# Gregory L. Walth

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## RESEARCH INTERESTS

- The physical properties (star formation, metallicity) and AGN activity of dusty, star-forming galaxies
- Outflows and their interaction with the circumgalactic medium of galaxies
- Development of optical and near-infrared data pipelines

## PROFESSIONAL APPOINTMENTS

**Carnegie Postdoctoral Fellow**, Carnegie Observatories, 2018 – present
Investigating the connection between the cool circumgalactic gas around quasars (redshifts $0.4 < z < 1.0$) and nearby interacting galaxies. In this survey I am using Magellan/LDSS3 to determine the redshifts of galaxies imaged with *HST*/ACS within the virial radius of the quasars with Dr. Gwen Rudie, Prof. Sean Johnson, and Dr. John Mulchaey

**TMT IRIS Postdoctoral Scholar**, CASS, UC San Diego, 2015 – 2018
Designed and developed the data reduction system for the near-infrared imager/spectrograph IRIS on the Thirty Meter Telescope with Prof. Shelley Wright

**Research Assistant**, charged with pipeline creation and data reduction, Carnegie Observatories, 2004 – 2008
Developed and operated spectroscopic reduction pipelines for Magellan instruments IMACS, LDSS3 and MIKE; developed scientific data-products content management systems;
*Advisor*: Dr. Daniel Kelson

## EDUCATION

**Ph.D. Astronomy**, University of Arizona, 2015
Thesis: "Characterizing Star Forming Properties of Herschel-detected Gravitationally Lensed Galaxies"
*Advisor:* Dr. Eiichi Egami

**B.S. Physics**, Mathematics minor, University of California, Los Angeles, 2003

## RESEARCH HIGHLIGHTS

- Led the processing and analysis:
  - CUBS, Cosmic Ultraviolet Baryon Survey, parallel field WFC3-IR grism slitless spectra (GO-15163), which led to the following paper: Chen et al. 2020
  - GLASS, Grism Lens-Amplified Survey from Space, WFC3-IR grism slitless spectra (GO-13459), which led to the following papers: Rawle et al. 2016, Mainali et al. 2017, Walth et al. 2019
  - WFC3-IR grism slitless spectra of the CLASH cluster MACS0647 with the triply imaged $z = 10.7$ galaxy (GO-13317)

– WFC3-IR grism slitless spectra of a VLA continuum imaged Einstein ring at $z \sim 2$ (GO-13411)

- Authored the Infrared Imaging Spectrograph (IRIS) data reduction pipeline PDR-2 documents for the Thirty Meter Telescope (TMT), which includes reduction routines, use cases, calibration strategy, and metadata from telescope telemetry; summaries published in SPIE, Walth et al. 2016, 2018.

- Authored the IRIS Exposure Time Calculator (ETC), which was designed to help develop science cases for IRIS on TMT, in particular to develop the US ELT Key Science Programs for the Astro2020 science white papers, SPIE, Walth et al. in prep.

- Led the LBT/LUCI2 throughput calculation with the processing and analysis of the on-sky commissioning data

## PUBLICLY AVAILABLE CODE

- TMT/IRIS - IRIS Exposure Time Calculator, Author
  http://github.com/gwalth/IRIS_snr_sim
  http://tmt.org/etc/iris

- Magellan/IMACS and LDSS3 - The Carnegie Observatories System for MultiObject Spectroscopy (COSMOS), Coauthor
  http://code.obs.carnegiescience.edu/cosmos

- Carnegie Python Distribution (CarPy), Coauthor
  http://code.obs.carnegiescience.edu/carnegie-python-distribution

- Keck/OSIRIS - OSIRIS Data Reduction Pipeline, Coauthor
  http://www2.keck.hawaii.edu/inst/osiris/tools

## OBSERVING EXPERIENCE

51 observing runs for a total of 133.5 nights

**Optical spectroscopy:**
Keck/DEIMOS MOS; Keck/KCWI IFU; LBT/MODS MOS, long-slit; Magellan/IMACS MOS, long-slit; Magellan/LDSS3 MOS, long-slit; MMT/Red Channel long-slit; MMT/Blue Channel long-slit

**Near-Infrared spectroscopy:**
Keck/OSIRIS; LBT/LUCI MOS, long-slit; Magellan/MMIRS MOS, long-slit; Magellan/FIRE long-slit

