Curriculum Vitae

Ranga-Ram Chary
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Employment

2017- Senior Research Scientist and Member of Professional Staff, IPAC/Caltech

2010-2018 Project Scientist and Project Manager
U. S. Planck Data Center, IPAC/Caltech, Pasadena, CA

2003-2017 Research Scientist and Member of Professional Staff
Spitzer Science Center and U.S. Planck Data Center, IPAC/Caltech, Pasadena

2002-2003 Research Associate with the GOODS/SIRTF Legacy Science Team
SIRTF Science Center, Caltech, Pasadena

1999-2002 NICMOS Postdoctoral Scholar and Regents Fellow
University of California, Santa Cruz

Education

1995-1999 Ph.D. in Astronomy & Astrophysics, University of California, Los Angeles
Dissertation: 'The High Energy Gamma-Ray Background & the Interstellar Radiation Field'; Thesis Advisor: Edward L. Wright

1991-1995 B. Engg in Computer Science & Engineering
National Institute of Technology (Regional Engg. College), Trichy, India

Recent Awards

- Planck IPAC Data Center Group Achievement Award (2011, 2014, 2015)
- NASA Exceptional Public Service Medal (2011)
- Spitzer NASA Group Achievement Awards (2011, 2010, 2008)
- EGIDE Fellow, CEA-Saclay, France (2008)
- Regents Fellow, UC Santa Cruz (2002)

Research Interests

Reionization, Type Ia SNe and their host galaxies, Cosmic extragalactic backgrounds, Non-Gaussianity and Inflation, Cosmology with Galaxy Clusters, Gamma-ray burst host galaxies as a tracer of a star-forming environments, Gamma-ray emissivity of dark matter, Formation and evolution of dust, Cosmic star-formation and accretion history, Gravitational wave progenitors

Major Grants (>$5M in all, to date)

- *The origin of LIGO sources Keck/NASA* **P.I. (2017-2019)**
- *Cosmic Dawn Intensity Mapper* **co-I. (2017-2019)**
- *Measuring the spins of supermassive black holes*, SOFIA, **P.I. (2017-2020)**
- *Probing high redshift star-forming environments with SOFIA* **P.I. (2016-2020)**

- *Nebular Emission: The Key to Precision Galaxy Evolution and Cosmology*, Member of the Euclid Consortium, **P.I. (2013-2028)**
- *Probing The Growth of Large Scale Structure with Planck, NASA Keck Time,* **P.I. (2013-2015)**
- *An Optical/Infrared Background Model for Space Telescopes*, **co-I, (2012-2016)**
- *The X-ray properties of Halpha Emitters*, Chandra X-ray Observatory, **P.I. (2012-2013)**
- GOODS-Herschel, NASA Herschel Science Center, **co-I, (2009-2010)**
- Spitzer Space Telescope grant, *"IRS Spectroscopy to Distinguish z>5 Sources of Reionization from z~2 Infrared Luminous Galaxies"*, **P.I., (2008)**
- HST grant, **"***Confirming z>2 clusters through WFC3 imaging"*, **co-I, (2008)**
- Spitzer Space Telescope grant, *"IRS Spectroscopy of Compton-thick AGN"*, **co-I, (2007)**
- Spitzer Space Telescope grant, *"Unveiling the Galaxy Counterparts of Damped Lyman−alpha Absorbers using GRB−DLAs"*, **P.I. (2007)**
- Spitzer Space Telescope grant, *"A Deep-Wide Far-Infrared Survey of Cosmological Star Formation and AGN Activity"*, **co-I, (2006-2009)**

