

# JASON MELBOURNE

## Curriculum Vitae

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<b>Education</b>	DOCTOR OF PHILOSOPHY, ASTRONOMY & ASTROPHYSICS University of California, Santa Cruz Thesis: "The Optical and Infrared Evolution of Galaxies" (Advisors: C. Max & D. C. Koo)	May 2006
	MASTER OF ARTS, ASTRONOMY Wesleyan Univeristy Thesis: "Metal Abundances in KISS Galaxies" (Advisor J. J. Salzer)	May 2001
	BACHELOR OF ARTS, PHYSICS & ASTRONOMY University of California, Berkeley	May 1995
<b>Appoint- ments</b>	POSTDOCTORAL FELLOW, Physics Department, California Institute of Technology	2007–
	POSTDOCTORAL FELLOW, Center for Adaptive Optics, UC Santa Cruz	2006–2007
<b>Grants</b>	PANCHROMATIC HUBBLE ANDROMEDA TREASURY HST Multi-cycle Treasury Program, Renewal, Caltech P.I. of sub-award \$30,126	2011
	PANCHROMATIC HUBBLE ANDROMEDA TREASURY HST Multi-Cycle Treasury Program, HST-GO-12055.21 Caltech P.I. of sub-award \$28,718	2010
	THE SITES AND TRIGGERS OF STAR FORMATION IN LARGE DISK GALAXIES SINCE $z = 1$ HST Archival Grant, AR-10965. P.I. \$53,000	2008
<b>Major Research Programs</b>	ASYMPTOTIC GIANT BRANCH (AGB) STARS A study of AGB stars in nearby galaxies and star clusters. I showed the AGB contributes a large fraction of the near-infrared light of galaxies, but that recent models over-predict their contribution.	2009–present
	DUST OBSCURED GALAXIES A study of ultra-luminous infrared galaxies in the early universe. I led multiple papers on morphologies, black hole masses, and far-infrared dust properties of these extreme galaxies. I also organize our multi-institutional team meetings, write observing proposals, and plan future science.	2007–present
	LUMINOUS INFRARED GALAXIES (LIRGs) Morphologies and stellar populations of $z = 1$ LIRGs. I showed that the high star formation rates in $z = 1$ galaxies were occurring, primarily, in morphologically normal disks. My results suggest that the decline in star formation since $z = 1$ has been driven by gas depletion rather than a drop in merger rates, an alternative hypothesis.	2005–2007
	CENTER FOR ADAPTIVE OPTICS TREASURY SURVEY High spatial resolution near-infrared imaging of 300 $z \sim 1$ galaxies from Keck adaptive optics (AO). I developed AO observing techniques, built the first online AO database, and led papers on high- $z$ supernova, galaxy mergers, and infrared luminous galaxies.	2005–2007
	METALLICITIES OF DWARF GALAXIES Oxygen abundance of hundreds of low redshift dwarf galaxies. First to show that the metallicity-luminosity relation holds over roughly 10 magnitudes in luminosity.	2000–2005