**Near-Infrared imaging:**
Keck/OSIRIS, CTIO/NEWFIRM, Magellan/PANIC, MMT/SWIRC

**Optical imaging:**
LBT/LBC, LBT/MODS, Magellan/LDSS3, Magellan/IMACS (including MMTF)

## TECHNICAL EXPERIENCE

**Instrument Data Reduction and Analysis:**
Keck: DEIMOS, KCWI, MOSFIRE and OSIRIS
LBT: LUCI and MODS
Magellan: FIRE, IMACS, LDSS3, MagE, MIKE, MMIRS and PANIC
MMT: Red Channel and SWIRC
ALMA: Experience reducing submm/radio data with CASA
*HST*: Experience reducing imaging (ACS, SBC, WFC3-IR, WFC3-UVIS and WFPC2) and spectroscopy (WFC3-IR G102 and G141 grisms)

**Languages and Software:**
TMT/IRIS simulator
LENSTOOL gravitational lensing software
AstroDrizzle, grizli, aXe, *HST* imaging and grism reduction software
Le PHARE, EAZY, Bagpipes, photometric redshift and SED fitting software
SExtractor, SCAMP, SWarp
Python, C, FORTRAN, IRAF, IDL, DS9, Jupyter Notebooks, vim
git

## LARGE PROJECTS & COLLABORATIONS

HLS, Herschel Lensing Survey
CUBS, Cosmic Ultraviolet Baryon Survey
TMT/IRIS Science Team
TMT International Science Development Teams
Kapa Galaxy Evolution Science Team
ALCS, ALMA Lensing Cluster Survey

## RESEARCH EXPERIENCE

**Research Assistant**, Lowell Observatory, 2003 – 2004
Performed photometry on stars in the star forming region IC-1795; measured nebular boundaries of H I galaxies in the SINGG H$\alpha$ survey; *Advisor*: Dr. Sally Oey

**Research Assistant**, University of California, Los Angeles, 2003
Searched for IR excess around Hipparcos stars by comparing *IRAS* 12 and 25 $\mu$m fluxes; fit stellar models to BVJHK photometry to determine their temperature and radius; *Advisor*: Dr. Inseok Song

**Research Assistant**, Mt. Wilson Observatory, 2002 – 2003
Collected optical imaging and preformed photometry on the globular cluster M92 in order to study RR Lyre variables as they evolve through through the instability gap; *Advisor*: Barret Duff

**Research Assistant**, University of California, Los Angeles, 2002 – 2003
Modelled mid-IR and far-IR flux ratios for *Spitzer* based on *IRAS* and *ISO* nearby galaxy observations; *Advisor*: Prof. Matthew Malkan

**Laboratory Helper**, University of California, Los Angeles, 2002 – 2003
Designed and fabricated temperature control units for the linac and fiber optics for the particle accelerator in the Neptune laboratory; *Advisor*: Prof. Jamie Rosensweig and Dr. Gil Travish

Text in red denotes near-infrared instruments

**Research Assistant**, University of California, Los Angeles, 2001
Searched for companions to A stars by spatially correlating the star to an X-ray source and by the stars color; *Advisor*: Prof. Ben Zuckerman and Dr. Inseok Song