Students & Postdocs

BoMee Lee, Postdoctoral Researcher (July 2017-)
Abhishek Prakash, Postdoctoral Researcher (Oct 2017-)
Alessandro Rettura, Postdoctoral Researcher (September 2014-2017)
Carmen Rodriguez-Gonzalvez, Postdoctoral Researcher (Oct 2011-July 2014)
Xi Chen, Postdoctoral Researcher (May 2010-Apr 2012)
Hyunjin Shim, Postdoctoral Researcher (Sep 2009-Apr 2012)
Eric Murphy, Postdoctoral Researcher (Sep 2007-Sep 2010)
James Davies, Data Analyst (Apr 2010-Sep 2010)
Matt Thomson, U. Sussex, UK (Ph.D.; Aug 2008-Feb 2010)
Benjamin Magnelli, CEA-Saclay, France (M.S. & Ph.D.; '07-'10)
Alexandra Pope, University of British Columbia (Ph.D.; '05-'07)
Anthony Pullen, Caltech (M.S. thesis; 2004-2006)

Recent Press Releases

2016 "Looking Within our Universe for Something Beyond", IPAC/Caltech
2013 "JPL to Lead U.S. Science Team for Dark Energy Mission", NASA/JPL
2011 "Are Galaxies Grazing Cows or Voracious Tigers?", Spitzer Science Center
2011 "Planck traces the coldest objects in the nearby Universe", European Space Agency
2008 "Time traveling with Spitzer", Spitzer Science Center

Seminars, Colloquia and Invited Talks (2010-2018)

1. Astrophysics Colloquium, UCLA, May 2017
2. Physics Colloquium, University of Melbourne, Sep 2016
3. Astrophysics Seminar, Monash University, Sep 2016
4. TMT Science Forum, Kyoto, May 2016
5. Seminar, Harvard Large Scale Structure Seminar Series, Apr 2016
6. Seminar, Perimeter Institute for Theoretical Physics, May 2016
7. Colloquium, MIT, 2015
8. GRBs as a tracer of Cosmic Star-Formation conference, Beijing, 2015

9. Colloquium, Boston University, 2014
10. Colloquium, UMass Amherst, 2014
11. Seminar, Federal University of Rio de Janeiro, Brazil, 2013
12. Colloquium, University of Virginia, 2013
13. Colloquium, Caltech, 2013
14. Colloquium, STScI, 2013
15. Colloquium, NRAO, 2013
16. Colloquium, Harvard University, 2012
17. Colloquium, Northwestern University, 2012
18. Colloquium, University of Illinois at Urbana-Champaign, 2011
19. First Results with Planck Conference, Paris, 2011
20. MGCT Conference, Tucson, 2010
21. Colloquium, NOAO, Tucson, 2010
22. Seminar, Canadian Institute for Theoretical Astrophysics, 2010

Contributed Conference Talks (2010-2018)

1. *'Ned's Multiverse'*, Nedfest, UCLA 2017
2. *'The Progenitors of Massive Galaxies'*, CET Workshop, South Africa, 2016
3. *'Nebular Emission: The Key to Precision Galaxy Evolution and Cosmology'*, Euclid Consortium Meeting, 2013, 2014
4. *`Probing the Evolution of the IMF with SNe',* Science with WFIRST Conf., Pasadena, 2012
5. *`The Host Galaxies of Type Ia SNe',* Supernovae and their Host Galaxies, Sydney, 2011
6. *`The Stellar IMF at the Epoch of Reionization',* Great Barriers in High Mass Star-Formation, Townsville, Australia, 2010
7. *`The Stellar IMF at the Epoch of Reionization',* First Stars, Austin, 2010
8. *`The Growth of Galaxies at 2<z<8.3',* AAS Washington DC, 2010

Community Service

- Time Allocation Committees: NOAO, Spitzer, Herschel, Hubble, Chandra, ALMA, Subaru
- NASA Astrophysics Data Program Panel Chair
- Referee for ApJ, A&A, MNRAS, PASP
- Spitzer Committees: Fellowship, Visiting Graduate Student, Warm Mission
- Editor for the "IR Diagnostics of Galaxy Evolution" Conference Proceedings
- SNAP Science Team Member, Gravity Wave Open Data Committee

