

Steven D. Lord - Curriculum Vita

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Education

- 9/1979 - 8/1987 University of Massachusetts, Ph.D. in Astronomy.
 - Dissertation: "The Role of Molecular Clouds in the Star Formation Process as Observed in Two Grand Design Spiral Galaxies"
 - Advisor: Dr. Steven Strom
- 9/1975 - 6/1979 University of Massachusetts, M.S. in Electrical and Computer Engineering.
 - Thesis: "Digital Autocorrelation Spectroscopy at a Radio Astronomy Observatory"
 - Advisor: Dr. Francis S. Hill Jr
- 9/1971 - 6/1975 Tufts University, B.S. in Engineering. Major: Applied Mathematics and Computer Science

Continuing Education

- 3/2001 UCLA Extension, Technical Management Program.

Work Experience

- 1/2014 - date: Senior Research Scientist, SETI Institute, Mountain View, California
- 8/2016 - 12/2016 Adjunct Faculty in Astronomy, Cal State LA, Los Angeles CA
 - Course: Principles of Astronomy, Lab
- 8/2016 - 6/2017 Adjunct Faculty in Astronomy and Physics, Citrus College, Glendora, CA
 - Courses: Life in the Universe; Stellar Astronomy; Physics Lab
- 8/2015 - 12/2016 Adjunct Faculty in Astronomy, Chaffey College, Rancho Cucamonga, CA
 - Courses: Stars and Galaxies; The Solar System and Planets
- 10/2014 - 11/2014: Visiting Professorship for Senior International Scientists, Purple Mountain Observatory, Nanjing, China
- 11/1992 - 1/2014: Senior Scientist, Infrared Processing and Analysis Center, Pasadena, California Institute of Technology
 - 5/2012 - 2014: Herschel PACS Instrument Scientist
 - 9/2001 - 4/2012: Herschel HIFI Instrument Scientist
 - 1/2004 – date Member, GOALS Team (Great Observatories All-sky LIRG Survey)
 - 6/1998 - 9/2001: Task Lead, NASA Herschel Science Center at IPAC
 - 8/1999 - 10/2000: Acting Project Manager, ISO Group at IPAC
 - 11/1992 - 8/1999: Lead NASA Instrument Scientist for the ISO Long Wavelength Spectrometer
 - 11/1995 - 9/2003 Lead, ISO Spectral Analysis Package (ISAP) International Development Team
 - 11/1995 - 9/2003 Member, ISO LWS Consortium, Extragalactic and Calibration Groups
- 1/2002 - 12/2009: Member - SOFIA Science Steering Group
- 6/1997 - 12/2002: SOFIA Scientist, USRA
 - Lead, Web Integrated Product Team (1997 - 2000)
 - Member, Data Cycle System Team (1997 - 2002)
 - Member, Data Management Team (2000 - 2001)
- 11/1992 - 11/1996: Far Infrared Spectroscopy of Infrared Bright galaxies with the Kuiper Airborne Observatory.
- 6/1990 - 6/1992: Member, SIRT/MIPS Polarimetry Working Group
- 8/1989 - 11/1992: Post-Doctoral Research Fellow, NASA Ames Research Center, Space Science Division

- Kuiper Airborne Observations of the ISM of Galaxies.
 - Near Infrared Spectroscopy of Starburst Galaxies.
 - Molecular (CO) Radio Interferometry of Ring Galaxies and Starburst Galaxies.
- 8/1987 - 8/1989: Research Associate, National Research Council, NASA Ames Research Center
 - FIR Spectroscopic Studies of SN 1987A with Kuiper Airborne Observatory.
 - Developed ATRAN, Modeling Earth Atmospheric Transmittance of Near-Infrared and Far-Infrared Radiation.
- 1979 - 1982: Summer Faculty Fellowships, NASA/ASEE, Research into Algorithms and Hardware for the Search for Extraterrestrial Intelligence (SETI).
- 6/1979 - 8/1986: Research Assistant, Five College Radio Astronomy Observatory
 - Developed software for the pointing, focus, and structural temperature control of the FCRAO 13.5m antenna.
 - Developed Resolution Enhancement Techniques and for Molecular Gas Observations of Spiral Galaxies.
- 9/1979 - 6/1985: Teaching Assistant, University of Massachusetts, Smith College, Amherst College
 - Taught Introductory Observational Astronomy.
 - Taught Astronomy Computer Labs; Optical Astronomy and Physics Labs.
- 6/1976 - 9/1976: Summer Employee, Arecibo Observatory
 - Developed Laser Ranging System for Antenna Surface Measurement.

Honors and Societies

- 2014: Awarded the Visiting Professorship for Senior International Scientists of the Chinese Academy of Sciences
- 2011: NASA Public Service Group Achievement Award "For outstanding technical support to the Herschel Time Allocation Committee as part of the first Herschel general observer call and achieving a 45% US proposal success rate."
- 2010: NASA Group Achievement Award to the Herschel HIFI Integration and Test Team "For significant achievement in successfully supporting Herschel HIFI Instrument integration and test activities."
- 2010: NASA Group Achievement Award to the NASA Herschel Science Center Team "For outstanding support to the US far infrared scientific community in preparation for Herschel observations."
- 2005 Telly Bronze Award Winner, "Do the Stars Really Move?" Spitzer Science Center
- 2005: AEGIS Video and Film Production Award Winner, "Do the Stars Really Move?" Spitzer Science Center
- 1992 - date: Member International Astronomical Union
- 1988: NASA Group Achievement Award, Kuiper Airborne Observatory Infrared Observations of SN 1987A
- 1981 - date: Member, American Astronomical Society

Grants and Funded Programs

- Herschel Open Time 2 Project 2011 - 2013 "Hydrogen Fluoride Absorption Toward Luminous Infrared Galaxies" PI: S. Lord
- Herschel Guaranteed Time 2 Project 2011 - 2013: "HIFI and PACS Observation of NGC 5102" PI: Sylvie Beaulieu
- Spitzer Cycle 8 Program 2011 - 2013: "Deep IRAC1,2 Imaging of the Extended Tidal Debris Fields for the Complete GOALS Sample of LIRGs (Part 2)" PI: David Sanders
- Herschel Open Time 1 Project 2010 - 2012: "Balancing the Energy Budget in LIRGs: A PACS Spectroscopic Survey of Luminous Infrared Galaxies in GOALS" PI: Lee Armus
- Herschel Open Time 1 Project 2010 - 2012: "Herschel Spectroscopic Survey of Warm Molecular Gas in Local Luminous Infrared Galaxies" PI: Nanyao Lu
- Herschel Open Time 1 Project 2010 - 2012: "Hi-GAL360: the crucial step toward a global understanding of star formation in the Milky Way" PI: Sergio Molinari
- Herschel Open Time 1 Project 2010 - 2012: "Velocity resolved HIFI spectroscopy of water lines in actively starforming galaxies" PI: Axel Weiss
- Herschel Open Time 1 Project 2010 - 2012: "Hydrogen Fluoride Absorption Toward Luminous Infrared Galaxies" PI: Thomas Phillips