## SUCCESSFUL OBSERVING PROPOSALS

- Magellan 6.5m telescope (PI: 24 nights)
  LDSS3, IMACS, FIRE, MMIRS
- LBT 8.4m telescope: (PI: 8 nights)
  LUCI
- Keck 10m telescope: (CoI: 3.5 nights)
  OSIRIS
- MMT telescope (PI: 4 nights)
  MMIRS, SWIRC
- UKIRT telescope (PI: 84 hours)
  WFCAM
- HST (CoI: 90 orbits)
  GO-13411 – 4 orbits: "Dissecting the intensely star-forming clumps in a $z \sim 2$ Einstein Ring"
  GO-14148 – 5 orbits: "Near-IR Imaging of Three Spectacular Lensed Submillimeter Galaxies Discovered by the Herschel Lensing Survey"
  SNAP-15279 – 60 orbits: "Unveiling Quasar Fueling through a Public Snapshot Survey of Quasar Host Environments"
  GO-15935 – 21 orbits: "UV diagnostics as barometers for galactic scale AGN outflows"
- ALMA (CoI 89.2 hours)
  2013.1.01167.S – 3.5 hours: "Exceptionally Bright Cluster-Lensed SMGs at $z = 2.0$ and 4.7"
  2013.1.01299.S – 6.5 hours: "ALMA Observations of $z \sim 6.7 - 6.8$ Galaxies with Strong Optical Nebular Emission: Re-Evaluating ALMA's Potential for Detecting $z > 6$ Galaxies"
  2015.1.01178.S – 4.9 hours: "ALMA Observations of $z \sim 6.7 - 6.8$ Galaxies with Strong Optical Nebular Emission: Re-Evaluating ALMA's Potential for Detecting $z > 6$ Galaxies"
  2015.1.01548.S – 6.4 hours: "ALMA Imaging of Bright Cluster-Lensed SMGs Discovered by the Herschel Lensing Survey"
  2016.1.00372.S – 9.4 hours: "Complete Census of Bright Lensed Submillimeter Galaxies Discovered by the Herschel Lensing Survey"
  2016.1.00643.S – 13.8 hours: "High-resolution CO observations of clumpy strongly-lensed galaxies at $0.6 < z < 1.5$ "
  2017.1.01658.S – 3.4 hours: "Complete Census of Bright Lensed Submillimeter Galaxies Discovered by the Herschel Lensing Survey"
  2018.1.01812.S – 7.7 hours: "Deep [C II] Imaging of a Strongly-Lensed SMG-LBG pair at $z = 4.7$"
  2019.1.01034.S – 13.9 hours: "Resolved Molecular Gas in $z \sim 1$ Star Forming Clumps"
  2019.1.01259.S – 6.4 hours: "Cold gas and dust distributions around a precisely localized AGN in a dust-obscured star-forming disk at $z = 1.9$"
  2019.2.00040.S – 13.3 hours: "Extended Dust Profile of $z \sim 2$ Cluster-Lensed Submillimeter Galaxies"

## TEACHING, MENTORING AND PUBLIC OUTREACH

**Research Advisor**, Brian Merino, a masters student (Carnegie Astrophysics Summer Student Internship) working on gravitationally-lensed clumpy galaxies in CLASH, *presenting in Merino et al. in prep.*, Summer 2020

**Research Advisor**, Cynthia Ibrahim, a undergraduate student (Carnegie Astrophysics Summer Student Internship/CAMPARE) searching for evidence of galaxy interactions near quasars, *presenting at AAS 237th*, Summer 2020

**Guest Lecturer for Carnegie Summer REU**, "Using Galaxy Clusters as Cosmic Telescopes to Explore the Properties of Distant Dusty, Star-Forming Galaxies", Summer 2019

**Research Advisor**, Brian Merino, a masters student (Carnegie Summer REU) working on gravitationally-lensed clumpy galaxies in CLASH, *presented at AAS 235th*, Summer 2019

**Professional Development Program**, UC Santa Cruz, 2018, I participated in the Professional Development Program (PDP) run by the Institute for Scientist & Engineer Educators (ISEE), which teaches instructors how to design inquiry based activities for undergraduate researchers. I was the Design Team Leader for a team of three, that planned and executed an inquiry activity for REU students at UC San Diego. In the activity students would learn about the concept of spatially resolving a source through their investigations of several science topics. Using the TMT/IRIS sensitivity calculator, students learned how to simulate their science cases using different PSFs from Keck, JWST and TMT.

**Research Advisor**, Brian Merino, a undergraduate student (STARS/CAMPARE) working on gravitationally lensed clumpy galaxies in CLASH, *presented at AAS 231st, STARS, and SACNAS*, Summer 2017

**Research Mentor**, Nils Rundquist, a undergraduate student working on in simulating TMT/IRIS observations of Saturn's moon Enceladus and TMT/IRIS simulations of ghosting from bright stars, *presented at SPIE*, 2017 - 2018

**Research Mentor**, Tran Tsan, a undergraduate student working on in simulating TMT/IRIS observations of $z = 2.5$ galaxy's stellar absorption features, *presented at STARS and SACNAS*, Summer 2016

**Professional Development Program**, UC Santa Cruz, 2017, I participated in the Professional Development Program (PDP) run by the Institute for Scientist & Engineer Educators (ISEE). I was part of a team of three, that designed an inquiry activity for REU students at UC San Diego, teaching the concept of signal-to-noise. Specifically, I took the TMT/IRIS sensitivity calculator and taught students how to simulate their science cases.