Scientific Highlights

- Testing inflationary cosmology by placing constraints on alternate Universes with different physical properties (Chary 2016)
- Unveiling the most massive galaxy clusters at z~0.5 using CARMA-Planck-WISE synergy (Rodriguez-Gonzalvez, Muchovej, Chary 2015, MNRAS, 447, 902; Rodriguez-Gonzalvez, Chary et al. 2016, MNRAS, in press)
- Contributions to the scientific analysis of Planck data, in particular Galactic and zodiacal foreground elimination, which led to precise measurements of cosmological parameters.
- Measured the delay time distribution of Type Ia SNe at z~1; established their association with a progenitor that promptly traces the star-formation rate (Thomson & Chary '11, Chary et al.'05)
- Demonstrated the strong evidence for a non-Salpeter IMF in galaxies at z>6 through its implications for reionization (Chary 2008, Chary et al. 2016)

- Discovered the population of unusually strong emission line galaxies at z>4 and provided the evidence for cold flow powered star-formation at these redshifts (Chary et al. '05, Shim, Chary et al. '11, Shim & Chary 2013)
- Established the association of long duration gamma-ray bursts with the end-stages of massive stars through the properties of the stellar population in their host galaxies (Chary et al. '02)
- Leveraged the use of gamma-ray bursts as a probe of the star-formation rate density and mass-metallicity evolution with redshift (Chary et al. '07)
- Disentangled the contribution of z~2 dwarfs to the IR background fluctuations (Chary et al. '08)
- Provided robust infrared template spectral energy distribution of galaxies which are used to derive their luminosities from single band mid- and far-infrared photometry (Chary & Elbaz '01, Chary & Pope '10)
- Demonstrated the dominant contribution of dusty, infrared luminous galaxies at z~1-2 to the comoving star-formation rate density (Chary & Elbaz '01)

Management/Technical Highlights

- Led the team that constructed and delivered the Planck Early Release Compact Source Catalog on time and under-budget; a model of international cooperation between NASA and ESA and the key to estimating foreground contamination to the CMB power spectrum(2010-2016)
- Supervised 8 scientists and engineers to achieve the science goals of Planck project (2010-2015)
- Innovative Monte-Carlo algorithm development for the first quantitative assessment of reliability and completeness in all sky maps at FIR/microwave frequencies (2008-2010)
- Developing optical/infrared sky background model for the James Webb Space Telescope and Euclid (2013-2016)
- Design of mid- and far-infrared surveys; construction and release of the Spitzer Great Observatories Origins Deep Survey data products (2003-2008)
- Documentation and community education of the Spitzer Space Telescope's Infrared Spectrograph instrument (2003-2008)

Current Research Programs

1. Testing the evidence for alternate Universes and constraining the nature of foregrounds in the Planck dataset.
2. Galaxy evolution during the epoch of re-ionization using field galaxies and high-z GRBs.
3. Constraints on Type Ia SN progenitors, implications for dark energy and the redshift evolution of the Initial Mass Function
4. Constraints on the stellar mass, cosmic star-formation and accretion history including the dust obscured component from the Great Observatories Origins Deep Survey using HST, Spitzer and Herschel.
5. Estimating the quasar contribution to the high energy gamma-ray background using WMAP and Planck.

Current and Future Mission Involvement

Current:

Euclid: Coordinating the deocontamination of spectra, phot-z for 3D weak lensing and extragalactic science

Future:

ROUGE, CDIM: Mission concept study proposals: 2017-

JWST: Lead the astrophysical background simulator effort for JWST: 2013-2015

Euclid: P.I. of one of the 3 U.S. teams in the Euclid Consortium; 2013-2028
Thirty Meter Telescope: Galaxy Evolution/AGN Science Working Group 2014-
ATLAS Probe & Cosmic Dawn Intensity Mapper: co-I on a NASA Probe concept study 2016-
LISA/ALIGO: Contributing to the development of a Gravity Wave Science Center to streamline the distribution, analysis and follow-up of GW events from LISA and ALIGO; 2011-
ZEBRA: An Exo-Zodiacal Explorer: Proposal to piggyback an instrument to measure the infrared background to a precision that is two orders of magnitude better than current work; 2011-

