

CURRICULUM VITAE

Marc William Pound

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1. Personal Information

Marc William Pound
Research Scientist
Department of Astronomy

Education

1994 Ph.D., University of Maryland, College Park, MD
1987 M.A., Boston University, Boston, MA
1985 B.A., Boston University, Boston, MA

Professional Experience

2012–present Research Scientist
Laboratory for Millimeter-Wave Astronomy
University of Maryland
Supervisor: Lee G. Mundy

2004–2012 Associate Research Scientist
Laboratory for Millimeter-Wave Astronomy
University of Maryland
Supervisor: Lee G. Mundy

2001–2004 Assistant Research Scientist
Laboratory for Millimeter-Wave Astronomy
University of Maryland
Supervisor: Stuart N. Vogel

1997–2001 Research Associate
Laboratory for Millimeter-Wave Astronomy
University of Maryland
Advisor: Stuart N. Vogel

1994–1997 Postdoctoral Fellow
Radio Astronomy Laboratory, University of California, Berkeley
Advisor: Jack Welch

1987–1990 Observing Assistant
Radio Physics Research Dept., AT&T Bell Laboratories, Holmdel, NJ
Supervisor: Robert W. Wilson

2. Research, Scholarly, and Creative Activities

a. Books.

b. Articles in Refereed Journals.

“CARMA Large Area Star Formation Survey: Structure and Kinematics of Dense Gas in Serpens Main,” Lee, K. I., et al. 2014, *Astrophysical Journal*, 797, 76 [0 cit.]

“CARMA Large Area Star Formation Survey: Project Overview with Analysis of Dense Gas Structure and Kinematics in Barnard 1,” Storm, S., et al. 2014, *Astrophysical Journal*, 794, 165 [2 cit.]

“CARMA Large Area Star Formation Survey: Observational Analysis of Filaments in the Serpens South Molecular Cloud,” Fernández-López, M., et al. 2014, *Astrophysical Journal*, 790, L19 [6 cit.]

“TADPOL: A 1.3 mm Survey of Dust Polarization in Star-forming Cores and Regions,” Hull, C. L. H., et al. 2014, *ApJS*, 213, 13 [20 cit.]

“74 MHz Nonthermal Emission from Molecular Clouds: Evidence for a Cosmic Ray Dominated Region at the Galactic Center,” Yusef-Zadeh, F., Wardle, M., Lis, D., Viti, S., Brogan, C., Chambers, E., Pound, M., & Rickert, M. 2013, *Journal of Physical Chemistry A*, 117, 9404 [8 cit.]

“Misalignment of Magnetic Fields and Outflows in Protostellar Cores,” Hull, C. L. H., et al. 2013, *Astrophysical Journal*, 768, 159 [48 cit.]

“ALMA Observations of the Galactic Center: SiO Outflows and High-mass Star Formation near Sgr A*,” Yusef-Zadeh, F., et al. 2013, *Astrophysical Journal*, 767, L32 [8 cit.]

“The Ionized Circumstellar Envelopes of Orion Source I and the Becklin-Neugebauer Object,” Plambeck, R. L., et al. 2013, *Astrophysical Journal*, 765, 40 [6 cit.]

“A 3 pc Scale Jet-driven Outflow from Sgr A*,” Yusef-Zadeh, F., et al. 2012, *Astrophysical Journal*, 758, L11 [19 cit.]

[1] “Tracing the Bipolar Outflow from Orion Source I,” Plambeck, R. L., Wright, M. C. H., Friedel, D. N., Widicus Weaver, S. L., Bolatto, A. D., **Pound, M. W.**, Woody, D. P., Lamb, J. W., & Scott, S. L. 2009, *Astrophysical Journal*, 704, L25 [11 cit.]

[2] “Dynamically Driven Evolution of the Interstellar Medium in M51,” Koda, J., Scoville, N., Sawada, T., La Vigne, M. A., Vogel, S. N., Potts, A. E., Carpenter, J. M., Corder, S. A., Wright, M. C. H., White, S. M., Zauderer, B. A., Patience, J., Sargent, A. I., Bock, D. C. J., Hawkins, D., Hodges, M., Kembell, A., Lamb, J. W., Plambeck, R. L., **Pound, M. W.**, Scott, S. L., Teuben, P., & Woody, D. P. 2009, *Astrophysical Journal*, 700, L132 [18 cit.]

[3] “Dense, Parsec-Scale Clumps Near the Great Annihilator,” Hodges-Kluck, E., **Pound, M. W.**, Harris, A. I., Lamb, J. W., & Hodges, M. 2009, *Astrophysical Journal*, 696, 1374 [1 cit.]

[4] “A Resolved Ring of Debris Dust Around the Solar Analog HD 107146,” Corder, S., Carpenter, J. M., Sargent, A. I., Zauderer, B. A., Wright, M. C. H., White, S. M., Woody, D. P., Teuben, P., Scott, S. L., **Pound, M. W.**, Plambeck, R. L., Lamb, J. W., Koda, J., Hodges, M., Hawkins, D., & Bock, D. C. J. 2009, *Astrophysical Journal*, 690, L65 [8 cit.]

