Percy L. Gomez
W. M. Keck Observatory
65-1120 Mamalahoa Hwy
Kamuela, HI 96743
Phone: (808) 881-3847
E-mail: pgomez@keck.hawaii.edu

Education

1998 **Ph.D. in Astronomy**
New Mexico State University

1995 **M.S. in Astronomy**
New Mexico State University

1991 **M.S. in Physics**
University of Alabama at Birmingham

1989 **B.S. in Physics**
Pontificia Universidad Catolica del Peru, Lima, Peru

Work Experience

2016 – present **Staff Astronomer**
W. M. Keck Observatory, Kamuela, HI

Research:

- Study the formation and evolution of galaxy clusters.

Observatory Support:

- Instrument Scientist for NIRES and LRIS
- Night time Support Astronomer for AO (NGS + LGS) and non-AO instruments (NIRES, LRIS, DEIMOS, NIRC2, and NIRSPEC).

2014 – 2016 **Associate Scientist**
Gemini Observatory, Hilo, HI

Research:

- I work on understanding the formation and evolution of galaxy clusters.

Observatory Support:

- Instrument Scientist for GNIRS
- Member of the NIRI, GRACES, and GMOS teams
- Queue Observer for optical and near-IR instruments with and without AO.

- Contact scientist for GNIRS, NIRI, Flamingos-2, GMOS-S/N.

2013 - 2014 **Associate Astronomer**
Gemini Observatory, La Serena, Chile

Research:

- I worked on optical and near-IR observations of forming and merging galaxy clusters.

Observatory Support:

- Instrument Scientist for Flamingos-2
- Queue Observer for optical and near-IR instruments with and without AO.
- Flamingos-2 and GMOS-S contact scientist.

2007 - 2013 **Assistant Astronomer**
Gemini Observatory, La Serena, Chile

Research:

- I study the evolution of galaxy cluster by analyzing optical, X-ray, and Sunyaev-Zeldovich observations of galaxy clusters.

Observatory Support:

- Lead the scientific Acceptance Test and Commissioning of Flamingos-2 as Project Lead and Instrument Scientist.
- Coordinated with the F2 Engineering Team the refurbishing of Flamingos- 2.
- Observed (more than 280 nights) and analyzed optical, IR, and mid-IR data.
- Observed with AO system.
- Written data reduction software and general documentation.
- Trained visitors and Gemini staff in the use of the telescope and instruments.
- Troubleshoot telescope and instrument issues with the Engineering staff.

2003 - 2007 **Gemini Science Fellow**
Gemini Observatory, Hilo, HI and La Serena, Chile

- Optical and Sunyaev-Zeldovich observations of galaxy clusters.
- Observed, reduced, and analyzed optical, IR, and mid-IR data
- Observed with AO system.
- Written data reduction software and general documentation.

2000 - 2003 **Postdoctoral Research Associate**
Department of Physics, Carnegie Mellon University, PA

- Optical, X-ray, and Sunyaev-Zeldovich observations of galaxy clusters.
- Data mining of the Sloan Digital Sky Survey Early Data Release.

1998 - 2000 **Postdoctoral Research Associate**
Physics and Astronomy, Rutgers University, Piscataway, NJ

- Multiwavelength study of galaxy clusters (optical, X-ray, and radio).
- Numerical simulations of cluster mergers (N-body and hydro codes).
- Supervised introductory physics labs and astronomy observing sessions.

1992 - 1997 **Graduate Assistant**
Department of Astronomy, New Mexico State University, Las Cruces, NM

- Multiwavelength study (optical, X-ray, and radio) of nearby Abell clusters.
- Numerical simulations of cluster mergers.
- Supervised introductory astronomy labs and observing sessions.