- Herschel Open Time 1 Project 2010 - 2012: "Charting the Cooling Pathways in High-Speed Extragalactic Shocks" PI: Phil Appleton
- Herschel Open Time Key Project 2009 - 2012: "Hi-GAL: the Herschel infrared Galactic Plane Survey" PI: Sergio Molinari
- Herschel Open Time Key Project: 2009 - 2012 "Herschel M33 extended survey (HERMES): star-formation interplay with the ISM" PI: C. Kramer, US PI: S. Lord
- Herschel Open Time Key Project: 2009 - 2012 "A Herschel survey of molecular lines in (U)LIRGs: physical conditions, the nature of the power source, and a benchmark for high-z observations (Hercules)" PI: Paul van der Werf, US PI: S. Lord
- Herschel Guaranteed Time Key Project: 2009 - 2012 "HIFI Spectral Surveys of Star Forming Regions" PI: Cecilia Ceccarelli
- Herschel Guaranteed Time Key Project: 2009 - 2012 "HEXGAL (Herschel EXtraGALactic) The Physical and Chemical Conditions of the ISM in Galactic Nuclei" PI: Rolf Güsten
- Herschel Guaranteed Time Key Project: 2009 - 2012 "HEXOS: Herschel Observations of EXtra-Ordinary Sources: The Orion and Sgr B2 Star-Forming Regions" PI: Edwin Bergin
- Herschel Guaranteed Time Key Project: 2009 - 2012 "The warm and dense ISM" PI: Volker Ossenkopf
- Spitzer Cycle-5 Program 2008 "IR Observations of a Complete Unbiased Sample of Bright Seyfert Galaxies" PI: M. Malkan
- Spitzer Cycle-5 Program 2008 "High Resolution Spectral Mapping of Starburst Rings in Nearby Seyfert Galaxies", PI: J. Howell
- NASA Code S Program: 2006-2008 "Observations of Interstellar Ionized Nitrogen from the Cerro Sairecabur Telescope", PI: Jonathan Kawamura
- Spitzer Medium-Sized Program 2006-2008 "Spectroscopic Survey of a complete Sample of Luminous Infrared Galaxies, PI: Lee Armus. Origins Probe Mission Concept Study: 2004-2005 "The Astrobiology Space Infrared Explorer (ASPIRE)", PI: Scott Sandford
- GALAX Cycle 1 Program 2004-2007 "UV Properties of Luminous IR Galaxies", PI Joseph Mazzarella" Spitzer Program: 2004-2007, "Spitzer Observations of a Complete Sample of Luminous Infrared Galaxies in the Local Universe", PI: Joseph Mazzarella
- Spitzer Program: 2004-2007, "Mid-infrared Properties, Excitation Mechanisms and AGN content of LINERs -An IRS survey", PI: Eckhard Sturm
- Spitzer Program: 2004-2007, "The Evolution of Activity in Massive Gas-Rich Mergers", PI: Sylvain Villeaux
- NASA Code-S Program 2004-2007, "Observations of Interstellar Ionized Nitrogen from the Cerro Sairecabur Telescope using an all-solid-state Superconductive Hot-electron Bolometer Heterodyne Receiver", PI: Jonathan Kawamura
- ADP Grant, 2004 "Characterizing Galaxy Spectra Through Fusion of Archival Data and the Literature Using the NASA/IPAC Extragalactic Database (NED)", PI: Joe Mazzarella
- NASA Midex Phase A Study 2002 "The Astrobiology Explorer, ABE" PI: Scott Sandford
- NASA Unix Program Study, 1999 - 2001 "Submillimeter Astronomy Investigation of Line Spectra: SAILS", PI: Bill Langer, JPL
- Astrophysics ADP Program, 1998 - 2000 "Analysis Tools for IR Line and Continuum Observations", with L. Mundy and M. Wolfire.
- NASA Airborne Astronomy Program, 1995 "Far-Infrared Spectroscopy of Active Galaxies", with R. Rubin.
- US ISO Key Project, 1994 - 1998 "The ISM of Normal Galaxies", with G. Helou.
- NASA Airborne Astronomy Program, 1994 "The Effects of Metallicity on Star Forming Clouds in Irregular Galaxies", with S. Madden.
- NASA Airborne Astronomy Program, 1994 "Spectroscopy of the ISM in AGNs and Starburst Galaxies", with R. Rubin.
- NASA/Ames Technical Innovations Forum, 1989 - 1990 "Study of An Iterative Spatial-Spectral Image Rectification Scheme for Observational Astronomy", with M. R. Haas.

Talks

- January 2018, A Day in a Life Podcast (James Dean, Host)
<https://open.spotify.com/show/5fJXQCJekj14nY60avcoMj>
- December 2015, "An Introduction to the Planets, Stars, and Galaxies" Field Elementary School classes, Sierra Madres Middle School classes and Science Olympic Teams, Chaffey College Planetarium, Rancho Cucamonga

- November 2014, "The Conditions for Star Formation in the Antennae Galaxies: NGC 4038/9 as seen by Herschel PACs" at the Purple Mountain Observatory, Chinese Academy of Sciences
- November 2014, "Airships as Stratospheric Observatories" at the Purple Mountain Observatory, Chinese Academy of Sciences
- April 2013, "Atmospheric Considerations and Advantages" at the Keck Institute for Space Science (KISS) Workshop "Airships: A New Horizon for Science", Caltech, Pasadena CA.
<https://www.youtube.com/watch?v=lfWFnsjSrA>
- April 2013, "ALMA Observations of Warm Molecular Gas in Nuclear Regions of Nearby LIRG NGC 34", NSF Division of Astronomical Sciences, Washington, D.C.
- October 2011, "Recent Results from the GOALS Survey", Purple Mountain Observatory, Nanjing, China
- October 2011, "A Twisted Ring in the Galactic Center", University of Nanjing, Department of Physics and Astronomy
- December 2010, "Herschel M33 Key Project HERM33ES and Operational thoughts on two Observatories: Herschel and SOFIA", An Online SOFIA_Community_Task_Force Presentation
- June 2010, "IPAC's Spectral Deconvolution Tool - Unfolding Spectra for Herschel/HIFI, CSO, ALMA SOFIA...", The Greater IPAC Technology Symposium, IPAC, Caltech.
- August 2008, "An Introduction to the Universe and the Search for E.T." (with L. Li), Yunnan Jiaotong College, Kunming, China
- October 2007, "SOFIA - The Stratospheric Observatory for the Far Infrared", at Purple Mountain Observatory, Nanjing, China
- August 2007, "The Great Observatory All Sky LIRG Survey GOALS" Meeting on the Legacy of Multi-wavelengths Surveys", Xining, China

Supervised Students

- 2017 PhD Dissertation Committee Member, Ian Morrison, School of Physics, University of New South Wales, "Constraining the Discovery Space for Artificial Interstellar Signals" PhD Awarded 2018, UNSW.
- 2015 Chaffey Undergraduate Bryan Lopez: Undergraduate Honors Project "The Big Bang"
- 2014 PhD Dissertation Committee Member, Qinghua Tan, School of Physics, University of Chinese Academy of Science, Purple Mountain Observatory, "The Molecular Gas and Star Formation of High Redshift Galaxies and the Possible Link with Local (U)LIRGs",
- 2013 IPAC Visiting Graduate Fellow: George Privon, U. Virginia, Project: Dynamical Modeling of LIRGs Hosting AGN; Advisors: J. Mazzarella, S. Lord, and L. Armus, PhD Awarded 2014, UVA
- 2012 IPAC Visiting Graduate Fellow: Jeff Rich, U. Hawaii, Project: GOALS: Evolution of Star Formation along the Merger Sequence; Advisor: S. Lord, PhD Awarded 2012, UHI

Educational Outreach

- Coach, S. California Science Olympiad Astronomy Team. Field Elementary School, Pasadena CA. 2014 (Team tied for highest score of 60 competing schools.)
- Judge, California State Science Fair, Physics & Astronomy, 1997, 1998, 2000, 2002-2016, 2018 (19 Science Fairs)
- Grand Award Judge, Intel International Science and Engineering Fair, Physics & Astronomy, 2011, 2014
- STEAM Director (Science, Technology, Engineering, Science, Math) and Parent Education Director, 2014, Grant Writing Committee, 2015, Hastings Ranch Nursery School, Pasadena, CA.
- Talk: "Astronomy!" Pasadena Cub Scout Pack 141, November 2014
- Coach: Science Olympiad, "Starry Starry Night" Field Elementary School, Pasadena, Winter 2014-2015 (Gold-Award Team)
- Astro 101 Lectures at IPAC: 2008: "Overview of the Universe"; "Far Infrared and Millimeter Radiation"; "Astronomical Observatories - Present and Future"
- Video "Why do we see spiral arms in some galaxies?" Steve Lord, 2005
 - http://coolcosmos.ipac.caltech.edu/cosmic_classroom/ask_astronomer/video/2005-001_256.shtml
- Video "Do the stars really move?" Steve Lord 2005
 - http://coolcosmos.ipac.caltech.edu/cosmic_classroom/ask_astronomer/video/2005-002_256.shtml
- Astronomy Outreach and Classroom Visits and Mt. Palomar Observatory Tours, Valley Center Lower School, 2000, 2001, 2002

- Developed College Laboratory Exercises with IRAS Data for Harvey Mudd College, Clairmont with Prof. A. Rudolph, 1996

Science Publications (Refereed Journal Articles Marked "**")

- *245. Shipman, R. F. et al. 2017 " Data processing pipeline for Herschel HIFI " A&A 608 49.
- *244. Díaz-Santos, T. et al. 2017 " A Herschel/PACS Far-infrared Line Emission Survey of Local Luminous Infrared Galaxies " ApJ 846 32.
243. Chu, Jason K. et al. 2017 " Understanding Local Luminous Infrared Galaxies in the Herschel Era " BAAS #230 401.05
- *242. Lu, N. et al. 2017 " A Herschel Space Observatory Spectral Line Survey of Local Luminous Infrared Galaxies from 194 to 671 Microns " ApJS 230 1.
- *241 Chu, Jason K. et al. 2017 " The Great Observatories All-Sky LIRG Survey: Herschel Image Atlas and Aperture Photometry " ApJS 229 25.
- *240. Molinari, S. et al. 2016 " Hi-GAL, the Herschel infrared Galactic Plane Survey: photometric maps and compact source catalogues. First data release for the inner Milky Way: $+68 \text{ deg} \geq l \geq -70 \text{ deg}$ " A&A 591 1499.
- *239 Zhao, Y. et al. 2016 "The [NII] 205 μm Emission in Local Luminous Infrared Galaxies" ApJ 819 61.
- *238. Priven, G. C. et al. 2015 " Excitation Mechanisms for HCN (1-0) and HCO⁺ (1-0) in Galaxies from the Great Observatories All-sky LIRG Survey " ApJ 814 39.
- *237. Boquien, M. et al. 2015 "Measuring Star Formation with Resolved Observations: the Test Case of M33" A&A 578 8.
- *236. Lu, N. et al. 2015 "Measuring Star-formation Rate and Far-Infrared Color in High-Redshift Galaxies using the CO (7-6) and [NII] 205 μm Lines" ApJL 802 11.
- *235. Neill, J., et al. 2014 "Herschel Observations of Extraordinary Sources: Analysis of the Full Herschel/HIFI Molecular Line Survey of Sagittarius B2(N)" ApJ 789 8.
- *234. Lu, N., et al. 2014 "Warm Molecular Gas in Luminous Infrared Galaxies" ApJL 798 8.
- *233. Crockett, N. R., et al. 2014 "Herschel Observations of Extraordinary Sources: Analysis of the HIFI 1.2 THz Wide Spectral Survey toward Orion KL. I. Methods" ApJ 787 112.
- *232. Xu, C. K., et al. 2014 "ALMA Observations of Warm Molecular Gas and Cold Dust in NGC 34" ApJ 787 48
- *231. Monje, R. R., Lord, S., Falgarone, E., Lis, D. C., Neufeld, D. A., Phillips, T. G., Gusten, R. 2014 "Hydrogen Fluoride toward Luminous Nearby Galaxies: NGC 253 and NGC 4945" ApJ 785 22
230. Miller, S. H., et al. 2014 "Airships: A New Horizon for Science" Keck Institute for Space Studies (KISS), Study Report
- *229. Imani, H., et al. 2013 "Mid-infrared Atomic Fine-structure Emission-line Spectra of Luminous Infrared Galaxies: Spitzer/IRS Spectra of the GOALS Sample" ApJ 777 156
- *228. Appleton, P. et al. 2013 "Shock-enhanced C⁺ Emission and the detection of H₂O from Stephan Quintet's Group-wide Shock using Herschel" ApJ 777 66