- [5] “Molecular Gas in the $z = 1.2$ Ultraluminous Merger GOODS J123634.53+621241.3,” Frayer, D. T., Koda, J., Pope, A., Huynh, M. T., Chary, R. R., Scott, D., Dickinson, M., Bock, D. C. J., Carpenter, J. M., Hawkins, D., Hodges, M., Lamb, J. W., Plambeck, R. L., **Pound, M. W.**, Scott, S. L., Scoville, N. Z., & Woody, D. P. 2008, *Astrophysical Journal*, 680, L21 [19 cit.]
- [6] “Formation of Pillars at the Boundaries between H II Regions and Molecular Clouds,” Mizuta, A., Kane, J. O., **Pound, M. W.**, Remington, B. A., Ryutov, D. D., & Takabe, H. 2006, *Astrophysical Journal*, 647, 1151 [18 cit.]
- [7] “Hydrodynamic Instability of Ionization Fronts in H II Regions,” Mizuta, A., Kane, J. O., **Pound, M. W.**, Remington, B. A., Ryutov, D. D., & Takabe, H. 2005, *Astrophysical Journal*, 621, 803 [16 cit.]
- [8] “The Nature of Nonthermal X-ray Filaments Near the Galactic Center,” Yusef-Zadeh, F., Wardle, M., Muno, M., Law, C., & **Pound, M.** 2005, *Advances in Space Research*, 35, 1074 [12 cit.]
- [9] “Star-like Activity From a Very Young ‘Isolated Planet’,” Greaves, J. S., Holland, W. S., & **Pound, M. W.** 2003, *Monthly Notices of the Royal Astronomical Society*, 346, 441 [7 cit.]
- [10] “Instability of an Ablatively-Accelerated Slab in the Case of Non-normal Irradiation,” Ryutov, D. D., Kane, J. O., **Pound, M. W.**, & Remington, B. A. 2003, *Plasma Physics and Controlled Fusion*, 45, 769 [8 cit.]
- [11] “Looking Into the Horsehead,” **Pound, M. W.**, Reipurth, B., & Bally, J. 2003, *Astronomical Journal*, 125, 2108 [37 cit.]
- [12] “Molecular Gas in the Eagle Nebula,” **Pound, M. W.** 1998, *Astrophysical Journal*, 493, L113 [50 cit.]
- [13] “Kinematics of the Ursa Major Molecular Clouds,” **Pound, M. W.**, & Goodman, A. A. 1997, *Astrophysical Journal*, 482, 334 [17 cit.]
- [14] “The Berkeley-Illinois-Maryland-Association Millimeter Array,” Welch, W. J., Thornton, D. D., Plambeck, R. L., Wright, M. C. H., Lugten, J., Urry, L., Fleming, M., Hoffman, W., Hudson, J., Lum, W. T., Forster, J. . R., Thatte, N., Zhang, X., Zivanovic, S., Snyder, L., Crutcher, R., Lo, K. Y., Wakker, B., Stupar, M., Sault, R., Miao, Y., Rao, R., Wan, K., Dickel, H. R., Blitz, L., Vogel, S. N., Mundy, L., Erickson, W., Teuben, P. J., Morgan, J., Helfer, T., Looney, L., de Geus, E., Grossman, A., Howe, J. E., **Pound, M.**, & Regan, M. 1996, *Publications of the Astronomical Society of the Pacific*, 108, 93 [131 cit.]
- [15] “Interferometric Observations at 2.7 Millimeters of the Nearest T Tauri Stars,” **Pound, M. W.** 1996, *Astrophysical Journal*, 457, L35 [10 cit.]
- [16] “Proto-Brown Dwarfs. I. Methods and Results for High-Latitude Clouds: Erratum,” **Pound, M. W.**, & Blitz, L. 1995, *Astrophysical Journal*, 444, 487 [1 cit.]
- [17] “Proto-brown dwarfs. 2: Results in the Ophiuchus and Taurus Molecular Clouds,” **Pound, M. W.**, & Blitz, L. 1995, *Astrophysical Journal*, 444, 270 [13 cit.]
- [18] “Dense Gas in High-Latitude Molecular Clouds,” Reach, W. T., **Pound, M. W.**, Wilner, D. J., & Lee, Y. 1995, *Astrophysical Journal*, 441, 244 [23 cit.]

- [19] “Proto–Brown Dwarfs. I. Methods and Results for High-Latitude Clouds,” **Pound, M. W.**, & Blitz, L. 1993, *Astrophysical Journal*, 418, 328 [29 cit.]
- [20] “A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1 - 0.5,” Uchida, K. I., Morris, M., Bally, J., **Pound, M.**, & Yusef-Zadeh, F. 1992, *Astrophysical Journal*, 398, 128 [29 cit.]
- [21] “The Separation Between Gas and Dust Filaments at the Edge of the Expanding Eshell in Eridanus,” Verschuur, G. L., Rickard, L. J., Verter, F., **Pound, M. W.**, & Leisawitz, D. 1992, *Astrophysical Journal*, 390, 514 [17 cit.]
- [22] “Two New Molecular Outflows in L1551?,” **Pound, M. W.**, & Bally, J. 1991, *Astrophysical Journal*, 383, 705 [28 cit.]
- [23] “Subparsec Clumping in the Nearby Molecular Cloud MBM 12,” **Pound, M. W.**, Wilson, R. W., & Bania, T. M. 1990, *Astrophysical Journal*, 351, 165 [70 cit.]
- [24] “G70.7+1.2: A Nonthermal Bubble in a Globule - Nova, Supernova Remnant, or Outflow?,” Bally, J., **Pound, M. W.**, Stark, A. A., Israel, F., Hirano, N., Kameya, O., Sunada, K., Hayashi, M., Thronson, H., Jr., & Hereld, M. 1989, *Astrophysical Journal*, 338, L65 [10 cit.]
- [25] “CCD Photometry of the Globular Cluster NGC 288,” **Pound, M. W.**, Janes, K. A., & Heasley, J. N. 1987, *Astronomical Journal*, 94, 1185 [27 cit.]
- [26] “The Intermediate-Age Open Cluster Mel 71,” **Pound, M. W.**, & Janes, K. A. 1986, *Publications of the Astronomical Society of the Pacific*, 98, 210 [7 cit.]

c. Monographs, Reports, and Extension Publications.

