, J. E., Jauncey, D. L., Archinal, B. A., Carter, M. S., Corbin, T. E., Eubanks, T. M., Florkowski, D. R., Hall, D. M., McCarthy, D. D., McCulloch, P. M., King, E. A., Nicolson, G., & Shaffer, D. B. 1995. "A radio reference frame", *AJ*, **110**, 880-915.
- Jones, D. L., Preston, R. A., Murphy, D. W., Jauncey, D. L., Reynolds, J. E., Tzioumis, A. K., King, E. A., McCulloch, P. M., Lovell, J. E. J., Costa, M. E., & van Ommen, T. D. 1996. "Interstellar broadening of images in the gravitational lens PKS 1830-211", *ApJ*, **470**, L23-25.
- Jones, D. L., Tingay, S. J., Murphy, D. W., Meier, D. L., Jauncey, D. L., Reynolds, J. E., Tzioumis, A. K., Preston, R. A., McCulloch, P. M., Costa, M. E., Kembal, A. J., Nicolson, G. D., Quick, J. F. H., King, E. A., Lovell, J. E. J., Clay, R. W., Ferris, R. H., Gough, R. G., Sinclair, M. W., Ellingson, S. P., Edwards, P. G., Jones, P. A., van Ommen, T. D., Harbison, P., & Migenes, V. 1996. "Discovery of a subparsec radio counterjet in the nucleus of Centaurus A", *ApJ*, **466**, L63-65.
- Jones, T. W. 1988. "Polarization as a probe of magnetic field and plasma properties of compact radio sources: Simulations of relativistic jets", *ApJ*, **332**, 678-695.
- Jones, T. W., & O'Dell, S. L. 1977. "Transfer of polarized radiation in self-absorbed synchrotron sources. I. Results for a homogeneous source", *ApJ*, **214**, 522-539.
- Kapahi, V. K. 1981. "Westerbork observations of radio sources in the 5 GHz S4 survey", *A&AS*, **43**, 381-393.
- Kardashev, N. S., & Slysh, V. I. 1988. "The RADIOASTRON project", in *IAU Symp. 129: The Impact of VLBI on Astrophysics and Geophysics*, eds. M. Reid & J. Moran (Dordrecht: Kluwer), 433-440.
- Kato, T., Tabara, H., Inoue, M., & Aizu, K. 1987. "Extragalactic radio sources with very large Faraday rotation", *Nature*, **329**, 223-224.
- Katz-Stone, D. M. 1995. "The evolution of the relativistic particles and the structure of the magnetic field in extragalactic radio sources", PhD Thesis, University of Minnesota.

- Katz-Stone, D. M., & Rudnick, L. 1997a. "A spectral analysis of two compact steep-spectrum sources", *ApJ*, **479**, 258–267.
- Katz-Stone, D. M., & Rudnick, L. 1997b. "An analysis of the synchrotron spectrum in the Fanaroff-Riley Type I galaxy 3C 449", *ApJ*, **488**, 146–154.
- Katz-Stone, D. M., Rudnick, L., & Anderson, M. C. 1993. "Determining the shape of spectra in extended radio sources", *ApJ*, **407**, 549–555.
- Kawai, N., Matsuoka, M., Bregman, J. N., Aller, H. D., Aller, M. F., Hughes, P. A., Balbus, S. A., Balonek, T. J., Chambers, K. C., Clegg, R. E. S., Clements, S. D., Leacock, R. J., Smith, A. G., Miller, J. S., Hereld, M., Hoare, M. G., Hughes, V. A., Miley, G. K., Moriarty-Schieven, G. H., Matthews, K., Neugebauer, G., Ohashi, T., Roche, P. F., Thronson, H. A., Valtaoja, E., Teräsraanta, H., Webb, J. R., Goodrich, R., Wills, B. J., & Wills, D. 1991. "Multifrequency observations of BL Lacertae in 1988", *ApJ*, **382**, 508–514.
- Kedziora-Chudczer, L. L., Jauncey, D. L., Nicolson, G. D., Wieringa, M. H., Reynolds, J. E., & Tzioumis, A. K. 1996. *IAU Circ.*, **6418**, 1.
- Kedziora-Chudczer, L. L., Jauncey, D. L., Wieringa, M. H., Walker, M. A., Reynolds, J. E., & Tzioumis, A. K. 1997. "PKS 0405–385: The smallest radio quasar?", *ApJ*, **490**, L9–12.
- Keel, W. C. 1983. "Spectroscopic evidence for activity in the nuclei of normal spiral galaxies", *ApJ*, **269**, 466–486.
- Keel, W. C. 1984. "Optical properties of spiral galaxies with strong nuclear radio sources: Active nuclei, starbursts, and composite objects", *ApJ*, **282**, 75–84.
- Keeton, C. R., & Kochanek, C. S. 1997. "Determining the Hubble Constant from the gravitational lens PG 1115+080", *ApJ*, **487**, 42–54.
- Kellermann, K. I. 1966. "The radio source 1934–63", *Aust. J. Phys.*, **19**, 195–207.
- Kellermann, K. I. 1972. "Intercontinental radio astronomy", *Scientific Am.*, **226**, 72–83.
- Kellermann, K. I. 1977. *VLBI Network Studies III: An Intercontinental VLBI Array* (Green Bank: NRAO).
- Kellermann, K. I. 1992. "Reflections on the Soviet-American VLBI program", in *Astrophysics on the Threshold of the 21st Century*, ed. N. Kardashev (New York: Gordon & Breach), 37–51.
- Kellermann, K. I. 1993. "The cosmological deceleration parameter estimated from the angular-size/redshift relation for compact radio sources", *Nature*, **361**, 134–136.
- Kellermann, K. I., Clark, B. G., Bare, C. C., Rydbeck, O., Ellder, J., Hansson, B., Kollberg, E., Hoglund, B., Cohen, M. H., & Jauncey, D. L. 1968. "High-resolution interferometry of small radio sources using intercontinental base lines", *ApJ*, **153**, L209–214.
- Kellermann, K. I., & Cohen, M. H. 1988. "The origin and evolution of the NRAO-Cornell VLBI system", *JRASC*, **82**, 248–265.
- Kellermann, K. I., & Pauliny-Toth, I. I. K. 1981. "Compact radio sources", *ARA&A*, **19**, 373–410.
- Kellermann, K. I., Shaffer, D. B., Pauliny-Toth, I. I. K., Preuss, E., & Witzel, A. 1976. "Observations of a radio source in the nucleus of M81 with dimensions less than 1300 astronomical units", *ApJ*, **210**, L121–122.
- Kemball, A. J., & Diamond, P. J. 1997. "Imaging the magnetic field in the atmosphere of TX Camelopardalis", *ApJ*, **481**, L111–114.
- Kemball, A. J., Diamond, P. J., & Pauliny-Toth, I. I. K. 1996. "Continuum VLBI polarimetry of 3C 454.3 at 43 GHz", *ApJ*, **464**, L55–58.
- Kerr, D. E., ed. 1951. *Propagation of Short Radio Waves*, MIT Radiation Laboratory Series, **13** (McGraw-Hill).
- Killeen, N. E. B., Bicknell, G. V., & Ekers, R. D. 1986. "The radio galaxy IC 4296 (PKS 1333–33). I. Multifrequency Very Large Array observations", *ApJ*, **302**, 306–336.
- King, E. A. 1994. "Compact structure in southern peaked spectrum sources", PhD Thesis, University of Tasmania.
- King, L. J., Browne, I. W. A., Muxlow, T. W. B., Narasimha, D., Patnaik, A. R., Porcas, R. W. & Wilkinson, P. N. 1997. "Multi-frequency radio observations of the gravitational lens system 1938+666", *MNRAS*, **289**, 450–456.

- Klobuchar, J. A. 1975. "A first-order, worldwide, ionospheric, time-delay algorithm", Air Force Cambridge Research Laboratories Report No. AFCRL-TR-75-0502 (NTIS ADA 018862).
- Kniffen, D. A., Alberts, W. C. K., Bertsch, D. L., Dingus, B. L., Esposito, J. A., Fichtel, C. E., Foster, R. S., Hartman, R. C., Hunter, S. D., Kanbach, G., Lin, Y. C., Mattox, J. R., Mayer-Hasselwander, H. A., Michelson, P. F., von Montigny, C., Mukherjee, R., Nolan, P. L., Paredes, J. M., Ray, P. S., Schneid, E. J., Sreekumar, P., Tavani, M., & Thompson, D. J. 1997. "EGRET observations of the gamma-ray source 2CG 135+01", *ApJ*, **486**, 126–131.
- Knight, C. A., Robertson, D. S., Rogers, A. E. E., Shapiro, I. I., Whitney, A. R., Clark, T. A., Goldstein, R. M., Marandino, G. E., & Vandenberg, N. R. 1971. "Quasars: Millisecond-of-arc structure revealed by very-long-baseline interferometry", *Science*, **172**, 52–54.
- Kobayashi, H. 1991. "Spacecraft constraints for observing", in *Frontiers of VLBI*, eds. H. Hirabayashi, M. Inoue, & H. Kobayashi (Tokyo: Universal Academy Press), 95–98.
- Kochanek, C. S., & Hewitt, J. N., eds. 1996. *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing* (Dordrecht: Kluwer)
- Kochanek, C. S., Kolatt, T. S., & Bartelmann, M. 1996. "Proper motions of VLBI lenses, inertial frames, and the evolution of peculiar velocities", *ApJ*, **473**, 610–619.
- Kochanek, C., & Narayan, R. 1992. "Lensclean: An algorithm for inverting extended, gravitationally lensed images with application to the radio ring lens PKS 1830–211", *ApJ*, **401**, 461–473.
- Koekemoer, A. M., Henkel, C., Greenhill, L. J., Dey, A., van Breugel, W., & Antonucci, R. R. J. 1995. "A water-vapour giga-maser in the active galaxy TXFS 2226–184", *Nature*, **378**, 679–671.
- Kollgaard, R. I. 1994. "Relativistic jets and the nature of BL Lacertae objects", *Vistas in Astronomy*, **38**, 29–75.
- Kollgaard, R. I., Wardle, J. F. C., Roberts, D. H., & Gabuzda, D. C. 1992. "Radio constraints on the nature of BL Lacertae objects and their parent population", *AJ*, **104**, 1687–1705.
- Königl, A. 1981. "Relativistic jets as x-ray and gamma-ray sources", *ApJ*, **243**, 700–709.
- Kormendy, J., & Richstone, D. 1995. "Inward bound—The search for supermassive black holes in galactic nuclei", *ARA&A*, **33**, 581–624.
- Kovalev, Y. Y. 1995b. "Structure of active galactic nuclei in a model with the radial magnetic field", in *27th YERAC, Electronic Proc.*, eds. D. A. Green & W. Steffen (Cambridge: Cambridge Univ. Press). <http://www.cup.cam.ac.uk/onlinepubs/YERAC/home.html>.
- Kovalev, Y. Y., & Larionov, G. M. 1994. "The search for variable quasars and galaxies suitable for cosmological radio measurements: Quasar 0235+16", *Astron. Lett.*, **20**, 5–9.
- Kovalev, Yu. A. 1995a. "Some active galactic nuclei as cosmological probes", *Space Sci. Rev.*, **74**, 475–479.
- Kovalevsky, J., Lindegren, L., Perryman, M. A. C., Hemenway, P. D., Johnston, K. J., Kislyuk, V. S., Lestrade, J.-F., Morrison, L. V., Platais, I., Röser, S., Schilbach, E., Tucholke, H.-J., de Vegt, C., Vondrák, J., Arias, F., Gontier, A. M., Arenou, A., Brosche, P., Florkowski, D. R., Garrington, S. T., Preston, R. A., Ron, C., Rybka, S. P., Scholz, R.-D., & Zacharias, N. 1997. "The Hipparcos Catalogue as a realisation of the extragalactic reference system", *A&A*, **323**, 620–633.
- Kramer, M., Xilouris, K. M., & Rickett, B. 1997. "Unexpected variations in pulsar flux-densities at mm-wavelengths", *A&A*, **321**, 513–518.
- Kraus, A., Krichbaum, T. P., & Witzel, A. 1996. "Radio polarisation properties of gamma-ray sources", in *Gamma-Ray Emitting AGN*, eds. J. Kirk & S. J. Wagner, Heidelberg Proceedings, MPI H-V37-1996, <http://www.lsw.uni-heidelberg.de/projects/extragalactic/gamma-ray.html>, 135–138.
- Krichbaum, T. P., Booth, R. S., Kus, A. J., Rönnäng, B. O., Witzel, A., Graham, D. A., Pauliny-Toth, I. I. K., Quirrenbach, A., Hummel, C. A., Alberdi, A., Zensus, J. A., Johnston, K. J., Spencer, J. H., Rogers, A. E. E., Lawrence, C. R., Readhead, A. C. S., Hirabayashi, H., Inoue, M., Morimoto, M., Dhawan, V., Bartel, N., Shapiro, I. I., Burke, B. F., & Marcaide, J. M. 1990. "43 GHz-VLBI observations of 3C 273 after a flux density outburst in 1988", *A&A*, **273**, 3–11.

- Krichbaum, T. P., Britzen, S., Standke, K. J., Witzel, A., Schalinski, C. J., & Zensus, J. A. 1995. "Very-long-baseline radio interferometry (VLBI) observations of gamma-ray blazars: Results from millimeter-VLBI observations", *Proc. Natl. Acad. Sci. USA*, **92**, 11377–11380.
- Krichbaum, T. P., Hummel, C. A., Quirrenbach, A., Schalinski, C. J., Witzel, A., Johnston, K. J., Muxlow, T. W. B., & Qian, S. J. 1990. "The complex jet associated with the quasar 0836+71", *A&A*, **230**, 271–283.
- Krichbaum, T. P., Witzel, A., Graham, D. A., Alef, W., Pauliny-Toth, I. I. K., Hummel, C. A., Quirrenbach, A., Inoue, M., Hirabayashi, H., Morimoto, M., Rogers, A. E. E., Zensus, J. A., Lawrence, C. R., Readhead, A. C. S., Booth, R. S., Rönnäng, B. O., Kus, A. J., Johnston, K. J., Spencer, J. H., Burke, B. F., Dhawan, V., Bartel, N., Shapiro, I. I., Alberdi, A., & Marcaide, J. M. 1992. "The evolution of the sub-parsec structure of 3C 84 at 43 GHz", *A&A*, **260**, 33–48.
- Krichbaum, T. P., Witzel, A., Graham, D. A., Standke, K. J., Schwartz, R., Lochner, O., Schalinski, O. J., Greve, A., Steppe, H., Brunswig, H., Butin, G., Hein, H., Navarro, S., Peñalver, J., Grewing, M., Booth, R. S., Colomer, F., & Rönnäng, B. O. 1993. "First 43 GHz VLBI-observations with the 30-m radio telescope at Pico Veleta", *A&A*, **275**, 375–389.
- Kühr, H., & Schmidt, G. D. 1990. "Complete sample of radio-selected BL Lac objects", *AJ*, **99**, 1–6.
- Kümmel, M. W., Wagner, S. J., Heidt, J., Meisenheimer, K., Graser, U., et al. 1996. "Optical polarisation properties of gamma sources", in *Gamma-Ray Emitting AGN*, eds. J. Kirk & S. J. Wagner, Heidelberg Proceedings, MPI H-V37-1996, <http://www.lsw.uni-heidelberg.de/projects/extragalactic/gamma-ray.html>, 131–134.
- Kundić, T., Turner, E. L., Colley, W. N., Gott, J. R., Rhoads, J. E., Wang, Y., Bergeron, L. E., Gloria, K. A., Long, D. C., Malhotra, S., & Wambsganss, J. 1997. "A robust determination of the time delay in 0957+561A, B and a measurement of the global value of Hubble's constant", *ApJ*, **482**, 75–82.
- Lähteenmäki, A., & Valtaoja, E. 1997. "Doppler boosting factors and viewing angles for different classes of AGN derived from continuum and VLBI observations", in *Blazars, Black Holes, and Jets*, eds. M. Kidger & J. A. de Diego, *Astrophysics and Space Science* (special issue), in press.
- Laing, R. A. 1980. "Observations of M87 at 15.4 GHz with the 5-km telescope", *MNRAS*, **193**, 427–437.
- Laing, R. A. 1985. "The interpretation of radio polarization data", in *Physics of Energy Transport in Extragalactic Radio Sources*, eds. A. H. Bridle & J. A. Eilek (Green Bank: NRAO), 90–98.
- Laing, R. A. 1996. "Brightness and polarization structure of decelerating relativistic jets", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 241–252.
- Laing, R. A., Riley, J. M., & Longair, M. S. 1983. "Bright radio sources at 178 MHz: Flux densities, optical identifications, and the cosmological evolution of powerful radio galaxies", *MNRAS*, **204**, 151–187.
- Landau, R., Golisch, B., Jones, T. J., Jones, T. W., Pedelty, J., Rudnick, L., Sitko, M. L., Kenney, J., Roellig, T., Salonen, E., Urpo, S., Schmidt, G., Neugebauer, G., Matthews, K., Elias, J. H., Impey, C., Clegg, P., & Harris, S. 1986. "Active extragalactic sources: Nearly simultaneous observations from 20 centimeters to 1400 Å", *ApJ*, **308**, 78–92.
- Lara, L., Cotton, W. D., Feretti, L., Giovannini, G., Venturi, T., & Marcaide, J. M. 1997a. "VLBI observations of a complete sample of radio galaxies. VII. Study of the FRI sources 3C 31, 4C 35.03, and 3C 264", *ApJ*, **474**, 179–187.
- Lara, L., Giovannini, G., Cotton, W. D., Feretti, L., Venturi, T., Baum, S. A., O'Dea, C. P., de Koff, S., & Sparks, W. B. 1997b. "EVN and Merlin observations of the FRI radio galaxy 3C 264", *Vistas in Astronomy*, **41**, 241–245.
- Lara, L., Marcaide, J. M., Alberdi, A., & Guirado, J. C. 1996. "VLBI differential astrometry at large angular separation: 3C 395–3C 382", *A&A*, **314**, 672–678.