Education & Public Outreach

2016 "Inflationary Cosmology and the Multiverse" Documentaries: National Geographic
2013 Pomona College Astronomy Seminar
2012 COSPAR Infrared/Submillimeter Spring School, Argentina
2010 Dark Matter and Dark Energy lectures in AY1, Caltech
2004, 2011 NASA/IPAC Teachers Archival Research Program

References

Mark Dickinson (NOAO; med@noao.edu)
Ned Wright (UCLA; wright@astro.ucla.edu)
Daniela Calzetti (UMass Amherst; calzetti@astro.umass.edu)
Giovanni Fazio (Harvard SAO; gfazio@cfa.harvard.edu)
Charles Lawrence (JPL; Charles.r.lawrence@jpl.nasa.gov)

Refereed Publications

Summary:

137 refereed publications have 17000+ citations
17 1st author papers have 1300+ citations
Highest cited 1st author paper has 800+ citations
h-index is 70

First Author

1. *Constraints on the Growth and Spin of the Supermassive Black Hole in M32 from High Cadence Visible Light Observations*, R. Chary, et al., 2017, ApJ, submitted
2. *Spectral Variations of the Sky: Constraints on Alternate Universes*, R. Chary, 2016, ApJ, 817, 33
3. *Gamma-ray Bursts and the Early Star-formation History, 2016,* R. Chary, P. Petitjean, B. Robertson, M. Trenti, E. Vangioni, Space Science Reviews, Springer-Verlag, 202, 181
4. *Planck Early Results: The Early Release Compact Source Catalog,* Planck Collaboration 2011, A&A, 536, 7 [This is a collaboration paper which was led by me]
5. *'The Stellar IMF at the Epoch of Reionization'*, R. Chary 2008, ApJ, 680, 32
6. *'Infrared Background Fluctuations from Dwarf Galaxies at z~2'*, R. Chary, A. Cooray, I. Sullivan, 2008, ApJ, 681, 53
7. *`New Observational Constraints and Modeling of the Infrared Background: Dust Obscured Star-Formation at z > 1 and Dust in the Outer Solar System'*, R. Chary & A. Pope, 2010, arXiv: 1003.1731
8. *'HUDF-JD2: A z~2 Luminous Infrared Galaxy',* R. Chary et al., 2007, ApJ, 665, 257
9. *'Spitzer Observations of Gamma-Ray Burst Host Galaxies: A Unique Window into High Redshift Chemical Evolution and Star-formation'*, R. Chary, E. Berger, L. Cowie, 2007, ApJ, 671, 1
10. *'Spitzer Constraints on the z=6.56 Galaxy Lensed by Abell 370'*, R. Chary, D. Stern, P. Eisenhardt, ApJ Letters, 2005, 635
11. *'Dust in Supernovae Host Galaxies'*, Chary, R., et al. 2005, ApJ, 635
12. *'The Nature of Faint 24 micron Sources Seen in Spitzer Observations of ELAIS-N1',* Chary, R., et al., 2004, ApJ Supplement Series, 154, 80
13. *'Are Starburst Galaxies the Hosts of Gamma-Ray Bursts ?'*, Chary, R., Becklin, E. E., Armus, L., 2002, ApJ, 566, 229
14. *`Interpreting the Cosmic Infrared Background: Constraints on the Evolution of the Dust Enshrouded Star-formation Rate',* Chary, R., & Elbaz, D., 2001, ApJ, 556, 562
15. *`High Resolution Infrared Imaging of the Compact Nuclear Source in NGC4258',* Chary, R., Becklin, E. E., Evans, A. S., Neugebauer, G., Scoville, N. Z., & Ressler, M. E., 2000, ApJ, 531
16. *`Infrared Imaging of GRB970508'*, Chary, R., Neugebauer, G., Morris, M., Becklin, E. E., Matthews, K., Kulkarni, S. R., Lowrance, P. J., Zuckerman, B., & Mastrodemos, N., 1998, ApJ, 498, L9
17. *`NGC 4258: A Compact Central Infrared Source Revealed',* Chary, R., & Becklin, E. E., 1997, ApJ, 485, L75

