

Curriculum Vitae

Keiichi Umetsu

My research encompasses the fields of observational cosmology and astrophysics, by focusing on physical and statistical properties of galaxy clusters, the largest class of objects formed in the universe. Clusters contain a wealth of cosmological information about the initial conditions of primordial density fluctuations, the emergence and growth of structure over cosmic time, thereby providing fundamental constraints on the unknown nature of dark matter and dark energy. In this framework, my research is primarily concerned with gravitational lensing effects, whereby the propagation of light rays is deflected as they travel through the expanding universe. *Cluster gravitational lensing* is a unique and direct probe of the cosmic matter distribution dominated by invisible dark matter, and is sensitive to the imprint of dark energy, thus offering a direct way to explore the dark side of the universe.

Personal Details

Nationality: Japanese
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Positions Held

| | | |
|--------------------------------------|-------|---------------------|
| Research Fellow*, | ASIAA | (01/2014 – present) |
| Associate Research Fellow (Tenured), | ASIAA | (01/2010 – 12/2013) |
| Adjunct Research Fellow, | NTU | (01/2008 – 12/2012) |
| Assistant Research Fellow, | ASIAA | (06/2006 – 12/2009) |
| Faculty Staff Scientist, | ASIAA | (07/2005 – 05/2006) |
| Postdoctoral Research Fellow, | ASIAA | (06/2001 – 06/2005) |

(*) Equivalent of **Full Professor**. Tenured since January 2010.

Education

| | | |
|-----------------------------|------------|--|
| Doctor of Science degree, | Astronomy, | Tohoku University, Japan (04/1998 – 03/2001) |
| Master of Science degree, | Astronomy, | Tohoku University, Japan (04/1996 – 03/1998) |
| Bachelor of Science degree, | Physics, | Tohoku University, Japan (04/1992 – 03/1996) |

Research Specialty

Observational Cosmology; Cosmic Structure Formation; Clusters of Galaxies;
Gravitational Lensing; Sunyaev-Zel'dovich Effects; Radio Interferometry; Statistical Methods.

Publication Statistics (as of April 15, 2016)

Citation *h*-index by ADS [*Google Scholar*]: **40** [39]

Number of citations by ADS [*Google Scholar*]: **4299** [4791]

Number of refereed publications: **114** (**109** papers published with the Academia Sinica affiliation)

Number of refereed publications as first/second author: **29**

Eight first-author papers with more than 50 citations each (KU+ 00, 08, 09, 10, 11a, 11b, 12, 14)

Honors & Awards (selected)

2016 Kavli Visiting Scholar, Kavli Institute for Astronomy & Astrophysics, Peking University

2015 Publications of Significant Research Achievements, Academia Sinica

2015 Founding Co-I, *Hubble Space Telescope* Treasury program, RELICS (190 orbits awarded)

2013 Publications of Significant Research Achievements, Academia Sinica

2012 PASJ Excellent Paper Award, Astronomical Society of Japan

2011 Publications of Significant Research Achievements, Academia Sinica

2011 Junior Research Investigators Award, Academia Sinica

2010 Founding Co-I, *Hubble Space Telescope* Treasury program, CLASH (524 orbits awarded)

2009 Career Development Award, Academia Sinica

2008 Invited lecturer, International School of Physics Enrico Fermi, Course CLXXII, Varenna, Italy

Twenty Selected Publications¹ (listed in descending chronological order)

1. Umetsu, K.* et al. 2016, **ApJ**, in press (arXiv:1507.04385)
2. Medezinski, E.*, Umetsu, K. et al. 2016, **ApJ**, 817, 24
3. Okabe, N.*, Umetsu, K. et al. 2016, **MNRAS**, 456, 4475
4. Umetsu, K.* et al. 2015, **ApJ**, 806, 207
5. Umetsu, K.* et al. 2014, **ApJ**, 795, 163
6. Okabe, N.*, Umetsu, K. et al. 2014, **PASJ**, 66, 99
7. Medezinski, E.*, Umetsu, K. et al. 2013, **ApJ**, 777, 43
8. Umetsu, K.* 2013, **ApJ**, 769, 13
9. Coe, D.*, Umetsu, K. et al. 2012, **ApJ**, 757, 22
10. Umetsu, K.* et al. 2012, **ApJ**, 755, 56
11. Sereno, M.* & Umetsu, K. 2011, **MNRAS**, 416, 3187
12. Umetsu, K.* et al. 2011b, **ApJ**, 738, 41
13. Umetsu, K.* et al. 2011a, **ApJ**, 729, 127
14. Umetsu, K.* et al. 2010, **ApJ**, 714, 1479
15. Umetsu, K.* et al. 2009, **ApJ**, 694, 1643
16. Umetsu, K.* & Broadhurst, T. 2008, **ApJ**, 684, 177
17. Broadhurst, T.*, Umetsu, K. et al. 2008, **ApJL**, 685, 9
18. Okura, Y., Umetsu, K.*, & Futamase, T. 2008, **ApJ**, 680, 1
19. Okabe, N.* & Umetsu, K. 2008, **PASJ**, 60, 345
20. Okura, Y., Umetsu, K.*, & Futamase, T. 2007, **ApJ**, 660, 995