- Laurent-Muehleisen, S. A. 1996. "A new sample of BL Lacertae objects and implications for unified schemes", PhD Thesis, Pennsylvania State University.
- Laurent-Muehleisen, S. A., Kollgaard, R. I., Ryan, P. J., Feigelson, E. D., Brinkmann, W., & Siebert, J. 1997. "Radio-loud active galaxies in the northern ROSAT all-sky survey. I. Radio identifications", *A&AS*, **122**, 235–247.
- Lawrence, C. R., Neugebauer, G., Weir, N., Matthews, K., & Patnaik, A. R. 1992. "Infrared observations of the gravitational lens system B1422+231", *MNRAS*, **259**, 5P–7P.
- Lawrence, C. R., Zucker, J. R., Readhead, A. C. S., Unwin, S. C., Pearson, T. J., & Xu, W. 1996. "Optical spectra of a complete sample of radio sources. I. The spectra", *ApJS*, **107**, 541–619.
- Lazio, T. J. W., & Cordes, J. M. 1997. "The radial extent and warp of the ionized galactic disk. II. A likelihood analysis of radio-wave scattering toward the anticenter", *ApJ*, submitted.
- Lazio, T. J. W., & Cordes, J. M. 1997. "The radial extent and warp of the ionized galactic disk. I. A VLBA survey of extragalactic sources toward the anticenter", *ApJS*, submitted.
- Leach, C. M., McHardy, I. M., & Papadakis, I. E. 1995. "Constraining the soft x-ray spectrum of 3C 273 with ROSAT", *MNRAS*, **272**, 221–230.
- Leahy, J. P. 1991. "Extragalactic radio sources: Interpretation", in *Beams and Jets in Astrophysics*, ed. P. A. Hughes (Cambridge: Cambridge Univ. Press), 100–186.
- Ledlow, M. J., & Owen, F. N. 1996. "20-cm VLA survey of Abell clusters of galaxies. VI. Radio/optical luminosity functions", *AJ*, **112**, 9–22.
- Lekht, E. E., Likhachev, S. F., Sorochenko, R. L., & Strel'nitskii, V. S. 1993. "10-year observations of the H<sub>2</sub>O maser in S140", *AZh*, **70**, 731–751.
- Leppänen, K. J., Zensus, J. A., & Diamond, P. J. 1995. "Linear polarization imaging with very long baseline interferometry at high frequencies", *AJ*, **110**, 2479–2492.
- Lestrade, J.-F., Jones, D. L., Preston, R. A., Phillips, R. B., Titus, M. A., Kovalevsky, J., Lindegren, L., Hering, R., Froeschlé, M., Falin, J. L., Mignard, F., Jacobs, C. S., Sovers, O. J., Eubanks, M., & Gabuzda, D. C. 1995. "Preliminary link of the Hipparcos and VLBI reference frames", *A&A*, **304**, 182–188.
- Lestrade, J.-F., Phillips, R. B., Preston, R. A., Gabuzda, D. C. 1992. "High-precision VLBI astrometry of the radio-emitting star Sigma CrB—A step in linking the Hipparcos and extragalactic reference frames", *A&A*, **258**, L112–115.
- Lestrade, J.-F., Rogers, A. E. E., Whitney, A. R., Niell, A. E., Phillips, R. B., & Preston, R. A. 1990. "Phase-referenced VLBI observations of weak radio sources. Milliarcsecond position of Algol", *AJ*, **99**, 1663–1673.
- Levine, J. I., & Whitney, A. R. 1980. "MARK III real-time fringe-detection system", in *Radio Interferometry Techniques for Geodesy*, NASA Conf. Pub. 2115 (Washington: NASA), 333–336.
- Levinson, A., Laor, A., & Vermeulen, R. C. 1995. "Constraints on the parsec-scale environment in NGC 1275", *ApJ*, **448**, 589–599.
- Levy, G. S., Linfield, R. P., Ulvestad, J. S., Edwards, C. D., Jordan, J. F. Jr., Di Nardo, J., Christensen, C. S., Preston, R. A., Skjerve, L. J., & Blaney, K. B. 1986. "Very long baseline interferometric observations made with an orbiting radio telescope", *Science*, **234**, 187–189.
- Likhachev, S. F. 1996. "Distinctive Properties of SVLBI Imaging", ASC FIAN Preprint #22, 1–11.
- Liljeström, T., Mattila, K., Toriseva, M., & Anttila, R. 1989. "W49 N water maser: Spectral atlas of time variability during 1981–85", *A&AS*, **79**, 19–39.
- Lindegren, L., & Kovalevsky, J. 1995. "Linking the Hipparcos Catalogue to the extragalactic reference system", *A&A*, **304**, 189–201.
- Lindqvist, M., Winnberg, A., Habing, H. J., & Matthews, H. E. 1992. "OH/IR stars close to the Galactic centre. I. Observational data", *A&AS*, **92**, 43–62.
- Linfield, R. P., Levy, G. S., Edwards, C. D., Ulvestad, J. S., Ottenhoff, C. H., Hirabayashi, H., Morimoto, M., Inoue, M., Jauncey, D. L., Reynolds, J., Nishimura, T., Hayashi, T., Takano, T., Yamada, T., Barrett, J. W., Conner, S. R., Heflin, M. B., Léhar, J., Burke, B. F., Roberts, D. H., Whitney, A. R., Cappallo, R. J., Rogers, A. E. E., Pospieszalski,

- M. W., DiNardo, S. J., Skjerve, L. J., Stavert, L. R., & Maher, M. J. 1990. "15 GHz space VLBI observations using an antenna on a TDRSS satellite", *ApJ*, **358**, 350–358.
- Linfield, R. P., Levy, G. S., Ulvestad, J. S., Edwards, C. D., DiNardo, S. J., Stavert, L. R., Ottenhoff, C. H., Whitney, A. R., Cappallo, R. J., Rogers, A. E. E., Hirabayashi, H., Morimoto, M., Inoue, M., Jauncey D. L., & Nishimura, T. 1989. "VLBI using a telescope in Earth orbit. II. Brightness temperatures exceeding the inverse Compton limit", *ApJ*, **336**, 1105–1112.
- Linfield, R. P., & Perley, R. 1984. "3C 111: A luminous radio galaxy with a highly collimated jet", *ApJ*, **279**, 60–73.
- Lister, M. L., & Marscher, A. P. 1997. "Statistical effects of Doppler beaming and Malmquist bias on flux-limited samples of compact radio sources", *ApJ*, **476**, 572–588.
- Lobanov, A. P. 1996. "Physics of the parsec-scale structures in the quasar 3C 345", PhD Thesis, New Mexico Institute of Mining and Technology.
- Lobanov, A., & Zensus, J. A. 1998. "Spectral evolution of the parsec-scale jet in the quasar 3C 345", *ApJ*, submitted.
- Lockett, P., & Elitzur, M. 1992. "Modeling SiO maser emission from late-type stars", *ApJ*, **399**, 704–713.
- Lorimer, D. R., Yates, J. A., Lyne, A. G., & Gould, D. M. 1995. "Multifrequency flux density measurements of 280 pulsars", *MNRAS*, **273**, 411–421.
- Lovell, B. 1973. *Out of the Zenith: Jodrell Bank 1957–1970* (New York: Harper & Row), 53–68.
- Lovell, J. E. J., Reynolds, J. E., Jauncey, D. L., Backus, P. R., McCulloch, P. M., Sinclair, M. W., Wilson, W. E., Tzioumis, A. K., King, E. A., Gough, R. G., Ellingsen, S. P., Phillips, C. J., Preston, R. A., & Jones, D. L. 1996. "PKS 1830–211: A possible compound gravitational lens", *ApJ*, **472**, L5–7.
- Lüdke, E. 1994. "Polarization observations of extragalactic radio sources with MERLIN", PhD Thesis, Victoria University of Manchester.
- Lüdke, E., & Bellincanta, A. 1997. "A study of Faraday effects in steep-spectrum radio sources with galactic sizes", in *Young Galaxies and QSO Absorption-line Systems*, eds. S. M. Viegas, R. Gruenwald, & R. R. Carvalho, 107–110.
- Lüdke, E., Spencer, R. E., Akujor, C. E., Muxlow, T. W. B., Garrington, S. T., Sanghera, H. S., & Fanti, C. 1997. "MERLIN polarization observations of compact steep spectrum sources at 5 GHz", *MNRAS*, in press.
- Lyne, A. G., & Lorimer, D. R. 1994. "High birth velocities of radio pulsars", *Nature*, **369**, 127–129.
- Lytikov, M. 1997. "Waves in a one dimensional magnetized relativistic pair plasma", *MNRAS*, in press.
- M<sup>c</sup>Hardy, I. M., Papadakis, I., Leach, C. M., Robson, E. I., Junor, W., Staubert, R., Steppe, H., & Gear, W. K. 1994. "Correlated x-ray and millimetre variability of the blazar 3C 273", in *IAU Symp. 159: Multi-Wavelength Continuum Emission of AGN*, eds. T. J.-L. Courvoisier & A. Blecha (Dordrecht: Kluwer), 193–200.
- Macomb, D. J., Akerlof, C. W., Aller, H. D., Aller, M. F., Bertsch, D. L., Bruhweiler, F., Buckley, J. H., Carter-Lewis, D. A., Cawley, M. F., Cheng, K.-P., Dermer, C., Fegan, D. J., Gaidos, J. A., Gear, W. K., Hall, C. R., Hartman, R. C., Hillas, A. M., Kafatos, M., Kerrick, A. D., Kniffen, D. A., Kondo, Y., Kubo, H., Lamb, R. C., Makino, F., Makishima, K., Marscher, A., McEnery, J., McHardy, I. M., Meyer, D. I., Moore, E. M., Ramos, E., Robson, E. I., Rose, H. J., Schubnell, M. S., Sembroski, G., Stevens, J. A., Takahashi, T., Tashiro, M., Weekes, T. C., Wilson, C., & Zweierink, J. 1995. "Multiwavelength observations of Markarian 421 during a TeV/x-ray flare", *ApJ*, **449**, L99–103.
- Makino, F., Kii, T., Hayashida, K., Inoue, H., Tanaka, Y., Ohashi, T., Makishima, K., Awaki, H., Koyama, K., Turner, M. J. L., & Williams, O. R. 1989. "X-ray outburst of the quasar 3C 279", *ApJ*, **347**, L9–12.
- Maloney, P. R. 1996. "The obscuring torus of Cygnus A: Physical conditions and diagnostics", in *Cygnus A—Study of a Radio Galaxy*, eds. C. L. Carilli & D. E. Harris (Cambridge: Cambridge Univ. Press), 60–68.

- Mangum, J. G., & Wootten, A. 1994. "The ammonia distribution on 4000 AU scales near S106FIR", *BAAS*, **26**, 1454.
- Mantovani, F., Junor, W., Bondi, M., Fanti, R., Padrielli, L., Cotton, W., Salerno, E., & Nicolson, G. D. 1996. "Large bent jets in the inner region of CSSs", in *The Second Workshop on GPS and CSS Radio Sources*, eds. I. A. G. Snellen, R. T. Schilizzi, H. J. A. Röttgering, & M. N. Bremer (Leiden: Leiden Obs.), 216–221.
- Mantovani, F., Junor, W., Fanti, R., Padrielli, L., & Saikia, D. J. 1994. "Gaseous cocoons around compact steep-spectrum sources", *A&A*, **292**, 59–66.
- Maoz, E., & McKee, C. F. 1997. "Doppler-shift asymmetry in high-velocity maser emission from shocks in circumnuclear disks", *ApJ*, in press.
- Maraschi, L., Ghisellini, G., & Celotti, A. 1992. "A jet model for the gamma-ray emitting blazar 3C 279", *ApJ*, **397**, L5–9.
- Marcaide, J. M., Bartel, N., Gorenstein, M. V., Shapiro, I. I., Corey, B. E., Rogers, A. E. E., Webber, J. C., Clark, T. A., Rommey, J. D., & Preston, R. A. 1985. "Quasar 4C 39.25 is not contracting", *Nature*, **314**, 424.
- Marcaide, J. M., Alberdi, A., Gómez, J. L., Guirado, J. C., Marscher, A. P., & Zhang, Y. F. 1994. "The superluminal quasar 4C 39.25 deciphered", in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 141–148.
- Marcaide, J. M., Alberdi, A., Ros, E., Diamond, P., Schmidt, B., Shapiro, I. I., Baath, L., Davis, R. J., de Bruyn, A. G., Elósegui, P., Guirado, J. C., Jones, D. L., Krichbaum, T. P., Mantovani, F., Preston, R. A., Ratner, M. I., Rius, A., Rogers, A. E. E., Schilizzi, R. T., Triglilio, C., Whitney, A. R., Witzel, A., & Zensus, A. 1995. "Discovery of shell-like radio-structure in SN 1993J", *Nature*, **373**, 44–45.
- Marcaide, J. M., Alberdi, A., Ros, E., Diamond, P., Shapiro, I. I., Guirado, J. C., Jones, D. L., Krichbaum, T. P., Mantovani, F., Preston, R. A., Rius, A., Schilizzi, R. T., Triglilio, C., Whitney, A. R., & Witzel, A. 1995. "Expansion of SN 1993J", *Science*, **270**, 1475–1478.
- Marcaide, J. M., Alberdi, A., Ros, E., Diamond, P., Shapiro, I. I., Guirado, J. C., Jones, D. L., Mantovani, F., Pérez-Torres, M. A., Preston, R. A., Schilizzi, R. T., Sramek, R. A., Triglilio, C., van Dyk, S. D., Weiler, K. W., & Whitney, A. R. 1997. "Deceleration in the expansion of SN 1993J", *ApJ*, **486**, L31–34.
- Marcaide, J. M., & Shapiro, I. I. 1984. "VLBI study of 1038+528 A and B: Discovery of wavelength dependence of peak brightness location", *ApJ*, **276**, 56–59.
- Marchã, M. J. M., Browne, I. W. A., Impey, C. D., & Smith, P. S. 1996. "Optical spectroscopy and polarization of a new sample of optically bright flat spectrum radio sources", *MNRAS*, **281**, 425–448.
- Marscher, A. P. 1992. "Emission models for compact jets", in *Physics of Active Galactic Nuclei*, eds. W. J. Duschl & S. J. Wagner (Heidelberg: Springer-Verlag), 510–524.
- Marscher, A. P. 1995. "Probes of the inner jets of blazars", *Proc. Natl. Acad. Sci. USA*, **92**, 11439–11441.
- Marscher, A. P. 1996. "The inner jets of blazars", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 45–54.
- Marscher, A. P., & Gear, W. K. 1985. "Models for high-frequency radio outbursts in extragalactic sources with application to the early 1983 millimeter-to-infrared flare of 3C 273", *ApJ*, **298**, 114–127.
- Marscher, A. P., Moore, E. M., Marchenko, S. G., Gómez, J. L., Martí, J. M<sup>a</sup>, Ibáñez, J. M<sup>a</sup>, Bloom, S. D., Wehrle, A. E., & Xu, W. 1997. "VLBA images of 3C 454.3 at 43 GHz: The nature of the core", *BAAS*, **29**, 847.
- Martí, J. M<sup>a</sup>, Müller E., & Ibáñez, J. M<sup>a</sup>. 1994. "Hydrodynamical simulations of relativistic jets", *A&A*, **281**, L9–12.
- Martí, J. M<sup>a</sup>, Müller, E., Font, J. A., Ibáñez, J. M<sup>a</sup>, & Marquina, A. 1997. "Morphology and dynamics of relativistic jets", *ApJ*, **479**, 151–163.
- Marzke, R. O., Geller, M. J., Huchra, J. P., & Corwin, H. G. 1994. "The luminosity function for different morphological types in the CfA redshift survey", *AJ*, **108**, 437–445.
- Matthews, H. E. 1979. "High resolution radio observations of bright rims in IC 1396", *A&A*, **75**, 345–350.