Publications led by Students/Postdocs (i.e. RC is 2nd or 3rd author)

1. *'Galaxy Ellipticity Measurements in the Near-Infrared for Weak Lensing', B. Lee, R. Chary & E. Wright, 2018, ApJ, submitted*

2. *'Excess in the High Frequency Radio Background: Insights from Planck', E. Murphy, & R. Chary, 2018, ApJ, in press*

3. *'The Bandmerged Planck Early Release Compact Source Catalogue: Probing sub-structure in the molecular gas at high Galactic latitude',* X. Chen, R. Chary et al., 2016, MNRAS, 261

4. *'Mass-Richness Relations for X-ray and SZE-selected Galaxy Clusters from 0.4<z<2.0 as Seen by Spitzer at 4.5 microns',* A. Rettura, R. Chary et al., 2016, ApJ, submitted

5. *'CARMA observations of massive Planck-discovered cluster candidates at z ≥ 0.5 associated with WISE overdensities: breaking the size-flux degeneracy',* C. Rodriguez-Gonzalvez, R. Chary et al., 2015, MNRAS, arXiv: 150501132, in press

6. *'CARMA observations of massive Planck-discovered cluster candidates at z ≥ 0.5 associated with WISE overdensities: strategy, observations and validation',* C. Rodriguez-Gonzalvez, S. Muchovej and R. Chary et al., 2015, MNRAS, 447, 902

7. *'Dissection of Halpha Emitters : Low-z Analogs of z>4 Star-Forming Galaxies'*, H. Shim & R. Chary, 2013, ApJ, 765, 26

8. *'z ~ 4 Hα Emitters in the Great Observatories Origins Deep Survey: Tracing the Dominant Mode for Growth of Galaxies'*, H. Shim, R. Chary, et al., 2011, ApJ, 738, 69

9. *'An Accounting of the Dust-obscured Star Formation and Accretion Histories Over the Last ~11 Billion Years'*, E. Murphy, R. Chary et al., 2011, ApJ, 732, 126

10. *'Evolution of the dusty infrared luminosity function from z = 0 to z = 2.3 using observations from Spitzer'*, B. Magnelli, D. Elbaz, R. Chary, et al., 2011, A&A, 528, 35

11. *'Spectral Energy Distribution of z > 1 Type Ia Supernova Hosts in GOODS: Constraints on Evolutionary Delay and the IMF'*, M. Thomson & R. Chary, ApJ, 2011, 731, 72

12. *'Balancing the Energy Budget between Star-Formation and AGN in High Redshift Infrared Luminous Galaxies'*, E. Murphy, R. Chary et al. 2009, ApJ, 698, 1380

13. *'The 0.4 < z < 1.3 star formation history of the Universe as viewed in the far-infrared'*, B. Magnelli, D. Elbaz, R. Chary, et al., 2009, A&A, 496, 57

14. *'Mid Infrared Spectral Diagnosis of Submillimeter Galaxies',* A. Pope, R. Chary et al., 2008, ApJ, 675, 1171

15. *'Evidence for the 3.3 micron PAH feature in High Redshift Starburst Galaxies'*, B. Magnelli, R. Chary, et al. 2008, ApJ, 681, 258

16. *`Search with EGRET for a Gamma-ray Line from the Galactic Center',* A. Pullen, R. Chary, M. Kamionkowski, 2007, Phys Rev, 76, 6