¹The asterisk (*) indicates the corresponding author.

Professional Service Activities

Journal referee for: *Astronomy & Astrophysics* (A&A)
Journal referee for: *Astrophysical Journal* (ApJ)
Journal referee for: *Astrophysical Journal Letters* (ApJL)
Journal referee for: *Monthly Notices of the Royal Astronomical Society* (MNRAS)
Observing proposal referee for: *Subaru Telescope*
Observing proposal referee for: *Canada France Hawaii Telescope* (CFHT)
Grant proposal referee for: *Netherlands Organisation for Scientific Research* (NWO), Netherlands
Grant proposal referee for: *French National Research Agency* (ANR), France
Grant proposal referee for: *National Science Council* (NSC), Taiwan
External reviewer for: Promotion to Associate Professor, Taiwan
External reviewer for: Promotion to tenure-track Assistant Professor, USA

Research Grants* Awarded (PI/co-PI only)

| | | | |
|--------|--|---------------------------|---------------------|
| PI, | MoST Research Grant (MOST 103-2112-M-001-003-MY3), | transferred from Dr. Suyu | (01/2016 – 07/2016) |
| PI, | MoST Research Grant (MOST 103-2112-M-001-030-MY3), | 90K US\$ | (08/2014 – 07/2017) |
| PI, | NSC Research Grant (NSC 100-2112-M-001-008-MY3), | 55K US\$ | (08/2011 – 07/2014) |
| PI, | NSC Research Grant (NSC 95-2112-M-001-020-MY3), | 62K US\$ | (08/2008 – 01/2012) |
| PI, | NSC Research Grant (NSC 95-2112-M-001-074-MY2), | 63K US\$ | (10/2006 – 07/2008) |
| PI, | AS Junior Research Investigators Award, | | (07/2011 – 06/2013) |
| PI, | AS Career Development Award, 5-years research funding, | 370K US\$ | (01/2009 – 12/2013) |
| Co-PI, | NSC Research Grant (NSC 98-2112-M-001-024), | 75K US\$ | (08/2009 – 10/2010) |
| Co-PI, | NSC Research Grant (NSC 98-2119-M-001-024-MY4), | 1.9M US\$ | (04/2009 – 01/2014) |

Converted from Taiwan to US dollars at the rate of 30 NT\$ to 1 US\$.

Accepted Observing Proposals (PI only)

| | | | |
|-----|-------|---|----------------|
| PI, | 2013B | "A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program IV" | (Subaru/S-Cam) |
| PI, | 2013A | "A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program III" | (Subaru/S-Cam) |
| PI, | 2012A | "A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program II" | (Subaru/S-Cam) |
| PI, | 2010B | "A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program" | (Subaru/S-Cam) |
| PI, | 2008A | "Subaru Weak Lensing Study of Merging Galaxy Clusters IIb" | (Subaru/S-Cam) |
| PI, | 2007B | "Subaru Weak Lensing Study of Merging Galaxy Clusters II" | (Subaru/S-Cam) |
| PI, | 2000 | "Weak Lensing Survey in a High Redshift Supercluster Field" | (Subaru/S-Cam) |
| PI, | 2011B | "Dark Matter and Baryons in Hubble Treasury Clusters (III)" | (CSO/Bolocam) |
| PI, | 2011A | "Dark Matter and Baryons in Hubble Treasury Clusters (II)" | (CSO/Bolocam) |
| PI, | 2010B | "Dark Matter and Baryons in Hubble Treasury Clusters" | (CSO/Bolocam) |
| PI, | 2010A | "Constraining the Galaxy Population Evolution in Clusters of Galaxies" | (CFHT/MegaCam) |
| PI, | 2007B | "Testing the Cold Dark Matter Paradigm with Cluster Gravitational Lensing" | (CFHT/WIRCam) |
| PI, | 2007A | "Testing the Cold Dark Matter Paradigm with Cluster Gravitational Lensing" | (CFHT/WIRCam) |