- Mattox, J. R., Bertsch, D. L., Chiang, J., Dingus, B. L., Fichtel, C. E., Hartman, R. C., Hunter, S. D., Kanbach, G., Kniffen, D. A., Kwok, P. W., Lin, Y. C., Mayer-Hasselwander, H. A., Michelson, P. F., von Montigny, C., Nolan, P. L., Pinkau, K., Schneid, E., Sreekumar, P., & Thompson, D. J. 1993. "The EGRET detection of quasar 1633+382", *ApJ*, **410**, 609–614.
- Mattox, J. R., Schachter, J., Molnar, L., Hartman, R. C., & Patnaik, A. R. 1997. "On the identification of EGRET sources with radio sources", *ApJ*, **481**, 95–115.
- Mattox, J. R., Wagner, S. J., Malkan, M., McGlynn, T. A., Schachter, J. F., Grove, J. E., Johnson, W. N., & Kurfess, J. D. 1997. "An intense gamma-ray flare of PKS 1622–297", *ApJ*, **476**, 692–697.
- Matveenko, L. I. 1981. "The bright H<sub>2</sub>O maser source in Orion A", *Soviet Ast. Lett.*, **7**, 54–57.
- Matveenko, L. I., & Diamond, P. J. 1994. "The H<sub>2</sub>O maser outburst region in the Orion Nebula", in *VLBI Technology: Progress and Future Observational Possibilities*, eds. T. Sasao, S. Manabe, O. Kameya, & M. Inoue (Tokyo: Terra), 105–109.
- Matveenko, L. I., Graham, D. A., & Diamond, P. J. 1988. "The H<sub>2</sub>O maser flare region in the Orion KL nebula", *Soviet Ast. Lett.*, **14**, 468–476.
- Matveenko, L. I., Graham, D. A., Pauliny-Toth, I. I. K., Sherwood, W. A., Bååth, L. B., & Kus, A. 1992. "The structure of 3C 345", *Soviet Ast. Lett.*, **18**, 379–391.
- Matveenko, L. I., Pauliny-Toth, I. I. K., Bååth, L. B., Graham, D. A., Sherwood, W. A., & Kus, A. J. 1996. "The structure of the quasar 3C 345 at  $\lambda$  49 cm and its relation to low-frequency variability", *A&A*, **312**, 738–744.
- Mayall, N. U., & Aller, L. H. 1942. "The rotation of the spiral nebula Messier 33", *ApJ*, **95**, 5–23.
- McCarthy, P. J., van Breugel, W., Spinrad, H., & Djorgovski, S. 1987. "A correlation between the radio and optical morphologies of distant 3CR radio galaxies", *ApJ*, **321**, L29–33.
- McCullough, M. L. et al. 1997. "Discovery in Cygnus X-3 of correlations between the hard x-ray and radio", in *The Transparent Universe*, ESA SP-382, 265.
- McGlynn, T. A., Hartman, R. C., Bloom, S. D., Aller, M., Aller, H., Filippenko, A. V., Barth, A. J., Gear, W. K., Marscher, A. P., Mattox, J. R., Reich, W., Robson, E. I., Schramm, J., Stevens, J. A., Teräsraanta, H., Torwikoski, M., Vestrand, W. T., Wagner, S., & Heines, A. 1997. "A gamma-ray flare in NRAO 190", *ApJ*, **481**, 625–632.
- Meier, D. L., Jauncey, D. L., Preston, R. A., Reynolds, J. E., King, E. A., Tzioumis, A. K., Jones, D. L., Murphy, D. W., Nicolson, G. D., Ferris, R. H., Costa, M. E., Gough, R. G., Hoard, D. W., Amy, S. A., Blair, D. G., Campbell-Wilson, D., Clay, R. W., Edwards, P. G., Gwinn, C. R., Hamilton, P. A., Johnson, B., Jones, P. A., Kemball, A. J., Lobdell, E. T., Lovell, J. E. J., McAdam, W. B., McCulloch, P. M., Norris, R. P., Perlman, E., Sinclair, M. W., St. John, M. E., Skjerve, L., Wark, R. M., & White, G. L. 1993. "Multi-epoch 8.4 GHz VLBI observations of the nucleus of Centaurus A", in *Subarcsecond Radio Astronomy*, eds. R. J. Davis & R. S. Booth (Cambridge: Cambridge Univ. Press), 201–203.
- Meier, D. L., Jauncey, D. L., Preston, R. A., Tzioumis, A. K., Wehrle, A. E., Batchelor, R., Gates, J., Hamilton, P. A., Harvey, B. R., Haynes, R. F., Johnson, B., McCulloch, P. M., Moorey, G., Morabito, D. D., Nicolson, G. D., Niell, A. E., Robertson, J. G., Royle, G. W. R., Skjerve, L., Slade, M., Slee, O. B., Watkinson, A., & Wright, A. E. 1989. "The high resolution structure of the Centaurus A nucleus at 2.3 and 8.4 GHz", *AJ*, **98**, 27–35.
- Meier, D. L. 1994. "Space VLBI scheduling studies: Techniques and results", in *VLBI Technology: Progress and Future Observational Possibilities*, eds. T. Sasao, S. Manabe, O. Kameya, & M. Inoue (Tokyo: Terra), 39–43.
- Meier, D. L., Edgington, S., Godon, P., Payne, D. G., & Lind, K. R. 1997. "A magnetic switch that determines the speed of astrophysical jets", *Nature*, **388**, 350–352.
- Melrose, D. B., & Stoneham, R. J. 1977. "The natural wave modes in a pulsar magnetosphere", *Proc. Astr. Soc. Austr.*, **3**, 120–122.
- Menten, K. M. 1991. "Methanol masers and submillimeter wavelength water masers in star-forming regions", in *ASP Conf. Ser. 16: Atoms, Ions, and Molecules, New Results in Spectral Line Astrophysics*, eds. A. D. Haschick & P. T. P. Ho (San Francisco: Astron. Soc. of the Pacific), 119–136.

- Menten, K. M. 1991. "The discovery of a new, very strong, and widespread interstellar methanol maser line", *ApJ*, **380**, L75–78.
- Menten, K. M., & Reid, M. J. 1995. "What is powering the Orion Kleinmann-Low infrared nebula", *ApJ*, **445**, L157–160.
- Menten, K. M., Reid, M. J., Eckart, A., & Genzel, R. 1997. "The Position of Sgr A\*: Accurate alignment of the radio and infrared reference frames at the Galactic Center", *ApJ*, **475**, L111–114.
- Menten, K. M., Reid, M. J., Pratap, P., Moran, J. M., & Wilson, T. L. 1992. "VLBA observations of the 6.7 GHz methanol masers toward W3(OH)", *ApJ*, **401**, L39–42.
- Mezger, P. G., Duschl, W. J., & Zylka, R. 1996. "The Galactic Center: a laboratory for AGN?", *A&A Rev.*, **7**, 289–388.
- Michelson, P. F., Chiang, J., Fierro, J. M., Lin, Y. C., Nolan, P. L., Willis, T., Bertsch, D. L., Dingus, B. L., Esposito, J. A., Fichtel, C. E., Hartman, R. C., Hunter, S. D., Mattox, J. R., Sreekumar, P., Thompson, D. J., Kniffen, D. A., Brazier, K., Kanbach, G., Mayer-Hasselwander, H. A., von Montigny, C., & Schneid, E. 1994. "Variability of EGRET-detected active galaxies and acceleration mechanisms", in *AIP Conf. Proc. 304: The Second Compton Symposium*, eds. C. E. Fichtel, N. Gehrels, & J. P. Norris (New York: Amer. Inst. of Physics), 602–610.
- Migenes, V., Cohen, R. J., & Brebner, G. C. 1992. "OH maser proper motions in Cepheus A", *MNRAS*, **254**, 501–508.
- Mioduszewski, A. J., Hughes, P. A., & Duncan, G. C. 1997. "Simulated VLBI images from relativistic hydrodynamical jet models", *ApJ*, **476**, 649–665.
- Mirabel, I. F., & Rodríguez, L. F. 1995. "GRS 1915+105: A superluminal source in the Galaxy", *Proc. Natl. Acad. Sci. USA*, **92**, 11390–11392.
- Mirabel, I. F., & Rodríguez, L. F. 1994. "A superluminal source in the Galaxy", *Nature*, **371**, 46–48.
- Miyoshi, M., Matsumoto, K., Kamenno, S., Takaba, H. & Iwata, T. 1994. "Collisional pumping of SiO masers in evolved stars", *Nature*, **371**, 395–397.
- Miyoshi, M., Moran, J. M., Herrnstein, J. R., Greenhill, L. J., Nakai, N., Diamond, P. J., & Inoue, M. 1995. "Evidence for a black hole from high rotation velocities in a sub-parsec region of NGC 4258", *Nature*, **373**, 127–129.
- Moellenbrock, G. A., Fujisawa, K., Preston, R. A., Gurvits, L. I., Dewey, R. J., Hirabayashi, H., Inoue, M., Kamenno, S., Kawaguchi, M., Iwata, T., Jauncey, D. L., Migenes, V., Roberts, D. H., Schilizzi, R. T., & Tingay, S.J. 1996. "A 22 GHz VLBI survey of 140 compact extragalactic radio sources", *AJ*, **111**, 2174–2186.
- Montes, M. J., van Dyk, S. D., Weiler, K. W., Sramek, R. A., & Panagia, N. 1997. "Radio detection of SN 1986E in NGC 4302," *ApJ*, **482**, L61–64.
- Moran, J. M. 1968. "Interferometric observations of Galactic OH emission", PhD Thesis, MIT.
- Moran, J. M., Burke, B. F., Barrett, A. H., Rogers, A. E. E., Ball, J. A., Carter, J. C., & Cudaback, D. D. 1968. "The structure of the OH source in W3", *ApJ*, **152**, L97–101.
- Moran, J. M., Crowther, P. P., Burke, B. F., Barrett, A. H., Rogers, A. E. E., Ball, J. A., Carter, J. C., & Bare, C. C. 1967. "Spectral line interferometry with independent time standards at stations separated by 845 kilometers", *Science*, **157**, 676–677.
- Moran, J. M., Reid, M. J., Lada, C. J., Yen, J. L., Johnston, K. J., & Spencer J. H. 1978. "Evidence for the Zeeman effect in the OH maser emission from W3(OH)", *ApJ*, **224**, L67–71.
- Moran, J. M. 1969. "Interstellar hydroxyl clouds", *Science Journal*, **5A**, 60–65.
- Moran, J. M., Barrett, A. H., Rogers, A. E. E., Burke, B. F., Zuckerman, B., Penfield, H., & Meeks, M. L. 1967. "Observations of OH emission in the H II region W3 with a 74400 $\lambda$  interferometer", *ApJ*, **148**, L69–72.
- Moran, J. M., Greenhill, L. J., Herrnstein, J. R., Diamond, P. J., Miyoshi, M., Nakai, N., & Inoue, M. 1995. "Probing AGN with H<sub>2</sub>O megamasers", *Proc. Natl. Acad. Sci. USA*, **92**, 11427–11437.
- Morganti, R., Killeen, N., & Tadhunter, C. 1993. "The radio structures of southern 2-Jy radio sources", *MNRAS*, **263**, 1023–1048.