227. Lu, N., et al. 2013 "A Herschel Spectroscopic Survey of Warm Molecular Gas in Local Luminous Infrared Galaxies" *Galaxy Mergers in an Evolving Universe*, 2011, Hualien, Taiwan. Editors: Sun, W., Xu, C. K., Scoville, N. Z., Sanders, D. B.. ASP Conference Proceedings, San Francisco: Astronomical Society of the Pacific, 2013, Vol 477, p.31
- *226. Diaz-Santos, T. 2013 "Explaining the [C II]157.7 μm Deficit in Luminous Infrared Galaxies—First Results from a Herschel/PACS Study of the GOALS Sample" *ApJ* 774 68
225. Privon, G. et al. 2013 "Testing Numerical Star Formation Prescriptions in Galaxy Mergers" AAS Meeting #222 #208.05
- *224. Stierwalt, S. et al. 2013 "Mid-infrared Properties of Nearby Luminous Infrared Galaxies. I. Spitzer Infrared Spectrograph Spectra for the GOALS Sample" *ApJS* 206 1
- *223. Relano, M., et al. 2013 "Spectral energy distributions of HII regions in M 33 (HerM33es)" *A&A* 552, 140.
- *222. Zhao, Y. et al. 2013 "A Herschel Survey of the [NII] 205 μm Line in Local Luminous Infrared Galaxies - The [NII] 205 μm Emission as a Star Formation Rate Indicator" *ApJL* 765, 13.
- *221. Meijerink, R. et al. 2013 "Evidence for CO Shock Excitation in NGC 6240 from Herschel SPIRE Spectroscopy", *ApJ* 762, 16.
220. Lu, N. et al. 2013 "A Herschel Spectroscopic Survey of Warm Molecular Gas in Local Luminous Infrared Galaxies" AAS Meeting #221, #157.12
219. Diaz Santos, T. et al. 2013 "The Herschel/PACS View on the Heating of the ISM in Local LIRGs" AAS Meeting #221, #157.09
- *218. Mazzarella, J. M., et al. 2012 "Investigation of Dual Active Nuclei: Outflows, Shock-Heated Gas, and Young Star Clusters in Markarian 266", *AJ* 144,125.
- *217 Xilouris, E. M., et al. 2012 "Cool and warm dust emission from M 33 (HerM33es)" *A&A* 543, 74.
- *216. Combes, F. et al. 2012 "Dust and gas power spectrum in M 33 (HERM33ES)", *A&A* 539, 67.
- *215. Roelfsema, P. R., et al., 2012 "In-orbit performance of Herschel-HIFI", *A&A*, 537, 17.
- *214. Boquien, M. et al. 2011 "Dust Heating Sources in Galaxies:The Case of M33 (HERM33ES)" *AJ* 142, 111.
213. Ossenkopf, et al. 2011 "The WADI key project: New insights to photon-dominated regions from Herschel observations" *EAS Publications Series*, Volume 52, 2011, pp.181-186.
- *212. Mookerjee, B. et al., 2011 "The Herschel M33 extended survey (HerM33es): PACS spectroscopy of the star forming region BCLMP 302" *A&A* 532, 152.
- *211. Molinari, S. 2011 "A 100-parsec elliptical and twisted ring of cold and dense molecular clouds revealed by Herschel around the Galactic Center" *ApJL*, 735, 33.
210. Crockett, N. R. et al. 2011 "Herschel Observations of EXtra-Ordinary Sources (HEXOS): Analysis of the HIFI 1.2 THz Wide Spectral Survey Toward Orion KL" *International Symposium On Molecular Spectroscopy*, 66th Meeting, Held 20-24 June, 2011 at Ohio State University. Abstract EFA02.
209. Crockett, N. R. et al. 2011 "Herschel Observations of EXtra-Ordinary Sources (HEXOS): Analysis of the HIFI 1.2 THz Wide Spectral Survey Toward Orion KL" *280th Symposium of the IAU*, Toledo Spain, 2011.

- *208. Petric, A. O. et al. 2011 "Mid-Infrared Spectral Diagnostics of Luminous Infrared Galaxies" ApJ 730 28
- *207. Wang, S. et al. 2011 "Herschel observations of EXtra-Ordinary Sources (HEXOS): Methanol as a probe of physical conditions in Orion KL" A&A, 527, 99.
206. Pound, M. W., Wolfire, M. G., Mundy, L. G., Teuben, P. J., Lord, S. 2011 "DIRT: Dust InfraRed Toolbox", Astrophysics Source Code Library, Record: ASCL 1102.021.
205. Verley, S. et al. 2010 "The Herschel view of HII regions in M 33 (HERM33ES)" SF2A-2010: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics. Eds.: S. Boissier, M. Heydari-Malayeri, R. Samadi and D. Valls-Gabaud, p.57
- *204. Hilly-Blant, P. et al. 2010 "Nitrogen hydrides in the cold envelope of IRAS 16293-2422" A&A, 521L, 52.
- *203. Gupta, H., et al. 2010, "Detection of OH⁺ and H₂O⁺ towards Orion KL", A&A, 521L, 47.
- *202. Rolffs, R., et al. 2010, "Reversal of Infall in SgrB2(M) revealed by Herschel/HIFI observations of HCN lines at THz frequencies", A&A, 521L, 46.
- *201. Persson, C. M., et al., et al. 2010, "Nitrogen hydrides in interstellar gas. Herschel/HIFI observations towards G10.6-0.4 (W31C)" A&A, 521L, 45.
- *200. van der Wiel, M. H. D., et al. 2010, "Herschel/HIFI observations of spectrally resolved methylidyne signatures toward the high-mass star-forming core NGC 6334I", A&A, 521L, 43.
- *199. Bacmann, A. et al. 2010, "First detection of ND in the solar-mass protostar IRAS16293-2422", A&A, 521L, 42.
- *198. Kama, M, et al. 2010, "The methanol lines and hot core of OMC2-FIR4, an intermediate-mass protostar, with Herschel-HIFI", A&A, 521L, 39.
- *197. Comito, C. 2010, "Herschel observations of deuterated water towards Sgr B2(M)", A&A, 521L, 38.
- *196. Vastel, C. et al., et al. 2010, "Ortho-to-para ratio of interstellar heavy water", A&A, 521L, 31.
- *195. Emprechtinger, M., et al. 2010, "The distribution of water in the high-mass star-forming region NGC 6334 I", A&A, 521L, 28.
- *194. Melnick, G. J., et al. 2010, "Herschel observations of extra-ordinary sources: Detection of H₂O and its isotopologues towards Orion KL", A&A, 521L, 27.
- *193. Lis, D. C, et al. 2010, "Herschel/HIFI measurements of the ortho/para ratio in water towards Sagittarius B2(M) and W31C", A&A, 521L, 26.
- *192. Joblin, C., et al. 2010, "Gas morphology and energetics at the surface of PDRs: new insights with Herschel observations of NGC 7023", A&A, 521L, 25.
- *191. Dedes, C., et al. 2010, "The origin of the [C II] emission in the S140 PDRs - new insights from HIFI", A&A, 521L, 24.
- *190. Fuente, A., et al. 2010, "Herschel observations in the ultracompact HII region Mon R2: Water in dense Photon-dominated regions (PDRs)", A&A, 521L, 23.
- *189. Ceccarelli, C., et al. 2010, "Herschel spectral surveys of star-forming regions. Overview of the 555-636 GHz range", A&A, 521L, 22.