Oral Presentations and Lectures (Selected)

10th East Asian Meeting on Astronomy,
EWASS 2016 (Symposium S6),
Colloquium,
RELICS Team Meeting,
Clusters with Nick Kaiser Day,
CLASH-VLT Meeting 2015,
Astrophysics Colloquium,
Department of Physics Seminar,
The 6th KIAS Cosmology Workshop,
International Workshop on HSC and Astro-H,
Clusters Paris 2014 Conference,
JPL Astrophysics Colloquium,
Cluster Physics Workshop,
PASCOS 2013 Conference,
CLASH Team Meeting 2013,
CAANDY 2013,
Sesto 2013 Conference,
CLASH Team Meeting 2012,
CLASH Team Meeting 2011,
SZX HUNTSVILLE 2011 Conference,
XXL Consortium Meeting,
APCTP Topical Research Program 2010,
COSMO/CosPA 2010 Conference,
CLASH Team Meeting 2010,
CLJ2010+0628 Conference,
Physics Colloquium,
CMB Workshop,
Joint LeCosPA-FGCPA Summer School,
Enrico Fermi Summer School 2008,
The 1st Subaru International Conference,
SNU, Korea, September 27–30, 2016 [invited]
Athens, Greece, July 4–8, 2016
KIAA, Peking University, China, TBA, 2016 [[invited]]
Steward Observatory, Tucson, USA, March 2–4, 2016
IAS, HKUST, Hong Kong, February 17, 2016
Firenze, Italy, September 23–25, 2015
Tohoku University, Japan, June 30, 2015 [invited]
U. of Hong Kong, December 4, 2014 [invited]
KIAS, Seoul, Korea, November 3–6, 2014 [invited]
Hiroshima U., Japan, August 27, 2014 [invited]
Paris, France, June 23–27, 2014 [invited]
JPL/Caltech, USA, Apr 24, 2014 [invited]
Tokyo U. of Science, Japan, Dec 28, 2013 [invited]
Taipei, Taiwan, Nov 20–26, 2013 [invited]
RAS, London, UK, Sep 16–18, 2013
DARK, Copenhagen, Aug 12–17, 2013 [invited]
Sesto, Italy, Jul 1–5, 2013 [invited]
Bilbao, Spain, Oct 16–19, 2012
Heidelberg, Germany, Oct 17–19, 2011
Huntsville, USA, Sep 19–22, 2011 [invited]
Corsica, France, May 2–6, 2011 [invited]
Seoul, Korea, Dec 16–17, 2010 [invited]
Tokyo, Japan, Sep 26 – Oct 1, 2010 [invited]
Granada, Spain, Sep 20-21, 2010
IPMU, Kashiwa, Japan, Jun 28 – July 2, 2010
Hokkaido Univ., Japan, Jun 11, 2010 [invited]
NAOJ, Japan, Jun 7–9, 2010 [invited]
NTU, Taiwan, Jun 20–23, 2009 [invited]
Varenna, Italy, Jul 15–25, 2008 [invited]
Hayama, Japan, Dec 11–16, 2007

Participation in International Research Projects

| | | |
|--------------------|--|------------------|
| RELICS, | Scientist | (2015 – present) |
| J-PAS, | Scientist | (2013 – present) |
| XXL, | Scientist | (2011 – present) |
| CLASH, | Scientist / PI of Subaru follow-up program | (2009 – present) |
| Subaru HSC Survey, | Scientist | (2007 – present) |
| LoCuSS, | Scientist | (2005 – present) |
| AMiBA, | Science Lead | (2005 – 2009) |
| AMiBA, | Scientist | (2001 – present) |