- Morganti, R., Oosterloo, T., Reynolds, J., Tadhunter, C., Migenes, V. 1997. "A study of cores in a sample of radio sources", *MNRAS*, **284**, 541-551.
- Morganti, R., Oosterloo, T., & Tsvetanov, Z. 1996. "Gas outflow in the Seyfert galaxy IC 5063", in *ASP Conf. Ser. 113: Emission lines in Active Galaxies: New Methods and Techniques*, eds. B. M. Peterson, F.-Z. Cheng, & A. S. Wilson (San Francisco: Astron. Soc. of the Pacific), 310-311.
- Morganti, R., Oosterloo, T., & Zsvetanov, Z. 1997. "A radio study of the Seyfert galaxy IC 5063: Evidence for fast gas outflow", *AJ*, in press.
- Morris, M., & Serabyn, E. 1996. "The Galactic Center environment", *ARA&A*, **34**, 645-702.
- Morris, S. L., Stocke, J. T., Gioia, I. M., Schild, R. E., Wolter, A., Maccacaro, T., & della Ceca, R. 1991. "The luminosity function and cosmological evolution of x-ray-selected BL Lacertae objects", *ApJ*, **380**, 49-65.
- Mukherjee, R., Dingus, B. L., Gear, W. K., Hartman, R. C., Hunter, S. D., Marscher, A. P., Moore, E. M., Pohl, M., Robson, E. I., Sreekumar, P., Stevens, J. A., Teräsanta, H., Tonikoski, M., Travis, J. P., Wagner, S. J., & Zhang, Y. F. 1996. "EGRET observations of the 1993 March gamma-ray flare from PKS 0528+134", *ApJ*, **470**, 831-838.
- Murphy D. W. 1995. "Software packages to aid VSOP users", *BAAS*, **27**, 851.
- Murphy, D. W., Browne, I. W. A., & Perley, R. A. 1993. "VLA observations of a complete sample of core-dominated radio sources", *MNRAS*, **264**, 298-318.
- Murphy, D. W., Yakimov, V., Kobayashi, H., Taylor, A. R., & Fejes, I. 1994. "Space VLBI simulations", in *VLBI Technology: Progress and Future Observational Possibilities*, eds. T. Sasao, S. Manabe, O. Kameya, & M. Inoue (Tokyo: Terra), 34-38.
- Mutel, R. L., Lestrade, J.-F., Preston, R. A., & Phillips, R. B. 1985. "Dual polarization VLBI observations of stellar binary systems at 5 GHz", *ApJ*, **289**, 262-268.
- Mutel, R. L., Su, B., Bucciferro, R., & Phillips, R. B. 1990. "Superluminal motion of the radio core of BL Lacertae: 1980.4-1988.3", *ApJ*, **352**, 81-95.
- Muxlow, T. W. B., Pedlar, A., Holloway, A. J., Gallimore, J. F., & Antonucci, R. R. J. 1996. "The compact radio nucleus of the Seyfert galaxy NGC 1068", *MNRAS*, **278**, 854-860.
- Myers, P. C., & Goodman, A. A. 1988. "Magnetic molecular clouds: Indirect evidence for magnetic support and ambipolar diffusion", *ApJ*, **329**, 392-405.
- Myers, S. T., Fassnacht, C. D., Djorgovski, S. G., Blandford, R. D., Matthews, K., Neugebauer, G., Pearson, T. J., Readhead, A. C. S., Smith, J. D., Thompson, D. J., Womble, D. S., Browne, I. W. A., Wilkinson, P. N., Nair, S., Jackson, N., Snellen, I. A. G., Miley, G. K., de Bruyn, A. G., & Schilizzi, R. T. 1995. "1608+656: A quadruple-lens system found in the CLASS gravitational lens survey", *ApJ*, **447**, L5-8.
- Nair, S. 1996. "A lens model for B0218+357", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 197-198.
- Nair, S., & Garrett, M.A. 1997. "Gravitational lens models for 2016+112", *MNRAS*, **284**, 58-72.
- Nair, S., Narasimha, D., & Rao, A. 1993. "PKS 1830-211 as a gravitationally lensed system", *ApJ*, **407**, 46-59.
- Nakai, N., Inoue, M., Miyazawa, K., Miyoshi, M., & Hall, P. 1995. "Search for extremely-high-velocity H<sub>2</sub>O maser emission in Seyfert galaxies", *PASJ*, **47**, 771-799.
- Nakai, N., Inoue, M., & Miyoshi, M. 1993. "Extremely-high-velocity H<sub>2</sub>O maser emission in the galaxy NGC 4258", *Nature*, **361**, 45-47.
- Nakajima, J., Kaneko, A., Koyama, Y., Sekido, M., Kiuchi, H., Kondo, T., Kurihara, N., Takahashi, Y., Chikada, H., Miyoshi, M., & Kawaguchi, N. 1997. "1024 Mbps VLBI data recorder", in *Proc. of Technical Workshop, APT and APSG*, Communications Research Laboratory Publication, 171-175.
- Nakajima, J., Kiuchi, H., Chikada, Y., Miyoshi, M., Kawaguchi, N., Kobayashi, H., & Murata, Y. 1997. "Giga-bit VLBI storage system for the next generation", in *High-Sensitivity Radio Astronomy*, eds. N. Jackson & R. J. Davis (Cambridge: Cambridge Univ. Press), 256-259.

- Nan Ren-dong, Schilizzi, R. T., van Breugel, W. J. M., Fanti, C., Fanti, R., Muxlow, T. W. B., & Spencer, R. E. 1991. "The compact spiral-like radio structure of the quasar 3C 119", *A&A*, **245**, 449–453.
- Narayan, R. 1992. "The physics of pulsar scintillation", *Phil. Trans. R. Soc.*, **341**, 151–165.
- Neff, S. G., & Ulvestad, J. S. 1988. "Compact radio cores in three Seyfert galaxies—High resolution studies of Mkn 3, Mkn 231, and Mkn 463", *AJ*, **96**, 841–850.
- Netzer, H. 1987. "The physics and the structure of AGN", in *NATO Adv. Sci. Ser., Math. Phys. Sci. 208: Astrophysical Jets And Their Engines*, ed. W. Kundt (Dordrecht: Reidel), 103–124.
- Neufeld, D. A., Maloney, P. R., & Conger, S. 1994. "Water maser emission from x-ray-heated circumnuclear gas in active galaxies", *ApJ*, **436**, L127–130.
- Newell, S. J., Spencer, R. E., & Garrett, M. A. 1997. "Merlin and VLBA observations of Cygnus X-3", *Vistas in Astronomy*, **41**, 57–63.
- Nilson, P. 1973. *Uppsala General Catalog of Galaxies* (Uppsala: Uppsala Astronomical Observatory).
- Noda, C., Endo, N., & Kizu, S. 1994. "D-6 standard TOSHIBA GBR-1000", in *Proc. of 1994 European SMPTE Conference*.
- Norris, R. P., Caswell, J. L., Wellington, K. J., McCutcheon, W. H., & Reynolds, J. E. 1988. "Milliarcsecond maps of 12 GHz methanol masers", *Nature*, **335**, 149–150.
- Norris, R. P., Kesteven, M. J., Wellington, K. J., & Batty, M. J. 1988. "The Parkes-Tidbinbilla interferometer", *ApJS*, **67**, 85–91.
- Norris, R. P., Whiteoak, J. B., Caswell, J. L., Wieringa, M. H., & Gough, R. G. 1993. "Synthesis images of 6.7 GHz methanol masers", *ApJ*, **412**, 222–232.
- Noszticzus I. 1994. "Status of the Space VLBI user assistance software being developed at the Satellite Geodetic Observatory, Hungary", in *Proc. 2nd EVN/JIVE Symposium*, eds. A. J. Kus, R. T. Schilizzi, K. M. Borkowski, & L. I. Gurvits (Torun: TRAO), 25–31.
- Nowak, M. A. 1994. "A kinematic model for black hole x-ray power spectra", *ApJ*, **422**, 688–699.
- O'Dea, C. P., Barvainis, R., & Challis, P. M. 1988. "Subarcsecond-resolution radio observations of sixteen core-dominated quasars and active galactic nuclei", *AJ*, **96**, 435–454.
- O'Dea, C. P. 1989. "Constraints on integrated nuclear rotation measures in core-dominated active galactic nuclei", *A&A*, **210**, 35–41.
- O'Dea, C. P., & Baum, S. A. 1997. "Constraints on radio source evolution from the compact steep spectrum and GHz peaked spectrum radio sources", *AJ*, **113**, 148–161.
- O'Dea, C. P., Baum, S. A., & Stanghellini, C. 1991. "What are the Gigahertz peaked spectrum radio sources?", *ApJ*, **380**, 66–77.
- Ogle, P. M., Cohen, M. H., Miller, J. S., Tran, H. S. Fosbury, R. A. E., & Goodrich, R. W. 1997. "Scattered nuclear continuum and broad H $\alpha$  in Cygnus A", *ApJ*, **482**, L37–40.
- Ogley, R. N., Bell-Burnell, S. J., & Newell, S. J. 1997. "Comments on the superluminal motion in Cygnus X-3", *MNRAS*, **285**, 187–190.
- Oke, J. B., Cohen, J. B., Carr, M., Cromer, J., Dingizian, A., Harris, F. H., Labrecque, S., Lucinio, R., Schaal, W., Epps, H., & Miller, J. 1995. "The Keck low-resolution imaging spectrometer", *PASP*, **107**, 375–385.
- Osterbrock, D. E. 1993. "The nature and structure of active galactic nuclei", *ApJ*, **404**, 551–562.
- Otterbein K., Krichbaum, T. P., Kraus, A., Lobanov, A., Witzel, A., Wagner, S. J., & Zensus, J. A. 1998. "Gamma-ray to radio activity and ejection of a VLBI component in the jet of the S5-quasar 0836+710", *A&A*, submitted.
- Padovani, P., & Urry, C. M. 1992. "Luminosity functions, relativistic beaming, and unified theories of high-luminosity radio sources", *ApJ*, **387**, 449–457.
- Paredes, J. M., Martí, J., Fabregat, J., Steele, I. A., Coe, M. J., Strickman, M. S., & Tavani, M. 1996. "VLA multiwavelength monitoring of LSI+61°303", in *ASP Conf. Ser. 93: Radio Emission from the Stars and the Sun*, eds. A. R. Taylor & J. M. Paredes (San Francisco: Astron. Soc. of the Pacific), 243–245.

- Paredes, J. M., Martí, J., Peracaula, M., & Ribó, M. 1997. "Evidence of x-ray periodicity in LSI+61°303", *A&A*, **320**, L25–28.
- Paredes, J. M., Peracaula, M., & Martí, J. 1996b. "Signatures of inverse Compton losses in the LSI+61°303 radio spectrum", in *Proceedings 2nd INTEGRAL Workshop*, ESA-SP382, 319–322.
- Parma, P., Morganti, R., Capetti, A., Fanti, R., & de Ruiter, H. R. 1993. "Polarization properties at 1.4 GHz of low luminosity radio galaxies", *A&A*, **267**, 31–38.
- Patnaik, A. R., Browne, I. W. A., Wilkinson, P. N., & Wrobel, J. M. 1992. "Interferometer phase calibration sources. I. The region  $35 < \delta < 75^\circ$ ", *MNRAS*, **254**, 655–676.
- Patnaik, A. R., Garrett, M. A., Polatidis, A., & Bagri, D. 1996. "A VLBA 15 GHz small separation gravitational lens survey", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 405–406.
- Patnaik, A. R., & Porcas, R. W. 1996. "Milliarcsecond structures in gravitationally lensed systems", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 305–310.
- Patnaik, A. R., Porcas, R. W., & Browne, I. W. A. 1995. "VLBA observations of the gravitational lens system B0218+357", *MNRAS*, **274**, L5–7.
- Patnaik, A. R., Browne, I. W. A., Walsh, D., Chaffee, F. H., & Foltz, C. B. 1992. "B1422+231: A new gravitationally lensed system at  $z=3.62$ ", *MNRAS*, **259**, 1P–4P.
- Pauliny-Toth, I. I. K., Porcas, R. W., Zensus, J. A., Kellermann, K. I., Wu, S. Y., Nicolson, G. D., & Mantovani, F. 1987. "Peculiar variations in the structure of the quasar 3C 454.3", *Nature*, **328**, 778–782.
- Pauliny-Toth, I. I. K., & Kellermann, K. I. 1966. "Variations in the radio-frequency spectra of 3C 84, 3C 273, 3C 279, and other radio sources", *ApJ*, **146**, 634–645.
- Peacock, J. A., & Wall, J. V. 1982. "Bright extragalactic radio sources at 2.7 GHz II. - Observations with the Cambridge 5-km telescope", *MNRAS*, **198**, 843–860.
- Pearson, T. J., & Readhead, A. C. S. 1981. "The milli-arcsecond structure of a complete sample of radio sources. I. VLBI maps of seven sources", *ApJ*, **248**, 61–81.
- Pearson, T. J., & Readhead, A. C. S. 1988. "The milli-arcsecond structure of a complete sample of radio sources. II. First-epoch maps at 5 GHz", *ApJ*, **328**, 114–142.
- Pearson, T. J. 1996. "Observations of parsec-scale jets", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 97–108.
- Pearson, T. J., Unwin, S. C., Cohen, M. H., Linfield, R. P., Readhead, A. C. S., Seielstad, G. A., Simon, R. S., & Walker, R. C. 1981. "Superluminal expansion of quasar 3C 273", *Nature*, **290**, 365–368.
- Pearson, T. J., & Readhead, A. C. S. 1984. "Image formation by self-calibration in radio astronomy", *ARA&A*, **22**, 97–130.
- Pedlar, A., Kukula, M. J., Longley, D. P. T., Muxlow, T. W. B., Axon, D. J., Baum, S., O'Dea, C., & Unger, S. W. 1993. "The radio nucleus of NGC 4151 at 5 and 8 GHz", *MNRAS*, **263**, 471–480.
- Pedlar, A., Howley, P., Axon, D. J., & Unger, S. W. 1992. "A neutral hydrogen study of NGC 4151", *MNRAS*, **259**, 369–380.
- Pedlar, A., Mundell, C. G., Gallimore, J. F., Baum, S. A., & O'Dea, C. P. 1996. "Neutral hydrogen absorption in the nucleus of NGC 3079", *Vistas in Astronomy*, **40**, 91–95.
- Penston, M. V., & Fosbury, R. A. E. 1978. "Spectrophotometry of three radio galaxies", *MNRAS*, **183**, 479–490.
- Perryman, M. A. C. 1989. "Hipparcos: Astrometry from space", *Nature*, **340**, 111–116.
- Phillips, R. B., & Mutel, R. L. 1980. "High resolution observations of the compact radio sources CTD 93 and 3C 395 at 1671 Megahertz", *ApJ*, **236**, 89–98.
- Phillips, R. B., & Mutel, R. L. 1982. "On symmetric structure in compact radio sources", *A&A*, **106**, 21–24.
- Phillips, R. B., & Shaffer, D. B. 1983. "VLBI maps of 3C 147, 3C 286, 3C 380, NRAO 150, CTD 93, and 3C 395 at 2.3 GHz", *ApJ*, **271**, 32–43.

- Pier, E. A., Antonucci, R. R. J., Hurt, T., Kriss, G., & Krolik, J. 1994. "The intrinsic nuclear spectrum of NGC 1068", *ApJ*, **428**, 124–129.
- Plait, P. C., Lundqvist, P., Chevalier, R. A., & Kirshner, R. P. 1995. "HST observations of the ring around SN 1987A", *ApJ*, **439**, 730–751.
- Plambeck, R. L., & Wright, M. C. H. 1987. "Aperture synthesis maps of HDO emission in Orion-KL", *ApJ*, **317**, L101–105.
- Plambeck, R. L., Wright, M. C. H., & Carlstrom, J. E. 1990. "Velocity structure of the Orion-IRc2 SiO maser—Evidence for an 80 au diameter circumstellar disk", *ApJ*, **348**, L65–68.
- Plambeck, R. L., & Menten, K. M. 1990. "95 GHz methanol masers near DR21 and DR21(OH)", *ApJ*, **364**, 555–560.
- Pohl, M., Reich, W., Schlickeiser, R., Reich, P., & Ungerechts, H. 1996. "Radio observations of the gamma-ray blazar Q 0528+139", *A&AS*, **120**, 529–532.
- Polatidis, A. G., Wilkinson, P. N., Xu, W., Readhead, A. C. S., Pearson, T. J., Taylor, G. B., & Vermeulen, R. C. 1995. "The first Caltech-Jodrell Bank VLBI survey. I.  $\lambda = 18$  centimeter observations of 87 sources", *ApJS*, **98**, 1–32.
- Polatidis, A. G., & Wilkinson, P. N. 1997. "Superluminal motion in the parsec-scale jet in 3C 380", *MNRAS*, in press.
- Pooley, G. G., & Fender, R. P. 1997. "The variable radio emission from GRS 1915+105", *MNRAS*, submitted.
- Pooley, G. G., & Green, D. A. 1993. "Ryle Telescope observations of SN 1993J at 15 GHz: The first 115 d", *MNRAS*, **264**, L17–20.
- Porcas, R. W. 1987. "Summary of known superluminal sources", in *Superluminal Radio Sources*, eds. J. A. Zensus & T. J. Pearson (Cambridge: Cambridge Univ. Press), 12–25.
- Porcas, R. W. 1994. "VLBI mapping of gravitational lens images: A wide-field imaging problem", in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 125–128.
- Porcas, R. W., Booth, R. S., Browne, I. W. A., Walsh, D., & Wilkinson, P. N. 1979. "VLBI observations of the double QSO, 0957+561 A,B", *Nature*, **282**, 385–386.
- Porcas, R. W., & Patnaik, A. R. 1995. "Gravitational lens image astrometry", in *Proc. 10th Working Meeting on European VLBI for Geodesy & Astrometry*, eds. R. Lanotte & G. Bianco (Matera: ASI), 188–192.
- Porcas, R. W., & Patnaik, A. R. 1996. "Multi-frequency VLBI observations of B0218+357", in *IAU Symp. 173: Astrophysical Applications of Gravitational Lensing*, eds. C. S. Kochanek & J. N. Hewitt (Dordrecht: Kluwer), 311–316.
- Porcas, R. W., & Patnaik, A. R. 1996. "Multi-frequency VLBI observations of the gravitational lens B0218+357", in *IAU Symp. 175: Extragalactic Radio Sources*, eds. R. Ekers, C. Fanti, & L. Padrielli (Dordrecht: Kluwer), 115–117.
- Preston, R. A., Jauncey, D. L., Meier, D. L., Tzioumis, A. K., Ables, J. G., Batchelor, R., Faulkner, J., Gates, J., Greene, B., Hamilton, P. A., Harvey, B. R., Haynes, R. F., Johnson, B., Lambeck, K., Louie, A. P., McCulloch, P. M., Moorey, G., Morabito, D. D., Nicolson, G. D., Niell, A. E., Robertson, J. G., Royle, G. R., Skjerve, L., Slade, M. A., Stee, O. B., Stolz, A., Watkinson, A., Wehrle, A. E., & Wright, A. E. 1989. "The southern hemisphere VLBI experiment", *AJ*, **98**, 1–26.
- Preston, R. A., Morabito, D. D., Williams, J. G., Faulkner, J., Jauncey, D. L., & Nicolson, G. D. 1985. "A VLBI survey at 2.29 GHz", *AJ*, **90**, 1599–1641.
- Preston, R. A., Tingay, S. J., Jauncey, D. L., Reynolds, J. E., Lovell, J. E. J., McCulloch, P. M., Tzioumis, A. K., Costa, M. E., Murphy, D. W., Meier, D. L., Jones, D. L., Clay, R. W., Edwards, P. G., Ellingsen, S. P., Ferris, R. H., Gough, R. G., Harbison, P., Jones, P. A., King, E. A., Kembell, A. J., Migenes, V., Nicolson, G. D., Sinclair, M. W., van Ommen, T. D., Wark, R. M., & White, G. L. 1996. "Monitoring the jet in Centaurus A at 0.1 parsec resolution", in *IAU Symp. 175: Extragalactic Radio Sources*, eds. R. Ekers, C. Fanti, & L. Padrielli (Dordrecht: Kluwer), 21–22.
- Preston, R. A., Wehrle, A. E., Morabito, D. D., Jauncey, D. L., Batty, M. J., Haynes, R. F., Wright, A. E., & Nicolson, G. D. 1983. "VLBI observations of the nucleus of Centaurus A", *ApJ*, **266**, L93–96.