<b>Instrumentation</b>	NIRES, A NEAR-INFRARED SPECTROGRAPH FOR KECK OBSERVATORY I led the detector characterization, and showed that it would not achieve the required performance. With the University of Toronto, we have purchased a new detector. (P.I. Keith Matthews)	2010–present
	THIRTY METER TELESCOPE (TMT) SITE TESTING I participated in a TMT site testing campaign on Mauna Kea. I assisted in deployment of kite and balloon born instrumentation, and helped synthesize the results. (P.I. Mark Chun)	2004
<b>Selected Successful Proposals &amp; Observing</b>	THE STARBURST–AGN CONNECTION, P.I. Keck Laser Guide Star Adaptive Optics Integral Field Spectroscopy of Nearby AGN	2011
	THE LOCAL GROUP INFRARED CLUSTER SURVEY, P.I. Keck Laser Guide Star Adaptive Optics Imaging with NIRC2	2010
	THE PANCHROMATIC HUBBLE ANDROMEDA TREASURY, Co.I. HST Multi-cycle Treasury Program for Multi-band Imaging Across Andromeda Galaxy.	2010
	REST-FRAME OPTICAL SPECTROSCOPY OF $z = 2$ DUST OBSCURED GALAXIES, P.I. Palomar Near-IR Spectroscopy with TripleSpec Keck Integral-Field Spectroscopy with OSIRIS	2009
	RESOLVED STELLAR POPULATIONS OF NEARBY GALAXIES, P.I. Keck Laser Guide Star Adaptive Optics Imaging with NIRC2	2008
	A CALIBRATION DATABASE FOR STELLAR MODELS OF AGB STARS, Co.I. HST Near-IR Imaging with WFC3, SNAP-11719	2008
	THE DISTRIBUTION OF WARM DUST IN LUMINOUS INFRARED GALAXIES, P.I. Gemini Mid-IR Imaging with TReCS	2008–2009
	THE MORPHOLOGIES OF $z = 2$ DUST OBSCURED GALAXIES, Co.I. Keck Laser Guide Star Adaptive Optics Imaging with NIRC2	2007–2008
	REST-FRAME OPTICAL MORPHOLOGIES OF GALAXIES IN GOODS, Co.I. Keck Laser Guide Star Adaptive Optics Imaging with NIRC2	2004–2006
<b>Teaching Experience</b>	ADJUNCT PROFESSOR, POMONA COLLEGE Introductory Physics Laboratory. I collaborated on the design of 20 labs in Mechanics and E&M. My focus was on defining content and process goals. I designed and taught a mini-lecture at the start of each lab	2010–2011
	VISITING PROFESSOR, CALTECH Taught two lectures of graduate level Stellar Structure and Evolution.	2010
	DIRECTOR, THINK LIKE AN ASTRONOMER In an effort to promote science literacy, I have developed a 5-session astronomy short course for the general public. This course introduces major themes in astronomy through inquiry-based activities, and exquisite astronomical images. I taught this course at Glendale Community College.	2010
	ADJUNCT PROFESSOR, MT SAN ANTONIO COMMUNITY COLLEGE Introductory Astronomy Lecture and Lab. I developed and taught the curriculum, for this lecture and lab course, including a semester long Sun tracking lab, and a galaxy morphology inquiry activity.	2009
	LEAD INSTRUCTOR, THE CENTER FOR ADAPTIVE OPTICS SHORT COURSE A one-week course on astronomy, light, and optics to prepare undergraduates for summer research positions in the Center for Adaptive Optics.	2005
	TEACHING ASSISTANT, UNIVERSITY OF CALIFORNIA SANTA CRUZ	2001–2002
<b>Selected Students Advised</b>	GAUTAM UPADHYA, CALTECH SUMMER UNDERGRADUATE RESEARCH FELLOW Tracking the Evolved Stars of M33 with Adaptive Optics Imaging in the Near-IR	2011–present
	HANAE INAMI, GRADUATE STUDENT AT THE SPITZER SCIENCE CENTER	2010–present