- [27] “Preservation of Shared Governance During Reorganizations, Consolidations, and Mergers,” **Pound, M. W.**, Fleischmann, K., and ERG Committee. 2012, UMCP Senate Document #09-10-49, 27 pages.
- [28] “Revisions to the School of Public Health Plan of Organization,” Fleischmann, K., **Pound, M. W.**, and ERG Committee. 2012, UMCP Senate Document #10-11-49, 33 pages.
- [30] “Representation of Single-Member Consituencies,” **Pound, M. W.** and ERG Committee. 2011, UMCP Senate Document #09-10-38, 12 pages.
- [31] “Amendment to the Process for Handling TieBreaks in Senate Elections,” **Pound, M. W.** for ERG Committee. 2011 UMCP Senate Document #101139, 5 pages.
- [32] “Reapportionment of the Faculty and Undergraduate Senators of the College of Computer, Mathematical, and Natural Sciences,” **Pound, M. W.** for ERG Committee. 2010, UMCP Senate Document #10-11-25, 6 pages.
- [33] “Review of Quorum Calculation in Senate Standing Committees,” **Pound, M. W.** and ERG Committee. 2010, UMCP Senate Document #09-10-41, 21 pages.
- [34] “Amendment to the Membership of the Research Council to Include a Representative of the President” **Pound, M. W.** for ERG Committee. 2010, UMCP Senate Document #10-11-16, 5 pages.

- [35] “Revisions to the Plan of Organization of the College of Computer, Mathematical, and Natural Sciences (CMNS),” **Pound, M. W.** and ERG Committee. 2010, UMCP Senate Document #101114, 17 pages.
- [36] “Research Opportunities in Plasma Astrophysics, Ji, H., Bale, S., Bhattacharjee, A., Cattaneo, F., Drake, J., Lee, M., Li, H., Liang, E., **Pound, M.**, Prager, S., Quataert, E., Remington, B., Rosner, R., Ryutov, D., Thomas, E., Zweibel, E. 2010, Report of the Workshop on Opportunities in Plasma Astrophysics, 128 pages.
- [37] “CARMA Summer School 2010,” Wright, M., **Pound, M. W.**, Plambeck, R., Carpenter, J., Volgenau, N., Culverhouse, T., Friedel, D., Manohar, S., Goncalves, T., Balokovic, M., Fisher, D., Camus, R., Jameson, K., Westbrook, B., Abdulla, Z., Navarrete, F., Miura, R., Plunkett, A., Speights, J., Weinzirl, T., Merello, M., Kai Tung, T., Royster, M. 2010, CARMA Memorandum Series #55, 43 pages.
- [38] “Basic Research Needs for High Energy Density Laboratory Physics,” 2009, Many authors including **Pound**, Report of the DOE/NNSA Workshop on HEDLP Research Needs, 154 pages.
- [39] “CARMA Summer School 2009,” Wright, M., **Pound, M. W.**, Plambeck, R., Carpenter, J., Volgenau, N., Bock, D., Hull, C., Cook, S., Morgan, A., Rahman, M.N., Storm, S., Xue, R., Rebollado, D., Seale, J., Bans, A., Sherman, R., Lockwood, A., Tendulkar, S., Jones, T., Rottler, L., Bulbul, G., Lopez, L., Barnes, K., Bulger, J., Jetha, N. 2009, CARMA Memorandum Series #53, 47 pages.
- [40] “CARMA Summer School 2008,” Wright, M., **Pound, M. W.**, Plambeck, R., Carpenter, J., Koda, J., Bock, D., Anderson, M., Bussmann, S., Converse, J., Cortes, S., Davis, T., Fukuhara, M., George, J., Goldstein, J., Graves, S., Hasler, N., Heiderman, A., Hogg, D., Lee, K., Morton, T, Masque, J., Momose, R., Roscioli, M., Sanchez-Monge, A., Welty, D., Zhu, L. 2008, CARMA Memorandum Series #48, 61 pages.
- [41] “Optimal Track Lengths for CARMA,” **Pound, M. W.**, 2008, CARMA Memorandum Series #41, 10 pages.
- [42] “CARMA Summer School 2007,” Wright, M., **Pound, M. W.**, Plambeck, R., Bock, D., Alatalo, K., Baumeister, A., Williams, P., Cyganowski, C., Lucero, D., Wang, R., Perez, L., Max-Moerbeck, W., Salyk, C., Kumar, S., Yim, K, Chiang, H. F., Hakobian, N., DeCesar, M., Johnston, K. 2004, CARMA Memorandum Series #44, 21 pages.
- [43] “CARMA First Light User Interface,” **Pound, M. W.**, Gwon, C. S., & Scott, S.L. 2004, CARMA white paper, 21 pages.
- [44] “CARMA Interferometry Engine Design,” **Pound, M. W.** & Kraybill, J. C. 2003, CARMA white paper, 21 pages.
- [45] “Suggested Tracking Rate for CARMA,” **Pound, M. W.** 2003, CARMA white paper, 5 pages.
- [46] “CARMA Auxiliary Services Design,” Teuben, P. J. Gwon, C. S., & **Pound, M. W.** 2003, CARMA white paper, 18 pages.
- [47] “CARMA Logging Design,” **Pound, M. W.** 2003, CARMA white paper, 14 pages.