- Preuss, E., Alef, W., Wu, S. Y., Qiu, Y. H., Qian, Z. H., Kellermann, K. I., Matveenko, L., & Götz, M. A. 1990. "3C111 and 3C390.3: Beaming in nearby radio galaxies", in *Parsec-Scale Radio Jets*, eds. J. A. Zensus & T. J. Pearson (Cambridge: Cambridge Univ. Press), 120–124.
- Preuss, E., Alef, W., & Kellermann, K. I. 1988. "Superluminal behaviour of the double-lobed radio galaxy 3C111", in *IAU Symp. 129: The Impact of VLBI on Astrophysics and Geophysics*, eds. M. J. Reid & J. M. Moran (Dordrecht: Kluwer), 105–106.
- Prieto, M. A., & Freudling, W. 1996. "The relation between the neutral and the ionized gas in NGC5252", *MNRAS*, **279**, 63–71.
- Punch, M., Akerlof, C. W., Cawley, M. F., Chantell, M., Fegan, D. J., Fennell, S., Gaidos, J. A., Hagan, J., Hillas, A. M., Jiang, Y., Kerrick, A. D., Lamb, R. C., Lawrence, M. A., Lewis, D. A., Meyer, D. I., Mohanty, G., O'Flaherty, K. S., Reynolds, P. T., Rovero, A. C., Schubnell, M. S., Sembroski, G., Weekes, T. C., Whitaker, T., & Wilson, C. L. 1991. "Detection of TeV photons from the active galaxy Markarian 421", *Nature*, **358**, 477–478.
- Qian, S. J. 1997. "A model for the spectral evolution of the optical and radio outbursts in blazars", *Acta Astron. Sinica*, **38**, 239–249.
- Qian, S. J., Quirrenbach, A., Witzel, A., Krichbaum, T. P., Hummel, C. A., & Zensus, J. A. 1991. "A model for the rapid radio variability in the quasar 0917+624", *A&A*, **241**, 15–21.
- Qian, S. J., Witzel, A., Britzen, S., Krichbaum, T. P., & Kraus, A. 1996. "A burst-injection model for the spectral evolution of superluminal radio knots", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 61–66.
- Quirrenbach, A., Witzel, A., Krichbaum, T. P., Hummel, C. A., Alberdi, A., & Schalinski, C. J. 1989. "Rapid variability of extragalactic radio sources", *Nature*, **337**, 442–444.
- Quirrenbach, A., Witzel, A., Krichbaum, T. P., Hummel, C. A., Wegner, R., Schalinski, C. J., Ott, M., Alberdi, A., & Rioja, M. 1992. "Statistics of intraday variability in extragalactic radio sources", *A&A*, **258**, 279–284.
- Quirrenbach, A., Witzel, A., Qian, S. J., Krichbaum, T., Hummel, C. A., & Alberdi, A. 1989. "Rapid radio polarization variability in the quasar 0917+624", *A&A*, **226**, L1–4.
- Quirrenbach, A., Witzel, A., Wagner, S. J., Sánchez-Pons, F., Krichbaum, T. P., Wegner, R., Anton, K., Erkens, U., Haehnelt, M., Zensus, J. A., & Johnston, K. J. 1991. "Correlated radio and optical variability in the BL Lacertae object 0716+714", *ApJ*, **372**, L71–74.
- Radhakrishnan, V., & Cooke, D. J. 1969. "Magnetic poles and the polarization of pulsar radiation", *Astrophys. Lett.*, **3**, 225–229.
- Ransom, R. R., Bartel, N., Bietenholz, M. F., Lebach, D. E., Ratner, M. I., Shapiro, I. I., & Lestrade, J.-F. 1996. "VLBI mapping of candidate guide stars and their astrometric reference sources for the NASA/Stanford Gravity Probe-B Mission", *BAAS*, **28**, 1418.
- Ransom, R. R., Bartel, N., Bietenholz, M. F., Ratner, M. I., Shapiro, I. I., Lebach, D. E., & Lestrade, J.-F. 1996. "VLBI of the candidate guide star HR 5110 for NASA's Gravity Probe-B Mission", *JRASC*, **90**, 318.
- Rantakyrö, F. T., Bååth, L. B., Dalacassa, D., Jones, D. L., & Wehrle, A. E. 1996. "Multiband VLBI observations of CTA 102", *A&A*, **310**, 66–74.
- Rantakyrö, F. T., Bååth, L. B., & Matveenko, L. I. 1995. "Multiband VLBI imaging of the jet in 3C345", *A&A*, **293**, 44–55.
- Ratner, M. I., Lebach, D. E., Shapiro, I. I., & Bartel, N. 1996. "The guide star for the Gyroscope Relativity Mission", in *Proc. of the Seventh Marcel Grossmann Meeting on General Relativity*, eds. R. T. Jantzen & G. M. Keiser (Singapore: World Scientific), 1553–1554.
- Readhead, A. C. S. 1994. "Equipartition brightness temperature and the inverse Compton catastrophe", *ApJ*, **426**, 51–59.
- Readhead, A. C. S., Taylor, G. B., Pearson, T. J., & Wilkinson, P. N. 1996. "Compact symmetric objects and the evolution of powerful extragalactic radio sources", *ApJ*, **460**, 634–643.

- Readhead, A. C. S., Taylor, G. B., Xu, W., Pearson, T. J., Wilkinson, P. N., & Polatidis, A. G. 1996. "The statistics and ages of compact symmetric objects", *ApJ*, **460**, 612–633.
- Rees, M. J. 1987. "Magnetic confinement of broad-line clouds in active galactic nuclei", *MNRAS*, **228**, 47P–50P.
- Refsdal, S., 1964. "On the possibility of determining Hubble's parameter and the masses of galaxies from the gravitational lens effect", *MNRAS*, **128**, 307–310.
- Reid, M. J., Haschick, A. D., Burke, B. F., Moran, J. M., Johnston, K. J., & Swenson, G. W. 1980. "The structure of interstellar hydroxyl masers: VLBI synthesis observations of W3(OH)", *ApJ*, **239**, 89–111.
- Reid, M. J., & Moran, J. M., eds. 1988. *IAU Symp. 129: The Impact of VLBI on Astrophysics and Geophysics* (Dordrecht: Kluwer).
- Reid, M. J., Schneps, M. H., Moran, J. M., Gwinn, C. R., Genzel, R., Downes, D., & Rönnäng, B. 1988. "The distance to the center of the Galaxy: H<sub>2</sub>O maser proper motions in Sagittarius B2(N)", *ApJ*, **330**, 809–816.
- Reuter, H.-P., Kramer, C., Sievers, A., Paubert, G., Moreno, R., Greve, A., Leon, S., Panis, J. F., Ruiz-Moreno, M., Ungerechts, H., & Wild, W. 1997. "Millimeter continuum measurements of extragalactic radio sources. IV. Data from 1993–1994", *A&AS*, **122**, 271–276.
- Reynolds, J. E., Jauncey, D. L., Staveley-Smith, L., Tzioumis, A. K., de Vegt, C., Zacharias, N., Peeryman, M. A. C., van Leeuwen, F., King, E. A., McCullough, P. M., Russell, J. L., Johnston, K. J., Hindsley, R., Malin, D. F., Argue, A. N., Manchester, R. N., Kesteven, M. J., White, G. L., & Jones, P. A. 1995. "Accurate registration of radio and optical images of SN 1987A", *A&A*, **304**, 116–120.
- Richer, J. S., Padman, R., Ward-Thompson, D., Hills, R. E., & Harris A. I. 1993. "The molecular environment of S106 IR", *MNRAS*, **262**, 839–854.
- Rickett, B. J. 1986. "Refractive interstellar scintillation of radio sources", *ApJ*, **307**, 564–574.
- Rickett, B. J. 1990. "Radio propagation through the turbulent interstellar plasma", *ARA&A*, **28**, 561–605.
- Rickett, B. J., Coles, W. A., & Bourgois, G. 1984. "Slow scintillation in the interstellar medium", *A&A*, **134**, 390–395.
- Rickett, B. J., Quirrenbach, A., Wegner, R., Krichbaum, T. P., & Witzel, A. 1995. "Interstellar scintillation of the radio source 0917+624", *A&A*, **293**, 479–492.
- Riley, J. M. 1993. "Radio variability in a complete sample of extragalactic sources at 151 MHz", *MNRAS*, **260**, 893–902.
- Rioja, M. J., Marcaide, J. M., Elósegui, P., & Shapiro, I. I. 1997. "Results from a decade-long VLBI astrometric monitoring of the pair of quasars 1038+528 A and B", *A&A*, **325**, 383–390.
- Roberts, D. H., Gabuzda, D. C., & Wardle, J. F. C. 1987. "Linear polarization structure of the BL Lacertae object OJ 287 at milliarcsecond resolution", *ApJ*, **323**, 536–541.
- Roberts, D. H., Wardle, J. F. C., Brown, L. F. 1994. "Linear polarization radio imaging at milliarcsecond resolution", *ApJ*, **427**, 718–744.
- Rodríguez, L. F., Gerard, E., Mirabel, I. F., Gómez, Y., Velázquez, A. 1995. "Radio monitoring of GRS 1915+105", *ApJS*, **101** 173–179.
- Rodríguez, L. F., & Mirabel, I. F. 1997. "Fast sinusoidal oscillations in the radio flux of GRS 1915+105", *ApJ*, **474**, L123–126.
- Rogers, A. E. E. 1970. "Very long baseline interferometry with large effective bandwidth for phase-delay measurements", *Radio Sci.*, **5**, 1239–1247.
- Rogers, A. E. E., Cappallo, R. J., Hinteregger, H. F., Levine, J. I., Nesman, E. F., Webber, J. C., Whitney, A. R., Clark, T. A., Ma, C., Ryan, J., Corey, B. E., Counselman, C. C., Herring, T. A., Shapiro, I. I., Knight, C. A., Shaffer, D. B., Vandenberg, N. R., Lacasse, R., Mauzy, R., Rayhrer, B., Schupler, B. R., & Pigg, J. C. 1983. "Very-long-baseline radio interferometry: The Mark III system for geodesy, astrometry, and aperture synthesis", *Science*, **219**, 51–54.
- Rogers, A. E. E., Doeleman, S. S., & Moran, J. M. 1995. "Fringe detection methods for very long baseline arrays", *AJ*, **109**, 1391–1401.

- Rogers, A. E. E., Hinteregger, H. F., Whitney, A. R., Counselman, C. C., Shapiro, I. I., Wittels, J. J., Klemperer, W. K., Warnock, W. W., Clark, T. A., Hutton, L. K., Marandino, G. E., Rönnäng, B. O., Rydbeck, O. E. H., & Niell, A. E. 1974. "The structure of radio sources 3C 273B and 3C 84 deduced from the 'closure' phases and visibility amplitudes observed with three-element interferometers", *ApJ*, **193**, 293–301.
- Rogstad, D. H., Wright, M. C. H., & Lockhart, I. A. 1976. "Aperture synthesis of neutral hydrogen in the galaxy M33", *ApJ*, **204**, 703–716.
- Roland, J., Teyssier, R., & Roos, N. 1994. "On the origin of the variability of superluminal radio sources similar to 3C 273", *A&A*, **290**, 357–363.
- Romney, J. D., Benson, J. M., Dhawan, V., Kellermann, K. I., Vermeulen, R. C., & Walker, R. C. 1995. "Structure and evolution of the compact radio source in NGC 1275", *Proc. Natl. Acad. Sci. USA*, **92**, 11360–11363.
- Roy, A. L., Norris, R. P., Kesteven, M. J., Troup, E. R., & Reynolds, J. E. 1994. "Compact radio cores in Seyfert galaxies", *ApJ*, **432**, 496–507.
- Ruderman, M. A., & Sutherland, P. G. 1975. "Theory of pulsars—Polar caps, sparks, and coherent microwave emission", *ApJ*, **196**, 51–72.
- Rudnick, L., & Jones, T. W. 1983. "Rotation measures for compact variable radio sources", *AJ*, **88**, 518–526.
- Rupen, M. P., Conway, J. E., Beasley, A. J., Bartel, N., Bietenholz, M. E., Sramek, R. A., Romney, J. D., Titus, M. A., Graham, D. A., Altunin, V. I., Jones, D. L., Rius, A., Venturi, T., Umama, G., Weiler, K., van Dyk, S. D., Panagia, N., Cannon, W. H., Popelar, J., & Davis, R. J. 1994. "VLBI observations of supernova 1993J in M81: Shape, expansion, and distance", in *Compact Extragalactic Radio Sources*, eds. J. A. Zensus & K. I. Kellermann (Green Bank: NRAO), 103–108.
- Rusk, R. 1988. "Brightness and polarization structure of compact radio sources", PhD Thesis, University of Toronto.
- Saikia, D. J. 1991. "Preliminary results from a sample of compact steep spectrum sources selected at 5 GHz", in *Compact Steep Spectrum and GHz-Peaked Spectrum Radio Sources*, eds. C. Fanti, R. Fanti, C. P. O'Dea, & R. T. Schilizzi (Bologna: CNR), 12–16.
- Saikia, D. J. 1995. "Compact steep-spectrum sources and the unified scheme", *Proc. Natl. Acad. Sci. USA*, **92**, 11417–11421.
- Saikia, D. J., Jeyakumar, S., Wiita, P. J., & Hooda, J. S. 1996. "The evolution and polarization characteristics of CSS objects", in *The Second Workshop on GPS and CSS Radio Sources*, eds. I. A. G. Snellen, R. T. Schilizzi, H. J. A. Röttgering, & M. N. Bremer (Leiden: Leiden Obs.), 252–262.
- Saikia, D. J., Jeyakumar, S., Wiita, P. J., Sanghera, H. S., & Spencer, R. E. 1995. "Compact steep spectrum radio sources and unification scheme", *MNRAS*, **276**, 1215–1223.
- Salpeter, E. E. 1967. "Interplanetary scintillations. 1. Theory", *ApJ*, **147**, 433–454.
- Sambruna, R. M., Maraschi, L., & Urry, C. M. 1996. "On the the spectral energy distribution of blazars", *ApJ*, **463**, 444–465.
- Sandage, A., & Tammann, G. A. 1981. *A Revised Shapley-Ames Catalog of Bright Galaxies* (Washington: Carnegie Institution of Washington).
- Sanghera, H. S., Saikia, D. J., Lüdke E., Spencer, R. E., Foulsham, P. A., Akujor, C. E., & Tzioumis, A. K. 1995. "High-resolution radio observations of compact steep spectrum sources", *A&A*, **295**, 629–645.
- Sardón, E., Rius, A., & Zarraoa, N. 1994. "Estimation of the transmitter and receiver differential biases and the ionospheric total electron content from Global Positioning System observations", *Radio Sci.*, **29**, 577–586.
- Savage, A. 1976. "Identification of southern radio sources", *MNRAS*, **174**, 259–265.
- Savage, A., Bolton, J. G., & Wright, A. E. 1976. "Identification of southern radio sources II", *MNRAS*, **175**, 517–523.
- Savage, B. D., Sembach, K. R., & Lu, L. 1995. "Probing the Galactic disk and halo. III. The Galactic and intergalactic sight line to H1821+643", *ApJ*, **449**, 145–155.
- Schalinski, C. J., Johnston, K. J., Witzel, A., Spencer, R. E., Fiedler, R., Waltman, E., Pooley, G. G., Hjellming, R., & Molnar, L. A. 1996. "VLBI observations of Cygnus X-3 during the 1983 October radio outburst", *ApJ*, **447**, 752–759.