Leadership and Management Activities (Selected)

| | | | |
|------------|--------------------------------------|----------------|---------------------|
| Organizer, | Joint Colloquia, | ASIAA/NTU/NTNU | (12/2015 – present) |
| Member, | Colloquium Committee, | ASIAA | (10/2015 – present) |
| Member, | Faculty Search Committee, | ASIAA | (12/2014 – present) |
| Member, | Promotion and Appointment Committee, | ASIAA | (01/2014 – present) |
| Member, | Research Manpower Committee, | ASIAA | (10/2012 – 11/2014) |
| Member, | Standing Executive Committee, | ASIAA | (01/2011 – 11/2014) |
| Chair, | Research Manpower Committee*, | ASIAA | (01/2011 – 09/2012) |
| Chair, | Postdoctoral Search Committee*, | ASIAA | (04/2009 – 09/2012) |

(*) Led 2010, 2011, and 2012 postdoctoral hiring as Chair.

Professional Organization Committees

| | | | |
|-------------|---|---------------|-----------|
| Organizer, | Subaru HSC Survey Collaboration Meeting, | ASIAA, Taipei | (01/2016) |
| SOC Chair, | Photo-z Science Workshop, | ASIAA, Taipei | (09/2013) |
| SOC Chair, | DENET Subaru HSC Workshop, | ASIAA, Taipei | (03/2011) |
| SOC Member, | Subaru HSC Sciences on Variable and Transients, | NCU, Taiwan | (12/2009) |
| SOC Chair, | Taiwan-Japan Subaru HSC Science Miniworkshop, | ASIAA, Taipei | (12/2008) |
| SOC Chair, | Subaru-ASIAA Miniworkshop, | ASIAA, Taipei | (03/2008) |
| SOC Member, | AMiBA Workshop, | Hilo, Hawaii | (09/2005) |

Media Coverage and Outreach

Interviewed by Central News Agency, Taiwan, 2014

Interviewed by Scientific American Taiwan Edition on the AMiBA experiment, Oct 3, 2008

Interviewed by PRESSian and Asia Pacific Center for Theoretical Physics (APCTP), Apr 2008

Interviewed by Researcher Zukan (KGC), Feb 2008

Languages

Japanese (mother tongue), English (fluent), Chinese (spoken)

Postdoctoral Researchers Mentored

| | |
|--------------------|--|
| Dr. I-Non Chiu | (06/2016 – present), Postdoctoral Fellow, ASIAA |
| Dr. Yuichi Higuchi | (05/2016 – present), Postdoctoral Fellow, ASIAA |
| Dr. Nicole Czakon | (07/2013 – present), Postdoctoral Fellow, ASIAA |
| Dr. Jean Coupon | (01/2012 – 09/2013), Postdoctoral Fellow, ASIAA → Research staff, U. of Geneva |
| Dr. Nobuhiro Okabe | (06/2009 – 08/2013), Postdoctoral Fellow, ASIAA → Asst. P., Hiroshima University |

Visiting Scholars Hosted

| | |
|----------------------|--|
| Dr. Sandor M. Molnar | (01/2016 – present; Visiting Associate Professor, ASIAA) |
| Mr. Chieh-An Lin | (02/2016 – 03/2016; PhD student, CEA Saclay, France) |
| Mr. Chieh-An Lin | (11/2014 – 01/2015; PhD student, CEA Saclay, France) |
| Dr. Hiroyuki Ikeda | (04/2014 – 03/2015; JSPS Fellowship, Japan) |
| Prof. Tom Broadhurst | (3 months per year, 2009 – present; Ikerbasque Professor, Spain) |

Undergraduate Students Supervised

Ms. Fang-Chia Lee, Undergraduate Research Assistant, ASIAA (10/2006 – 07/2007)
Mr. Chia-Jung Shih, ASIAA Summer Student, ASIAA (06/2006 – 08/2006)
Mr. Yang-Ting Chien, ASIAA Summer Student, ASIAA (06/2002 – 08/2002)

Graduate Students Supervised

Ms. Sut leng Tam, Master Student, NTU, Physics (10/2014 – present)
Mr. Hung-Shu Chang, Post-Master's Research Assistant, ASIAA (09/2009 – 12/2010)
Mr. Li-Yen Hsu, Master Student, NTU, Physics (2008 – 2010)
Mr. Chia-Jung Shih, Master Student, NTU, Astrophysics (07/2007 – 07/2009)
Ms. Yi-Jung Yang, Post-Master's Research Assistant, ASIAA (07/2007 – 10/2007)

List of Publications

I actively engaged in instrument commissioning and scientific operation of the 94 GHz cosmic microwave background interferometer, *AMiBA*, from 2002 to 2007 on Mauna Loa, Hawaii. This is the reason why you find low research productivity in this period. The results have been published in a series of 12 science papers (*ApJ*, 2009–2010) and reported in several technical papers (*PASP*, *SPIE*, *IEEE*, 2006–2011).