Other Publications

- *'The GOODS-N Jansky VLA 10 GHz Pilot Survey: Sizes of Star-forming microJy Radio Sources'*, E. Murphy, E. Momjian, J. Condon, R. Chary, et al., 2016, ApJ, submitted
- *'Planck intermediate results. XXI. Comparison of polarized thermal emission from Galactic dust at 353 GHz with interstellar polarization in the visible'*, Planck Collaboration 2015, A&A, 576, 106
- *'Planck intermediate results. XIX. An overview of the polarized thermal emission from Galactic dust'*, Planck Collaboration 2015, A&A, 576, 104
- *'Joint Analysis of BICEP2/Keck Array and Planck Data',* BICEP2/Keck and Planck Collaborations, 2015, PhRvL, 114, 1301
- *'The galaxy stellar mass function at 3.5 <=z <= 7.5 in the CANDELS/UDS, GOODS-South, and HUDF fields'*, Grazian A., et al. including Chary, 2015, A&A, 575, 96
- 'Star Formation in High-redshift Cluster Ellipticals', Wagner, C., et al., 2015, ApJ, 800, 107
- *'The Hawk-I UDS and GOODS Survey (HUGS): Survey design and deep K-band number counts'*, A. Fontana et al. 2014, A&A, 570, 11
- *'ALMA Observations of the Host Galaxy of GRB090423 at z=8.23'*, E. Berger, A. Zauderer, R. Chary, 2014, ApJ, 796, 96
- *'Planck 2013 results. XXIX. Planck catalogue of Sunyaev-Zeldovich sources'*, Planck Collaboration, 2014, A&A, 571, 29
- *'Planck 2013 results. XXIII. Isotropy and Statistics of the CMB'*, Planck Collaboration, 2014, A&A, 571, 23
- *'Planck 2013 results. XX. Cosmology from Sunyaev-Zeldovich cluster counts'*, Planck Collaboration, 2014, A&A, 571, 20
- *'Planck 2013 results. XVI. Cosmological parameters'*, Planck Collaboration, 2014, A&A, 571, 16
- *'Planck 2013 results. XIV. Zodiacal emission'*, 2014, A&A, 571, 14
- *'Planck 2013 results. XIII. Galactic CO emission'*, 2014, A&A, 571, 13
- *'Planck 2013 results. XII. Component separation'*, 2014, A&A, 571, 12
- *'Planck 2013 results. IX. HFI spectral response'*, 2014, A&A, 571, 9
- *'Planck 2013 results. VIII. HFI photometric calibration and mapmaking'*, 2014, A&A, 571, 8
- *'Planck 2013 results. VII. HFI time response and beams'*, 2014, A&A, 571, 7
- *'Planck 2013 results. VI. High Frequency Instrument data processing'*, 2014, A&A, 571, 6
- *'Planck 2013 results. I. Overview of products and scientific results'*, 2014, A&A, 571, 1
- '*Polycyclic Aromatic Hydrocarbon and Mid-Infrared Continuum Emission in a z > 4 Submillimeter Galaxy*', Riechers, D., et al. including Chary, 2014, ApJ, 786, 31
- *'The Era of Star Formation in Galaxy Clusters'*, M. Brodwin et al. including R. Chary, 2013, ApJ, 779, 138
- *'Galaxy evolution in overdense environments at high redshift: passive early-type galaxies in a cluster at redshift 2'*, V. Strazzulo et al. 2013, 772, 118
- *'Planck intermediate results. VII. Statistical properties of infrared and radio extragalactic sources from the Planck Early Release Compact Source Catalogue at frequencies between 100 and 857 GHz'*, Planck Collaboration, 2013, A&A, 550, 133
- *'The deepest Herschel-PACS far-infrared survey: number counts and infrared luminosity functions from combined PEP/GOODS-H observations'*, B. Magnelli et al., 2013, 553, 132
- *Planck Intermediate Results. IV. The XMM-Newton validation programme for new Planck clusters*, Planck Collaboration: 2013, A&A, 550, 130
- *Planck Intermediate Results II: Comparison of Sunyaev-Zeldovich measurements from Planck and from the Arcminute Microkelvin Imager for 11 galaxy clusters*, Planck Coll.: 2013, A&A, 550, 128
- *Planck Intermediate Results. I. Further validation of new Planck clusters with XMM-Newton*, Planck Collaboration: 2012, A&A, 543, 102