- Schaper, L. W., Staelin, D. H., & Waters, J. W. 1970. "The estimation of tropospheric electrical path length by microwave radiometry", *Proc. IEEE*, **58**, 272–273.
- Schechter, P., Bailyn, C. D., Barr, R., Barvainis, R., Becker, C. M., Bernstein, G. M., Blakeslee, J. P., Bus, S. J., Dressler, A., Falco, E. E., Fesen, R. A., Fischer, P., Gebhardt, K., Harmer, D., Hewitt, J. N., Hjorth, J., Hurt, T., Jaunsen, A. O., Mateo, M., Mehlert, D., Richstone, D. O., Sparke, L. S., Thorstensen, J. R., Tonry, J. L., Wegner, G., Willmarth, D. W., & Worthey, G. 1997. "The quadruple gravitational lens PG1115+080: Time delays and models", *ApJ*, **475**, L85–88.
- Scheuer, P. A. G. 1974. "Models of extragalactic radio sources with a continuous energy supply from a central object", *MNRAS*, **166**, 513–528.
- Schilizzi, R. T. 1986. "Very long baseline interferometry", *Radio Sci.*, **21**, 665–679.
- Schilizzi, R. T., & Burke, B. F., eds. 1984. *Quasat—A VLBI observatory in space*, Proc. ESA Workshop SP-213, Gross Enzersdorf.
- Seaquist E.R., & Bell, M.B. 1990. "Molecular absorption by the dust lane and nuclear region of Centaurus A", *ApJ*, **364**, 94–99.
- Serabyn, E., Güsten, R., & Schulz, A. 1993. "Fragmentation and kinematics of the W49 N cloud core", *ApJ*, **413**, 571–581.
- Shaffer D.B. 1984. "VLBI Geodesy—Techniques and recent results", in *IAU Symp. 110: VLBI And Compact Radio Sources*, eds. R. Fanti, K. Kellermann, & G. Setti (Dordrecht: Reidel), 365–374.
- Shakura, N. I., & Sunyaev, R. A. 1973. "Black holes in binary systems. Observational appearance", *A&A*, **24**, 337–355.
- Shapiro, I. I., Wittels, J. J., Counselman III, C. C., Robertson, D. S., Whitney, A. R., Hinteregger, H. F., Knight, C. A., Rogers, A. E. E., Clark, T. A., Hutton, L. K., & Niell, A. E. 1979. "Submilliarcsecond astrometry via VLBI. I. Relative position of the radio sources 3C 345 and NRAO 512", *AJ*, **84**, 1459–1469.
- Shapirovskaia, N. Ya. 1978. "Variability of extragalactic decimeter radio sources", *Soviet Ast.*, **22**, 544–547.
- Shepherd, M. C., Pearson T. J., & Taylor, G. B. 1994. "Difmap: An interactive program for synthesis imaging", *BAAS*, **26**, 987–989.
- Shklovskii, I. S. 1960. "Secular variation of the flux and intensity of radio emission from discrete sources", *Soviet Ast.*, **4**, 243–249.
- Shu, F. H., Lizano, S., Ruden, S. P., & Najita, J. 1988. "Mass loss from rapidly rotating magnetic protostars", *ApJ*, **328**, L19–23.
- Sikora, M., Begelman, M. C., & Rees, M. J. 1994. "Comptonization of diffuse ambient radiation by a relativistic jet: The source of gamma rays from blazars?", *ApJ*, **421**, 153–162.
- Sillanpää, A., Haarala, S., Valtonen, M. J., Sundelius, B., & Byrd, G. G. 1988. "OJ287: Binary pair of supermassive black holes", *ApJ*, **325**, 628–634.
- Sivagnanam, P., Diamond, P. J., Le Squeren, A. M., & Biraud, F. 1990. "Main line OH hot spots in the circumstellar envelope of U Herculius", *Å*, **229**, 171–176.
- Sjouwerman, L. O., van Langevelde, H. J., Winnberg, A., & Habing, H. J. 1997. "A new sample of OH/IR stars in the Galactic center", *Acta Astron. Sinica*, in press.
- Slee, O. B., Sadler, E. M., Reynolds, J. E., & Ekers, R. D. 1994. "Parsec-scale radio cores in early-type galaxies", *MNRAS*, **269**, 928–946.
- Slysh, V. I. 1992. "The synchro-Compton limit of the brightness temperature of nonstationary radio sources", *ApJ*, **391**, 453–455.
- Snellen, I. A. G., Schilizzi, R. T., de Bruyn, A. G., Miley, G. K., Bremer, M. N., & Röttgering, H. J. A. 1996. "A population study of faint gigahertz peaked spectrum sources from WENSS", in *The Second Workshop on GPS and CSS Radio Sources*, eds. I. A. G. Snellen, R. T. Schilizzi, H. J. A. Röttgering, & M. N. Bremer (Leiden: Leiden Obs.), 28–37.
- Snellen, I. A. G., Zhang, M., Schilizzi, R. T., Röttgering, H., de Bruyn, A. G., & Miley, G. K. 1995. "Faint radio sources with peaked spectra I. VLA observations of a new sample with intermediate flux densities", *A&A*, **300**, 359–365.
- Sofue, Y., & Irwin, J. A. 1992. "High-resolution CO observations of the radio-lobe edge-on galaxy NGC 3079", *PASJ*, **44**, 353–365.

- Sol, H., Pelletier, G., & Asséo, E. 1989. "Two-flow model for extragalactic radio jets", *MNRAS*, **237**, 411–429.
- Sood, R. K., Durouchoux, Ph., Campbell-Wilson, D., Vilhu, O., & Wallyn, P. 1997. "Radio and x-ray observations of GX 339-4", in *The Transparent Universe*, ESA SP-382, 201–204.
- Sorathia, B., Bartel, N., Bietenholtz, M. F., & Carilli, C. L. 1996. "The parsec-scale jet and counterjet in Cygnus A", in *Cygnus A—Study of a Radio Galaxy*, eds. C. L. Carilli & D. E. Harris (Cambridge: Cambridge Univ. Press), 86–97.
- Spencer, R. E., Schilizzi, R. S., Fanti, C., Fanti, R., Parma, P., van Breugel, W. J. M., Venturi, T., Muxlow, T. W. B., & Rendong, N. 1991. "High-resolution observations of eight 3CR compact steep spectrum radio sources", *MNRAS*, **250**, 225–240.
- Standke, K. J., Quirrenbach, A., Krichbaum, T. P., Witzel, A., Otterbein, K., Alef, W., Eckart, A., Alberdi, A., Marcaide, J. M., Ros, E., Lesch, H., Steffen, W., Kraus, A., & Zensus, J. A. 1996. "The intraday variable quasar 0917+624: VLBI and x-ray observations", *A&A*, **306**, 27–38.
- Stanghellini, C., Dallacasa, D., O'Dea, C. P., Baum, S. A., Fanti, R., & Fanti, C. 1996. "VLBI morphology of GHz peaked spectrum radio sources", in *The Second Workshop on GPS and CSS Radio Sources*, eds. I. A. G. Snellen, R. T. Schilizzi, H. J. A. Röttgering, & M. N. Bremer (Leiden: Leiden Obs.), 4–13.
- Steppe, H., Liechti, S., Mauersberger, R., Kömpe, C., Brunswig, W., & Ruiz-Moreno, M. 1992. "Millimeter continuum measurements of extragalactic radio sources. II", *A&AS*, **96**, 441–475.
- Steppe, H., Paubert, G., Sievers, A., Reuter, H.-P., Greve, A., Liechti, S., Le Floch, B., Brunswig, W., Menéndez, C., & Sánchez, S. 1993. "Millimeter continuum measurements of extragalactic radio sources. III", *A&AS*, **102**, 611–635.
- Steppe, H., Salter, C. J., Chini, R., Kreysa, E., Brunswig, W., & Lobato Pérez, J. 1988. "Millimeter continuum measurements of extragalactic radio sources", *A&AS*, **75**, 317–351.
- Stewart, R. T., Caswell, J. L., Haynes, R. F., & Nelson G. J. 1993. "Circinus X-1: A runaway binary with curved radio jets", *MNRAS*, **261**, 593–598.
- Stickel, M., Fried, J., & Kühr, H. 1993. "The complete sample of 1 Jy BL Lac objects. II—Observational data", *A&AS*, **98**, 393–442.
- Stickel, M., & Kühr, H. 1994. "An update of optical identification status of the S4 radio source catalogue", *A&AS*, **103**, 349–363.
- Stone, J. M., & Norman, M. L. 1992. "ZEUS-2D: A radiation magnetohydrodynamics code for astrophysical flows in two space dimensions. I. The hydrodynamical algorithms and tests", *ApJS*, **80**, 753–790.
- Storchi-Bergmann, T., Eracleous, M., Livio, M., Wilson, A. S., Filippenko, A. V., & Halpern, J. P. 1995. "The variability of the double-peaked Balmer lines in the active nucleus of NGC 1097", *ApJ*, **443**, 617–624.
- Sugitani, K., Fukui, Y., Mizuno, A., & Ohashi, N. 1989. "Star formation in bright-rimmed globules—Evidence for radiation-driven implosion", *ApJ*, **342**, L87–90.
- Suzuki, T., & Nomoto, K. 1995. "X-rays from SN 1993J and structures of ejecta and circumstellar medium", *ApJ*, **455**, 658–669.
- Tacconi, L. J., Genzel, R., Blietz, M., Cameron, M., Harris, A. J., & Madden, S. 1994. "The nature of the dense obscuring material in the nucleus of NGC 1068", *ApJ*, **426**, L77–80.
- Tadhunter, C. N., Dickson, R., Morganti, R., & Villar-Martin, M. 1997. "The nature of the UV excess", in *ESO-IAC Workshop on Quasar Hosts*, eds. Clements et al., in press.
- Tadhunter, C. N., Morganti, R., di Serego Alighieri, S., Fosbury, R. A. E., & Danziger, I. J. 1993. "Optical spectroscopy of a complete sample of southern 2-Jy radio sources", *MNRAS*, **263**, 999–1022.
- Takahashi, T., Kubo, H., Madejski, G., & Tashiro, M. 1997. "ASCA observations of blazars and multiband analysis", in *The Fourth Compton Symposium*, eds. C. D. Dermer & J. D. Kurfess (New York: Amer. Inst. of Physics), in press.
- Tarter, J. 1996. "Project Phoenix: The Australian deployment", in *The Search for Extraterrestrial Intelligence (SETI) in the Optical Spectrum II*, eds. S. A. Kingsley & G. A. Lemarchand, Proc. SPIE, **2704**, 24–34.

- Taylor, A. R., & Gregory, P. C. 1984. "Two-frequency radio spectra during an outburst of the periodic radio star LSI+61°303", *ApJ*, **283**, 273–278.
- Taylor, G. B., Ge, J.-P., & O'Dea, C. P. 1995. "High Faraday rotation measures of the steep spectrum quasar 3C216", *AJ*, **110**, 522–528.
- Taylor, G. B., Barton, E. J., & Ge, J.P. 1994. "Searching for cluster magnetic fields in the cooling flows of 0745–191, A 2029, and A 4059", *AJ*, **107**, 1942–1952.
- Taylor, G. B., Inoue, M., & Tabara, H. 1992. "Anomalous rotation measures of the compact steep spectrum source 3C318", *A&A*, **264**, 421–427.
- Taylor, G. B., & Perley, R. A. 1993. "Magnetic fields in the Hydra A cluster", *ApJ*, **416**, 554–562.
- Taylor, G. B., Perley, R. A., Inoue, M., Kato, T., Tabara, H., & Aizu, K. 1990. "VLA observations of the radio galaxy Hydra A (3C218)", *ApJ*, **360**, 41–54.
- Taylor, G. B., Readhead, A. C. S., & Pearson, T. J. 1996. "Pinpointing the center of activity in compact symmetric objects. I. Sources from the Pearson-Readhead survey", *ApJ*, **463**, 95–104.
- Taylor, G. B., Vermeulen, R. C., & Pearson, T. J. 1995. "Bidirectional motion observed in the compact symmetric object 1946+708", *Proc. Natl. Acad. Sci. USA*, **92**, 11381–11384.
- Taylor, G. B., Vermeulen, R. C., Pearson, T. J., Readhead, A. C. S., Henstock, D. R., Browne, I. W. A., & Wilkinson, P. N. 1994. "The second Caltech-Jodrell Bank VLBI survey. I. Observations of 91 of 193 sources", *ApJS*, **95**, 345–369.
- Taylor, G. B., Vermeulen, R. C., Readhead, A. C. S., Pearson, T. J., Henstock, D. R., & Wilkinson, P. N. 1996. "A complete flux-density limited VLBI survey of 293 flat-spectrum radio sources", *ApJS*, **107**, 37–68.
- Taylor, G. B., Wrobel, J. M., & Vermeulen, R. C. 1998. "Discovery of twin relativistic jets in the nearby E/S0 galaxy NGC3894", *ApJ*, in press.
- Taylor, G. B., & Vermeulen, R. C. 1997. "Bidirectional relativistic jets in the radio galaxy 1946+708: Constraints on the Hubble constant", *ApJ*, **485**, L9–12.
- Taylor, J. H., & Cordes, J. M. 1993. "Pulsar distances and the Galactic distribution of free electrons", *ApJ*, **411**, 674–684.
- Thakkar, D. D., Xu, W., Readhead, A. C. S., Pearson, T. J., Taylor, G. B., Vermeulen, R. C., Polatidis, A. G., & Wilkinson, P. N. 1995. "The first Caltech-Jodrell Bank VLBI survey. II. 18 cm observations of 25 sources", *ApJS*, **98**, 33–40.
- Thompson, A. R., Moran, J. M., & Swenson, G. W. 1986. *Interferometry and Synthesis in Radio Astronomy* (New York: Wiley).
- Thompson, D. J., Bertsch, D. L., Dingus, B. L., Esposito, J. A., Etienne, A., Fichtel, C. E., Friedlander, D. P., Hartman, R. C., Hunter, S. D., Kendig, D. J., Mattox, J. R., McDonald, L. M., von Montigny, C., Mukherjee, R., Ramanamurthy, P. V., Sreekumar, P., Fierro, J. M., Lin, Y. C., Michelson, P. F., Nolan, P. L., Shriver, S. K., Willis, T. D., Kanbach, G., Mayer-Hasselwander, H. A., Merck, M., Radecke, H.-D., Kniffen, D. A., & Schneid, E. J. 1995. "The second EGRET source catalog of high-energy gamma-ray sources", *ApJS*, **101**, 259–286.
- Thompson, D. J., Bertsch, D. L., Dingus, B. L., Esposito, J. A., Etienne, A., Fichtel, C. E., Friedlander, D. P., Hartman, R. C., Hunter, S. D., Kendig, D. J., Mattox, J. R., McDonald, L. M., Mukherjee, R., Ramanamurthy, P. V., Sreekumar, P., von Montigny, C., Fierro, J. M., Jones, B. B., Lin, Y. C., Michelson, P. F., Nolan, P. F., Tompkins, W., Willis, T. D., Kanbach, G., Mayer-Hasselwander, H. A., Merck, M., Pohl, M., Kniffen, D. A., & Schneid, E. J. 1996. "The supplement to the second EGRET catalog of high-energy gamma-ray sources", *ApJS*, **107**, 227–237.
- Tikhonov A. N., Vitkevitch V. V., Artjukh V. S., Glasko, V. B., Goncharskii, & Yagola, A. G. 1969. "Reconstruction of the radio-brightness distribution over a source", *Soviet Ast.*, **13**, 374–380.
- Tingay, S. J., Jauncey, D. L., Preston, R. A., Reynolds, J. E., Meier, D. L., Tzioumis, A. K., Jones, D. L., King, E. A., Amy, S. W., Biggs, J. D., Blair, D. G., Campbell-Wilson, D., Clay, R. W., Costa, M. E., Edwards, P. G., Ferris, R. H., Gough, R. G., Harbison, P., Hoard, D. W., Jones, P. A., Lovell, J. E., Kemball, A. J., McAdam, W. B., MacCleod, G., McCulloch, P. M., Migennes, V., Murphy, D. W., Nicolson, G. D., Quick, J. F. H.,