(A) Publications in Refereed Journals (SCI)²

- (1) K. Umetsu^{*}, M. Tada, & T. Futamase, **Progress of Theoretical Physics Supplements**, 133, 53-84, May 1999
“Cluster mass reconstruction by a weak shear field”
- (2) K. Umetsu^{*} & M. Hattori, **Advances in Space Research**, 25, 617-620, February 2000
“On the origin of the metallicity gradient in clusters of galaxies”
- (3) M. Hattori & K. Umetsu, **ApJ**, 533, 84-94, April 2000
“A possible route to spontaneous reduction of the heat conductivity by a temperature gradient driven instability in electron-ion plasmas”
- (4) K. Umetsu^{*} & T. Futamas, **ApJL**, 539, L5-L8, August 2000
“Detection of dark matter concentrations in the field of Cl 1604+4304 from weak lensing analysis”
- (5) M. Hattori & K. Umetsu, **Earth, Planets, and Space**, 53, 689-693, June 2001
“Spontaneous reduction of the heat conductivity by a temperature gradient-driven instability in electron-ion plasmas”
- (6) J. Sato, K. Umetsu, T. Futamase & T. Yamada, **ApJL**, 582, L67-L70, January 2003
“The topology of a weak lensing field in the neighborhood of MS1054-03”
- (7) C.-G. Park, K.-W. Ng, C. Park, G.-C. Liu & K. Umetsu, **ApJ**, 589, 67-81, May 2003
“Observational strategies of CMB temperature and polarization interferometry experiments”
- (8) T. Broadhurst, M. Takada, K. Umetsu, X. Kong, N. Arimoto, M. Chiba, & T. Futamase, **ApJL**, 619, L143-L146, February 2005
“The surprisingly steep mass profile of Abell 1689, from a lensing analysis of Subaru images”

²The asterisk (*) indicates the corresponding author when noted.