- *GOODS-Herschel: radio-excess signature of hidden AGN activity in distant star-forming galaxies,* A. Moro et al., 2012, MNRAS, in press
- *Planck intermediate results. VIII. Filaments between interacting clusters,* Planck Coll. 2012, A&A, submitted
- *Planck Intermediate Results. IX. Detection of the Galactic haze*, Planck Coll. 213, A&A, 554, 139
- *Planck Early Results: The Planck mission,* Planck Collaboration 2011, A&A, 536, 1
- *Planck Early Results: The Galactic Cold Core Population revealed by the first all-sky survey,* Planck Collaboration 2011, A&A, 536, 23
- *Planck Early Results: The all-sky Early Sunyaev-Zeldovich cluster sample,* Planck Collaboration 2011, A&A, 536, 8
- *Planck Early Results: The High Frequency Instrument data processing,* Planck Collaboration 2011, A&A, 536, 6
- *Planck early results: Spectral energy distributions and radio continuum spectra of northern extragalactic radio sources,* Planck Collaboration 2011, A&A, 536, 15
- *Planck early results: Statistical analysis of Sunyaev-Zeldovich scaling relations for X-ray galaxy clusters,* Planck Collaboration 2011, A&A, 536, 10
- *Planck early results: first assessment of the High Frequency Instrument in-flight performance,* Planck Collaboration 2011, A&A, 536, 4
- *Planck early results: XMM-Newton follow-up for validation of Planck cluster candidates,* Planck Collaboration 2011, A&A, 536, 9
- *Planck Early Results: The Planck View of Nearby Galaxies,* Planck Collaboration 2011, A&A, 536, 16
- *Planck Early Results: Statistical properties of extragalactic radio sources in the Planck Early Release Compact Source Catalogue,* Planck Collaboration 2011, A&A, 536, 13
- *Planck Early Results: New Light on Anomalous Microwave Emission from Spinning Dust Grains,* Planck Collaboration 2011, A&A, 536, 20
- *Planck Early Results: ERCSC Validation and Extreme Radio Sources,* Planck Collaboration 2011, A&A, 536, 14
- *Rest-frame UV--Optically Selected Galaxies at 2.3<z<3.5: Searching for Dusty Star-forming and Passively-Evolving Galaxies*, Guo et al, ApJ, 749, 149
- *Exploring the Galaxy Mass-metallicity Relation at z ~ 3-5*, Laskar, Berger & Chary, 2011, ApJ, 739, 1
- *GOODS-Herschel: an infrared main sequence for star-forming galaxies*, Elbaz et al., 2011, A&A, 533, 119
- *Insights on the Formation, Evolution, and Activity of Massive Galaxies From Ultra-Compact and Disky Galaxies at z=2-3*, Weinzirl et al. 2011, ApJ, 743, 87
- *CANDELS: The Cosmic Assembly Near-infrared Deep Extragalactic Legacy Survey—The Hubble Space Telescope Observations, Imaging Data Products, and Mosaics*, A. Koekemoer et al. including Chary, 2011, ApJS, 197, 36
- *CANDELS: The Cosmic Assembly Near-infrared Deep Extragalactic Legacy Survey*, N. Grogin et al including Chary, 2011, ApJS, 197, 35
- *'Searching for the highest redshift sources in 250-500 micron submillimeter surveys'*, A. Pope & R. Chary, ApJ Letters, 715, 171
- *'Evolution of dust temperature of galaxies through cosmic time as seen by Herschel'*, H. Hwang et al., 2010, MNRAS, 409, 75
- *`A mature cluster with X-ray emission at z=2.07'*, R. Gobat et al., 2010, A&A, 526, 133
- *'A Deep Hubble Space Telescope Search for Escaping Lyman Continuum Flux at z ~ 1.3: Evidence for an Evolving Ionizing Emissivity'*, B. Siana et al. 2010, ApJ, 723, 241