- *188. Crockett, N. R., et al. 2010, "Herschel Observations of Extra-Ordinary Sources: The Terahertz Spectrum of Orion KL Seen at High Spectral Resolution", A&A, 521L, 21.
- *187. Bergin, E. A., et al. 2010, "Herschel observations of Extra-Ordinary Sources: The Present and Future of Spectral Surveys with Herschel/HIFI", A&A, 521L, 20.
- *186. Falgarone, E., et al. 2010, "CH+(1-0) and 13CH+(1-0) absorption lines in the direction of massive star-forming regions", A&A 521L, 15.
- *185. Qin, S. -L., et al 2010, "Herschel observations of extra-ordinary sources: Detecting spiral arm clouds by CH absorption lines", A&A, 521L, 14.
- *184. Shilke, P., et al. 2010, "Herschel observations of ortho- and para-oxidaniumyl (H₂O⁺) in spiral arm clouds toward Sgr B2(M)", A&A, 521L, 11.
- *183. Lis, D. C., et al. 2010, "Herschel/HIFI discovery of interstellar chloronium (H₂Cl⁺)", A&A, 521L, 9.
- *182. Loenen, A., F., et al. 2010, "Excitation of the molecular gas in the nuclear region of M 82", A&A, 521L, 2.
- *181. Weiss A., et al. 2010, "Excitation of the molecular gas in the nuclear region of M 82", A&A, 521L, 1.
- *180. Inami, H. et al. 2010 "The Buried Starburst in the Interacting Galaxy II Zw 096 as Revealed by the Spitzer Space Telescope", AJ 140 63.
179. Wang, J. et al. 2010 "Chandra High Resolution Imaging of NGC 1365 and NGC 4151" in X-ray Astronomy 2009; Present Status, Multi-Wavelength Approach and Future Perspectives: AIP Conference Proceedings, Volume 1248, pp. 519-520.
- *178. Falgarone, E., et al. 2010, "Strong CH+ J = 1-0 emission and absorption in DR21", A&A, 518L, 118.
- *177. Lefloch, B., et al. 2010, "CHESS: Peering into the protostellar shock L1157-B1. II. Shock dynamics", A&A, 158L, 113.
- *176. Codella, C., et al., 2010, "CHESS: Peering into the protostellar shock L1157-B1 I. Shock chemical complexity", A&A, 518L, 112.
- *175. Ossenkopf, V., et al. 2010, "Detection of interstellar oxidaniumyl: abundant H₂O⁺ towards the star-forming regions DR21, Sgr B2, and NGC6334", A&A, 518L, 111.
- *174. Phillips, T. G. "Herschel observations of EXtra-Ordinary Sources (HEXOS): Detection of hydrogen fluoride in absorption towards Orion KL", A&A, 518L, 109.
- *173. Molinari, S., et al. 2010, "Clouds, filaments and protostars: the Herschel Hi-GAL Milky Way", A&A, 518L, 100.
- *172. Ossenkopf, V., et al. 2010, "HIFI observations of warm gas in DR21: Shock versus radiative heating", A&A, 158L, 79.
- *171. Boquien, M., et al. 2010, "100 μ m and 160 μ m emission as resolved star-formation rate estimators in M33 (HERM33ES)", A&A, 158L, 70.
- *170. Verley, et al. 2010, "Properties of compact 250 μ m emission and HII regions in M33 (HERM33ES)", A&A, 158L, 68.
- *169. Kramer, C., et al. 2010, "PACS and SPIRE photometer maps of M33: First results of the Herschel M33 extended survey (HERM33ES)", A&A, 518L, 67.

- *168. Gonzalez-Alfonso, E., et al. 2010, "Herschel observations of water vapour in Markarian 231", *A&A*, 518L, 43.
- *167. Van der Werf, P. P., et al. 2010, "Black hole accretion and star formation as drivers of gas excitation and chemistry in Mrk231", *A&A*, 518L, 42.
- *166. de Graaw, Th., et al. 2010, "The Herschel-Heterodyne Instrument for the Far-Infrared (HIFI)", *A&A*, 518L, 6
- *165. Howell, J. 2010 "The Great Observatories All-sky LIRG Survey: Comparison of Ultraviolet and Far-infrared Properties", *ApJ* 715 572
- *164. Molinari, S. et al. 2010, "Hi-GAL: The Herschel Infrared Galactic Plane Survey" *PASP*, vol. 122, 889 314.
163. Molinari, S. et al. 2010, "From Clouds to Young Stellar Objects and back again: the all-in-one view from the Herschel infrared Galactic Plane Survey", 38th COSPAR Scientific Assembly. Bremen, Germany, p.2
162. Comito, C. Lord, S., et al. 2009, "Spectral Surveys of Star-forming Regions with Herschel/HIFI" *Submillimeter Astrophysics and Technology: a Symposium Honoring Thomas G. Phillips*, ASP Conference Series, Vol. 417, p. 95, Edited by D. C. Lis, J. E. Vaillancourt, P. F. Goldsmith, T. A. Bell, N. Z. Scoville, and J. Zmuidzinas.
- *161. Armus, L. et al., 2009 GOALS: The Great Observatory All-Sky LIRG Survey. *PASP*, 121 559
- *160. Higgin, R., Pearson, J. C., Lord, S. D., Teysier, D. 2009, "Gas Cell Observations of Methanol from 0.6 to 1.9 Thz Using the Herschel Space Observatory Hifi Instrument", *International Symposium On Molecular Spectroscopy*, 64th Meeting, Abstract TH12
- *159. Veilleux, S. et al. 2009 Spitzer Quasar and ULIRG Evolution Study (QUEST). IV. Comparison of 1Jy Ultra Luminous Infrared Galaxies with Palomar-Green Quasars" *ApJS*, 182, 628
158. Howell, J. et al., 2009, "A Comparison of Non-interacting Disk Galaxies in Goals and Sings", *BAAS* 214 416.06
157. Petric, A. et al. 2009 "A Spitzer Space Telescope Infrared Spectrograph Survey of Warm Molecular Hydrogen in Luminous Infrared Galaxies in the GOALS Sample", *BAAS*, 214 308.02
- *156. Wang, J. et al. 2009 "Imaging the Circumnuclear Region of NGC 1365 with Chandra" *ApJ* 694, 718
155. Wang, J. et al 2009 "Imaging the Circumnuclear Region of NGC 1365 with Chandra" *BAAS*, 213, 445.05
154. Pan Chan, H. et al. 2009 "Archetypal Analysis of GOALS Spitzer-IRS Spectra", *BAAS*, 213, 424.36
153. Howell, J. et al. 2009, "UV Properties of Luminous Infrared Galaxies in the Great Observatories All-Sky LIRG Survey (GOALS)", *BAAS*, 213, 424.20
152. Sandford, S. A. et al. 2009 "Understanding the Evolution of Molecules in Space: Implications for Astrophysics, Astrochemistry, and Astrobiology: Astrobiological Space Infrared Explorer Mission Concept, Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Papers, no. 257
151. Erickson, E. F. et al. 2009 "Training of Instrumentalists and Development of New Technologies on SOFIA" *State of the Profession*, Astro2010: The Astronomy and Astrophysics Decadal Survey, Position Papers, no. 13, State of the Profession.
- *150. Li, L. & Lord, S. D. 2009 "A Study of The Historical Times of Each Migration Period Recorded in The Hani Apei CongPoPo", *Journal of Honghe University* Vol 6 no.6 p.14

149. de Graauw, et al. 2008 "The Herschel-Heterodyne Instrument for the Far-Infrared (HIFI): instrument and pre-launch testing", in Space Telescopes and Instrumentation 2008: Optical, Infrared, and Millimeter. Edited by Oschmann, J.M., Jr.; de Graauw, Mattheus W. M.; MacEwen, H. A. SPIE, 7010, 701004

148. Appleton, P. N. et al. 2008 "Massive Star Formation and Dust in Collisional Ring Galaxies: From GALEX to Spitzer", in The Second Annual Spitzer Science Center Conference: Infrared Diagnostics of Galaxy Evolution. Edited: Chary, R-R, Teplitz, H. J. & Sheth, ASP, 381, 128 proceedings of the conference held 14-16 November, 2005 in Pasadena, California, USA. Edited by Ranga-Ram Chary, Harry I. Teplitz and Kartik Sheth. ASP, San Francisco, 381, 128

*147. Evans, A. S. et al. 2008 "Off-Nuclear Star Formation and Obscured Activity in the Luminous Infrared Galaxy NGC 2623", ApJ 675, 69

146. Ossenkoph, V. et al. 2008 "Prospectives of Herschel PDR observations" ESA Publication Series 31,193

*145. Howell, J., Mazzarella, J., Chan, B., Lord, S. et al. 2007 "Tracing PAHs and Warm Dust Emission in the Seyfert Galaxy NGC 1068", AJ 134 208

*144. Netzer, H. et al. 2007 "Spitzer Quasar and ULIRG Evolution Study (QUEST): II. The Spectral Energy Distributions of Palomar-Green Quasars" ApJ June 2007

143. Lord, S. D. et al. 2007 "An Unbiased Herschel Space Observatory Spectroscopic Survey of [U]LIRGS in the Local Universe BAAS 210.1107

