

Jason Melbourne, Ph.D.

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Education

University of California Santa Cruz, Ph.D., Astronomy and Astrophysics (2006)
Thesis: *Exploring the Optical and Infrared Evolution of Galaxies*. (Advisor, D.C. Koo)
Wesleyan University, Masters, Astronomy (2001)
Thesis: *Metal Abundances in KISS Galaxies*. (Advisor, J.J. Salzer).
University of California Berkeley, Bachelors, Physics/Astronomy double major (1995)

Appointments

Postdoctoral Fellow, Center for Adaptive Optics Treasury Survey
Center for Adaptive Optics, University of California Santa Cruz (2006-2007)

Successful Proposals and Grants

The Sites and Triggers of Star Formation in Large Disk Galaxies Since $z=1$
HST Archival Grant, AR-10965. Principal Investigator (2006)
Keck Laser Guide Star Adaptive Optics Imaging of Large Disk Galaxies in GOODS
Keck Observing Proposal. Co. Investigator (2005, 2006)
Keck Laser Guide Star Adaptive Optics Imaging of Chandra X-ray Sources in GOODS
Keck Observing Proposal. Co. Investigator (2005, 2006)
Keck Natural Guide Star Adaptive Optics Imaging of Galaxies in GEMS
Keck Observing Proposal. Co. Investigator (2004, 2005)
Lick Laser Guide Star Adaptive Optics Imaging of Local Blue Compact Galaxies
Lick Observing Proposal. Principal Investigator (2003, 2004)

Selective Schools and Workshops

The Jerusalem Winter School: The Origin of Galaxies (2004)
The Vatican Observatory Summer School: Compact Objects (2001)

Recent Talks

Probing the Decline of Star Formation Since $z=1$, with AO, Spitzer, and HST
Spitzer Space Science Center (October 2006)
Probing the Decline of Star Formation Since $z=1$, with AO, Spitzer, and HST
University of California, Los Angeles (October 2006)
Exploring the Optical and Infrared Evolution of Galaxies
Institute for Astronomy, University of Hawaii, Manoa (October 2006)
The Center for Adaptive Optics Treasury Survey: Combining Adaptive Optics and Hubble Space Telescope Images to Study Distant Galaxies
Lawrence Berkeley National Laboratory (June 2006)

The Center for Adaptive Optics Treasury Survey: AO Imaging of a $z=1.3$ Supernova
The American Astronomical Society, Washington D.C. (January 2006)

A Practical Guide to Adaptive Optics Observing on Keck
The CfAO Extragalactic AO Workshop, Santa Cruz, California (2005)

Keck Laser Illuminates AGN in the Distant Universe
American Astronomical Society, San Diego, California (2005)

Laser Illuminates Compact Galaxies
Starbursts: From 30 Doradus to Lyman Break Galaxies, Cambridge, UK (2004)

Students Advised

Justin Griggs, Center for Adaptive Optics undergraduate summer intern (2006)
Modeling Stellar Populations with Adaptive Optics and the Hubble Space Telescope.

Emily De La Garza, Center for Adaptive Optics undergraduate summer intern (2005)
Stellar Population Synthesis Models of Synthetic Galaxies. Emily won best poster for her research at the Society for Advancement of Chicanos/Latinos and Native Americans (SACNAS) annual science meeting, September 2005.

Conswella White, Center for Adaptive Optics undergraduate summer intern (2004)
Decomposing Adaptive Optics Images of Disk Galaxies.

Professional Service

Referee for the Astronomical Journal and the Astrophysical Journal (2005-2006)

Organized/Chaired The Center for Adaptive Optics Extragalactic AO Workshop
University of California Santa Cruz, (August 2005)

Science Advisor for the California Math and Science Project
Watsonville, California (2005)

Graduate Student Representative to the UCO/Lick Observatory Job Search
University of California Santa Cruz, Santa Cruz, California (2004)

Graduate Student Spokesperson to the Faculty
University of California Santa Cruz, Santa Cruz, California (2003-2004)

Teaching Experience

Guest Instructor for Science Methods Course, Elementary Education
University of California Santa Cruz, Santa Cruz, California (2006)

Lead Instructor for The Center for Adaptive Optics Mainland Short Course
University of California Santa Cruz, Santa Cruz, California (2005)

Project Advisor for COSMOS
University of California Santa Cruz, Santa Cruz, California (2003)

Teaching Assistant
University of California Santa Cruz, Santa Cruz, California (2001-2002)