- *'The Hubble Space Telescope GOODS NICMOS Survey: Overview and the Evolution of Massive Galaxies at 1.5 < z < 3'*, C. Conselice et al., 2011, ApJ, 413, 80
- *'Herschel unveils a puzzling uniformity of distant dusty galaxies'*, D. Elbaz et al., 2010, A&A, 518, L29
- *'The Detection of Anomalous Dust Emission in the Nearby Galaxy NGC 6946'*, E. Murphy et al., 2010, ApJ, 709, L108
- *'An AzTEC 1.1mm survey of the GOODS-N field - II. Multiwavelength identifications and redshift distribution'*, E. Chapin et al. 2009, MNRAS, 398, 1793
- *'UV Continuum Slope and Dust Obscuration from z~6 to z~2: The Star Formation Rate Density at High Redshift'*, R. Bouwens et al. 2009, ApJ, 705, 936
- *'Mid-IR Luminosities and UV/Optical Star Formation Rates at z < 1.4'*, S. Salim et al., 2009, ApJ, 700, 161
- *'Expanding the Search for Galaxies at z ~ 7-10 with New NICMOS Parallel Fields'*, A. Henry, 2009, ApJ, 697, 1128
- *'The Nature of Faint Spitzer-selected Dust-obscured Galaxies'*, A. Pope, S. Bussman, A. Dey, N. Meger, D. Alexander, M. Brodwin, R. Chary, et al., 2008, ApJ, 689, 127
- *'Spitzer Observations of the z = 2.73 Lensed Lyman Break Galaxy: MS 1512-cB58'*, B. Siana, H. Teplitz, R. Chary et al., 2008, ApJ, 689, 59
- *'Molecular Gas in a z=1.2 Ultraluminous Merger'*, D. Frayer, J. Koda, M. Huynh, A. Pope, R. Chary et al., 2008, ApJ Letters, 680, 21
- *'Spitzer Mid-Infrared Spectroscopy of HDF-oMD49: Reliable Identification of Compton-thick Quasars at z~2'*, D. Alexander, R. Chary et al, ApJ, 687, 835
- *'The Far-Infrared Luminosity Function from GOODS-North: Constraining the Evolution of Infrared Galaxies for z <= 1'*, Huynh, M., Frayer, D., Mobasher, B., Dickinson, M., Chary, R., et al., 2007, ApJ, 667, L9
- *'The Spatial Clustering of Mid-IR Selected Star-forming Galaxies at z~1 in the GOODS fields',* R. Gilli, E. Daddi, R. Chary et al., 2007, A&A, 475, 83
- *'The reversal of the star formation-density relation in the distant universe'*, Elbaz, D.; Daddi, E.; Le Borgne, D.; Dickinson, M.; Alexander, D. M.; Chary, R., 2007, A&A, 468, 33
- *'Multiwavelength study of massive galaxies at z~2. I. Star formation and galaxy growth'*, Daddi, E.; Dickinson, M.; Morrison, G.; Chary, R. et al., 2007, ApJ, 670, 156
- *'Multiwavelength study of massive galaxies at z~2. II. Widespread Compton thick AGN and the concurrent growth of black holes and bulges'*, Daddi, E.; Alexander, D. M.; Dickinson, M.; Gilli, R.; Renzini, A.; Elbaz, D.; Cimatti, A.; Chary, R. et al., 2007, ApJ, 670, 173
- *'IR Background Anisotropies in Spitzer GOODS Images and Constraints on First Galaxies'*, A. Cooray, I. Sullivan, R. Chary, et al., 2007, ApJ, 659, L91
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