142. Morris, P. W., Lord, S., Boogert, A.; Xie, J. 2007 "Far-infrared And Sub-millimeter Spectroscopy At Ultra-high Resolution For ESA's Herschel Space Observatory", BAAS 210.1105

*141. E. Sturm, et al. 2006 "Mid-Infrared Diagnostics of LINERs" ApJ 653 13

140. Appleton, P. et al., 2006 "IRS Spectroscopy of Collisional Ring Galaxies", BAAS, 209, 217.04

*139. M. Schweitzer, et al. 2006 "Spitzer Quasar and ULIRG Evolution Study (QUEST). I. The Origin of the Far Infrared Continuum of QSOs" ApJ 649 79

138. Howell, J. et al., 2006 "Tracing PAHs and Warm Dust Emission in the Seyfert Galaxies NGC 1068 and NGC 6926", BAAS, 208.5209

137. Rupke, D. S., et al., 2005, "Mid-Infrared Properties, Excitation Mechanisms, and AGN Content of LINERs--An IRS Survey", 2005, BAAS 207, 63.15

136. Appleton, P. N., et al. 2005, "UV and Mid-IR Observations of Collisional Ring Galaxies", BAAS, 207, 134.08

135. Rupke, D. S., et al., 2005, "Mid-Infrared Properties, Excitation Mechanisms, and AGN Content of LINERs--An IRS Survey", 2005, BAAS 207, 63.15

134. Mazzarella, J. M., et al. 2005, "Spitzer Space Telescope Imaging of Luminous and Ultraluminous Infrared Galaxies in the Local Universe: First Results", 2005, BAAS, 207, 21.07

*133. Sturm E., et al. 2005 "Silicate Emissions in Active Galaxies: From LINERs to QSOs" ApJ, 629, L21

*132. Schweitzer, et al. 2005 "Silicate emission in active galaxies - From LINERs to QSOs." Astronomische Nachrichten 326, 556

131. Ali, B., et al. 2005 "The Herschel Observatory" in Proceedings of "Star Formation in the Era of Three Great Observatories, Harvard MA.

130. Stutzki, J. et al. 2005 "The Herschel HIFI Data Simulator in "Proceedings of the Dusty and Molecular Universe" ESA SP-577 edited by A. Wilson.

129. Appleton, P. et al. 2005 "Spitzer Observations of Arp 94: Mid-IR Evidence of Accretion onto a Dwarf Seyfert?" 207 134.08

128. Lord, S. D.; Yang, M.; Boogert, A. C. A.; Tilanus, R. P. J. 2004 "Detection of Molecular Gas in the Interarm Regions of M83" in "The Dense Interstellar Medium in Galaxies: Proceedings of the 4th Cologne-Bonn-Zermatt Symposium" Edited by S. Palfner, C. Kramer, C. Staubmeier, and A. Heithausen.

127. Ennico, K. A. et al. 2003 "Identifying Organic Molecules in Space - The AstroBiology Explorer (ABE) Mission Concept" BAAS 203 03.10

126. Sandford, S. A. et al. 2003 "Organics in the solar system and the Astrobiology Explorer (ABE) mission", DPS meeting #35, #41.09

125. Ennico, K. A. et al. 2003 "The AstroBiology Explorer (ABE) MIDEX Mission Concept: Identifying Organic Molecules in Space", SPIE v.4850 1149

124. Brauher, J.; Lord, S. 2003, "The ISOLWS-IRAS Cross-Calibration of Extragalactic Sources", in "The Legacy of the ISO Mission" Edited by L. Metcalfe and M. F. K. Kessler. ESA Special Publications Series, Volume 481.

123. Hutchinson, M. G. et al., 2003 LIA 10 - The Legacy LWS Interactive Analysis Package" in "The Legacy of the ISO Mission" Edited by L. Metcalfe and M. F. K. Kessler. ESA Special Publications Series, Volume 481.

122. Burgdorf, et al. 2003 "Matching the Spectrometers on board ISO" in "The Legacy of the ISO Mission" Edited by L. Metcalfe and M. F. K. Kessler. ESA Special Publications Series, Volume 481.

121. Yang, M., Lord, S.D., Boogert, A. C. A., Brauher, J. R., Phillips, T. G., & Tilanus, R. P. J. 2002 "Detection of Molecular Gas in the Interarm Regions of M83", BAAS 201 112.07

*120. Contursi, A. et al. 2002, "ISO LWS Observations of the Two Nearby Spiral Galaxies NGC 6946 and NGC 1313", AJ, 124, 751

119. Rubin, R. H. et al. 2002, "Planetary Nebulae Results from the Infrared Space Observatory", in "Ionized Gaseous Nebulae", Revista Mexicana de Astronomía y Astrofísica., Eds. W. J. Henney, J. Franco, M. Martos, & M. Peña, Vol. 12, pp. 106-111

*118. Malhotra, S., et al. 2001, "Far-Infrared Spectroscopy of Normal Galaxies: Physical Conditions in the Interstellar Medium", ApJ 561, 766

*117. Hunter, D., et al. 2001, "The Interstellar Medium of Star-forming Irregular Galaxies: The View with ISO", ApJ 533, 121

116. Milburn, J.; Shuping, R. Y.; Morris, M.; Lord, S. "Preliminary Design for a SOFIA Data Archive System", BAAS, 198.0305

115. Rubin, R. H. et al. 2000, "Planetary Nebulae Results from the Infrared Space Observatory", Proceeding of "Ionized Gaseous Nebulae Conference. Mexico City

*114. Malhotra, S. et al. 2000, "Probing the Interstellar Medium in Early-Type Galaxies with Infrared Space Observatory Observations", ApJ 543, 634.

113. Brauher, J.; Lord, S. 2000, "Far-Infrared Emission of the ISM in Galaxies of Varying Morphology and Star Formation", BAAS, 196.630

- *112. Dale, D. A. et al. 2000, "ISO Mid-Infrared Observations of Normal Star-Forming Galaxies: The Key Project Sample" AJ 120, 593
111. Seiffert, M. D.; Langer, W.D.; Lord, S.D.; Pearson, J.C.; McGrath, W. R. 2000, "Submillimeter Astronomy Investigation of Line Spectra (SAILS): a Balloon-borne Instrument", SPIE, 4014, 203
- *110. Unger, S. J. et al., 2000 "ISO-LWS Spectroscopy of Centaurus A: Extended Star Formation", A&A, 355, 885
109. Pound, M. W.; Wolfire, M.; Mundy, L.; Teuben, P. J.; Lord, S. 2000, "DIRT: The Dust InfraRed Toolbox", ADASS 9, 628
- *108. Appleton, P. N. , et al., 1999, Plasma and Warm Dust in the Collisional Ring Galaxy VII ZW 466 from VLA and ISO Observations, ApJ, 527, 143.
107. Harvey, V. I. et al., 1999, Far-infrared Spectroscopy and Near-infrared Imaging of the Ultraluminous Seyfert 1 Galaxy Mrk 231, BAAS, 195, 115.07
106. Rubin et al., ISO Far-Infrared Spectroscopy of Several Planetary Nebulae 1999, BAAS 195, 110.01
105. Malhotra, S., et al. 1999, Far Infrared spectroscopy of normal galaxies with ISO-LWS: Physical conditions in the Interstellar Medium, BAAS 1999, 195, 53.11
104. Dinerstein, H. et al., 1999 ISO Far-Infrared Spectroscopy of Giant H II Regions in M 101, BAAS 195, 53.10
103. Stacey, G. J. et al., 1999, "Far-infrared spectroscopic images of M83", The Universe as Seen by ISO. Eds. P. Cox & M. F. Kessler. ESA-SP 427
102. Malhotra, S. , et al. 1999, "Far-infrared spectroscopy of normal galaxies with LWS", The Universe as Seen by ISO. Eds. P. Cox & M. F. Kessler. ESA-SP 427
101. Harvey, V. I. et al. 1999, "Far-infrared spectroscopy and near-infrared imaging of Mrk 231", The Universe as Seen by ISO. Eds. P. Cox; M. F. Kessler. ESA-SP 427
100. Bradford, C. M., et al. 1999, "ISO spectroscopy of OH in the starburst galaxy NGC 253", The Universe as Seen by ISO. Eds. P. Cox & M. F. Kessler. ESA-SP 427
99. Fischer, J., et al., 1999 "An LWS spectroscopic survey of infrared bright galaxies", The Universe as Seen by ISO. Eds. P. Cox & M. F. Kessler, ESA-SP 427
98. Malhotra, S. et al., 1999, "ISO observations of the interstellar medium in elliptical galaxies" The Universe as Seen by ISO. Eds. P. Cox & M. F. Kessler. ESA-SP 427
97. Marc Pound, Mark Wolfire, Lee Mundy, Peter Teuben, and Steve Lord 1999, "Web-based Dust Continuum Analysis Tools" ADASS
- * 95. Bushouse, H. A., Lord, S.D., Lamb, S. A., Werner, M. W. 1999, "Molecular Gas Properties of a Large Sample of Interacting Galaxies" ApJ, Submitted
- *94. Rand, R. Lord, S.D., Higdon, J. L., "The Eastern Arm of M83 Revisited: High-Resolution Mapping of ^{12}CO 1-0 Emission, "1999, ApJ 513, 720
- *93. Colbert, J. W., Malken, M. A., Fischer, J. , Lord, S. D. , Luhman, M., Satyapal, S. Smith, H. A., Spinoglio, L., & Stacey, G. 1998, "ISO LWS Spectroscopy of M82: A Unified Evolutionary Model", ApJ, 511 721