	Integral field spectroscopy of low redshift Luminous Infrared Galaxies	
	JOHN FORBES, CALTECH UNDERGRADUATE	2009–2010
	Spatially Resolved Stellar Populations of $z = 1$ Luminous Infrared Galaxies	
	ABHIRAM CHIVIKULA, CALTECH SUMMER UNDERGRADUATE RESEARCH FELLOW	2008
	Spectral Energy Distributions of High Redshift Dust-Obscured Galaxies	
<b>Selected Service</b>	REFeree	2005–present
	The Astronomical Journal, The Astrophysical Journal, and Publications of the Astronomical Society of the Pacific	
	SCIENCE ORGANIZING COMMITTEE	2010
	Massive Galaxies III, Tucson, Arizona	
	NSF PANEL MEMBER	2007–2008
	Astronomy and Astrophysics Research Grants	
	DIRECTOR AND LEAD INSTRUCTOR	2006, 2008
	The Keck Adaptive Optics Workshop, University of California Santa Cruz	
	SCIENCE ADVISOR, THE CALIFORNIA MATH AND SCIENCE PROJECT	2006
	Watsonville California School District	
<b>Selected Recent Talks</b>	CONFERENCE: THROUGH THE INFRARED LOOKING GLASS, PASADENA CA “The Far-IR Spectral Energy Distributions of $z = 2$ Dust Obscured Galaxies”	September 2011
	CONFERENCE: THE STARBUST-AGN CONNECTION: MADRID, SPAIN “Black Hole Masses and Star Formation Rates of $z = 2$ Dust Obscured Galaxies Revealed with Keck OSIRIS Integral Field Spectroscopy”	September 2011
	COLLOQUIUM: UC SAN DIEGO, UCLA, UC IRVINE, COLUMBIA, HARVARD “Infrared Luminosities of AGB and RHeB Stars from HST WFC3: Implications for Measuring Stellar Masses of Galaxies”	March–May 2011
	CONFERENCE: WHY DO GALAXIES CARE ABOUT AGB STARS? VIENNA “The Contribution of Asymptotic Giant Branch Stars to the Infrared Luminosities of Galaxies: Implications for Measuring Stellar Masses of Galaxies”	September 2010
	COLLOQUIUM: UNIVERSITY OF HAWAII “Dust Obscured Galaxies at $z = 2$ ”	September 2010
	COLLOQUIUM: UC SANTA CRUZ “The Local Group Infrared Cluster Survey”	April 2010
	CONFERENCE: DWARF GALAXIES IN THE LOCAL UNIVERSE, SAO, RUSSIA “Asymptotic Giant Branch Stars as Probes of Star Formation History”	September 2009
<b>Selected Collaborations</b>	PANCHROMATIC HUBBLE ANDROMEDA TREASURY (PHAT)	P.I. Dalcanton
	LOCAL GROUP INFRARED CLUSTER SURVEY (LOGICS)	P.I. Melbourne
	NOAO DEEP WIDE FIELD SURVEY (NDWFS)	P.I.s Dey, Januzzi
	GREAT OBSERVATORIES ALL-SKY LIRG SURVEY (GOALS)	P.I.s Sanders, Armus
	CENTER FOR ADAPTIVE OPTICS TREASURY SURVEY (CATS)	P.I.s Larkin, Max, Koo
<b>References</b>	DR. B. T. SOIFER — DIRECTOR, SPITZER SCIENCE CENTER, DEPARTMENT CHAIR, PHYSICS, MATH AND ASTRONOMY California Institute of Technology MC 301-17 1200 E. California Blvd.	

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<b>Publication Summary</b>	FIRST-AUTHOR REFEREED PUBLICATIONS	15
	ADDITIONAL REFEREED PUBLICATIONS	22
	FIRST-AUTHOR CITATION COUNT, MAY 2012	320
	TOTAL CITATION COUNT, MAY 2012	1030