- (9) T. Kodama, M. Tanaka, T. Tamura, H. Yahagi, M. Nagashima, I. Tanaka, N. Arimoto, T. Futamase, M. Iye, Y. Karasawa, N. Kashikawa, W. Kawasaki, T. Kitayama, H. Matsuhara, F. Nakata, T. Ohashi, K. Ohta, T. Okamoto, S. Okamura, K. Shimasaku, Y. Suto, N. Tamura, K. Umetsu, & T. Yamada, **PASJ**, 57, 309-323, April 2005
 “Panoramic views of cluster-scale assembly explored by Subaru wide-field imaging”
- (10) M. Tanaka, T. Kodama, N. Arimoto, S. Okamura, K. Umetsu, K. Shimasaku, I. Tanaka, & T. Yamada, **MNRAS**, 362, 268-288, September 2005
 “The Build-up of the Colour-Magnitude Relation as a Function of Environment”
- (11) M. Oguri, M. Takada, K. Umetsu, & T. Broadhurst, **ApJ**, 632, 841-846, October 2005
 “Can the steep mass profile of A1689 be explained by a triaxial dark halo?”
- (12) K. Umetsu*, M. Tanaka, T. Kodama, I. Tanaka, T. Futamase, N. Kashikawa, & T. Hoshi, **PASJ**, 57, 877-880, December 2005
 “Discovery of a Strongly Lensed Galaxy at $z=3.9$ behind a $z=0.83$ Galaxy Cluster”
- (13) Y. Okura, K. Umetsu*, & T. Futamase, **ApJ**, 660, 995-1005, May 2007
 “A New Measure for Weak Lensing Flexion”
- (14) E. Medezinski, T. Broadhurst, K. Umetsu, D. Coe, N. Benitez, H. Ford, Y. Rephaeli, N. Arimoto, X. Kong, **ApJ**, 663, 717-733, July 2007
 “Using Weak Lensing Dilution to Improve Measurements of the Luminous and Dark Matter in A1689”
- (15) N. Okabe, K. Umetsu, **PASJ**, 60, 345-375, April 2008
 “Subaru Weak Lensing Study of Seven Merging Clusters: Distributions of Mass and Baryons”
- (16) Y. Okura, K. Umetsu*, T. Futamase, **ApJ**, 680, 1-16, June 2008
 “A Method for Weak Lensing Flexion Analysis by the HOLICs Moment Method”
- (17) K. Umetsu*, T. Broadhurst, **ApJ**, 684, 177-203, September 2008
 “Combining Lens Dilution and Distortion to Map the Mass Distribution of A1689”
- (18) T. Broadhurst, K. Umetsu, E. Medezinski, M. Oguri, & Y. Rephaeli, **ApJL**, 685, L9-L12, September 2008
 “Comparison of Cluster Lensing Profiles with Lambda CDM Predictions”
- (19) P.T.P. Ho et al., **ApJ**, 694, 1610-1618, April 2009
 “The Yuan-Tseh Lee Array for Microwave Background Anisotropy”
- (20) J.H.P. Wu et al., **ApJ**, 694, 1619-1628, April 2009
 “AMiBA Observations, Data Analysis and Results for Sunyaev-Zel’dovich Effects”
- (21) K.-Y. Lin et al., **ApJ**, 694, 1629-1636, April 2009
 “AMiBA: System Performance”
- (22) H. Nishioka et al., **ApJ**, 694, 1637-1642, April 2009
 “Tests for AMiBA Data Integrity”
- (23) K. Umetsu* et al., **ApJ**, 694, 1643-1663, April 2009
 “Mass and Hot Baryons in Massive Galaxy Clusters from Subaru Weak Lensing and AMiBA Sunyaev-Zel’dovich Effect Observations”
- (24) M.-T. Chen et al., **ApJ**, 694, 1664-1669, April 2009
 “AMiBA: Broadband Heterodyne CMB Interferometry”
- (25) P.M. Koch et al., **ApJ**, 694, 1670-1684, April 2009
 “The AMiBA Hexapod Telescope Mount”
- (26) C.P. Haines, G.P. Smith, E. Egami, N. Okabe, M. Takada, R.S. Ellis, S. Moran, & K. Umetsu, **MNRAS**, 396, 1297-1307, July 2009
 “LoCuSS: Luminous infrared galaxies in the merging cluster Abell 1758 at $z = 0.28$ ”

