Curriculum Vitae

Dr. Philip R. Jewell

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EDUCATION

1977-1982 University of Illinois, M.S., Ph.D. Astronomy, Prof. L. E. Snyder supervisor, "Molecular Line Studies of Circumstellar Envelopes"
1973-1977 University of Kentucky, B.S., Physics, Graduated with High Honors

PROFESSIONAL EXPERIENCE

EMPLOYMENT

2005-2026 National Radio Astronomy Observatory, Charlottesville, Virginia
1999-2005 National Radio Astronomy Observatory, Green Bank, West Virginia
1996-1998 James Clerk Maxwell Telescope, Hilo, Hawaii
1984-1995 National Radio Astronomy Observatory, Tucson, Arizona
1982-1984 Max-Planck-Institut für Radioastronomie, Bonn, Germany

MANAGEMENT ROLES

2026- Principal, Jewell Scientific Consulting, LLC
2014-2026 ALMA Management Team (AMT)
2012-2026 Director North American ALMA
2005-2026 Deputy Director, National Radio Astronomy Observatory
1999-2005 Assistant Director for Green Bank Operations, National Radio Astronomy Observatory (Site Director, Green Bank)
1997-1998 Member, Senior Management Team, Joint Astronomy Centre (JCMT/UKIRT)
1996-1998 Head of Instrumentation, James Clerk Maxwell Telescope
1986-1995 Deputy Site Director, National Radio Astronomy Observatory, Arizona Operations

SCIENTIFIC APPOINTMENTS

1999-2026 Scientist with Continuing Appointment, National Radio Astronomy Observatory
1992-1995 Scientist, National Radio Astronomy Observatory
1988-1992 Associate Scientist, National Radio Astronomy Observatory
1985-1988 Systems Scientist, National Radio Astronomy Observatory
1984-1985 Scientific Associate, National Radio Astronomy Observatory

PROFESSIONAL MEMBERSHIPS

Phi Beta Kappa
American Astronomical Society
American Association for the Advancement of Science (AAAS)
International Astronomical Union (IAU)
International Union of Radio Science (URSI, Commission J)

MAJOR COMMITTEE SERVICE

2022 09	Daniel K. Inouye Solar Telescope (DKIST) Operations and Maintenance Budget Plan Review
2021 02	Green Bank Observatory Laser Antenna Surface Scanning Instrument – Final Design Review (Chair)
2019 08	National Solar Observatory (NSO) Mid-Term Review (Chair)
2019 04	NASA SOFIA 5 Year Flagship Mission Review
2018 08	Event Horizon Telescope Management Team Review
2017 08	AURA Joint Management Council for NCOA
2017 04	Onsala Space Observatory Priorities Review
2016-2018	AURA Observatory Council – Gemini
2012-2014	Haystack Observatory Visiting Committee
2010 03	NSF Geosciences EarthScope Program Management Review Board
2006-2008	Herzberg Institute for Astrophysics Advisory Board
1999-2002	Arecibo Users and Scientific Advisory Committee
2000 05	SCUBA-2 Detector Architecture Down-Select Panel (UKATC)
1999 09	Caltech Submillimeter Observatory NSF Site Review Committee
1997-1998	IUCAF Millimeter-Wave Working Group on RFI (Co-Chair)

INVITED LECTURES ON ASTRONOMICAL TOPICS

1. Committee on Radio Frequencies, National Academies, "*ALMA Observatory Overview and Spectrum Management Challenges at High Frequencies*" (2 Oct 2026)
2. University of Illinois Urbana-Champaign Astronomy Department, *AstroFest 2025*: "*From the Morrow Plots to the Atacama Desert*" (25 Apr 2025)
3. Green Bank Observatory Colloquium: "*Millimeter-Wave Astronomy – The Green Bank Connection*" (6 Oct 2022)
4. Ohio University Astrophysics Seminar: "*Chemical Precursors of Life in the Interstellar Medium*" (24 Oct 2007)
5. Princeton University Astronomy Colloquium: "*Sugar in Space and the Search for Biologically Significant Molecules*" (6 Mar 2001)
6. URSI National Radio Science Meeting, Plenary Session Talk, "*The Green Bank Telescope: A New Generation in Radio Telescope Design*" (9 Jan 2001)
7. Green Bank Astronomy Colloquium: "*Sugar in Space and the Search for Biologically Significant Molecules*" (29 Nov 2000)