- First-Author** THE SPECTRAL ENERGY DISTRIBUTIONS AND INFRARED LUMINOSITIES OF DUST OBSCURED GALAXIES FROM HERSCHEL AND SPITZER, NOT YOUR AVERAGE  $z = 2$  ULIRGS  
**Refereed Publications** **Melbourne, J.**, Soifer, B.T., Desai, V., Pope A., Armus L., Dey, A., Bussmann R.S., Jannuzi, B.T., Alberts, S. 2012. The Astronomical Journal. Volume 143, Issue 5, article id. 125
- THE CONTRIBUTION OF TP-AGB AND RHEB STARS TO THE NEAR-IR LUMINOSITY OF LOCAL GALAXIES: IMPLICATIONS FOR STELLAR MASS MEASUREMENTS OF HIGH REDSHIFT GALAXIES  
**Melbourne, J.**, Williams, B., Dalcanton, J., Rosenfield, P., Girardi, L., Marigo, P., Weisz, D., Dolphin A., Boyer, M., Olsen, K., Skillman E., Seth, A. 2012. The Astrophysical Journal. Volume 748, Issue 1, article id. 47
- THE BLACK HOLE MASSES AND STAR FORMATION RATES OF  $z > 1$  DUST OBSCURED GALAXIES (DOGS): RESULTS FROM KECK OSIRIS INTEGRAL FIELD SPECTROSCOPY  
**Melbourne, J.**, Peng, Chien Y, Soifer, B.T., Desai, V., Armus, L., Bussmann, R.S., Dey A., Matthews, K. 2011. The Astronomical Journal, Volume 141, Issue 4, pp. 141-152
- THE ASYMPTOTIC GIANT BRANCH AND THE TIP OF THE RED GIANT BRANCH AS PROBES OF STAR FORMATION HISTORY: THE NEARBY DWARF IRREGULAR GALAXY KKH 98  
**Melbourne, J.**, Williams, B., Dalcanton, J., Ammons, S.M., Max, C., Koo, D.C., Girardi, L., Dolphin, A. 2010. The Astrophysical Journal, Volume 712, Issue 1, pp. 469-483
- HIGH REDSHIFT DUST OBSCURED GALAXIES, A MORPHOLOGY-SED CONNECTION REVEALED BY KECK ADAPTIVE OPTICS  
**Melbourne, J.**, Bussman, S., Brand, K., Desai, V., Armus, L., Dey, A., Jannuzi, B. T., Houck, J. R., Soifer, B. T., Matthews, K. 2008. The Astronomical Journal, Volume 137, Issue 6, pp. 4854-4866
- MORPHOLOGIES OF HIGH-REDSHIFT DUST-OBSCURED GALAXIES FROM KECK LASER GUIDE STAR ADAPTIVE OPTICS  
**Melbourne, J.**, Desai, V., Armus, Lee, Dey, Arjun, Brand, K., Thompson, D., Soifer, B. T., Matthews, K., Jannuzi, B. T., Houck, J. R., 2008. The Astronomical Journal, Volume 136, Issue 3, pp. 1110-1117
- TRIGGERED OR SELF-REGULATED STAR FORMATION WITHIN INTERMEDIATE REDSHIFT LUMINOUS INFRARED GALAXIES. I. MORPHOLOGIES AND SPECTRAL ENERGY DISTRIBUTIONS  
**Melbourne, J.**, Ammons, M., Wright, S. A., Metevier, A., Steinbring, E., Max, C., Koo, D. C., Larkin, J. E., Barczys, M., 2008. The Astronomical Journal, Volume 135, Issue 4, pp. 1207-1224
- REST-FRAME R-BAND LIGHTCURVE OF A  $z \sim 1.3$  SUPERNOVA OBTAINED WITH KECK LASER ADAPTIVE OPTICS  
**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., Takanashi, N., Yasuda, N. 2007. The Astronomical Journal. Volume. 133, Issue 6, pp. 2709-2715
- RADIUS DEPENDENT LUMINOSITY EVOLUTION OF BLUE GALAXIES IN GOODS-N  
**Melbourne, J.**, Phillips, A., Harker, J., Novak, G., Koo, D. C., Faber, S. M., 2007. The Astrophysical Journal. Volume 660, Issue 1, pp. 81-96
- OPTICAL MORPHOLOGY EVOLUTION OF INFRARED LUMINOUS GALAXIES IN GOODS-N  
**Melbourne, J.**, Koo, D. C., Le Floch, E., 2005. The Astrophysical Journal. Volume 632, Issue 2, pp. L65L68
- MERGING GALAXIES IN GOODS-S: FIRST EXTRAGALACTIC RESULTS FROM KECK LASER ADAPTIVE OPTICS  
**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. The Astrophysical Journal. Volume 625, Issue 1, pp. L27-L30

MEASURING THE SLOPE OF THE DUST EXTINCTION LAW AND THE POWER SPECTRUM OF DUST CLOUDS USING DIFFERENTIALLY REDDENED GLOBULAR CLUSTERS

**Melbourne, J.**, Guhathakurta, P., 2004. The Astronomical Journal. Volume 128, Issue 1, pp. 271-286

METAL ABUNDANCES OF KISS GALAXIES. II. NEBULAR ABUNDANCES OF 12 LOW-LUMINOSITY EMISSION-LINE GALAXIES

**Melbourne, J.**, Phillips, A., Salzer, John J., Gronwall, C., Sarajedini, Vicki L., 2004. The Astronomical Journal. Volume 127, Issue 2, pp. 686-703