*92. Luhman, M. L., Satyapal, S., Fischer, J. Wolfire, M. G., Cox, P., Lord, S. D., Smith, H. A., Stacey, G. J., Unger, S. J. 1998, "ISO Measurements of a [CII] Deficit in Ultraluminous Infrared Galaxies", ApJ, 504 11

*91. D.A. Levine, C.J. Lonsdale, R.L. Hurt, H.E. Smith, G. Helou, C.A. Beichman, C. Cesarsky, D. Elbaz, U. Klaas, R. Laureijs, D. Lemke, S. Lord, R.G. McMahon, M. Moshir, G. Neugebauer, B.T. Soifer, D. Van Buren, A. Werhle, R.D. Wolstencroft, "First Results from The ISO-IRAS Faint Galaxy Survey" 1998, ApJ 504 64

90 Smith, H. E. et al., "The ISO-IRAS Faint Galaxy Survey", 1998 Yugf. Conference

89. M. J. Burgdorf et al., "Calibration and performance of the LWS", 1998, v 21, 5 AdSpR

88. E. Sturm, O.H. Bauer, D. Lutz, E. Wieprecht and E. Wiezorrek, J. Brauer, G. Helou, I. Khan, J. Li, S. Lord, J. Mazzarella, B. Narron and S.J. Unger, M. Buckley, A. Harwood, S. Sidher and B. Swinyard, F. Vivares, L. Verstraete, P.W. Morris, "The ISO Spectral Analysis Package ISAP", 1998, in Astronomical Data Analysis Software and Systems VII ASP Conference Series, Vol. 145, pg 161-164. Editors: R. Albrecht, R. N. Hook and H. A. Bushouse

*87. Rubin, R.H., Colgan, S. W. J, Dufour, R. J. & Lord, S. D. 1998, The He+/H+ Abundance in the Orion Nebula from ISO Measurements, ApJ 501 L209.

86. J. Fischer, S. Satyapal, M. Luhman, G. Melnick, G. Stacey, H. A. Smith, P. Cox, S. Lord, S. Unger, M. Greenhouse, "The Implications of the Far-Infrared Spectra of the Ultraluminous Galaxies" 1998 Ringberg Conf. on Ultraluminous Galaxies: Monsters or Babies.

85. Satyapal, S., Greenhouse, M.A., Lord, S.D., Unger, S.J., Spinoglio, L., Cafaro, N., Malkan, M.A., Fischer, J., Pequignot, D., Nguyen-Q-Rieu, Clegg, P.E., & Smith, H.A., "ISO Spectroscopy of Seyfert 2 Nuclei: Mkn 3, NGC 1808, NGC 4945" 1998, COSPAR Meeting, Nagoya, Japan

84. Greenhouse, M.A., Satyapal, S., Lord, S.D., Unger, S.J., Spinoglio, L., Malkan, M., Fischer, J., Cafaro, N., Clegg, P.E., Nguyen-Q-Rieu, Pequignot, D. & Smith, H.A., "ISO Spectroscopy of Seyfert 2 Nuclei: Mkn 3, NGC 1808, NGC 4945" 1998, COSPAR Meeting, Nagoya, Japan

83. R.L. Hurt, C.J. Lonsdale, D.A. Levine, H.E. Smith, G. Helou, D. Van Buren, C.A. Beichman, S.D. Lord, G. Neugebauer, M. Moshir, B.T. Soifer, A. Wehrle, C. Cesarsky, D. Elbaz, U. Klaas, R. Laureijs, D. Lemke, R.G. McMahon, R.D. Wolstencroft, "The ISO-IRAS Faint Galaxy Survey: Early Results" (1997), in Star Formation Near and Far, ed. by S. Holt & L. Mundy, AIP Press, New York, 506.

82. Sturm, E., Bauer, O.H., Lutz, D., Wieprecht, E. Wiezorrek, Brauer, J., Helou, G., Khan, I., Li, J., Lord, S., Mazzarella, Narron, B., Unger, S. J., "The ISO Spectral Analysis Package ISAP" 1997, ADASS97 Conf. Proc., ASP Conf. Ser.

81. Sidher, S. D., Swinyard, B. M., Harwood, A. S., Lord, S. D., Unger, S. J. "The LWS Interactive Analysis Software" 1997, Proc. First ISO Workshop on Analytical Spectroscopy, p.297, ESA SP-419

80. Fischer, J. Satyapal, S., Luhman, M.L., Melnick, M., Cox, P., Chernicharo, J., Stacey, G.J., Smith, H.A., Lord, S.D., Skinner, C., & Greenhouse, M.A., "Implications of the ISO LWS Spectrum of the Prototypical Ultraluminous Galaxy Arp 220" 1997, Proc. First ISO Workshop on Analytical Spectroscopy, ESA SP-419

*79. Malhotra S., Helou G., Stacey G., Hollenbach D.J., Lord S.D., Beichman C.A., Dinerstein H., Hunter D.A., Lo K.Y., Lu N.Y., Rubin, R. H., Thronson H.A.Jr, Werner M.W., "The [CII] Line Variations in Star-Forming Galaxies" 1997, ApJ, 491, 27

78. Higdon, J. L., Cecil, G., Bland-Hawthorn, J., Lord, S. D., "The H α Structure and Kinematics of the Cartwheel Ring Galaxy" 1997, BAAS 191 8907

77. Fischer, J., Satyapal, S., Melnick, G., Cox, P., Cernicharo, J., Luhman, M. L., Stacey, G. J., Smith, H. A., Lord, S. D., Greenhouse, M. A., "Implications of the ISO LWS Spectrum of the Prototypical Ultraluminous Galaxy Arp 220" 1997, BAAS 191, 8903

76. Lu, N. Y., Helou, G., Beichman, C., Dinerstein, H. L., Hollenbach, D. J., Hunter, D. A., Lo, K. Y., Lord, S., Malhotra, S., Rubin, R. H., Silbermann, N., Stacey, G., Thronson, H. A., Jr., Werner, M. W., "Mid-Infrared Emission Features in Normal, Star-Forming Galaxies" 1997, BAAS 191, 7506
75. Malhotra, S., Lord, S. D., Helou, G., Beichman, C., Dinerstein, H. L., Hollenbach, D. J., Hunter, D. A., Lo, K. Y., Lu, N. Y., Rubin, R. H., Silbermann, N., Stacey, G., Thronson, H. A., Jr., Werner, M. W., "Far-infrared Spectroscopy of Normal Galaxies with ISO-LWS: Physical Conditions in the ISM" 1997, BAAS 191 7505
74. Helou, G., Valjavec, E., Silbermann, N., Beichman, C. A., Dinerstein, H. L., Hollenbach, D. J., Hunter, D. A., Lo, K. Y., Lord, S., Lu, N. Y., Malhotra, S., Rubin, R. H., Stacey, G., Thronson, H. A., Jr., Werner, M. W., "The Mid-Infrared Colors of Normal Galaxies" 1997, BAAS 191 2404
73. Braucher, J., Lord, S., Unger, S., Wolfire, M., Fischer, J., "ISO LWS Spectroscopy of NGC 4945" 1997, BAAS 191 2105
- *72. James L. Higdon, Richard J. Rand, and Steven D. Lord, "A Detection of Massive Molecular Complexes in the Ring Galaxy ARP 143" 1997, ApJ, 489, 133
71. Fischer, J., et al., "First Light on an IR Bright Galaxy using the ISO Long Wavelength Spectrometer: The Antennae Starburst" 1997, Revista Mexicana de Astronomia y Astrofisica Serie de Conferencias, 1st Guillermo Haro Conference on Astrophysics, Activity in Galaxies, Puebla, Pue., Mexico, Vol 6, p.255
70. Clemens, D., Jones, T. J., Goodman, A., Myers, P., Field, F., Rieke, G., Young, E., McKee, C., Heiles, C., Draine, B., Hildebrand, R., Zweibel, E., Lord, S. Ellis, B., "M4: The Milky Way Magnetic Field Mapping Mission" 1997, BAAS 190 2401
- *69. Rubin, Robert H., Colgan, Sean W. J., Haas, Michael R., Lord, Steven D., Simpson, Janet P., "Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory" 1997, ApJ 479 332
68. Malhotra, S., Helou, G., Stacey, G., Hollenbach, D. J., Lord, S. D., Beichman, C., Dinerstein, H. L., Hunter, D. A., Lo, K. Y., Lu, N. Y., Rubin, R. H., Thronson, H. A., Jr., Werner, M. W., "ISO Measurements of [CII] line variations in Galaxies" 1997, Wolstencroft, to appear in Extragalactic Astronomy in the Infrared, the proceedings of the XVIIth Moriond Astrophysics Meeting, ed. by G. A. Mamon, Trinh Xuan Thuan, & J. Tran Thanh Van
67. R.L. Hurt, C.J. Lonsdale, D.A. Levine, H.E. Smith, G. Helou, D. Van Buren, C.A. Beichman, S.D. Lord, G. Neugebauer, M. Moshir, B.T. Soifer, A. Wehrle, C. Cesarsky, D. Elbaz, U. Klaas, R. Laureijs, D. Lemke, R.G. McMahon, R.D., "Early Results from The ISO-IRAS Faint Galaxy Survey" 1997, Wolstencroft, Extragalactic Astronomy in the Infrared, the proceedings of the XVIIth Moriond Astrophysics Meeting, ed. by G. A. Mamon, Trinh Xuan Thuan, & J. Tran Thanh Van, 425
66. R.L. Hurt, C.J. Lonsdale, D.A. Levine, H.E. Smith, G. Helou, D. Van Buren, C.A. Beichman, S.D. Lord, G. Neugebauer, M. Moshir, B.T. Soifer, A. Wehrle, C. Cesarsky, D. Elbaz, U. Klaas, R. Laureijs, D. Lemke, R.G. McMahon, R.D. Wolstencroft, "The ISO-IRAS Faint Galaxy Survey: Early Results" 1996, in Star Formation Near and Far, ed. by S. Holt & L. Mundy, AIP Press, New York, 506
65. Higdon, J. L., Lord, S. D., Cecil, G., "The Distribution and Origin of Ionized Gas Throughout The Cartwheel Ring Galaxy" 1996, BAAS 189 8905
64. Hur, M., Stacey, G. J., Fischer, J. A., Smith, H. A., Unger, S., Lord, S. D., Barlow, M. J., "Spectroscopy of NGC 253 and M82" 1996, BAAS 189 8904
63. Helou, G., Beichman, C. A., Dinerstein, H. L., Hollenbach, D. J., Hunter, D. A., Lo, K. Y., Lord, S., Lu, N. Y., Malhotra, S., Rubin, R. H., Silbermann, N., Stacey, G., Thronson, H., Werner, M. W., "The ISO Key Project on the ISM of Normal Galaxies" 1996, BAAS 189 6704