8. University of Kentucky, Department of Physics and Astronomy Colloquium: "*The New Green Bank Telescope*" (1 Oct 1999)
9. NRAO-Tucson Seminar, "*The James Clerk Maxwell Telescope -- Operations and Instruments*" (24 Feb 1997)
10. NRAO-Tucson/UAz Submillimeter Telescope Seminar: "*Interstellar Molecules*" (27 Apr 1992)
11. Kansas State University, Department of Physics, Colloquium: "*Cosmic Masers*" (14 Apr 1988)
12. NOAO/Steward Observatory, *Stars and Stellar Systems Seminar Series*: "*Envelopes about Cool Stars*" (18 Nov 1985)
13. Max-Planck-Institut für Radioastronomie (Bonn, Germany), Colloquium: "*New SiO Maser Observations with the 100 m Telescope*" (6 Sep 1984)
14. I. Physikalisches Institut der Universität zu Köln (Cologne, Germany), Seminar: "*SiO Masers*" (29 Mar 1984)
15. Max-Planck-Institut für Radioastronomie (Bonn, Germany), Seminar: "*Molecular Line Observations of Circumstellar Envelopes*" (9 Nov 1982)
16. Haystack Observatory, Presentation to the Visiting Committee: "*Recent Developments in SiO Maser Studies*" (29 Mar 1980)

KEY PUBLICATIONS

Interstellar Glycolaldehyde, The First Sugar
Hollis, J. M., Lovas, F. J., Jewell, P. R., *Astrophysical Journal Letters*, **540**, L107 (2000)

Detection of Acetamide (CH_3CONH_2): The Largest Interstellar Molecule with a Peptide Bond
Hollis, J. M., Lovas, F. J., Remijan, A. J., Jewell, P. R., Ilyushin, V. V., Kleiner, I., *Astrophysical Journal Letters* **643**, L25-L28 (2006)

A rigorous attempt to verify interstellar glycine
Snyder, L. E., Lovas, F. J., Hollis, J. M., Friedel, D. N., Jewell, P. R., Remijan, A. J., +3, *Astrophysical Journal* **619**, 914-930 (2005)

Green bank telescope detection of new interstellar aldehydes: propenal and propanal
Hollis, J. M., Jewell, P. R., Lovas, F. J., Remijan, A. J., Møllendal, H., *Astrophysical Journal Letters* **610**, L21-L24 (2004)

Interstellar antifreeze: ethylene glycol
Hollis, J. M., Lovas, F. J., Jewell, P. R., Coudert, L. H., *Astrophysical Journal Letters* **571**, L59-L62 (2005)

Green bank telescope observations of interstellar glycolaldehyde: low-temperature sugar
Hollis, J. M., Jewell, P. R., Lovas, F. J., Remijan, A. J., *Astrophysical Journal Letters* **613**, L45-L48 (2004)

Confirmation of interstellar methylene
Hollis, J. M., Jewell, P. R., Lovas, F. J., *Astrophysical Journal* **438**, 259-264 (1995)

Millimeter-and submillimeter-wave surveys of Orion A emission lines in the ranges 200.7-202.3, 203.7-205.3, and 330-360 GHz
Jewell, P. R., Hollis, J. M., Lovas, F. J., Snyder, L. E., *Astrophysical Journal Supplement Series* **70**, 833-864 (1989)

Observational properties of v= 1, J=1-0 SiO Masers
Jewell, P. R., Snyder, L. E., Walmsley, C. M., Wilson, T. L., Gensheimer, P. D., *Astron. Astrophys* **242**, 211-234 (1991)

The linear shell diameter of IRC+ 10011
Jewell, P. R., Webber, J. C., Snyder, L. E., *Astrophysical Journal Letters* **242**, L29-L31(1980)

Full Bibliography Follows

REFEREED ARTICLES (*number: 62, h-index: 36, citations: 4119*)