METAL ABUNDANCES OF KISS GALAXIES. I. COARSE METAL ABUNDANCES AND THE METALLICITY-LUMINOSITY RELATION

**Melbourne, J.**, Salzer, John J., 2002. The Astronomical Journal. Volume 123, Issue 5, pp. 2302-2311

CCD PHOTOMETRY OF THE GLOBULAR CLUSTER NGC 4833 AND EXTINCTION NEAR THE GALACTIC PLANE

**Melbourne, J.**, Sarajedini, Ata, Layden, Andrew, Martins, Donald H., 2000. The Astronomical Journal. Volume 120, Issue 6, pp. 3127-3138

**Other  
Refereed  
Publications**

AGN UNIFICATION AT  $z \sim 1$ :  $u - R$  COLORS AND GRADIENTS IN X-RAY AGN HOSTS

Ammons, S. Mark, Rosario, David J. V., Koo, David C., Dutton, Aaron A., **Melbourne, J.**, Max, Claire E., Mozena, Mark, Kocevski, Dale D., McGrath, Elizabeth J., Bouwens, Rychard J., Magee, Daniel K. 2011. The Astrophysical Journal, Volume 740, Issue 1, pp. 3

THE NUCLEAR STRUCTURE IN NEARBY LUMINOUS INFRARED GALAXIES: HUBBLE SPACE TELESCOPE NICMOS IMAGING OF THE GOALS SAMPLE

Haan, S., Surace, J. A., Armus, L., Evans, A. S., Howell, J. H., Mazzarella, J. M., Kim, D. C., Vavilkin, T., Inami, H., Sanders, D. B., Petric, A., Bridge, C. R., **Melbourne, J.**, Charmandaris, V., Diaz-Santos, T., Murphy, E. J., U, V., Stierwalt, S., Marshall, J. A. 2011. The Astronomical Journal, Volume 141, Issue 3, pp. 100

HUBBLE SPACE TELESCOPE MORPHOLOGIES OF  $z \sim 2$  DUST-OBSCURED GALAXIES. II. BUMP SOURCES

Bussmann, R. S., Dey, A., Lotz, J., Armus, L., Brown, M., Desai, V., Eisenhardt, P., Higdon, J., Higdon, S., Jannuzi, B. T., Le Floch, E., **Melbourne, J.**, Soifer, B. T., Weedman, D. 2011. The Astrophysical Journal, Volume 733, Issue 1, pp. 21

ACTIVE DISK BUILDING IN A LOCAL H I-MASSIVE LIRG: THE SYNERGY BETWEEN GAS, DUST, AND STAR FORMATION

Cluver, M. E., Jarrett, T. H., Kraan-Korteweg, R. C., Koribalski, B. S., Appleton, P. N., **Melbourne, J.**, Emonts, B., Woudt, P. A. 2010. The Astrophysical Journal, Volume 725, Issue 2, pp. 1550-1562

THE ACS NEARBY GALAXY SURVEY TREASURY. IX. CONSTRAINING ASYMPTOTIC GIANT BRANCH EVOLUTION WITH OLD METAL-POOR GALAXIES

Girardi, Lo, Williams, Benjamin F., Gilbert, Karoline M., Rosenfield, Philip, Dalcanton, Julianne J., Marigo, Paola, Boyer, Martha L., Dolphin, Andrew, Weisz, Daniel R., **Melbourne, J.**, Olsen, Knut A. G., Seth, Anil C., Skillman, Evan. 2010. The Astrophysical Journal, Volume 724, Issue 2, pp. 1030-1043