62. Malhotra, S., Beichman, C. A., Helou, G., Lord, S., Lu, N. Y., Silbermann, N., Dinerstein, H. L., Hollenbach, D. J., Rubin, R. H., Hunter, D. A., Lo, K. Y., Stacey, G., Thronson, H., Werner, M. W., "FIR-Bright Galaxies with an Extreme [CII] Deficiency: Where are the PDRs?" 1996, BAAS 189 6703

61. Lu, N. Y., Helou, G., Beichman, C. A., Dinerstein, H. L., Hollenbach, D. J., Rubin, R. H., Hunter, D. A., Lo, K. Y., Lord, S., Malhotra, S., Silbermann, N., Stacey, G., Thronson, H., Werner, M. W., "Mid-Infrared Spectroscopy of Normal Galaxies" 1996, BAAS 189 6702

60. Silbermann, N. A., Helou, G., Beichman, C. A., Dinerstein, H. L., Hollenbach, D. J., Hunter, D. A., Lo, K. Y., Lord, S., Lu, N., Malhotra, S., Rubin, R. H., Stacey, G., Thronson, H., Werner, M. W., "The Mid-Infrared Morphology of Normal Galaxies: ISOCAM Images at 7 and 15 Microns" 1996, BAAS 189 6701

*59. Malhotra S., Helou G., Van Buren D., Kong M., Beichman C.A., Dinerstein H., Hollenbach D.J., Hunter D.A., Lo K.Y., Lord S.D., Lu N.Y., Rubin R.H., Stacey G.J., Thronson H.A.Jr, Werner M.W., "ISOCAM Observations of NGC 6946: Mid-IR Structure" 1996, AA 315 161

*58. Helou G., Malhotra S., Beichman C.A., Dinerstein H., Hollenbach D.J., Hunter D.A., Lo K.Y., Lord S.D., Lu N.Y., Rubin R.H., Stacey G.J., Thronson H.A.Jr, Werner M.W., "The Mid-infrared Color of NGC 6946" 1996, AA 315, 157

*57. Lord S.D., Malhotra S., Lim T., Helou G., Rubin R.H., Stacey G.J., Hollenbach D.J., Werner M.W., Thronson H.A.Jr, Beichman C.A., Dinerstein H., Hunter D.A., Lo K.Y., Lu N.Y., "ISM parameters in the normal galaxy NGC 5713" 1996, AA 315, 117

*56. Fischer J., et al., "LWS observations of the colliding galaxies NGC 4038/39,1996" 1996, AA 315, 97

*55. Swinyard B.M., et al., "Calibration and performance of the ISO Long-Wavelength Spectrometer" 1996, AA 315, 43

*54. Lord, S. D., Hollenbach, D. J., Haas, M. R., Rubin, R. H., Colgan, S. W. J., Erickson, E. F., "Interstellar Properties of a Dual Nuclear Starburst: Far-Infrared Spectroscopy of M82" 1996, ApJ 465 703

53. Malhotra, S., Helou, G., Beichman, C. A., Lord, S., Lu, N., Hollenbach, D. J., Rubin, R. H., Thronson, H., Stacey, G., Dinerstein, H., Werner, M. W., Hunter, D. A., Lo, K. Y., "Mid-Infrared observations of NGC6946 with ISOCAM", 1996, BAAS 188 6303

52. Lord, S., Malhotra, S., Helou, G., Beichman, C. A., Lu, N., Lim, T., Hollenbach, D. J., Rubin, R. H., Thronson, H., Stacey, G., Dinerstein, H., Werner, M. W., Hunter, D. A., Lo, K. Y., "Far-Infrared Spectroscopy with ISO: The Physical Conditions of the ISM in the Normal Spiral Galaxy NGC 5713", 1996, BAAS 188 6302

51. Lu, N., Helou, G., Lord, S., Beichman, C. A., Malhotra, S., Tuffs, R., Lemke, D., Hollenbach, D. J., Rubin, R. H., Thronson, H., Stacey, G., Dinerstein, H., Werner, M. W., Hunter, D. A., Lo, K. Y., "An ISO Study of the Infrared-Radio Correlation within NGC6946" 1996, BAAS 188 6301

50. Helou, G., Lord, S., Beichman, C. A., Lu, N., Malhotra, S., Hollenbach, D. J., Rubin, R. H., Thronson, H., Stacey, G., Dinerstein, H., Werner, M. W., Hunter, D. A., Lo, K. Y., "First ISO Results from the US Key Project on the Interstellar Medium Of Normal Galaxies" 1996, BAAS 188 5208

49. Lord, Steven D., Hollenbach, David J., Colgan, Sean W. J., Haas, Michael R., Rubin, Robert H., Steiman-Cameron, Thomas Y., Madden, Suzanne C., Erickson, Edwin F., "Probing The ISM of Starburst Nuclei with FIR Spectroscopy Proceedings of the 11th IAP Astrophysics Meeting: The Interplay Between Massive Star Formation" 1996, ed: D. Kunth, B. Guiderdoni, M. Heydari-Malayeri and T. Thuan, Frontiers: Gif-sur-Evette p. 529-530

*48. Young, Judith S., Xie, Shuding, Tacconi, Linda, Knezek, Pat, Viscuso, Paul, Tacconi-Garman, Lowell, Scoville, Nick, Schneider, Steve, Schloerb, F. Peter, Lord, Steve, Lesser, Amy, Kenney, Jeff, Huang, Yi-Long, Devereux, Nick, Claussen, Mark, Case, James, Carpenter, John, Berry, Mike, Allen, Lori, "The FCRAO Extragalactic CO Survey. I. The Data" 1995, ApJS, 98, 219

47. Lord, Steven D., Hollenbach, David J., Colgan, Sean W. J., Haas, Michael R., Rubin, Robert H., Madden, Suzanne C., Steiman-Cameron, Thomas Y., Carral, Patricia, Maloney, Philip R., Erickson, Edwin F., "A far-infrared Spectral Line Survey of 23 Infrared-bright Galaxy Nuclei" 1995, In Astronomical Society of the Pacific, Airborne Astronomy Symposium on the Galactic Ecosystem: From Gas to Stars to Dust, Vol 73, p151-158

46. Rubin, Robert H., Simpson, Janet P., Erickson, Edwin F., Haas, Michael R., Lord, Steven D., Colgan, Sean W. J., "Density Determination from Far-infrared Lines" 1995, In Astronomical Society of the Pacific, Airborne Astronomy Symposium on the Galactic Ecosystem: From Gas to Stars to Dust, Volume 73 p 115-118

*45. Higdon, James L., Smith, Beverly J., Lord, Steven D., Rand, Richard J., "The Detection of Molecular Gas in the Ring Galaxy Arp 143" 1995, ApJ, 438 L79

44. Higdon, J. L., Wallin, J. F., Staveley-Smith, L., Lord, S. D. Massive Star Formation And Gas Threshold Effects In Ring Galaxies: The Cartwheel And AM0644-741 BAAS 185 7502

*43. Colgan, Sean W. J., Haas, Michael R., Erickson, Edwin F., Lord, Steven D., Hollenbach, David J., "Day 640 Infrared Line and Continuum Measurements: Dust Formation in SN 1987A" 1994, ApJ, 427, 874

*42. Petuchowski, S. J., Bennett, C. L., Haas, Michael R., Erickson, Edwin F., Lord, Steven D., Rubin, Robert H., Colgan, Sean W. J., Hollenbach, D. J., "The [NII] 205 Micron Line in M82: The Warm Ionized Medium" 1994, ApJ, 427, L17

*41. Carral, P., Hollenbach, D. J., Lord, S. D., Colgan, S. W. J., Haas, Michael R., Rubin, R. H., Erickson, E. F., "The Interstellar Medium in the Starburst Regions of NGC 253 and NGC 3256" 1994, ApJ, 423, 223

*40. R.H. Rubin, J.P. Simpson, S.D. Lord, S.W.J. Colgan, E. F. Erickson and M. R. Haas, "Nebular Properties from Far-Infrared Spectroscopy" 1994, ApJ, 420, 772.