BIBLIOGRAPHY of REFEREED PUBLICATIONS (*orcid: 0000-0001-9276-1533***)**

1. McGuire, B. A., Carroll, P. B., Loomis, R. A., Finneran, I. A., Jewell, P. R., Remijan, A. J., and Blake, G. A., "Discovery of the Interstellar Chiral Molecule Propylene Oxide (CH_3CHCH_2O)," Science 352, 1449-1451 (2016)
2. The ALMA Partnership, Fomalont, E. B., Vlahakis, C., Corder, S. +245; "The 2014 ALMA Long Baseline Campaign: An Overview," *ApJ*, **808L**, 1A (2015)
3. McGuire, B. A., Carroll, P. B., Loomis, R. A., Blake, G. A., Hollis, J. M., Lovas, F. J., Jewell, P. R., Remijan, A. J., "A Search for l-C3H+ and l-C3H in Sgr B2(N), Sgr B2(OH), and the Dark Cloud TMC-1", *ApJ*, **774**, 56 (2013)
4. Zaleski, D. P., Seifert, N. A., Steber, A. L., Muckle, M. T., Loomis, R. A., Corby, J. F., Martinez, O., Crabtree, K. N., Jewell, P. R., Hollis, J. M., Lovas, F. J., Vasquez, D., Nyiramahirwe, J., Sciortino, N., Johnson, K., McCarthy, M. C., Remijan, A. J., Pate, B. H., "Detection of E-cyanomethanimine towards Sagittarius B2(N) in the Green Bank Telescope PRIMOS Survey," *ApJ Letters*, **765**, L10 (2013)
5. Loomis, R. A., Zaleski, D. P., Steber, A. L., Neill, J. L., Muckle, M. T., Harris, B. J., Hollis, J. M., Jewell, P. R., Lattanzi, V., Lovas, F. J., Martinez, O., McCarthy, M. C., Remijan, A. J., Pate, B. H., "The Detection of Interstellar Ethanimine (CH3CHNH) from Observations taken during the GBT PRIMOS Survey," *ApJ Letters*, **765**, L9 (2013)
6. McGuire, B. A., Loomis, R. A., Charness, C. M., Corby, J. F., Blake, G. A., Hollis, J. M., Lovas, F. J., Jewell, P. R., and Remijan, A. J, "Interstellar Carbodiimide (HNCNH): A New Astronomical Detection from the GBT PRIMOS Survey Via Maser Emission Features," *ApJ Letters*, **758**, L33 (2012)
7. Von Procházka, A. A., Remijan, A. J., Balser, D. S., Ryans, R. S. I., Marshall, A. H., Schwab, F. R., Hollis, J. M., Jewell, P. R., and Lovas, F. J., "Detection of Voigt Spectral Line Profiles of Hydrogen Radio Recombination Lines toward Sagittarius B2(N)," *PASP*, **122**, 354 (2010)
8. Remijan, A. J., Hollis, J. M., Lovas, F. J., Stork, W. D., Jewell, P. R., and Meier, D. S., "Detection of Interstellar Cyanoformaldehyde (CNCHO)," *ApJ*, **675**, L85 (2008)
9. Remijan, A. J., Hollis, J. M., Lovas, F. J., Cordiner, M. A., Millar, T. J., Marwick-Kemper, A. J., and Jewell, P. R., "Detection of C_8H^- and Comparison with C_8H toward IRC+10 216," *ApJ*, **664**, L47 (2007)
10. Hollis, J. M., Jewell, P. R., Remijan, Anthony, J., and Lovas, F. J., "Nonthermal Continuum toward Sagittarius B2(N-LMH)," *ApJ*, **660**, L125 (2007)
11. Snyder, L. E., Hollis, J. M., Jewell, P. R., Lovas, F. J., and Remijan, A. J., "Confirmation of Interstellar Methylcyanodiacetylene (CH_3C_5N)," *ApJ*, **647**, 412 (2006)
12. Lovas, F. J., Hollis, J. M., Remijan, A. J., and Jewell, P. R., "Detection of Ketenimine (CH_2CNH) in Sagittarius B2(N) Hot Cores," *ApJ Letters*, **645**, L137 (2006)
13. Hollis, J. M., Lovas, F. J., Remijan, A. J., Jewell, P. R., Ilyushin, V. V., and Kleiner, I., "Detection of Acetamide (CH_3CONH_2): The Largest Interstellar Molecule with a Peptide Bond," *ApJ Letters*, **643**, L25 (2006)
14. Remijan, Anthony J., Hollis, J. M., Snyder, L. E., Jewell, P. R., and Lovas, F. J., "Methyltriacetylene (CH_3C_6H) toward TMC-1: The Largest Detected Symmetric Top," *ApJ Letters*, **643**, L37. (2006)
15. Hollis, J. M., Remijan, A. J., Jewell, P. R., and Lovas, F. J., "Cyclopropenone (c-H_2C_3O): A New Interstellar Ring Molecule," *ApJ*, **642**, 933 (2006)
16. Lovas, F. J., Remijan, A. J., Hollis, J. M., Jewell, P. R., and Snyder, L. E., "Hyperfine Structure Identification of Interstellar Cyanoallene toward TMC-1," *ApJ Letters*, **637**, L37. (2006)