Professional Activities and Societies

American Astronomical Society

Refereed Publications

1) "Fast Outflows in Hot Dust-obscured Galaxies Detected with Keck/NIRES", Finnerty, L., Larson, K., Soifer, B. T., Armus, L., Matthews, K., Jun, Hyunsung D., Moon, D., Melbourne, J., Gomez, P., Tsai, C., Díaz-Santos, T., Eisenhardt, P., and Cushing, M. 2020, ApJ, 905, 16
2) "The Massive Ancient Galaxies at z>3 Near-infrared (MAGAZ3NE) Survey: Confirmation of Extremely Rapid Star Formation and Quenching Timescale for Massive Galaxies in the Early Universe" Forrest, B., Marsan, Z. C., Annunziatella, M., Wilson, G., Muzzin, A., Marchesini, D., Cooper, M. C., Chan, J., McConachie, I., Gomez, P., Kado-Fong, E., Barbera, F., Lange-Vagle, D., Nantis, J., Nonino, M., Saracco, P., Stefano, M., and van der Burg, R. 2020, ApJ, 903, 47
3) "The Dynamics of the Wide-angle Tailed (WAT) Galaxy Cluster A562", Gomez, P. L. and Calderon, D. 2020, AJ, 160, 152
4) "Dissecting the Strong-lensing Galaxy Cluster MS 0440.5+0204. I. The Mass Density Profile", Verdugo, T., Carrasco, E. R., Foëx, G., Motta, V., Gomez, P. L., Limousin, M., Magaña, J., de Diego, J. A. 2020, ApJ, 897, 4
5) "An Extremely Massive Quiescent Galaxy at z = 3.493: Evidence of Insufficiently Rapid Quenching Mechanisms in Theoretical Models", Forrest, B., Annunziatella, M., Wilson, G., Marchesini, D., Muzzin, A., Cooper, M. C., Marsan, Z. C., McConachie, I., Chan, J. C. C. Gomez, P., Kado-Fong, E., L Barbera, F., Labbé, I., Lange-Vagle, D., Nantais, J., Nonino, M., Peña, T., Saracco, P., Stefanon, M., and van der Burg, R. F. J. 2020, ApJ, 890,1
6) "Uncovering the Nucleus Candidate for NGC 253", Gunthardt, G. I., Aguero, M. P., Camperi, J. A., Diaz, R. J., Gomez, P. L., Bosch, G., Schirmer, M., 2015, AJ, 150, 139
7) "Optical and X-ray Observations of the Merging Cluster AS1063", Gomez, P. L., Valkonen, L. E., Romer, A. K., Lloyd-Davies, E., Verdugo, T., Cantalupo, C. M., Daub,