**Volunteer & Lecturer**, Astr 492 - Directed Research (Kepler Project), class to teach undergraduate students about basic research concepts using the Kepler data, 2013-2014

**Teaching Assistant**, Astr 170B1 - The Physical Universe, University of Arizona,
Prof. Edward Olszewski, Spring 2013

**Teaching Assistant**, Astr 170B1 - The Physical Universe, University of Arizona,
Prof. Marcia Rieke, Fall 2012

**Co-organizer & Lecturer**, Code Coffee, semi-weekly seminar for astronomy programming enthusiasts, 2013 - 2014

**Organizer & Lecturer**, Steward Summer Computing Seminar, seminar to teach programming concepts with an astronomy theme to graduate students and postdocs, 2012

**Organizer & Lecturer**, Steward Summer Computing Seminar, seminar to teach programming concepts with an astronomy theme to graduate students and postdocs, 2011

**Lecturer**, Steward Summer Computing Seminar, seminar to teach programming concepts with an astronomy theme to graduate students, 2009

## SCIENTIFIC COMMUNITY AND DEPARTMENT SERVICE

– ALMA Ambassador for the NRAO Community Day at Carnegie Observatories (Virtual), organized and presented ALMA capabilities, science, proposal tool and proposal process, March 19, 2020

– Authored the IRIS Exposure Time Calculator (ETC), which tool designed to help develop science cases for IRIS on TMT, in particular to develop the US ELT Key Science Programs for the Astro2020 science white papers, SPIE, Walth et al. 2020, in prep.

– Coauthor for the funded Keck All-Sky Precision Adaptive Optics (KAPA) NSF proposal, which upgrades the Keck-I AO system and will have time allocated for four key science programs taking advantage of the new resolution.

– ApJ Referee

– Graduate Student Representative, Faculty Hiring Committee, 2011

– Organizer, Steward Science Coffee, department astro-ph coffee discussion, 2010 - 2014

– Astronomy Representative, Associate Graduate Council for the College of Science, organization for graduate students in the College of Science to share experiences and solve problems across science departments, 2009 - 2012

– Organizer, Colloquium Dinners, 2010 - 2012

## CONFERENCES, MEETINGS, & WORKSHOPS

KAPA Annual Science Meeting, Virtual, September 16-17, 2020

CUBS Team Meeting, Virtual, July 13-15, 2020

ALMA Ambassadors Program, February 11-13, 2020, *Poster*

**235th AAS, Honolulu, HI, January 4-8, 2020,** *Contributed Talk*

**Carnegie Science Day, October 30, 2019,** *Contributed Talk*

**The Cosmic Baryon Cycle, September 19-21, 2019,** *Contributed Talk*

**CUBS Team Meeting, Carnegie Observatories, CA, July 10-11, 2019,** *Presentation*

**Dusting the Universe, March 4-8, 2019,** *Contributed Talk*

**Extremely Big Eyes on the Early Universe, January 28 - February 1, 2019,** *Contributed Talk*

**Carnegie Science Day, November 1, 2018,** *Contributed Talk*

SPIE Conference, Austin, TX, June 10-15, 2018, *Poster*

16th Synthesis Imaging Workshop, Socorro, NM, June 2018

Hack Together Day, 231st AAS, Washington D.C., January 12, 2018

**231st AAS, Washington D.C., January 9-12, 2018,** *Contributed Talk*

Using Python and Astropy for Astronomical Data Analysis, 231st AAS, Washington D.C., January 8, 2018

Hands-on Hierarchical Bayesian Modeling of Cosmic Populations, 231st AAS, Washington D.C., January 7, 2018