17. Remijan, A. J., Hollis, J. M., Lovas, F. J., Plusquellic, D. F., and Jewell, P. R., "Interstellar Isomers: The Importance of Bonding Energy Differences," *ApJ*, **632**, 333 (2005)
18. Snyder, L. E., Lovas, F. J., Hollis, J. M., Friedel, D. N., Jewell, P. R., Remijan, A., Ilyushin, V. V., Alekseev, E. A., and Dybuko, S. F., "A Rigorous Attempt to Verify Interstellar Glycine," *ApJ*, **619**, 914 (2005)
19. Hollis, J. M., Jewell, P. R., Lovas, F. J., and Remijan, A., "Green Bank Telescope Observations of Interstellar Glycolaldehyde: Low-Temperature Sugar," *ApJ Letters*, **613**, L45 (2004)
20. Hollis, J. M., Jewell, P. R., Lovas, F. J., Remijan, A., and Mollendal, H., "Green Bank Telescope Detection of New Interstellar Aldehydes: Propenal and Propanal," *ApJ Letters*, **610**, L21 (2004)
21. Benford, D. J., Devlin, M. J., Dicker, S. R., Irwin, K. D., Jewell, P. R., Klein, J., Mason, B. S., Moseley, H. S., Norrod, R. D., and Supanich, M. P., "A 90GHz Array for the Green Bank Telescope," *NIMPR, **520**, L21* (2004)
22. Hollis, J. M., Pedelty, J. A., Boboltz, D. A., Liu, S.-Y., Snyder, L. E., Palmer, P., Lovas, F. J., and Jewell**,** P. R., "Kinematics of the SGRB2 (N-LMH) Molecular Core," *ApJ Letters*, **596**, L235 (2003)
23. Hollis, J. M., Pedelty, J. A., Snyder, L. E., Jewell, P. R., Lovas, F. J., Palmer, P., and Liu, S.-Y., "A Sensitive VLA Search for Small-Scale Glycine Emission toward OMC-1," *ApJ*, **588**, 353. (2003)
24. Glenn, J., Jewell, P. R., Fourre, R., and Miaja, L., "A Polarization Survey of SiO Maser Variability in Evolved Stars," *ApJ*, **588**, 478 (2003)
25. Snyder, L. E., Lovas, F. J., Mehringer, D. M., Miao, N. Y., Kuan, Y.-J. Hollis, J. M., and Jewell, P. R., "Confirmation of Interstellar Acetone," *ApJ*, **578**, 245. (2002)
26. Hollis, J. M., Lovas, F. J., Jewell, P. R., and Coudert, L. H., "Interstellar Antifreeze: Ethylene Glycol," *ApJ Letters*, **571**, L59 (2002)
27. Hollis, J. M., Vogel, S. N., Snyder, L. E., Jewell, P. R., Lovas, F. J., "The Spatial Scale of Glycolaldehyde in the Galactic Center," *ApJ Letters*, **554**, L81 (2001)
28. Hollis, J. M., Lovas, F. J., and Jewell, P. R., "Interstellar Glycolaldehyde, The First Sugar," *ApJ Letters*, **540**, L107 (2000)
29. Sandell, G., Avery, L. W., Baas, F., Coulson, I., Dent, W. R. F., Friberg, P., Gear, W. P. K., Greaves, J., Holland, W., Jenness, T., Jewell, P., Lightfoot, J., Matthews, H. E., Moriarty-Schieven, G., Prestage, R., Robson, E. I., Stevens, J., Tilanus, R. P. J., Watt, G. D., "A Jet-Driven, Extreme High-Velocity Outflow Powered by a Cold, Low-Luminosity Protosar Near NGC 2023," *ApJ*, **519**, 236.(1999)
30. Jewell, P. R., and Mangum, J. G., "System Temperatures, Single versus Double Sideband Operation and Optimum Receiver Performance," *Int. J. Infrared and Millimeter Waves*, **20**, 171. (1999)
31. Glenn, J., Walker, C. K., Bieging, J. H., and Jewell, P. R., "Millimeter-wave Spectropolarimetry of Evolved Stars: Evidence for Polarized Molecular Line Emission," *ApJ*, **487**, L89 (1997)
32. Glenn, J., Walker, C. K., Jewell, P. R., "HCO^+ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR21 Star-Forming Region," *ApJ*, **479**, 325 (1997)
33. Wilson, T. L., Snyder, L. E., Comoretto, G., Jewell, P. R., and Henkel, C., "A New Molecular Core in Sagittarius B2", *Astr Ap*, **314**, 909 (1996)
34. Hollis, J. M., Jewell, P. R., and Lovas, F. J., "Confirmation of Interstellar Methylene," *ApJ*, **438**, 259 (1995)
35. Lerner, M. S., Baath, L. B., Inoue, M., Padin, S., Rogers, A. E. E., Wright, M. C. H., Zensus, A., Backer, D. C., Booth, R. S., Carlstrom, J. E., Emerson, D.T ., Hirabayashi, H., Hodges, M. W., Jewell, P., Kobayashi, H., Kus, A. J., Moran, J. M., Morimoto, M., Plambeck, R. L., Rantakyro, F. T., and Woody, D., "A 100 GHz Map of 3C 446," *Astr Ap*, **280**, 117 (1993)