First-Author Refereed Publications

Melbourne, J., Dawson K., Koo D. C., Max C., Larkin J. Wright S., Steinbring E., Barczys, M., Aldering, G., Barbary, K., Doi, M., Fadeyev, V., Goldhaber, G., Hattori, T., Ihara Y., Kashikawa N., Konishi K., Kowalski M., Kuznetsova, N., Lidman, C., Morokuma, T., Perlmutter, S., Rubin D., Schlegel D., Spadafora, A. L., Takahashi, N., Yasuda, N. 2006. “**Rest-Frame R-band Lightcurve of a $z \sim 1.3$ Supernova Obtained with Keck Laser Adaptive Optics**”. *The Astronomical Journal*. Submitted

Melbourne, J., Phillips, A., Harker, J., Novak, G., Koo, D. C., Faber, S. M., 2006. “**Radius Dependent Luminosity Evolution of Blue Galaxies in GOODS-N**”. *The Astrophysical Journal*. Submitted

Melbourne, J., Koo, D. C., Le Floc’h, E., 2005. “**Optical Morphology Evolution of Infrared Luminous Galaxies in GOODS-N**”. *The Astrophysical Journal*. Volume 632, Issue 2, pp. L65–L68

Melbourne, J., Wright, S. A., Barczys, M., Bouchez, A. H., Chin, J., van Dam, M. A., Hartman, S., Johansson, E., Koo, D. C., Lafon, R., Larkin, J., Le Mignant, D., Lotz, J., Max, C. E., Pennington, D. M., Stomski, P. J., Summers, D., Wizinowich, P. L., 2005. “**Merging Galaxies in GOODS-S: First Extragalactic Results from Keck Laser Adaptive Optics**”. *The Astrophysical Journal*. Volume 625, Issue 1, pp. L27-L30

Melbourne, J., Guhathakurta, P., 2004. “**Measuring the Slope of the Dust Extinction Law and the Power Spectrum of Dust Clouds Using Differentially Reddened Globular Clusters**”. *The Astronomical Journal*. Volume 128, Issue 1, pp. 271-286

Melbourne, Jason, Phillips, Andrew, Salzer, John J., Gronwall, Caryl, Sarajedini, Vicki L., 2004. “**Metal Abundances of KISS Galaxies. II. Nebular Abundances of 12 Low-Luminosity Emission-Line Galaxies**”. *The Astronomical Journal*. Volume 127, Issue 2, pp. 686-703

Melbourne, Jason, Salzer, John J., 2002 “**Metal Abundances of KISS Galaxies. I. Coarse Metal Abundances and the Metallicity-Luminosity Relation**”. *The Astronomical Journal*. Volume 123, Issue 5, pp. 2302-2311

Melbourne, Jason, Sarajedini, Ata, Layden, Andrew, Martins, Donald H., 2000 “**CCD Photometry of the Globular Cluster NGC 4833 and Extinction Near the Galactic Plane**”. *The Astronomical Journal*. Volume 120, Issue 6, pp. 3127-3138

Additional Refereed Publications

Noeske, K. G., Koo, D. C., Phillips, A. C., Willmer, C. N. A., Melbourne, J., Gil de Paz, A., Papaderos, P., 2006. “**Luminous Compact Blue Galaxies up to $z \sim 1$ in the Hubble Space Telescope Ultra Deep Field. I. Small Galaxies or Blue Centers of Massive Disks?**” *The Astrophysical Journal*. Volume 640, Issue 2, pp. L143-L146

Salzer, John J., Lee, Janice C., Melbourne, Jason, Hinz, Joannah L., Alonso-Herrero, Almudena, Jangren, Anna., 2005. “**Metal Abundances of KISS Galaxies. IV. Galaxian Luminosity-Metallicity Relations in the Optical and Near-Infrared**”. *The Astrophysical Journal*. Volume 624, Issue 2, pp. 661-679

Lee, Janice C., Salzer, John J., Melbourne, Jason., 2004. “**Metal Abundances of KISS Galaxies. III. Nebular Abundances for Fourteen Galaxies and the Luminosity-Metallicity Relationship for H II Galaxies**”. *The Astrophysical Journal*. Volume 616, Issue 2, pp. 752-767

Prochaska, Jason X., Bloom, Joshua S., Chen, Hsiao-Wen, Hurley, Kevin C., Melbourne, Jason, Dressler, Alan, Graham, James R., Osip, David J., Vacca, W. D., 2004. “**The Host Galaxy of GRB 031203: Implications of Its Low Metallicity, Low Redshift, and Starburst Nature**”. *The Astrophysical Journal*. Volume 611, Issue 1, pp. 200-207

Wegner, Gary, Salzer, John J., Jangren, Anna, Gronwall, Caryl, Melbourne, Jason., 2003. “**Spectroscopy of KISS Emission-Line Galaxy Candidates. I. MDM Observations**”. *The Astronomical Journal*. Volume 125, Issue 5, pp. 2373-2392