- Sinclair, M. W., Skjerve, L., St John, M. E., Van Ommen, T., Wark, R. M., & White, G. L. 1994. "Centaurus A, the core of the problem", *Aust. J. Phys.*, **47**, 619–624.
- Tingay, S. J., Jauncey, D. L., Reynolds, J. E., Tzioumis, A. K., King, E. A., Preston, R. A., Meier, D. L., Murphy, D. W., Jones, D. L., McCulloch, P. M., Lovell, J. E. J., Costa, M. E., & Nicolson, G. D. 1996. "Sub-parsec-scale structure and evolution of the Centaurus A radio jet", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 215–219.
- Tingay, S. J. 1996. "Structure and evolution in nearby compact radio sources", PhD Thesis, Australian National University.
- Tingay, S. J., Edwards, P. G., Costa, M. E., Lovell, J. E. J., McCulloch, P. M., Jauncey, D. L., Reynolds, J. E., Tzioumis, A. K., Migenes, V., Gough, R., King, E. A., Jones, D. L., Preston, R. A., Murphy, D. W., Meier, D. L., van Ommen, T. D., St John, M., Hoard, D. W., Nicolson, G. D., Wan, T.-S., & Shen, Z.-Q. 1996. "VLBI observations of southern EGRET identifications I. PKS 0208–512, PKS 0521–365, and PKS 0537–44", *ApJ*, **464**, 170–176.
- Tran, H. D., Cohen, M. H., & Goodrich, R. W. 1995. "Keck spectropolarimetry of the radio galaxy 3C 234", *AJ*, **110**, 2597–2604.
- Tribble, P. C. 1993. "Radio spectral ageing in a random magnetic field", *MNRAS*, **261**, 57–62.
- Tribble, P. C. 1994. "The use of the colour-colour plot in the analysis of radio synchrotron spectra", *MNRAS*, unpublished preprint.
- Tsuboi, M., Handa, T., Inoue, M., Ukita, N., & Takano, T. 1988. "Radio continuum observations fo the Galactic center at 91 GHz", *PASJ*, **40**, 665–672.
- Tsuru, T., Makishima, K., Ohashi, T., Inoue, H., Koyama, K., Turner, M. J. L., Barstow, M. A., McHardy, I. M., Pye, J. P., Tsunemi, H., Kitamoto, S., Taylor, A. R., & Nelson, R. F. 1989. "X-ray and radio observations of flares from the RS Canum Venaticorum system UX Arietis", *PASJ*, **41**, 679–695.
- Turlo, Z., Forkert, T., Sieber, W., & Wilson, W. 1985. "Calibration of the instrumental polarization of radio telescopes", *A&A*, **142**, 181–188.
- Turneare, J. P., Everitt, C. W. F., & Parkinson, B. W. 1986. "The Gravity Probe-B relativity gyroscope experiment: Approach to a flight mission", in *Proc. of the Fourth Marcel Grossmann Meeting on General Relativity*, ed. R. Ruffini (Amsterdam: North-Holland), 411–463.
- Tzioumis, A. K., Jauncey, D. L., Preston, R. A., Meier, D. L., Nicolson, G. D., Batchelor, R., Gates, J., Hamilton, P. A., Harvey, B. R., Haynes, R. F., Johnson, B., McCulloch, P. M., Moorey, G. G., Morabito, D. D., Niell, A. E., Robertson, J. G., Royle, G. W. R., Skjerve, L., Slade, M. A., Slee, O. B., Watkinson, A., Wehrle, A. E., & Wright, A. E. 1989. "VLBI observations at 2.3 GHz of the compact galaxy 1934–638", *AJ*, **98**, 36–43.
- Uchida, Y., & Sakurai, T. 1983. "Interacting magnetospheres in RSCVn binaries: Coronal heating and flares", in *Activity in Red Dwarf Stars*, eds. P. B. Byrne & M. Rodonò (Dordrecht: Reidel), 629–632.
- Udomprasert, P. S., Taylor, G. B., Pearson, T. J., & Roberts, D. H. 1997. "Evidence for ordered magnetic fields in the quasar environment", *ApJ*, **483**, L9–12.
- Ueno, S., Koyama, K., Nishida, M., Yamauchi, S., & Ward, M. J. 1994. "X-ray observations of Cygnus A using the GINGA satellite", *ApJ*, **431**, L1–4.
- Ulvestad, J. S., Gurvits, L. I., & Linfield, R. P. 1997. "A high sensitivity second generation space VLBI mission", in *High-Sensitivity Radio Astronomy*, eds. N. Jackson & R. J. Davis (Cambridge: Cambridge Univ. Press), 252–255.
- Ulvestad, J. S., Linfield, R. P., & Smith, J. G. 1995. "ARISE: The next generation space VLBI mission", 33rd AIAA Aerospace Sciences Meeting and Exhibit, Paper AIAA 95-0824.
- Unwin, S. C., Cohen, M. H., Biretta, J. A., Hodges, M. W., & Zensus, J. A. 1989. "Superluminal motion in the quasar 3C 279", *ApJ*, **340**, 117–128.
- Unwin, S. C., Cohen, M. H., Biretta, J. A., Pearson, T. J., Seielstad, G. A., Walker, R. C., Simon, R. S., & Linfield, R. P. 1985. "VLBI monitoring of the superluminal quasar 3C 273, 1977–1982", *ApJ*, **289**, 109–119.

- Unwin, S. C., Wehrle, A. E., Urry, C. M., Gilmore, D. M., Barton, E. J., Kjerulf, B. C., Zensus, J. A., & Rabaça C. R. 1994. "Inverse Compton x-ray emission from the superluminal quasar 3C 345", *ApJ*, **432**, 103–113.
- Urry, C. M., & Padovani, P. 1995. "Unified schemes for radio-loud active galactic nuclei", *PASP*, **107**, 803–845.
- Urry, C. M., Padovani, P., & Stickel, M. 1991. "Fanaroff-Riley I galaxies as the parent population of BL Lacertae objects. III Radio constraints", *ApJ*, **382**, 501–507.
- Valtaoja, E. 1994. "Variability in the millimeter and radio domains", in *IAU Symp. 159: Multi-Wavelength Continuum Emission of AGN*, eds. T. J.-L. Courvoisier & A. Blecha (Dordrecht: Kluwer), 145–154.
- Valtaoja, E. 1996. "Blazar radio variability", in *ASP Conf. Ser. 110: Blazar Continuum Variability*, eds. H. R. Miller, J. R. Webb, & J. C. Noble, (San Francisco: Astron. Soc. of the Pacific), 226–241.
- Valtaoja, E. 1997. "Total flux density variations, mm-VLBI and VSOP: New approaches", in *Millimeter-VLBI Science Workshop*, eds. R. Barvainis & R. B. Phillips (Cambridge: MIT), 47–52.
- Valtaoja, E., & Teräsranata, H. 1994. "Brightness temperatures and viewing angles for extragalactic radio sources: A test of unification schemes for active galactic nuclei", *A&A*, **283**, 51–58.
- Valtaoja, E., Lähteenmäki, A., & Teräsranata, H. 1992. "A northern 2 Jy sample of compact extragalactic radio sources suitable for millimeter and space VLBI observations", *A&AS*, **95**, 73–85.
- van Breugel W., Miley G., & Heckman T. 1984. "Studies of kiloparsec-scale, steep spectrum radio cores. I. VLA maps", *AJ*, **89**, 5–22.
- van den Oord, G. H. J., Mewe, R., & Brinkman, A. C. 1988. "An EXOSAT observation of an x-ray flare and quiescent emission from the RSCVn Binary  $\sigma^2$  CrB", *A&A*, **205**, 181–196.
- van der Laan, H. 1966. "A model for variable extragalactic radio sources", *Nature*, **211**, 1131–1133.
- van Dishoeck, E., Blake, G. A., Draine, B. T., & Lunine, J. I. 1993. "The chemical evolution of protostellar and protoplanetary matter", in *Protostars and Planets III*, eds. E. Levy & J. Lunine (Tucson: Univ. Arizona Press), 163–241.
- van Dyk, S. D., Weiler, K. W., Sramek, R. A., Rupen, M. P., & Panagia, N. 1994. "SN 1993J: The early radio emission and evidence for a changing presupernova mass-loss rate", *ApJ*, **432**, L115–L118.
- van Langevelde H. J., van Dishoeck E. F., Sevenster M., & Israel F. P. 1995. "Anomalously excited OH and competition between maser transitions toward Centaurus A", *ApJ*, **448** L123–126.
- van Langevelde, H. J., Frail, D. A., Cordes, J. M., & Diamond, P. J. 1992. "Interstellar scattering towards the Galactic centre probed with OH/IR stars", *ApJ*, **396**, 686–695.
- van Ommen, T., Jones, D., Preston, R., & Jauncey, D. 1995. "Time delay in the Einstein ring PKS 1830–211", *ApJ*, **444**, 561–566.
- van Vleck, J. H. 1947. "The absorption of microwaves by uncondensed water vapor", *Phys. Rev.*, **71**, 425–433.
- Veal, G., & Freeland, R. 1995. "IN-STEP inflatable antenna description", AIAA Space Programs and Technologies Conference, Paper AIAA 95-3739.
- Venturi, T., Pearson, T. J., Barthel, P. D., & Herbig, T. 1993. "The superluminal character of the compact steep spectrum quasar 3C 216", *A&A*, **271**, 65–70.
- Vermeulen, R. C. 1995. "Superluminal sources", *Proc. Natl. Acad. Sci. USA*, **92**, 11385–11389.
- Vermeulen, R. C. 1996. "Superluminals: When have we seen them all?", in *ASP Conf. Ser. 100: Energy Transport in Radio Galaxies and Quasars*, eds. P. E. Hardee, A. H. Bridle, & J. A. Zensus (San Francisco: Astron. Soc. of the Pacific), 117–122.
- Vermeulen, R. C., & Cohen, M. H. 1994. "Superluminal motion statistics and cosmology", *ApJ*, **430**, 467–494.
- Vermeulen, R. C., Readhead, A. C. S., & Backer, D. C. 1994. "Discovery of a nuclear counterjet in NGC 1275: A new way to probe the parsec-scale environment", *ApJ*, **430**, L41–44.

- Vermeulen, R. C., & Taylor, G. B. 1995. "Redshifts for superluminal candidates", *AJ*, **109**, 1983–1987.
- Vermeulen, R. C., Taylor, G. B., Readhead, A. C. S., & Browne, I. W. A. 1996. "Redshifts for superluminal candidates. II", *AJ*, **111**, 1013–1020.
- Veron-Cetty, M. P., Woltjer, L., Ekers, R. D., & Staveley-Smith, L. 1995. "PKS 1718–649: A gas rich radio galaxy", *A&A*, **297**, L79–82.
- von Montigny, C., Bertsch, D. L., Chiang, J., Dingus, B. L., Esposito, J. A., Fichtel, C. E., Fierro, J. M., Hartman, R. C., Hunter, S. D., Kanbach, G., Kniffen, D. A., Lin, Y. C., Mayer-Hasselwander, H. A., Michelson, P. F., Nolan, P. L., Radecke, H. D., Schneid, E., Sreekumar, P., Thompson, D. J., & Willis, T. 1995. "Studies of some superluminal blazars and strong flat-spectrum radio quasars, that are not seen in high energy gamma-rays by EGRET", *A&A*, **299**, 680–688.
- von Montigny, C., Aller, H., Aller, M., Bruhweiler, F., Collmar, W., Courvoisier, T. J., Edwards, P. G., Fichtel, C. E., Fruscione, A., Ghisellini, G., Hartman, R. C., Johnson, W. N., Kafatos, M., Kii, T., Kniffen, D. A., Lichti, G. G., Makino, F., Mannheim, K., Marscher, A. P., McBreen, B., McHardy, I., Pesce, J. E., Pohl, M., Ramos, E., Reich, W., Robson, E. I., Sasaki, K., Teräsanta, H., Tornikoski, M., Urry, C. M., Valtaoja, E., Wagner, S. J., & Weekes, T. 1997. "Multiwavelength observations of 3C 273 in 1993–1995", *ApJ*, **483**, 161–177.
- von Montigny, C., Brazier, K., Kanbach, G., Mayer-Hasselwander, H. A., Bertsch, D. L., Dingus, B. L., Fichtel, C. E., Hartman, R. C., Hunter, S. D., Mattox, J. R., Sreekumar, P., Thompson, D. J., Kniffen, D. A., Chiang, J., Fierro, J., Lin, Y. C., Michelson, P. F., Nolan, P. L., & Schneid, E. 1993. "2CG 135+01", *IAU Circ.*, **5708**, 1.
- von Montigny, C., Bertsch, D. L., Chiang, L., Dignus, B. L., Esposito, J. A., Fichtel, C. E., Fierro, J. M., Hartmann R. C., Hunter, S. D., Kanbach, G., Kniffen, D. A., Lin, Y. C., Mattox, J. R., Mayer-Hasselwander, H. A., Michelson, P. F., Nolan, P. L., Radecke, H. D., Schneid, E., Sreekumar, P., Thompson, D. J., & Willis, T. 1995. "High-energy gamma-ray emission from active galactic nuclei: EGRET observations and their implications", *ApJ*, **440**, 525–553.
- Wagner, S. J. 1997. "Variability of blazars", in *Relativistic Jets in AGNs—Cracow'97*, eds. M. Sikora et al., in press.
- Wagner, S. J., & Appenzeller, I. 1989. "An off-centre NLR with exceptionally broad lines near the active nucleus of IC 5063", *A&A*, **225**, L13–16.
- Wagner, S. J., Camenzind, M., Dreisigacker, O., Borgeest, U., Britzen, S., Brinkmann, W., Hopp, U., Schramm, K.-J., & von Linde, J. 1995. "Simultaneous optical and gamma-ray flaring in PKS 0420–014. Implications for emission processes and rotating jet models", *A&A*, **298**, 688–698.
- Wagner, S. J., Mattox, J. R., Hopp, U., Bock, H., Heidt, J., Bertsch, D. L., Dingus, B. L., Fichtel, C. E., Hartman, R. C., Hunter, S. D., Kanbach, G., Kniffen, D. A., Lin, Y. C., Mayer-Hasselwander, H. A., Michelson, P. F., von Montigny, C., Nolan, P. L., Sreekumar, P., & Thompson, D. J. 1995. "High-energy gamma-rays from PKS 1406–076 and the observation of correlated gamma-ray and optical emission", *ApJ*, **454**, L97–100.
- Wagner, S. J., Sánchez-Pons, F., Quirrenbach, A., & Witzel, A. 1990. "Simultaneous optical and radio monitoring of rapid variability in quasars and BL Lac objects", *A&A*, **235**, L1–4.
- Wagner, S. J., & Witzel, A. 1995. "Intraday variability in quasars and BL Lac objects", *ARA&A*, **33**, 163–197.
- Wagner, S. J., Witzel, A., Heidt, J., Krichbaum, T. P., Qian, S. J., Quirrenbach, A., Wegner, R., Aller, H., Aller, M., Anton, K., Appenzeller, I., Eckart, A., Kraus, A., Naundorf, C., Kneer, R., Steffen, W., & Zensus, J. A. 1996. "Rapid variability in S5 0716+714 across the electromagnetic spectrum", *AJ*, **111**, 2187–2211.
- Wagner, S. J., Witzel, A., Krichbaum, T. P., Wegner, R., Quirrenbach, A., Anton, K., Erkens, U., Khanna, R., & Zensus, J. A. 1993. "Intraday variability in the BL Lac object 0954+658", *A&A*, **271**, 344–347.
- Wagner, S. J., von Montigny, C., & Herter, M. 1997. "Multifrequency characteristics of rapid flares in blazars", in *The Fourth Compton Symposium*, eds. C. D. Dermer & J. D. Kurfess (New York: Amer. Inst. of Physics), in press.