THE BURIED STARBURST IN THE INTERACTING GALAXY II Zw 096 AS REVEALED BY THE SPITZER SPACE TELESCOPE

Inami, H., Armus, L., Surace, J. A., Mazzarella, J. M., Evans, A. S., Sanders, D. B., Howell, J. H., Petric, A., Vavilkin, T., Iwasawa, K., Haan, S., Murphy, E. J., Stierwalt, S., Appleton, P. N., Barnes, J. E., Bothun, G., Bridge, C. R., Chan, B., Charmandaris, V., Frayer, D. T., Kewley, L. J., Kim, D. C., Lord, S., Madore, B. F., Marshall, J. A., Matsuhara, H., **Melbourne, J.**, Rich, J., Schulz, B., Spoon, H. W. W., Sturm, E., U, V., Veilleux, S., Xu, K. 2010. The Astronomical Journal, Volume 140, Issue 1, pp. 63-74

THE GREAT OBSERVATORIES ALL-SKY LIRG SURVEY: COMPARISON OF ULTRAVIOLET AND FAR-INFRARED PROPERTIES

Howell, Justin H., Armus, Lee, Mazzarella, Joseph M., Evans, Aaron S., Surace, Jason A., Sanders, David B., Petric, Andreea, Appleton, Phil, Bothun, Greg, Bridge, Carrie, Chan, Ben H. P., Charmandaris, Vassilis, Frayer, David T., Haan, Sebastian, Inami, Hanae, Kim, Dong-Chan, Lord, Steven, Madore, Barry F., **Melbourne, J.**, Schulz, Bernhard, U, Vivian, Vavilkin, Tatjana, Veilleux, Sylvain, Xu, Kevin. 2010. The Astrophysical Journal, Volume 715, Issue 1, pp. 572-588

INFRARED LUMINOSITIES AND DUST PROPERTIES OF  $z \sim 2$  DUST-OBSCURED GALAXIES

Bussmann, R. S., Dey, Arjun, Borys, C., Desai, V., Jannuzi, B. T., Le Floch, E., **Melbourne, J.**, Sheth, K., Soifer, B. T. 2009. The Astrophysical Journal, Volume 705, Issue 1, pp. 184-198

STRONG POLYCYCLIC AROMATIC HYDROCARBON EMISSION FROM  $z \sim 2$  ULIRGS

Desai, Vandana, Soifer, B. T., Dey, Arjun, LeFloch, Emeric, Armus, Lee, Brand, Kate, Brown, Michael J. I., Brodwin, Mark, Jannuzi, Buell T., Houck, James R., Weedman, Daniel W., Ashby, Matthew L. N., Gonzalez, Anthony, Huang, Jiasheng, Smith, Howard A., Teplitz, Harry, Willner, Steve P., **Melbourne, J.** 2009. The Astrophysical Journal, Volume 700, Issue 2, pp. 1190-1204

GOALS: THE GREAT OBSERVATORIES ALL-SKY LIRG SURVEY

Armus, L., Mazzarella, J. M., Evans, A. S., Surace, J. A., Sanders, D. B., Iwasawa, K., Frayer, D. T., Howell, J. H., Chan, B., Petric, A., Vavilkin, T., Kim, D. C., Haan, S., Inami, H., Murphy, E. J., Appleton, P. N., Barnes, J. E., Bothun, G., Bridge, C. R., Charmandaris, V., Jensen, J. B., Kewley, L. J., Lord, S., Madore, B. F., Marshall, J. A., **Melbourne, J.**, Rich, J., Satyapal, S., Schulz, B., Spoon, H. W. W., Sturm, E., U, V., Veilleux, S., Xu, K. 2009. Publications of the Astronomical Society of the Pacific, Volume 121, issue 880, pp.559-576

HUBBLE SPACE TELESCOPE MORPHOLOGIES OF  $z \sim 2$  DUST OBSCURED GALAXIES. I. POWER-LAW SOURCES

Bussmann, R. S., Dey, Arjun, Lotz, J., Armus, L., Brand, K., Brown, M. J. I., Desai, V., Eisenhardt, P., Higdon, J., Higdon, S., Jannuzi, B. T., LeFloch, E., **Melbourne, J.**, Soifer, B. T., Weedman, D. 2009. The Astrophysical Journal, Volume 693, Issue 1, pp. 750-770