- [48] “CARMA High-Level Computing Requirements,” CARMA Computing Working Group, 2003, CARMA white paper, 33 pages.
- [49] “Autocorrelation Observations with the BIMA Array,” **Pound, M. W.** & Helfer, T. T. 1997, BIMA Memorandum Series #57, 19 pages.
- [50] “Comet C/1995 O1 (Hale-Bopp),” Veal, J. M., Snyder, L. E., Wright, M. C. H., Forster, J. R., Hoffman, W., **Pound, M.**, de Pater, I., Helfer, T., Plambeck, R. L., Engargiola, G., Wong, T., Woodney, L. M., A’Hearn, M. F., Palmer, P., Kuan, Y. J., Kawabata, T., Ayani, K., Kinoshita, K., Fujii, M., Mannucci, F., & Tozzi, G. P. 1997, International Astronomical Union Circular, 6575, 1-1.
- [51] “Kinematics of the Ursa Major Molecular Clouds,” **Pound, M.** & Goodman, A. 1996, Astronomy Data Image Library, 1-5.
- [52] “Proto-brown dwarfs,” **Pound, M. W.** 1994, Ph.D. Thesis, 227 pages.
- [53] “The COMB Cookbook,” **Pound, M. W.**, Bally, J., & Wilson, R. W., 1987, a users’ manual for the COMB software package, 41 pages.
- d. Book Reviews, Other Articles, and Notes.
- e. Talks, Abstracts, and Other Professional papers presented.
- i. Invited talks, etc.
- 2011 Invited Talk, “Introduction to mm-interferometry,” NRAO Community Day, Baltimore, MD
- 2010 Invited Review Talk, “Shear and Interface Instabilities in Astronomy,” Workshop on Plasma Astrophysics, Princeton, NJ
- 2007 “The Story of the Horsehead,” UMCP Astronomy Observatory Open House
- 2006 Invited Talk, “Pillars of Heaven,” 6th International Conference on High-Energy Density Laboratory Astrophysics, Houston, TX
- 2004 Invited Talk, “Eagle Nebula Pillars: Models vs. Observations,” 5th International Conference on High-Energy Density Laboratory Astrophysics, Tuscon, AZ
- 2004 “Take the Astronomy Challenge!,” UMCP Astronomy Observatory Open House
- 2003 Invited Talk, “CARMA Visibility and Monitoring Data Format,” Frequency Agile Solar Radiotelescope Workshop, University of Maryland
- 2003 Invited Colloquium, “Looking Into The Horsehead,” Northwestern University, Evanston, IL
- 2003 Invited Colloquium, “Looking Into The Horsehead,” University of Massachusetts, Amherst, MA
- 2003 Contributed Talk, “CARMA Software Development and Data Archiving,” International Union of Radio Science Symposium, Columbus, OH
- 2002 Invited Talk, “Radiatively Driven Molecular Clouds: An Observer’s Perspective,” 4th International Conference on High-Energy Density Laboratory Astrophysics, Ann Arbor, MI
- 2002 “Not Stars,” UMCP Astronomy Observatory Open House

- 2000 Contributed Talk, “CORBA Overview,” Astronomical Data Analysis Software and Systems X, Boston, MA
- 2000 “How Do We Know Anything About the Universe?,” UMCP Astronomy Observatory Open House
- 1999 “Just What is Radio Astronomy, Anyway?,” UMCP Astronomy Observatory Open House
- 1998 Invited Talk, “Astronomical Java Development,” Astronomical Data Analysis Software and Systems VIII, Urbana, IL
- 1997 LMA Seminar, “Molecular Gas in The Eagle Nebula,” Laboratory for Millimeter Astronomy, University of Maryland
- 1995 Review Talk, “Star Formation Then and Now,” Astronomy Department, University of California, Berkeley, CA
- 1994 RAL Seminar, “Proto-Brown Dwarfs,” Radio Astronomy Laboratory, University of California, Berkeley, CA
- 1994 Invited Talk, “Proto-Brown Dwarfs,” Harvard-Smithsonian Center for Astrophysics, Cambridge, MA
- 1994 Invited Colloquium, “Proto-Brown Dwarfs,” Astronomy Department, Boston University, Boston, MA
- ii. Refereed conference proceedings.
- [54] “Pillars of Heaven,” **Pound, M. W.**, Kane, J. O., Ryutov, D. D., Remington, B. A., & Mizuta, A. 2007, *Astrophysics and Space Science*, 307, 187 [2 cit.]
- [55] “Nonlinear Dynamics of Ionization Fronts in HII Regions,” Mizuta, A., Kane, J. O., **Pound, M. W.**, Remington, B. A., Ryutov, D. D., & Takabe, H. 2007, *Astrophysics and Space Science*, 307, 183 [0 cit.]
- [56] “Phenomenological Theory of the Photoevaporation Front Instability,” Ryutov, D. D., Kane, J. O., Mizuta, A., **Pound, M. W.**, & Remington, B. A. 2007, *Astrophysics and Space Science*, 307, 173 [1 cit.]
- [57] “Molecular Clouds: Observation to Experiment,” Kane, J. O., Mizuta, A., **Pound, M. W.**, Remington, B. A., & Ryutov, D. D. 2005, *Astrophysics and Space Science*, 298, 261 [3 cit.]
- [58] “Hydrodynamic Instability of Ionization Front in HII Regions: From Linear to Non-linear Evolution,” Mizuta, A., Takabe, H., Kane, J. O., Remington, B. A., Ryutov, D. D., & **Pound, M. W.** 2005, *Astrophysics and Space Science*, 298, 197 [5 cit.]
- [59] “Two Models of Magnetic Support for Photoevaporated Molecular Clouds,” Ryutov, D. D., Kane, J. O., Mizuta, A., **Pound, M. W.**, & Remington, B. A. 2005, *Astrophysics and Space Science*, 298, 183 [7 cit.]
- [60] “Eagle Nebula Pillars: From Models to Observations,” **Pound, M. W.**, Kane, J. O., Remington, B. A., Ryutov, D. D., Mizuta, A., & Takabe, H. 2005, *Astrophysics and Space Science*, 298, 177 [3 cit.]
- iii. Unrefereed conference proceedings.