36. Jewell, P. R., Snyder, L. E., Walmsley, C. M., Wilson, T. L., and Gensheimer, P. D., "Observational Properties of v=1, J=1-0 SiO Masers," *Astr Ap,* **242**, 211 (1991)
37. Hollis, J. M., Wright, M. C. H., Welch, W. J., Jewell, P. R., Crull, H. E., Jr., Kafatos, M., and Michalitsianos, A. G., "Comparisons of SiO Maser and LPV Positions in the R Aquarii and Omicron Ceti Binary Systems," *ApJ,* **361**, 663 (1990)
38. Padin, S., Woody, D. P., Hodges, M. W., Rogers, A. E. E., Emerson, D. T., Jewell, P. R., Lamb, J., Perfetto, A., and Wright, M. C. H., "223 GHz VLBI Observations of 3C 273," *ApJ Letters*, **360**, L11 (1990)
39. Jacq, T., Walmsley, C. M., Henkel, C., Baudry, A., Mauersberger, R., and Jewell, P. R., "Deuterated Water and Ammonia in Hot Cores," *Astr. Ap.*, **228**, 447 (1990)
40. Hollis, J. M., Jewell, P. R., and Lovas, F. J., "Search for Methylene in the Orion Nebula, *Ap. J.*, **346**, 794 (1989)
41. Jewell, P. R., Hollis, J. M., Lovas, F. J., and Snyder, L. E., "Millimeter- and Submillimeter-wave Surveys of Orion A Emission Lines in the Ranges 200.7 - 202.3 GHz, 203.7 - 205.3 GHz, and 330 - 360 GHz," *Ap. J. Suppl.*, **70**, 833 (1989)
42. Jacq, T., Jewell, P. R., Henkel, C., Walmsley, C. M., and Baudry, A., "$H_2{}^{18}O$ in Hot Dense Molecular Cloud Cores," *Astr Ap Letters*, **199**, L5 (1988)
43. Schenewerk, M. S., Snyder, L. E., Hollis, J. M., Jewell, P. R., and Ziurys, L. M., "HCO Emission from the HII - Molecular Cloud Interface Regions," *ApJ*, **328**, 785 (1988)
44. Gordon, M. A. and Jewell, P. R., "Maps of Dust Clouds at 1.3 Millimeters Associated with Bright HII Regions," *ApJ*, **323**, 766 (1987)
45. Jewell, P. R., Dickinson, D. F., Snyder, L. E., and Clemens, D. P., "High Excitation SiO Masers in Evolved Stars," *ApJ*, **323**, 749 (1987)
46. Dickinson, D. F., Turner, B. E., Jewell, P. R., and Benson, P. J., "Hydroxyl Masers in Short-Period Mira and Semi-regular Variable Stars," *AJ*, **92**, 627 (1986)
47. Jewell, P. R., Snyder, L. E., and Schenewerk, M. S., "Detection of Hydrogen Cyanide Emission from the Peculiar Oxygen-Rich Evolved Star IRC +10420," *Nature*, **323**, 311 (1986)
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50. Bockelee-Morvan, D., Crovisier, J., Gerard, E., Henkel, C., Jewell, P. R., Snyder, L. E., Clemens, C. A., Molloy, A. R., and Schloerb, F. P., "Radio Observations of OH in Comet Crommelin 1983n," *AJ*, **90**, 2586 (1985)
51. Jewell, P. R., Walmsley, C. M., Wilson, T. L., and Snyder, L. E., "New Detections of Maser and Thermal SiO Emission," *ApJ Letters*, **298**, L55 (1985)
52. Schenewerk, M. S., Jewell, P. R., Snyder, L. E., Buxton, L. W., Campbell, E. J., and Flygare, W. H., "A Search for the Interstellar HCN Dimer," *ApJ*, **296**, 218 (1985)
53. Jewell, P. R., Schenewerk, M. S., and Snyder, L. E., "The Detection of Rotationally Excited OH Emission toward the Probable Young Planetary Nebula Vy 2-2," *ApJ*, **295**, 183 (1985)
54. Wilson, T. L., Walmsley, C. M., Snyder, L. E., and Jewell, P. R., "Detection of a New Type of Methanol Maser," *Astr Ap*, **134**, L7 (1984)
55. Walmsley, C. M., Jewell, P. R., Snyder, L. E., and Winnewisser, G., "Detection of Interstellar Methyldiacetylene (CH_3C_4H) in the Dark Dust Cloud TMC 1," *Astr Ap*, **134**, L11 (1984)