- (27) A. Zitrin, T. Broadhurst, K. Umetsu et al. 2009, **MNRAS**, 396, 1985-2002, July 2009
“New Multiply-Lensed Galaxies Behind CL0024+17, and an Improved Inner Mass Distribution”
- (28) D. Lemze, T. Broadhurst, Y. Rephaeli, R. Barkana, & K. Umetsu, **ApJ**, 701, 1336, August 2009
“Dynamical Study of A1689 from Wide-Field VLT/VIMOS Spectroscopy: Mass Profile, Concentration Parameter, and Velocity Anisotropy”
- (29) Y.-W. Liao et al., **ApJ**, 713, 584-591, April 10, 2010
“AMiBA: Sunyaev-Zeldovich Effect Derived Properties and Scaling Relations of Massive Galaxy Clusters”
- (30) M. Kawaharada, N. Okabe, K. Umetsu, M. Takizawa, K. Matsushita, Y. Fukazawa, T. Hamana, S. Miyazaki, K. Nakazawa, & T. Ohashi, **ApJ**, 714, 423-441, May 1, 2010
“Suzaku Observation of Abell 1689: Anisotropic Temperature and Entropy Distributions Associated with the Large-Scale Structure”
- (31) K. Umetsu*, E. Medezinski, T. Broadhurst, A. Zitrin, B.-C. Hsieh, N. Okabe, & S.M. Molnar, **ApJ**, 714, 1470-1496, May 10, 2010
“The Mass Structure of the Galaxy Cluster Cl0024+1654 from a Full Lensing Analysis of Subaru and ACS/NIC3 Observations”
- (32) E. Medezinski, T. Broadhurst, K. Umetsu, M. Oguri, Y. Rephaeli, & N. Benitez, **MNRAS**, 405, 257-273, June 2010
“Detailed Cluster Mass and Light Profiles of A1703, A370, & RXJ1347-11 from Deep Subaru Imaging”
- (33) N. Okabe, M. Takada, K. Umetsu, T. Futamase, & G.P. Smith, **PASJ**, 62, 811-870, June 2010
“LoCuSS: Subaru Weak Lensing Study of 30 LoCuSS Galaxy Clusters”
- (34) C.-T. Li et al., **ApJ**, 716, 746-757, June 2010
“AMiBA Wideband Analog Correlator”
- (35) C.-W.L. Huang et al., **ApJ**, 716, 758-765, June 2010
“AMiBA: Scaling Relations between the Integrated Compton- y and X-ray Derived Temperature, Mass, and Luminosity”
- (36) G.-C. Liu et al., **ApJ**, 720, 608-613, September 2010
“Contamination of the Central Sunyaev-Zel’dovich Decrements in AMiBA Galaxy Cluster Observations”
- (37) N. Okabe, Y.-Y. Zhang, A. Finoguenov, M. Takada, G.P. Smith, K. Umetsu, & T. Futamase, **ApJ**, 721, 875-885, September 2010
“LoCuSS: Calibrating Mass-Observable Scaling Relations for Cluster Cosmology with Subaru Weak Lensing Observations”
- (38) A. Zitrin, T. Broadhurst, K. Umetsu, et al., **MNRAS**, 408, 1916-1927, November 2010
“Full Lensing Analysis of Abell 1703: Comparison of Independent Lens-Modelling Techniques”
- (39) S. M. Molnar, K. Umetsu, M. Birkinshaw et al., **ApJ**, 723, 1272-1285, November 2010
“Constraining Intra-Cluster Gas Models with AMiBA13”
- (40) S. M. Molnar, I.-N. Chiu, K. Umetsu, P. Chen, N. Hearn, T. Broadhurst, G. Bryan, & C. Shang et al., **ApJ**, 724, L1-L4, November 2010
“Testing Strict Hydrostatic Equilibrium in Abell 1689”
- (41) P. M. Koch, P. Raffin, Y.-D. Huang, M.-T. Chen, C.-C. Han, K.-Y. Lin, P. Altamirano, C. Granet, P. T. P.Ho, C.-W. L.Huang, M. Kesteven, C.-T. Li, Y.-W.Liao, G.-C. Liu, H. Nishioka, C.-L. Ong, P. Oshiro, K. Umetsu, F.-C. Wang, & J.-H. P. Wu, **PASP**, 123, 198-212, February 2011
“1.2m Shielded Cassegrain Antenna for Close-Packed Radio Interferometer”
- (42) K. Umetsu*, T. Broadhurst, A. Zitrin, E. Medezinski, & L.-Y. Hsu, **ApJ**, 729, 127-142, March 2011
“Cluster Mass Profiles from a Bayesian Analysis of Weak Lensing Distortion and Magnification Measurements: Applications to Subaru Data”

- (43) A. Zitrin, T. Broadhurst, D. Coe, J. Liesenborgs, N. Benitez, Y. Rephaeli, H. Ford, & K. Umetsu, **MNRAS**, 413, 1753-1763, May 2011
 “Strong-Lensing Analysis of MS 1358.4+6245: New Multiple Images and Implications for the Well-Resolved $z=4.92$ Galaxy”
- (44) E. Medezinski, T. Broadhurst, K. Umetsu, N. Benitez, & A. Taylor, **MNRAS**, 414, 1840-185, July 2011
 “A Weak Lensing Detectin of the Cosmological Distance-Redshift Relation behind Three Massive Clusters”
- (45) A. Morandi, M. Limousin, Y. Rephaeli, K. Umetsu, R. Barkana, T. Broadhurst, & H. Dahle, **MNRAS**, 416, 2567-2573, October 2011
 “Triaxiality and non-thermal gas pressure in Abell 1689”
- (46) K. Umetsu*, T. Broadhurst, A. Zitrin, E. Medezinski, D. Coe, & M. Postman, **ApJ**, 738, 41, September 2011
 “A Precise Cluster Mass Profile Averaged from the Highest Quality Lensing Data”
- (47) M. Sereno & K. Umetsu, **MNRAS**, 416, 2567-2573, October 2011
 “Weak and Stong Lensing Analyses of the Trixial Matter Distribution of Abell 1689”
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