- [61] “MIS: a MIRIAD Interferometry Singledish toolkit, ” **Pound, M. W.**, & Teuben, P. 2012, *Astronomical Data Analysis Software and Systems XXI*, in press [1 cit.]
- [62] “MIS: A Miriad Interferometry Singledish Toolkit, ” **Pound, M.**, & Teuben, P. 2011, *Astrophysics Source Code Library*, record ascl:1110.025, 10025
- [63] “The Eagle Nebula on NIF, ” Kane, J., Cooper, A., Remington, B., Ryutov, D., Smalyuk, V., & **Pound, M.** 2011, *APS Meeting Abstracts*, 9034P [0 cit.]
- [64] “CARMA Correlator Graphical Setup, ” Wu, D., Shaya, B., & **Pound, M. W.** 2011, *Astronomical Data Analysis Software and Systems XX*, 442, 325 [0 cit.]
- [65] “PDRT: Photo Dissociation Region Toolbox, ” **Pound, M. W.**, & Wolfire, M. G. 2011, *Astrophysics Source Code Library*, record ascl:1102.022, 2022 [0 cit.]
- [66] “DIRT: Dust InfraRed Toolbox, ” **Pound, M. W.**, Wolfire, M. G., Mundy, L. G., Teuben, P. J., & Lord, S. 2011, *Astrophysics Source Code Library*, record ascl:1102.021, 2021 [0 cit.]
- [67] “The Photo Dissociation Region Toolbox, ” **Pound, M. W.**, & Wolfire, M. G. 2008, *Astronomical Data Analysis Software and Systems XVII*, 394, 654 [2 cit.]
- [68] “First Results from CARMA: The Combined Array for Research in Millimeter-wave Astronomy, ” Bock, D. C. J., Bolatto, A. D., Hawkins, D. W., Kembell, A. J., Lamb, J. W., Plambeck, R. L., **Pound, M. W.**, Scott, S. L., Woody, D. P., & Wright, M. C. H. 2006, *Proc. SPIE*, 6267, [9 cit.]
- [69] “The CARMA Project, ” Scott, S. L., & **Pound, M. W.** 2006, *Astronomical Data Analysis Software and Systems XV*, 351, 670 [2 cit.]
- [70] “Spreading DIRT with Web Services, ” **Pound, M. W.**, Wolfire, M. G., Amarnath, N. S., & Plante, R. L. 2005, *Astronomical Data Analysis Software and Systems XIV*, 347, 409 [0 cit.]
- [71] “SIRTF Tools for DIRT, ” **Pound, M. W.**, Wolfire, M. G., & Amarnath, N. S. 2004, *Astronomical Data Analysis Software and Systems (ADASS) XIII*, 314, 784 [0 cit.]
- [72] “The CARMA Software System, ” Scott, S. L., Amarnath, N. S., Beard, A. D., Daniel, P., Gwon, C., Hobbs, R., Kraybill, J. C., Leitch, E., Mehringer, D. M., Plante, R., **Pound, M. W.**, Rauch, K. P., & Teuben, P. J. 2004, *Astronomical Data Analysis Software and Systems (ADASS) XIII*, 314, 768 [1 cit.]
- [73] “The CARMA Monitor System (CAM) - Transforming Cyclically Collected Telemetry into a Linear Stream, ” Amarnath, N. S., Scott, S. L., Kraybill, J. C., Beard, A. D., Daniel, P., Gwon, C., Hobbs, R., Leitch, E., Mehringer, D. M., Plante, R., **Pound, M. W.**, Rauch, K. P., & Teuben, P. J. 2004, *Astronomical Data Analysis Software and Systems (ADASS) XIII*, 314, 720 [0 cit.]
- [74] “The CARMA Control System, ” Gwon, C., Beard, A. D., Daniel, P., Hobbs, R., Scott, S. L., Kraybill, J. C., Leitch, E., Mehringer, D. M., Plante, R., Amarnath, N. S., **Pound, M. W.**, Rauch, K. P., & Teuben, P. J. 2004, *Astronomical Data Analysis Software and Systems (ADASS) XIII*, 314, 708 [0 cit.]
- [75] “Eagle Nebula: the Problem of Missing Stiffness and the Hypothesis of Magnetostatic Turbulence, ” Ryutov, D. D., Kane, J. O., Mizuta, A., **Pound, M. W.**, & Reming-

- ton, B. A. 2004, *Plasmas in the Laboratory and in the Universe: New Insights and New Challenges*, 703, 415 [1 cit.]
- [76] “Teaching our (Graduate) Students How to AstroCompute ?,” Teuben, P. J., & **Pound, M. W.** 2003, *Bulletin of the American Astronomical Society*, 35, #135.09 [0 cit.]
- [77] “SIRTF Tools for DIRT,” **Pound, M. W.**, Wolfire, M. G., & Amarnath, N. S. 2003, *Bulletin of the American Astronomical Society*, 35, 1208 [0 cit.]
- [78] “Refactoring DIRT,” Amarnath, N. S., **Pound, M. W.**, & Wolfire, M. G. 2003, *Astronomical Data Analysis Software and Systems XII*, 295, 381 [0 cit.]
- [79] “CARMA Software Development,” **Pound, M. W.**, Amarnath, N. S., Rauch, K. P., Teuben, P. J., Scott, S. L., Hobbs, R., Beard, A., Daniel, P., Mehringer, D., Plante, R., Kraybill, J. C., Wright, M., & Leitch, E. 2003, *Astronomical Data Analysis Software and Systems XII*, 295, 377 [1 cit.]
- [80] “CARMA Data Storage, Archiving, Pipeline Processing, and the Quest for a Data Format,” Plante, R., **Pound, M. W.**, Mehringer, D., Scott, S. L., Beard, A., Daniel, P., Hobbs, R., Kraybill, J. C., Wright, M., Leitch, E., Amarnath, N. S., Rauch, K. P., & Teuben, P. J. 2003, *Astronomical Data Analysis Software and Systems XII*, 295, 269 [8 cit.]
- [81] “The COBRA/CARMA Correlator Data Processing System,” Scott, S. L., Hobbs, R., Beard, A., Daniel, P., Mehringer, D., Plante, R., Kraybill, J. C., Wright, M., Leitch, E., Amarnath, N. S., **Pound, M. W.**, Rauch, K. P., & Teuben, P. J. 2003, *Astronomical Data Analysis Software and Systems XII*, 295, 265 [2 cit.]
- [82] “Magnetohydrodynamics of Photoevaporated Molecular Clouds,” Ryutov, D., Kane, J., Mizuta, A., **Pound, M.**, & Remington, B. 2002, *APS Meeting Abstracts*, 1004P [0 cit.]
- [83] “Formation of the Pillars of the Eagle Nebula,” **Pound, M.**, Kane, J., Ryutov, D., Remington, B., Mizuta, A., Sudano, M., & Arnett, D. 2002, *APS Meeting Abstracts*, 1019P [0 cit.]
- [84] “Hydrodynamics of the Pillars of the Eagle Nebula,” Kane, J., Ryutov, D., Remington, B., Glendinning, G., **Pound, M.**, & David, A. 2001, *APS Meeting Abstracts*, 1119P [0 cit.]
- [85] “Hydrodynamics of the Eagle Nebula: the Pillars of Creation Revisited,” Kane, J. O., Ryutov, D. D., Remington, B. A., Glendinning, S. G., **Pound, M.**, & Arnett, D. 2001, *Bulletin of the American Astronomical Society*, 33, 883 [1 cit.]
- [86] “The CARMA Data Viewer,” **Pound, M. W.**, Hobbs, R., & Scott, S. 2001, *Astronomical Data Analysis Software and Systems X*, 238, 82 [2 cit.]
- [87] “Hydrodynamics of the Eagle Nebula,” Kane, J., Remington, B., Ryutov, D., Farnsworth, R., **Pound, M.**, & Stone, J. 2000, *APS Meeting Abstracts*, 1046P [0 cit.]
- [88] “A Commodity Computing Cluster,” Teuben, P. J., Wolfire, M. G., **Pound, M. W.**, & Mundy, L. G. 2000, *Astronomical Data Analysis Software and Systems IX*, 216, 644 [0 cit.]
- [89] “DIRT: The Dust InfraRed Toolbox,” **Pound, M. W.**, Wolfire, M. G., Mundy, L. G.,