THE ORIGIN OF THE  $24 \mu\text{M}$  EXCESS IN RED GALAXIES

Brand, Kate, Moustakas, John, Armus, Lee, Assef, Roberto J., Brown, Michael J. I., Cool, Richard R., Desai, Vandana, Dey, Arjun, LeFloch, Emeric, Jannuzi, Buell T., Kochanek, Christopher S., **Melbourne, J.**, Papovich, Casey J., Soifer, B. T. 2009. The Astrophysical Journal, Volume 693, Issue 1, pp. 340-346

SPATIALLY RESOLVED STELLAR POPULATIONS OF EIGHT GOODS-SOUTH AGN AT  $z \sim 1$

Ammons, M., **Melbourne, J.**, Max, C., Koo, D., Rosario, D. 2009. The Astronomical Journal. Volume 137, Issue 1, pp. 470-497

CATS: OPTICAL TO NEAR-INFRARED COLORS OF THE BULGE AND DISK OF TWO  $z = 0.7$  GALAXIES USING HUBBLE SPACE TELESCOPE AND KECK LASER ADAPTIVE OPTICS IMAGING

Steinbring, E., **Melbourne, J.**, Metevier, A. J., Koo, D. C., Chun, M. R., Simard, L., Larkin, J. E., Max, C. E., 2008. The Astronomical Journal, Volume 136, Issue 4, pp. 1523-1532

SUPERRESOLVING DISTANT GALAXIES WITH GRAVITATIONAL TELESCOPES: KECK LASER GUIDE STAR ADAPTIVE OPTICS AND HUBBLE SPACE TELESCOPE IMAGING OF THE LENS SYSTEM SDSS

J0737+3216

Marshall, P., Treu, T., **Melbourne, J.**, Gavazzi, R., Bundy, K., Ammons, S.M., Bolton, A., Burles, S., Larkin, J., Le Mignant, D., Koo, D., Koopmans, L. V. E., Max, C., Moustakas, L.A., Steinbring, E., Wright, S.A., 2007. The Astrophysical Journal, Volume 671, Issue 2, pp. 1196-1211

A SURVEY OF GALAXY KINEMATICS TO  $z \sim 1$  IN THE TKRS/GOODS-N FIELD. II. EVOLUTION IN THE TULLY-FISHER RELATION

Weiner, Benjamin J., Willmer, Christopher N. A., Faber, S. M., Harker, Justin, Kassin, Susan A., Phillips, Andrew C., **Melbourne, J.**, Metevier, A. J., Vogt, N. P., Koo, D. C., 2006. The Astrophysical Journal, Volume 653, Issue 2, pp. 1049-1069

A SURVEY OF GALAXY KINEMATICS TO  $z \sim 1$  IN THE TKRS/GOODS-N FIELD. I. ROTATION AND DISPERSION PROPERTIES

Weiner, B., Willmer, C., Faber, S. M., **Melbourne, J.**, Kassin, S., Phillips, A., Harker, J., Metevier, A. J., Vogt, N. P., Koo, D. C., 2006. The Astrophysical Journal, Volume 653, Issue 2, pp. 1027-1048

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?

Noeske, K. G., Koo, D. C., Phillips, A. C., Willmer, C. N. A., **Melbourne, J.**, Gil de Paz, A., Papaderos, P., 2006. The Astrophysical Journal. Volume 640, Issue 2, pp. L143-L146

METAL ABUNDANCES OF KISS GALAXIES. IV. GALAXIAN LUMINOSITY-METALLICITY RELATIONS IN THE OPTICAL AND NEAR-INFRARED

Salzer, J., Lee, J., **Melbourne, J.**, Hinz, J., Alonso-Herrero, A., Jangren, A. 2005. The Astrophysical Journal. Volume 624, Issue 2, pp. 661-679

METAL ABUNDANCES OF KISS GALAXIES. III. NEBULAR ABUNDANCES FOR FOURTEEN GALAXIES AND THE LUMINOSITY-METALLICITY RELATIONSHIP FOR H II GALAXIES

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