56. Jewell, P. R., and Snyder, L. E., "Observations and Analysis of Circumstellar Cyanoacetylene," *ApJ*, **278**, 176 (1984)
57. Jewell, P. R., Batrla, W., Walmsley, C. M., and Wilson, T. L., "SiO Maser Emission from OH/IR Stars and a Search for Orion-Like SiO Masers," *Astr Ap*, **130**, L1 (1984)
58. Hollis, J. M., Lovas, F. J., Suenram, R. D., Jewell, P. R., and Snyder, L. E., "Methanol in Orion A: Simultaneous Observations of Corresponding Rotational Transitions in the Ground and Torsionally Excited States," *ApJ*, **264**, 543 (1983)
59. Jewell, P. R., and Snyder, L. E., "New Circumstellar Cyanoacetylene Sources," *Ap. J. (Letters)*, **255**, L69 (1982)
60. Jewell, P. R., Webber, J. C., and Snyder, L. E., "Evolution of the OH Maser Emission from U Ori," *ApJ* **249**, 118 (1981)
61. Jewell, P. R., Webber, J. C., and Snyder, L. E., "The Linear Shell Diameter of IRC +10011," *ApJ Letters*, **242**, L29 (1980)
62. Jewell, P. R., Elitzur, M., Webber, J. C., and Snyder, L. E., "Monitoring of OH Maser Emission from Late-Type Stars," *ApJ Suppl.*, **41**, 191 (1979)

PH.D. DISSERTATION

1. Jewell, P. R., "Molecular Line Studies of Circumstellar Envelopes (PhDT)". Ph.D Thesis, University of Illinois, Urbana-Champaign. *Dissertation Abstracts International*, **Volume: 43-09, Section: B**, page: 2934 (1982)

BOOKS EDITED

1. Latter, W. B., Radford, S. J. E., Jewell, P. R., Mangum, J. G., and Bally, J. *eds*, CO: Twenty-Five Years of Millimeter-Wave Spectroscopy," *IAU Symposium No. 170*, (Dordrecht: Kluwer).