TMT/IRIS PDR-2, Pasadena, CA, Sept 20 - 21, 2017, *Presentation*

**Keck Science Meeting, Santa Cruz, CA, Sept 14 - 15, 2017,** *Contributed Talk*

Keck/OSIRIS Hackathon, UCLA, Sept 5 - 7, 2017

TMT/IRIS Leads Meeting, May 30, 2017, *Presentation*

TMT/IRIS Science Face-to-Face Meeting, April 7, 2017, *Presentation*

Keck/OSIRIS Hackathon, UCLA, March 28 - 30, 2017

TMT/IRIS Science Team Meeting, Feb 3, 2017, *Presentation*

TMT/IRIS PDR-1, Pasadena, CA, Nov 17 - 18, 2016

HLS Meeting, Madrid, Spain, Oct 4 - 7, 2016, *Presentation*

Half a Decade of ALMA: Cosmic Dawns Transformed, Indian Wells, CA, Sept 2016, *Poster*

Keck/OSIRIS Hackathon, UCLA, Sept 7 - 9, 2016

TMT/IRIS Team Meeting, July 20, 2016 *Presentation*

**228th AAS, San Diego, June 12 - 16, 2016, Thesis Talk**

SPIE Conference, Edinburgh, Scotland, June 26 - July 2, 2016, *Poster*

TMT Science Forum, Kyoto, Japan, May 24 - 26, 2016

Keck/OSIRIS Hackathon, UCLA, May 4 - 6, 2016

TMT/IRIS Team Meeting, Mar 1, 2016, **Presentation**

**UC San Diego, Astrophysics Seminar, Feb 10, 2016, Invited Talk**

Galactic Center Workshop, UCLA, Dec 8 - 10, 2015

TMT/IRIS Face to Face Meeting, Pasadena, Nov 5 - 6, 2015

**The Formation & Growth of Galaxies in the Young Universe, Obergurgle, Austria, April 2014,** *Contributed Talk*

**LBTO 2014 Users' Meeting, Tucson, AZ, March 2014,** *Contributed Talk*

13th Synthesis Imaging Workshop, Socorro, NM, June 2012

Unveiling the Far-IR and Sub-mm Extragalactic Universe: Herschel, ALMA, CCAT, SPICA, and Beyond, UC-Irvine, CA, May 2011, *Poster*

**A Decade of Exploration With The Magellan Telescopes, Pasadena, CA, April 2011,** *Contributed Talk*

Star Formation Across Space and Time Frontier Science with the LBT and Other Large Telescopes, Tucson, AZ, April 2011

Scicoder Workshop, NYU, NY, June 2011

Herschel First Results Symposium, Noordwijk, Netherlands, May 2010, *Poster*

## PUBLICATIONS IN PREPARATION

– *"The Infrared Imaging Spectrograph (IRIS) for TMT: Exposure time calculator for IRIS"*, **Walth, G. L.** et al. in prep, Proceeding 11452-134 of the SPIE Astronomical Telescopes + Instrumentation 2020

– *"An $A_V = 7$ Gravitationally Lensed Dusty, Star-Forming Galaxy at $z = 1.5$"*, **Walth, G. L.** et al. in prep

– *"Three Gravitationally Lensed Dusty, Star-Forming Galaxies in the Field of RXCJ20143.2-2144 Spanning Redshifts $z = 2.0 - 5.0$"*, **Walth, G. L.** et al. in prep

– *"In the Field of MACSJ0647: HST/WFC3-IR Grism Spectroscopy of a Population of Gravitationally-Lensed Green Pea Galaxies at Redshifts $1 < z < 2$"*, **Walth, G. L.** et al. in prep

## PUBLICATIONS

34. *"The Cosmic Ultraviolet Baryon Survey (CUBS) - I. Overview and the diverse environments of Lyman limit systems at $z < 1$"*, Chen, H.; Zahedy, F. S.; Boettcher, E.; [et al. including **Walth, G. L.**], 2020, MNRAS, 497, 498.

33. *"The Physical Origins of the Identified and Still Missing Components of the Warm-Hot Intergalactic Medium: Insights from Deep Surveys in the Field of Blazar 1ES1553+113"*, Johnson, S. D.; Mulchaey, J. S.; Chen, H.; [et al. including **Walth, G. L.**], 2019, ApJ, 884L, 31.

32. *"Infrared Galaxies in the Field of the Massive Cluster Abell S1063: Discovery of a Luminous Kiloparsec-Sized Giant H II Region in a Gravitationally Lensed IR-Luminous Galaxy at $z = 0.6$"*, **Walth, G. L.**; Egami, E.; Clement, B., et al. 2019, ApJ, 877, 7.