- Walker, R. C., Benson, J. M., & Unwin, S. C. 1987. "The radio morphology of 3C 120 on scales from 0.5 parsecs to 400 kiloparsecs", *ApJ*, **316**, 546–572.
- Walker, R. C., Burke, B. F., Haschick, A. D., Crane, P. C., Moran, J. M., Johnston, K. J., Lo, K. Y., Yen, J. L., Broten, N. W., Legg, T. H., Greisen, E. W., & Hansen, S. S. 1978. "VLBI aperture synthesis observations of H<sub>2</sub>O masers associated with molecular clouds", *ApJ*, **226**, 95–114.
- Walker, R. C., Matsakis, D. N., & García-Barreto, J. A. 1982. "H<sub>2</sub>O masers in W49N. I. Maps", *ApJ*, **255**, 128–142.
- Walker, R. C., Romney, J. D., & Benson, J. M. 1994. "Detection of a VLBI counterjet in NGC 1275: A possible probe of the parsec-scale accretion disk", *ApJ*, **430**, L45–48.
- Wall, J. V., & Jackson, C. A. 1997. "Declining quasar fractions as evidence for unified schemes", *MNRAS*, in press.
- Wallin, B. K., & Watson, W. D. 1997. "Excitation for masing by water in x-irradiated environments at the nuclei of active galaxies", *ApJ*, **476**, 685–691.
- Wallin, B. K., Watson, W. D., & Wyld, H. W. 1997. "Spectra of maser radiation from a turbulent, circumnuclear accretion disk", *ApJ*, in press.
- Waltman, E. B., Foster, R. S., Pooley, G. G., Fender, R. P., & Ghigo, F. D. 1996. "Quenched radio emission in Cygnus X-3", *AJ*, **112**, 2690–2698.
- Wambsganss, J., & Paczynski, B. 1992. "A direct gravitational lensing test for 10<sup>6</sup> M<sub>⊙</sub> black holes in halos of galaxies", *ApJ*, **397**, L1–4.
- Wardle, J. F. C., & Aaron, S. E. 1997. "How fast are the large-scale jets in quasars? Constraints on both Doppler beaming and intrinsic asymmetries", *MNRAS*, **286**, 425–435.
- Wardle, J. F. C., Brown, L. F., Roberts, D. H., Phillips, R. B., & Doleman, S. 1997. "Polarization sensitive observations with the CMVA", in *Millimeter-VLBI Science Workshop*, eds. R. Barvainis & R. B. Phillips (Cambridge: MIT), 63–67.
- Wardle, J. F. C., Cawthorne, T. V., Roberts, D. H., & Brown, L. F. 1994. "Interpretation of VLBI kinematic and polarization data: Application to 3C 345", *ApJ*, **437**, 122–135.
- Waters, J. W. 1967. "Atmospheric effects on radio wave phase and the correction of vapor-caused phase fluctuations by radiometric measurements of water vapor emission", *NRAO VLA Scientific Memo No. 8*.
- Waters, J. W. 1971. "Analysis of water vapor data from the Green Bank interferometer", *NRAO Internal Progress Report No. 2*.
- Watson, W. D., & Wallin, B. K. 1994. "Evidence from masers for a rapidly rotating disk at the nucleus of NGC 4258", *ApJ*, **432**, L35–38.
- Weatherall, J. C., & Benford, G. 1991. "Coherent radiation from energetic electron streams via collisionless bremsstrahlung in strong plasma turbulence", *ApJ*, **378**, 543–549.
- Webb, J. R., Carini, M. T., Clemens, S., Fajardo, S., Gombola, P. P., Leacock, R. J., Sadun, A. C., & Smith, A. G. 1990. "The 1987–1990 outburst of the OVV quasar 3C 279", *AJ*, **100**, 1452–1456.
- Wehrle, A. E., & Cohen, M. H. 1989. "VLBI imaging of CTA 102", *ApJ*, **346**, L69–71.
- Wehrle, A. E., Cohen, M. H., Unwin, S. C., Aller, H. D., Aller, M. F., & Nicolson, G. 1992. "The milliarcsecond structure of highly variable radio sources", *ApJ*, **391**, 589–607.
- Wehrle, A. E., Unwin, S. C., Zook, A. C., Urry, C. M., Marscher, A. P., & Teräsranta, H. 1996. "VLBI imaging and multiwavelength variability of 3C 279", in *ASP Conf. Ser. 110: Blazar Continuum Variability*, eds. H. R. Miller, J. R. Webb, & J. C. Noble, (San Francisco: Astron. Soc. of the Pacific), 430–435.
- Wehrle, A. E., et al. 1997. "Multiwavelength observations of a dramatic flare in the quasar 3C 279", *ApJ*, submitted.
- Weiler, K. W., Panagia, N., & Sramek, R. A. 1990. "Radio emission from supernovae. II. SN 1986J: A different kind of type II", *ApJ*, **364**, 611–625.
- Weiler, K. W., Sramek, R. A., Panagia, N., van der Hulst, J. M., & Salvati, M. 1986. "Radio supernovae", *ApJ*, **301**, 790–812.
- Wendker, H. J. 1995. "Radio continuum emission from stars: A catalog update", *A&AS*, **109**, 177–179.

- Whiteoak, J. B., & Gardner, F. F. 1987. "VLA observations of NGC 5793", *Proc. Astr. Soc. Austr.*, **7**, 88–91.
- Whitney, A. R., Shapiro, I. I., Rogers, A. E. E., Robertson, D. S., Knight, C. A., Clark, T. A., Goldstein, R. M., Marandino, G. E., & Vandenberg, N. R. 1971. "Quasars revisited: Rapid time variations observed via very-long-baseline interferometry", *Science*, **173**, 225–230.
- Wietfeldt, R. D., Newby, P. S., Baer, D., Cannon, W. H., Feil, G., Jakovina, R., Leone, P., & Tan, H. 1991. "The Canadian S2 recorders for RadioAstron", in *Frontiers of VLBI*, eds. H. Hirabayashi, M. Inoue, & H. Kobayashi (Tokyo: Universal Academy Press), 177–181.
- Wilkinson, P. N., Akujor, C. E., Cornwell, T. J., & Saikia, D. J. 1991. "3C 380: A powerful radio source of galactic dimensions", *MNRAS*, **248**, 86–90.
- Wilkinson, P. N., Browne, I. W. A., Alcock, D., Myles, S., Henstock, D., Readhead, A. C. S., Pearson, T. J., Xu, W., Taylor, G. B., Polatidis, A. G., & Vermeulen, R. C. 1997. "The angular-size-redshift test for compact radio sources in the Caltech–Jodrell Bank surveys", in *Cosmology from Radio Surveys*, eds. M. Bremer & N. J. F. Jackson, in press.
- Wiklind, T., & Combes, F. 1996. "The redshift of the gravitational lens of PKS 1830–211 determined from molecular absorption lines", *Nature*, **379**, 139–141.
- Wilkinson, P. N., Henstock, D. R., Browne, I. W. A., Readhead, A. C. S., Taylor, G. B., Vermeulen, R. C., Pearson, T. J., & Xu, W. 1996. "A search for gravitational milli-lenses", in *IAU Symp. 168: Examining the Big Bang and Diffuse Background Radiations*, eds. M. Kafatos & Y. Kondo (Dordrecht: Kluwer), 95–98.
- Wilkinson, P. N., Polatidis, A. G., Readhead, A. C. S., Xu, W., & Pearson, T. J. 1994. "Two-sided ejection in powerful radio sources: The compact symmetric objects", *ApJ*, **432**, L87–90.
- Wilkinson, P. N., Tzioumis, A. K., Akujor, C. E., Benson, J. M., Walker, R. C., & Simon, R. S. 1990. "High-quality images of the CSS quasars 3C 48 and 3C 380", in *Parsec-Scale Radio Jets*, eds. J. A. Zensus & T. J. Pearson (Cambridge: Cambridge Univ. Press), 152–160.
- Wilson, A. S., & Ulvestad, J. S. 1987. "A radiative bow shock wave (?) driven by nuclear ejecta in a Seyfert galaxy", *ApJ*, **319**, 105–117.
- Witzel, A., Heeschen, D. S., Schalinski, C. J., & Krichbaum, T. P. 1986. "Kurzzeit-variabilität extragalaktischer radioquellen", *Mitteilungen der Astronomischen Gesellschaft*, **65**, 239–241.
- Witzel, A., Schalinski, C. J., Johnston, K. J., Biermann, P. L., Krichbaum, T. P., Hummel, C. A., & Eckart, A. 1988. "The occurrence of bulk relativistic motion in compact radio sources", *A&A*, **206**, 245–252.
- Wolszczan, A. 1994. "Toward planets around neutron stars", *Ap&SS*, **212**, 67–75.
- Wolszczan, A. 1994. "Confirmation of Earth-mass planets orbiting the millisecond pulsar PSR B1257+12", *Science*, **264**, 538–542.
- Wolszczan, A., & Cordes, J. M. 1987. "Interstellar interferometry of the pulsar PSR 1237+25", *ApJ*, **320**, L35–39.
- Wolszczan, A., & Frail, D. A. 1992. "A planetary system around the millisecond pulsar PSR 1257+12", *Nature*, **355**, 145–147.
- Worrall, D. M., Giommi, P., Tananbaum, H., & Zamorani, G. 1987. "X-ray studies of quasars with the Einstein Observatory. IV. X-ray dependence on radio emission", *ApJ*, **313**, 596–606.
- Wouterloot, J. G. A., Brand, J., Burton, W. B., & Kwee, K. K. 1990. "IRAS sources beyond the solar circle. II—Distribution in the Galactic warp", *A&A*, **230**, 21–36.
- Wright, M. C. H., & Backer, D. C. 1993. "Flux density of Sagittarius A at  $\lambda = 3$  millimeters", *ApJ*, **417**, 560–564.
- Wrobel, J. M. 1993. "Faraday rotation measures and intrinsic polarization position angles of very long baseline interferometry core-jet sources", *AJ*, **106**, 444–454.
- Wrobel, J. M., & Heeschen, D. S. 1984. "Compact-core dominated radio emission from bright E/S0 galaxies", *ApJ*, **287**, 41–65.

- Wrobel, J. M., & Heeschen, D. S. 1988. "Current star formation as the origin of kiloparsec-scale radio sources in nearby E/S0 galaxies", *ApJ*, **335**, 677–687.
- Wrobel, J. M., & Heeschen, D. S. 1991. "Radio-continuum sources in nearby and bright E/S0 galaxies: Active nuclei versus star formation", *AJ*, **101**, 148–169.
- Xu, W., Lawrence, C. R., Readhead, A. C. S., & Pearson, T. J. 1994. "New redshifts of radio sources from the S4 and S5 surveys", *AJ*, **108**, 395–397.
- Xu, W., Readhead, A. C. S., Pearson, T. J., Polatidis, A. G., & Wilkinson, P. N. 1995. "The first Caltech-Jodrell Bank VLBI survey. III. VLBI and MERLIN observations at 5 GHz and VLA observations at 1.4 GHz", *ApJS*, **99**, 297–348.
- Young, S., Hough, J. H., Efstathiou, A., Wills, B. J., Axon, D. J., Bailey, J. A., & Ward, M. J. 1996. "Scattered broad optical lines in the polarized flux spectrum of the FR II galaxy 3C 321", *MNRAS*, **279**, L72–76.
- Zensus, J. A., Cohen, M. H., & Unwin, S. C. 1995. "The parsec scale jet of quasar 3C 345", *ApJ*, **443**, 35–53.
- Zensus, J. A., Unwin, S. C., Cohen, M. H., & Biretta, J. A. 1990. "The milliarcsecond structure of 3C 273 at 22 GHz", *AJ*, **100**, 1777–1784.
- Zhang, F. J., Akujor, C. E., Chu, H. S., Mutel, R. L., Spencer, R. E., Wilkinson, P. N., Alef, W., Matveyenko, L. I., & Preuss, E. 1991. "Combined-array images of an archetypal compact steep-spectrum source, 3C 147", *MNRAS*, **250**, 650–653.
- Zhang, F. J., & Bååth, L. B. 1990. "The radio fine structure of the BL Lacertae object Mk 421", *A&A*, **236**, 47–52.
- Zhao, J.-H., Goss, W. M., Lo, K. Y., & Ekers, R. D. 1992. "Evidence for intrinsic activity of Sgr A\* at the Galactic center", in *ASP Conf. Ser. 31: Relationships Between Active Galactic Nuclei and Starburst Galaxies*, ed. A. Filippenko (San Francisco: Astron. Soc. of the Pacific), 295–299.
- Zinnecker, H., McCaughrean, M., & Rayner, J. 1997. "HH212: A prototype molecular hydrogen jet from a deeply embedded protostar", in *IAU Symp. 182: Low Mass Star Formation from Infall to Outflow (Poster contributions)*, eds. F. Malbet & A. Castets (Grenoble: Observatoire de Grenoble), 198–200.
- Zoonematkermani, S., Helfand, D. J., Becker, R. H., White, R. L., & Perley, R. A. 1990. "A catalog of small-diameter radio sources in the Galactic plane", *ApJS*, **74**, 181–224.
- Zylka R., Mezger P. G., & Lesch H. 1992. "Anatomy of the Sagittarius A complex. II—1300 micron and 870 micron continuum observations of Sgr A\* and its submm/IR spectrum", *A&A*, **261**, 119–129.
- Zylka, R., Mezger, P. G., Ward-Thompson, D., Duschl, W. J., & Lesch, H. 1995. "Anatomy of the Sagittarius A complex 4. Sgr A\* and the central cavity revisited", *A&A*, **297**, 83–97.