SCIENCE COMMENTARY

1. Jewell, P., "A New Handle on a Maser Pump," *Nature*, **371**, 376 (1994)

TECHNICAL MEMORANDA

1. Jewell, P. R. "Plan for astronomical testing of GBT Spectrometer modes," (2002)
2. Braatz, J., Fisher, J. R., Jewell, P. R., Kemball, A., Langston, G., Maddalena, R., McMullin, J. "Specification of GBT Astronomical Intensity Calibration," (2001).
3. Jewell, P. R., Mangum, J. G., MMA Memo #170, "System Temperatures, Single vs. Double Sideband Operation, and Optimum Receiver Performance," *ALMA Memo **#170***, National Radio Astronomy Observatory (1997)

4. Jewell, P. R., Mead, K. "A Guide to Spectral Line On-the-fly Mapping," National Radio Astronomy Observatory (April 1995, see update by J. Mangum 1996)
5. Jewell, P. R., "Evaluation of Feedleg Insulation," *12 Meter Memo* **247**, National Radio Astronomy Observatory (1992)
6. Jewell, P. R., "User's Manual for the NRAO 12-m Telescope," National Radio Astronomy Observatory (August 1990)
7. Jewell, P. R., White, T. K., "12 m Structural Tilt Measurements," *12 Meter Memo* **246**, National Radio Astronomy Observatory (1989)
8. Jewell, P. R., "Telescope Pointing Accuracy," *12 Meter Memo* **246,** National Radio Astronomy Observatory (1989)
9. Jewell, P. R., "Mechanical Hysteresis in Feedleg Sag," *12 Meter Memo* **245,** National Radio Astronomy Observatory (1989)
10. Jewell, P. R., "Continuum Digital Backend," *12 Meter Memo* **242,** National Radio Astronomy Observatory (1987)
11. Jewell, P. R., "Factors Affecting the Sensitivity of a Millimeter Array," *ALMA Memo **#35***, National Radio Astronomy Observatory (1985)

PUBLISHED CONFERENCE ABSTRACTS and PROCEEDINGS

1. Gonzalez, A., Jewell, P., Humphreys, E., Zwaan, M., Fukagawa, M., Kosugi, G., Norikazu Mizuno, N., Carpenter, J., Dougherty, S., "The ALMA2030 Wideband Sensitivity Upgrade – 2026 Status Report," *2026 SPIE Astronomical Telescopes & Instrumentation*, **14147** (2026).
2. Crovari, C., Gonzalez, A., Carpenter, J., Santander-Vela, J., Nakos, T., Larrain, J., Mohamed, A., Brogan, C., Dougherty, S., Humphreys, E., Ishii, S., Ito, T., Jewell, P., Kosugi, G., Mizuno, N., Saldias, C., Shen, T-C., Sugimoto, K., Zahorik, T., Zwaan, M. "On the road to ALMA 2030: managing and controlling a complex ensemble of interdependent but self-directed projects" *2026 SPIE Astronomical Telescopes & Instrumentation*, **14152-08** (2026).
3. Jewell, P. R., Brogan, C. L., Carpenter, J. M, Dougherty, S. M., Fukagawa, M., Gonzalez, A., Hatsukade, B., Humphreys, E. M. L., Mizuno, N., Diaz Trigo, M., Zwaan, M. A. "The Future of ALMA: Wideband Sensitivity Upgrade and Next-Generation Concepts" *32nd IAU General Assembly*, P2431 (2024)
4. Remijan, A., Jewell, P. R., Looney, L. "Obituary: Lewis (Lew) E. Snyder (1939-2021)," *BAAS 53.0307*.
5. Remijan, A., Snyder, L. E., Jewell, P., Lovas, F. J., "Interstellar Formaldehyde – a Retrospective," *74th International Symposium on Molecular Spectroscopy*, MG08 (2019)
6. Carroll, B., McGuire, B. A., Loomis, R, Finneran, I. A., Jewell, P., Remijan, A., Blake, G., "Discovery of the First Interstellar Chiral Molecule, Propylene Oxide,", *71st International Symposium on Molecular Spectroscopy*, WH06 (2016)
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