31. *"Characterizing and Improving the Data Reduction Pipeline for the Keck OSIRIS Integral Field Spectrograph"*, Lockhart, K. E.; Do, T.; Larkin, J. E. [et al. including **Walth, G. L.**], 2019, AJ, 157, 75.

30. *"PLCK G165.7+67.0: Analysis of a Massive Lensing Cluster in a Hubble Space Telescope Census of Submillimeter Giant Arcs Selected Using Planck/Herschel"*, Frye, Brenda L.; Pascale, Massimo; Qin, Yujing, [et al. including **Walth, G. L.**], 2019, ApJ, 871, 51.

29. *"Size-Luminosity Scaling Relations of Local and Distant Star-forming Regions"*, Cosens, Maren; Wright, Shelley A.; Mieda, Etsuko, [et al. including **Walth, G. L.**], 2018, ApJ, 869, 11.

28. *"A bright lensed galaxy at $z = 5.4$ with strong Ly$\alpha$ emission"*, McGreer, Ian D.; Clement, Benjamin; Mainali, Ramesh; [et al. including **Walth, G. L.**], 2018, MNRAS, 479, 435.

27. *"The Infrared Imaging Spectrograph (IRIS) for TMT: advancing the data reduction system"*, **Walth, G. L.**; Wright, S. A.; Rundquist, N. Proceeding 10707-112 of the SPIE Astronomical Telescopes + Instrumentation 2018.

26. *"The InfraRed Imaging Spectrograph (IRIS) for TMT: photometric precision and ghost analysis"*, Rundquist, N.; **Walth, G. L.**; Wright, S. A.; et al Proceeding 10702-373 of the SPIE Astronomical Telescopes + Instrumentation 2018.

25. *"Molecular gas properties of a lensed star-forming galaxy at z$\sim$3.6: a case study"*, Dessauges-Zavadsky, M.; Zamojski, M.; Rujopakarn, W.; [et al. including **Walth, G. L.**], 2017, A&A., 605, 81.

24. *"Evidence for a Hard Ionizing Spectrum from a z=6.11 Stellar Population"*, Mainali, Ramesh; Kollmeier, Juna A.; Stark, D.; [et al. including **Walth, G. L.**], 2017, ApJ, 836L, 14.

23. *"Solar abundances of rock-forming elements, extreme oxygen and hydrogen in a young polluted white dwarf"*, Farihi, J.; Koester, D.; Zuckerman, B.; [et al. including **Walth, G. L.**], 2016, MNRAS, 463, 3186.

22. *"The InfraRed Imaging Spectrograph (IRIS) for TMT: latest science cases and simulations"*, Wright, Shelley A.; **Walth, G. L.**; Do, Tuan; et al. Proceeding 9909-05 of the SPIE Astronomical Telescopes + Instrumentation 2016.

21. *"The Infrared Imaging Spectrograph (IRIS) for TMT: Data Reduction System"*, **Walth, G. L.**; Wright, Shelley A.; Weiss, Jason; et al., Proceeding 9913-165 of the SPIE Astronomical Telescopes + Instrumentation 2016.

20. *"The Infrared Imaging Spectrograph (IRIS) for TMT: motion planning with collision avoidance for the on-instrument wavefront sensors"*, Chapin, Edward L.; Dunn, J; Weiss, Jason; [et al. including **Walth, G. L.**], Proceeding 9913-29 of the SPIE Astronomical Telescopes + Instrumentation 2016.

19. *"A complete census of Herschel-detected infrared sources within the HST Frontier Fields"*, Rawle, T. D.; Altieri, B.; Egami, E., [et al. including **Walth, G. L.**], 2016, MNRAS, 459, 1626.

18. *"Spectroscopic detection of CIV in a galaxy at $z = 7.045$: Implications for the ionizing spectra of reionization-era galaxies"*, Stark, Daniel P.; **Walth, G. L.**; Charlot, Stephane; et al., 2015, MNRAS, 454, 1393.

17. *"Star formation in the massive cluster merger Abell 2744"*, Rawle, T. D.; Altieri, B.; Egami, E.; [et al. including **Walth, G. L.**], 2014, MNRAS, 442, 196.