- Teuben, P. J., & Lord, S. 2000, *Astronomical Data Analysis Software and Systems IX*, 216, 628 [2 cit.]
- [90] “BIMA Array Spectral Line Observations of Comet Hale-Bopp (C/1995 O1),” Snyder, L. E., Veal, J. M., Woodney, L. M., A’Hearn, M. F., Kuan, Y. J., Forster, J. R., Wright, M. C. H., Plambeck, R. L., de Pater, I., **Pound, M. W.**, Engargiola, G., & Palmer, P. 1999, *Bulletin of the American Astronomical Society*, 31, 848 [1 cit.]
- [91] “Temporal and Spatial Variability of Parent Molecules in Comet Hale-Bopp,” Woodney, L. M., A’Hearn, M. F., Fernandez, Y. R., Sherwin, A. K., Wellnitz, D. D., McMullin, J. P., Samarasinha, N., Farnham, T. L., Schleicher, D. G., Veal, J. M., Snyder, L. E., Wright, M. C. H., Forster, J. R., **Pound, M.**, de Pater, I., Helfer, T., Plambeck, R. L., Engargiola, G., Palmer, P., & Kuan, Y.-J. 1997, *Bulletin of the American Astronomical Society*, 29, 1046 [2 cit.]
- [92] “High-Spatial Resolution Imaging of the NGC 2024 Molecular Ridge,” **Pound, M. W.**, Gruendl, R., Lada, E. A., & Mundy, L. 1997, *American Institute of Physics Conference Series*, 393, 395 [1 cit.]
- [93] “The Ursa Major Molecular Clouds.,” **Pound, M. W.**, & Goodman, A. A. 1997, *IAU Symposium*, 170, 33 [0 cit.]
- [94] “Kinematics of the Ursa Major Molecular clouds.,” **Pound, M. W.**, & Goodman, A. A. 1996, *BAAS*, 28, 886 [0 cit.]
- [95] “Kinematics of the Ursa Major Molecular Clouds,” **Pound, M. W.**, & Goodman, A. A. 1996, *Bulletin of the American Astronomical Society*, 28, 886 [0 cit.]
- [96] “Proto-Brown Dwarfs II. Results in Ophiuchus and Taurus,” **Pound, M. W.**, & Blitz, L. 1994, *Bulletin of the American Astronomical Society*, 26, 930 [1 cit.]
- [97] “The Clump Spectrum of Two High-Latitude Molecular Clouds,” Blitz, L., & **Pound, M. W.** 1994, *Bulletin of the American Astronomical Society*, 26, 905 [0 cit.]
- [98] “Proto-Brown Dwarfs,” **Pound, M. W.**, & Blitz, L. 1993, *Bulletin of the American Astronomical Society*, 25, 1385 [0 cit.]
- [99] “Dense Gas in High-Latitude Molecular Clouds,” Reach, W. T., **Pound, M. W.**, & Wilner, D. J. 1993, *Bulletin of the American Astronomical Society*, 25, 900 [0 cit.]
- [100] “Dense Gas in High-Latitude Molecular Clouds?,” Reach, W. T., **Pound, M. W.**, Wilner, D. J., & Lee, Y. 1992, *Bulletin of the American Astronomical Society*, 24, 1198 [0 cit.]
- [101] “The Search for Proto-Brown Dwarfs,” **Pound, M. W.**, & Blitz, L. 1992, *Bulletin of the American Astronomical Society*, 24, 1164 [0 cit.]
- [102] “A Dense Molecular Ring Surrounding Galactic Center Non-Thermal Radio Shell G359.1-0.5,” Uchida, K. I., Morris, M., Bally, J., **Pound, M.**, & Yusef-Zadeh, F. 1991, *BAAS*, 23, 1333 [0 cit.]
- [103] “Proto-Jupiters,” **Pound, M. W.**, & Blitz, L. 1991, *BAAS*, 23, 976 [0 cit.]
- [104] “On the Structure and Kinematics of Molecular Clouds from Large Scale Mapping of Mm-Lines,” Bally, J., Langer, W. D., Wilson, R. W., Stark, A. A., & **Pound, M. W.** 1991, *Fragmentation of Molecular Clouds and Star Formation*, 147, 11 [32 cit.]

[105] “Molecular Line Observations of the Galactic Center Region, ” Stark, A. A., Bally, J., Wilson, R. W., & **Pound, M. W.** 1989, *The Center of the Galaxy*, 136, 129 [37 cit.]