39. Rubin, R. H., Dufour, R. J., Walter, D. K., Haas, M. R., Lord, S. D., "Contribution from HII Regions to [SiII] 34.8 microns Emission" 1993, BAAS 182,341

38. S.D. Lord, D.J. Hollenbach, S.W.J. Colgan, M.R. Haas, E.F. Erickson, R.H. Rubin, P. Carral, and S. Lamb, "The ISM in the M82 Starburst" 1993, The Evolution of Galaxies and Their Environment p370-371, NASA Conf. Proceedings N93-2670

37. Lord, S. D. "A New Software Tool for Computing Earth's Atmospheric Transmission of Near- and Far-Infrared Radiation" 1992, NASA Technical Memorandum 103957

36. Lord, S. D., Hollenbach, D. J., Colgan, S. W. J., Haas, M. R., Rubin, R. H., Erickson, E. F., Carral, P., Maloney, P., "A Far-Infrared Spectral Line Survey of 23 Disk Galaxies" 1992, BAAS, 181, 400

*35. S.D. Lord and J. D. Kenney, "High Resolution CO Observations of the Eastern Spiral Arm in M83" 1991, ApJ, 381, 130

*34. J.D. Kenney and S.D. Lord, "Orbit Crowding and Shock Focussing of Molecular Gas in a Bar-Spiral Arm Transition Region of M83" 1991, ApJ, 381, 118

33. Lord, S. D., Kenney, J. D. P., "The Eastern Arm of M83: A Molecular Gas Ridge Located Downstream from the Dustlane" 1991, BAAS 23, 1459

32. S.D. Lord, J. H. Ramberg, and M. Werner, "MIPS Polarimetry: Considerations in Using a Wollaston Prism for Extended Source Observations", 1990, SIRTf Polarimetry Working Group Report

31. Bushouse, H. A., Lamb, Susan A., Lo, K. -Y., Lord, S., Werner, M., "A Multiwavelength Survey of Interacting Galaxies" 1990, IAU Colloquium No. 124, p285-290, Paired and Interacting Galaxies, NASA, Marshall Space Flight Center

30. M.R. Haas, S.W.J. Colgan, E.F. Erickson, S.D. Lord, M.G. Burton, and D.J. Hollenbach, "Velocity-Resolved Far Infrared Spectra of [FeII]: Evidence for Mixing and Clumping in SN 1987A" 1990, ApJ, 360, 257
29. Carral, P., Hollenbach, D. J., Lord, S. D. et al., "The ISM in the Nuclear Regions of NGC 253: Far-infrared Spectroscopy" 1990, BAAS, 22, 1315
- *28. S.D. Lord and J.S. Young, "Efficient Star Formation in the Spiral Arms of M51" 1990, ApJ, 356, 135
27. S.D. Lord, D.J. Hollenbach, S.W.J. Colgan, M.R. Haas, R.H. Rubin, and E. E. Erickson, "Far-Infrared Spectroscopy of NGC 6946, IC342, and Arp 299", 1990, The Interstellar Medium in External Galaxies: Summaries of Contributed Papers, Eds. D. Hollenbach, H. Thronson, NASA Conference Publication 3084
26. Lord, S. D., Carral, P., Hollenbach, D. J. et al., "Far-infrared Spectroscopy of Southern Hemisphere Galaxies" 1990, BAAS, 22, 1310
25. S.W.J. Colgan, M.R. Haas, E.F. Erickson, S.D. Lord, and D.J. Hollenbach, "KAO Spectroscopy of SN1987A at 640 Days" 1989, BAAS 21, 1215
24. S.D. Lord, D.J. Hollenbach, S. Colgan, M.R. Haas, E.F. Erickson, Lamb, S., Rubin, R. H., "KAO Far Infrared Line Emission from Eight Galaxies", 1989, BAAS, 21, 1142
- *23. E.F. Erickson, M.R. Haas, S.W.J. Colgan, S.D. Lord, M.G. Burton, J. Wolf, D.J. Hollenbach and M. Werner, "Observation of FeII (26.0 um) in SN1987A", 1988, ApJ 330, L39
22. M. R. Haas, S. W. Colgan, E. F. Erickson, S. D. Lord, M. G. Burton, "SN1987A in the Large Magellanic Cloud" 1988, International Astronomical Union Telegram, IAU Circular No. 4578
21. S.W.J. Colgan, M.R. Haas, E.F. Erickson, S.D. Lord, M.G. Burton, D.J. Hollenbach, "Far-Infrared FeII Profiles from SN1987A" 1988, BAAS. 20, 986
20. E. F. Erickson, M. R. Haas, S. W. J. Colgan, M. G. Burton, and S. D. Lord, "Report on C-141/KAO Airborne Observations of SN 1987A" 1987, International Astronomical Union Telegram, I. A. U. Circular No. 4488
19. S.D. Lord, S.E. Strom and J.S. Young, "Efficient Star Formation in the Bright Bar of M83" 1987, p. 303, Star Formation in Galaxies, ed. C. Persson, NASA Conference Publication 2466
18. Lord, S. D., "The Role of Molecular Clouds in the Star Formation Process as Observed in Two Grand Design Spiral Galaxies" 1987, PhD Dissertation, Astronomy Dept., University of Massachusetts
17. S.D. Lord, M.R. Haas, and E.F. Erickson, "Bright Si+ Emission from the Nucleus of M82" 1987, BAAS 19, 1017
16. M. Hayashi, M. Handa, T. Sufoe, Y. Hasegawa, N. Nakai, S. Lord and J. Young, "CO Observations of the Nuclear Bar of IC342", IAU Symposium No. 115, Tokyo, Japan
15. S.D. Lord, "Regions of Massive Star Formation in Two Nearby Spiral Galaxies" 1986, BAAS, 17, 892
- *14. J.S. Young, F.P. Schloerb, J.D. Kenney and S.D. Lord, "CO Observations of Infrared Bright Galaxies: The Efficiency of Star Formation" 1986, ApJ 304, 443
13. S.D. Lord, J.S. Young and S. Strom, "The Correlation of H-alpha and CO in M51" 1985, Galaxy Formation Workshop, Canadian Institute for Theoretical Astrophysics, Toronto, Canada
12. S.D. Lord, J.S. Young and S. Strom, "The Correlation of H-alpha and CO in M51" 1985, BAAS 17, 613
11. J.S. Young, F.P. Schloerb, J.D. Kenney and S.D. Lord, "CO Maps of IRAS Bright Galaxies" 1985, BAAS 17, 548

10. J.S. Young, S.D. Lord and W. Kinzel, "Pointing of the 14m FCRAO Telescope" 1985, Technical Report No. 260, Five College Radio Astronomy Observatory

*9. J.S. Young, J.D. Kenney, S.D. Lord, and F.P. Schloerb, "CO Emission from IRAS Galaxies" 1984, ApJ 287, L65

8. Young, J. S., Kenney, J., Lord, S. D., Schloerb, F. P., "CO emission from IRAS galaxies" 1984, BAAS 16, 936

7. S.D. Lord, J.S. Young, "CO Emission in Two Luminous Sc Galaxies" 1984, BAAS 16, 538

6. S.D. Lord, "Resolution Enhancement Techniques Applied to Molecular Observations of the Spiral Galaxy M51" 1983, Research Report, Department of Physics and Astronomy, University of Massachusetts

5. S.D. Lord, J.S. Young and Scoville, N.Z., "The CO distribution in M51", 1981, BAAS 13, 535

4. S.D. Lord, "Project Oasis: The Design of a Signal Detector for the Search for Extraterrestrial Intelligence" 1981, NASA/ASEE Summer Study Report, ed.: Steven Lord, U. of Santa Clara Press

3. S.D. Lord, "Digital Autocorrelation Spectroscopy at a Radio Astronomy Observatory" 1979, Technical Report No. 135, Five College Radio Astronomy Observatory (Masters Thesis)

*2. K.R. Lang and S.D. Lord, "Limits to the Broadening of Radio Recombination Lines by Electronic Collisions" 1975, MNRAS 175, 217

*1. K.R. Lang, S.D. Lord, J.M. Johanson, and P.M. Savage, "The Composite Hubble Diagram" 1975, ApJ 202, 583