16. *"[C II] and 12CO(1-0) Emission Maps in HLSJ091828.6+514223: A Strongly Lensed Interacting System at $z = 5.24$"*, Rawle, T. D.; Egami, E.; Bussmann, R. S.; [et al. including **Walth, G. L.**], 2014, ApJ, 783, 59.

15. *"An extended Herschel drop-out source in the center of AS1063: a normal dusty galaxy at $z = 6.1$ or SZ substructures?"*, Boone, F.; Clément, B.; Richard, J.; [et al. including **Walth, G. L.**], 2013, A&A, 559L, 1.

14. *"The [O III] Nebula of the Merger Remnant NGC 7252: A Likely Faint Ionization Echo"*, Schweizer, François; Seitzer, Patrick; Kelson, Daniel D.; Villanueva, Edward V.; **Walth, G. L.**, 2013, ApJ, 773, 148.

13. *"Mid-infrared Determination of Total Infrared Luminosity and Star Formation Rates of Local and High-redshift Galaxies"*, Rujopakarn, W.; Rieke, G. H.; Weiner, B. J.; [et al. including **Walth, G. L.**], 2013, ApJ, 767, 73.

12. *"Projected Rotational Velocities and Stellar Characterization of 350 B Stars in the Nearby Galactic Disk"*, Bragança, G. A.; Daflon, S.; Cunha, K.; [et al. including **Walth, G. L.**], 2012, AJ, 144, 130.

11. *"The Arizona CDFS Environment Survey (ACES): A Magellan/IMACS Spectroscopic Survey of the Chandra Deep Field-South"*, Cooper, Michael C.; Yan, Renbin; Dickinson, Mark; [et al. including **Walth, G. L.**], 2012, MNRAS, 425, 2116.

10. *"Discovery of "Warm Dust" Galaxies in Clusters at $z \sim 0.3$: Evidence for Stripping of Cool Dust in the Dense Environment?"*, Rawle, T. D.; Rex, M.; Egami, E.; [et al. including **Walth, G. L.**], 2012, ApJ, 756, 106.

9. *"The Relation between Cool Cluster Cores and Herschel-detected Star Formation in Brightest Cluster Galaxies"*, Rawle, T. D.; Edge, A. C.; Egami, E.; [et al. including **Walth, G. L.**], 2012, ApJ, 747, 29.

8. *"Keck Spectroscopy of Lyman-break Galaxies and Its Implications for the UV-continuum and Ly$\alpha$ Luminosity Functions at $z > 6$"*, Jiang, Linhua; Egami, Eiichi; Kashikawa, Nobunari; **Walth, G. L.**; et al., 2011, ApJ, 743, 65.

7. *"First detection of the Sunyaev Zel'dovich effect increment at $\lambda < 650$ $\mu$m"*, Zemcov, M.; Rex, M.; Rawle, T. D.; [et al. including **Walth, G. L.**], 2010, A&A, 518L, 16.

6. *"Improving the identification of high-z Herschel sources with position priors and optical/NIR and FIR/mm photometric redshifts"*, Pérez-González, P. G.; Egami, E.; Rex, M.; [et al. including **Walth, G. L.**], 2010, A&A, 518L, 15.

5. *"Deep Herschel view of obscured star formation in the Bullet cluster"*, Rawle, T. D.; Chung, S. M.; Fadda, D.; [et al. including **Walth, G. L.**], 2010, A&A, 518L, 14.

4. *"The far-infrared/submillimeter properties of galaxies located behind the Bullet cluster"*, Rex, M.; Rawle, T. D.; Egami, E.; [et al. including **Walth, G. L.**], 2010, A&A, 518L, 13.

3. *"The Herschel Lensing Survey (HLS): Overview"*, Egami, E.; Rex, M.; Rawle, T. D.; [et al. including **Walth, G. L.**], 2010, A&A, 518L, 12.

2. *"The Survey for Ionization in Neutral Gas Galaxies. III. Diffuse, Warm Ionized Medium and Escape of Ionizing Radiation"*, Oey, M. S.; Meurer, G. R.; Yelda, S.; [et al. including **Walth, G. L.**], 2007, ApJ, 661, 801.

1. *"Hierarchical Triggering of Star Formation by Superbubbles in W3/W4"*, Oey, M. S.; Watson, Alan M.; Kern, Katie; **Walth, G. L.**, 2005, AJ, 129, 393.

## REFERENCES

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