[106] “Sub-parsec Clumping in the Nearby Molecular Cloud MBM 12, ” **Pound, M. W.**, Bania, T. M., & Wilson, R. W. 1988, *BAAS*, 20, 1031 [1 cit.]

- f. Films, CDs, Photographs, Websites, etc.
- g. Exhibits, Performances, Demonstrations, and Other Creative Activities.
- h. Original Designs, Plans, Inventions, Software, and/or Patents.

I have developed or co-developed many of the critical software subsystems and observer tools for CARMA, written principally in C++ and using CORBA protocols:

Atmospheric Model. Software to calculate quantities related to the earth’s atmosphere, such as refractivity, saturated pressure, and pathlength (refractivity integrated through the atmosphere), given inputs on weather conditions. (Design, Implementation)

Auxiliary Services. Provides routines commonly needed for array control and observational planning. These routines are mostly, but not exclusively, astronomical in nature. Examples are ephemerides, timekeeping, table and catalog support, coordinate systems and velocity reference frames. (Co-design, Co-implementation)

CARMA Data Viewer. A Java/CORBA based real-time data viewer for radio interferometric arrays. (Design, Implementation)

Control System. This subsystem controls most aspects of array operation, including implementation of all user commands, command dispatch, periodic updates of critical data. (Implementation)

Correlator. Software to operate CARMA’s correlator and compute its data products, as well as interface the correlator to the array control system (Co-design, Co-implementation)

Correlator Graphical Setup. A Java application to help observers configure CARMA’s extremely flexible correlator. (Design, Supervised implementation)

Interferometry Engine. This software is responsible for delay tracking of the interferometer. (Design, Implementation)

Logging. This software is responsible for logging of all messages from hardware and software subsystems during operation of the CARMA. (Design, Implementation)

Observer Interface. A Python scripting layer which defines the commands through which CARMA observers interact with the control system and command the array. (Implementation)

Real Time Displays. Graphical interface to monitor all telemetry from the array (Co-design, Co-implementation)

Sensitivity Calculator. A Java application to calculate expected RMS noise for an observation with the CARMA array, given inputs about weather, frequency, array

configuration, number of tracks, mosaic pattern, and visibility weighting. (Design, Implementation)

Other software:

Web Infrared ToolShed. Web-based packages for the analysis of infrared and submillimeter emission from astronomical objects, Perl and Java. (Design, Implementation)

JStatus. A flexible, observing interface for the BIMA array of radiotelescopes, written in Java and C. Allows real-time monitoring of all aspects of the interferometer. (Design, Implementation)

JRms. A Java applet that calculates realistic rms noise for a single track of the BIMA array, given inputs about weather, frequency, and array configuration. For use by proposers to BIMA. (Design, Implementation)

WVR Tools. A graphical user interface and data-saver for an atmospheric water vapor monitors used at BIMA and OVRO. The application is written in Java. (Design, Implementation)

COMB. A full-featured spectral line reduction package for singledish radioastronomical data. Written in C and ported to many operating systems. Used by many astronomical institutions world-wide. (Implementation)

i. Contracts and Grants.

Senior Personnel: "Collaborative Research: Astronomy with CARMA," NSF University Radio Observatories program (2011-2014)

Total award: \$14.5M (\$700,000 to UMD); 80% of time allocated over 3 years.

PI: "Dynamics of the Eagle Nebula: A Concept Development Proposal," DOE/LLNL (2011-2012)

Total award: \$70,000. 17% of time allocated over 1 year.

PI: "Scaled Eagle Experiments on NIF," DOE/OFES-NNSA Joint Program in HED Laboratory Plasmas (submitted 2011)

Pending Request: \$187,210.

Senior Personnel: "Collaborative Research: Astronomy with CARMA," NSF University Radio Observatories program (2007-2011)

Total award: \$18M (\$1.2M to UMD); 80% of time allocated over 3 years.

Co-PI: Advanced Wideband Correlators and Spectrometers, NASA-Goddard (2003-2006)

Total award:\$1,095,980. 20% of time allocated over 1 year.

PI: "The Dynamics of Radiatively Driven Molecular Clouds," NASA Astrophysics Theory Program (2002-2005)

Total award: \$340,000. 20% of time allocated over 3 years.

Co-PI: "The Web Infrared Toolshed," NASA Applied Information Systems Research Program (2001-2005), Total award:\$186,735. 20% of time allocated over 3 years.

j. Fellowships, Prizes, and Awards

3rd prize, conference poster competition, *The Origin of Stars and Planetary Systems*, 1998

Gregor Wentzel Fellowship, 1990–1992

University of Maryland Graduate School Fellowship, 1990–1992

k. Editorships, Editorial Boards, and Reviewing Activities for Journals or other Learned Publications.

Referee, *Nature*

Referee, *Astronomy & Astrophysics Letters*

Referee, *Astronomy & Astrophysics*

Referee, *Astrophysical Journal*

Referee, *Astrophysical Journal, Letters*

l. Other.

3. Teaching, Mentoring, and Advising.

a. Courses taught in last five years.

2007–present Principal organizer of and instructor at the CARMA Summer School. The CARMA Summer Schools have been held annually at the CARMA observatory. To date, 93 grad students and postdocs from CARMA institutions and around the world have attended. Joint curriculum development, integrating student feedback.

b. Course or curriculum development.

2007–present CARMA Summer School

Fall 2003 ASTR 695ac, *Astronomical Computing*, This was the first time this course was offered. The purpose of the course was to introduce graduate students to the computing environments and software packages that they will encounter and use throughout their careers. The curriculum was developed primarily by **Marc Pound** and Peter Teuben.

c. Manuals, Notes, Software, Web pages, and Other Contributions to Teaching.

Fall 2001 ASTR 695ac, *Astronomical Computing*, Developed and maintained web pages containing lecture notes, homework, and solutions.

d. Teaching Awards and Other Special Recognition.

Boston University Graduate Award for Excellence in Teaching, 1986

e. Advising: Other than research direction

i. Undergraduate.

2012 Co-supervisor for Kay Zhang (Computer Science/Business) on programming for the CARMA web site.

2011 Co-supervisor for Andres Garcia (Computer Science) on programming for the CARMA web site.

2009–2011 Supervised Dalton Wu (Computer Science/Business) on a project to upgrade observing preparation tools for CARMA. This work was published in conference proceedings.

2002 Supervised Danny Pan (Computer Science) on the design and implementation of the Astronomy Department web site.

ii. Graduate.

iii. Other advising activities.

2008–2011 Co-supervisor for six summer interns from Montgomery Blair High School's Math and Computer Science magnet program, from Atholton High school, and an incoming UMD freshman, on various research and programming projects for the LMA. Two of the high school students entered their research paper in the prestigious Siemens Competition in Math, Science and Technology and were selected as regional finalists. They were two of only three selected from the state of Maryland and of 96 nationwide.

f. Advising: Research direction

i. Undergraduate.

ii. Master's.

2011–2012 Erin Grand (Astronomy), Second Year Project research director, student's salary is supported by **Marc Pound's** DOE grant.

2007–2008 Edmund Hodges-Kluck (Astronomy), Second Year Project research co-advisor, "Dense, Parsec-Scale Clumps Near the Great Annihilator."

2003–2004 Huaning Li (Astronomy), Second Year Project committee member, "A Simple High-Resolution Digital Spectrometer for Radio Astronomy."

2000–2001 Curtis Frank (Astronomy), Supervised hardware work on Water Vapor Radiometry project.

2000–2001 Nikolaus Volgenau (Astronomy), Supervised graduate research project on atmospheric modelling code for Water Vapor Radiometry project.

iii. Doctoral.

2000–2001 Dr. Andrew Gibb, Research Associate (Astronomy). Supervised Dr. Gibb's work on data analysis and atmospheric modelling for Water Vapor Radiometry project.

g. Extension Activities.

The paper “Star-like activity from a very young, isolated planet” was featured in New Scientist Magazine (“Lonely planet formed just like a star,” November 2003). This work centered around follow-up observations of the object discovered by **Marc Pound** as part of his UMCP Ph.D. thesis.

<http://www.newscientist.com/news/news.jsp?id=ns99994422>

Marc Pound was a guest on National Public Radio’s syndicated Todd Mundt Show (April 24, 2003). He discussed the Horsehead work on-the-air with host Todd Mundt.

<http://todddshow.org/log/dailylistings/04242003.asp>

The Horsehead paper was featured in New Scientist Magazine (“Astronomers Rein in the Horsehead Nebula,” April 2003). **Marc Pound** was quoted in the article and a figure from his paper was published in the magazine.

Eagle Nebula hydrodynamics project featured in above-the-fold, multi-page article in The New York Times Science Times section; **Marc Pound** was quoted in the article. January 16, 2001.

<http://www.astro.umd.edu/~mpound/m16/m16.2001-01-16.html>

Eagle Nebula paper was featured in Sky & Telescope Magazine, News Notes section (“The Evaporating Eagle Nebula,” June, 1998). **Marc Pound** was quoted and a figure from his paper was published in the magazine.

Eagle Nebula and Horsehead Nebula work used in PR for BIMA and UMCP Astronomy Department.

4. Service.

a. Professional

i. Offices and committee memberships held in professional organizations.

Member, Working Group on Laboratory Astrophysics, American Astronomical Society [2011–present]

Member, Division VI/Commission 34: Interstellar Matter, International Astronomical Union [2011–present]

Member, Division XII/Commission 50: Protection of Existing & Potential Observatory Sites, International Astronomical Union [2009–present]

ii. Reviewing activities for agencies

Grant proposal reviewer, Department of Energy [2012]

Red Team reviewer, NASA/Goddard BETTI project [2010]

Referee, CARMA Telescope Allocation Committee [2007, 2009–2010]

Grant proposal reviewer, National Science Foundation [2005]

Referee, JCMT Telescope Allocation Committee [2003–2005]

Grant proposal reviewer, University of California Office of the President Campus-Laboratory Collaboration Program [2001]

Referee, BIMA Telescope Allocation Committee [1994–2004]

iii. Other unpaid services to local, state, and federal agencies.

iv. Other non-University committees, commissions, panels, etc.

Chair, Scientific Organizing Committee, 9th International Conference on High Energy Density Laboratory Astrophysics [2010–2012]

Co-Chair, Interface and Shear Instabilities panel, Workshop on Opportunities in Plasma Astrophysics [2010]

Scientific Organizing Committee, Blitzed 65: A Symposium Honoring Leo Blitz's 65th Birthday [2010]

Member, Magnetized High Energy Density Physics panel, DOE/NNSA Research Needs Workshop [2009]

Member, Java panel, Astronomical Data Analysis Software and Systems VIII [1998]

Co-Chair, CARMA Computing Working Group [2001–2006]

Chair and organizer, CORBA panel, Astronomical Data Analysis Software and Systems X [2000]

v. International activities not listed above.

vi. Paid consultancies.

b. Campus.

i. Departmental.

2nd Year Project Committee, Erin Grand [2012]

2nd Year Project Committee, Edmund Hodges-Kluck [2008]

2nd Year Project Committee, Huaning Li [2004]

Astronomy Computing Committee [2004–present]

Astronomy Salary and Merit Review Committee [2002–2004]

Astronomy Web committee [2001–present]

Graduate student representative to faculty [1992–1994]

ii. College.

iii. University.

Chair, University Senate Elections, Representation, and Governance (ERG) Committee [2010–2011]

Member, University Senate ERG Committee [2009–2010]

iv. Special administrative assignments.

Provost's Task Force on Non-Tenure Track Faculty [2012–2013]

v. Other.

c. Community, State, National.

Public talks at UMD Observatory Open Houses [1997–present]

Judge for Paint Branch High School Science Fair [2003]

Participated in “Astronomy Q&A” program with U.S. high school students [2000–2009]

Provide answers for astronomy questions sent to Astronomy Department website [1997–present]

d. Service Awards and Honors