M. D., Goldstein, J. H., Kuo, C. L., Lange, A. E., Lucker, M., Holzapfel, W. L., Peterson, J. B., Ruhl, J., Runyan, M. C., Reichardt, C. L., and Sabirli, K., 2012, AJ, 144, 79
8) "Strong Gravitational Lensing by the Super-massive cD Galaxy in Abell 3827" Carrasco, E. R., Gomez, P. L., Verdugo, T., Lee, H., Diaz, R., Bergmann, M., Turner, J. E. H., Miller, B., W., and West, M. J., 2010, ApJ, 715, 160
9) "The CFHTLS strong lensing legacy survey. I. Survey overview and release T0002 sample" Cabanac, R. A., Alard, C., Dantel-Fort, M., Fort, B., Gavazzi, R., Gomez, P. L., Kneib, J. P., and 7 other coauthors), 2007, A&A, 461, 813
10) "Galaxy ecology: groups and low-density environments in the SDSS and 2dFGRS", Balogh, M. et al (including Gomez, P. L. as a co-author), 2004, MNRAS, 348, 1355
11) "The morphology-density relation in the Sloan Digital Sky Survey", Goto, T., Yamauchi, C., Fujita, Y., Okamura, S., Sekiguchi, M., Smail, I., Bernardi, M., and Gomez, Percy L., 2003, MNRAS, 346, 601
12) "The Environment of AGNs in the Sloan Digital Sky Survey", Miller, C., Nichol, R., Gomez, P. L., Hopkins, A., and Bernardi, M. A., 2003, ApJ, 597, 142
13) "Star formation rate indicators in the Sloan Digital Sky Survey" Hopkins, A., Miller, C., Nichol, R., Connolly, A., Bernardi, M. A., Gomez, P. L., Goto, T., Tremonti, C., Brinkmann, J., Ivezik, Z., and Lamb, D. Q., 2003, ApJ, 599, 971
14) "Galaxy Star–Formation Activity as a Function of Environment in the Early Data Release of the Sloan Digital Sky Survey", Gomez, P. L., Nichol, R., Miller, C. J., Balogh, M., Goto, T., Hopkins, A., Connolly, A., Zabludoff, A., Bernardi, M., Sheth, R., Castander, F. J., Romer, A. K., and Schneider, D. P., 2003, ApJ, 584, 210
15) "The Environment of Passive Spiral Galaxies in the SDSS", Goto, T., Okamura, S., Sekiguchi, M., Bernardi, M., Brinkmann, J., Gomez, Percy L., and other 9 coauthors, 2003, PASJ, 55, 757
16) "Composite Luminosity Functions of the Sloan Digital Sky Survey Cut & Enhance Galaxy Cluster Catalog", Goto, T., Okanura, S., McKay, T., Annis, J. Bahcall, N., Bermardi, M. Brinkmann, J., Gomez, P. L., Hansen, S., Kim, R., Sekiguchi, M, Sheth, E. 2002, PASJ, 54, 515
17) "Do Cluster Cooling Flows Survive Head-on Galaxy Cluster Mergers", Gomez, P. L., Loken, C., Burns, J. O., & Roettiger, K. 2002, ApJ, 569,12
18) "Substructure in Clusters Containing Wide-Angle-Tailed Radio Galaxies. I. New Redshifts", Pinkney, J., Burns, J. O., Ledlow, M., Gomez, P. L., & Hill, J. 2000, AJ, 120, 2269
19) "Distance and Mass of the Galaxy Cluster A1995 Derived from Sunyaev-Zel'dovich Effect and X-ray Measurements", Patel, S. K., Joy, M., Calstrom, J. E., Holder, G. P., Reese, E., Gomez, P. L., Hughes, J. P., Grego, L., & Holzapfel, W. L. 2000, ApJ, 541,37
20) "A Merger Scenario for Abell 665", Gomez, P. L., Hughes, J. O., & Birkinshaw, M. 2000, ApJ, 540, 726
21) "The Cluster Dynamics, X-ray Emission, and Radio Galaxies in Abell 578 and Abell 1569", Gomez, P. L., Ledlow, M. J., Burns, J. O., Pinkney, J. & Hill, J. M. 1997, AJ, 114, 1711
22) "ROSAT X-ray Observations of Abell Clusters with Wide-Angle Tailed Radio Sources", Gomez, P. L., Pinkney, J., Burns, J. O., Wang, Q., Owen, F. N., & Voges, W. 1997, ApJ, 474, 580

23) "Monte Carlo Interior Models for Uranus and Neptune", Marley, M. S., Gomez, P. L., & Podolak, M. 1995, JGR-Planets, 100, 23, 34
24) "On the State of the Emitter of the 3.3 micron Unidentified Infrared Band - Absorption Spectroscopy of Polycyclic Aromatic Hydrocarbon Species", Flikinger, G. C., Wdowiak, T. J., & Gomez, P. L. 1991, ApJL, 380, 43

Articles in Preparation

"Velocity Dispersion for a quiescent galaxy with z>3", Gomez, P. L. and the MAGAZ3NE team, 2020, ApJ Letters (in prep)
"The Dynamical Properties of the Cluster Abell 13: A Radio Halo on a Merging Cluster", Gomez, P. L. 2021, AJ (in prep)

Non-Refereed Publications

"The Abell 1882 Supergroup: Star-formation and AGN Activity at the Moment of Collapse" Miller, C. J., Gomez, P. L., Sifon, C. A., Ingraham, P., Colberg, J., Morrison, G., Miller, N. A., and Owen, F. N., 2010, BAAS, 42
"X-ray and Optical Analysis of the Abell 1882 Super Group of Galaxies" Gomez, P. L., Miller, C., Sifon, C., and Ingraham, P., 2010, BAAS, 41
"The FLAMINGOS-2 On-Sky Performance" Raines, S. N., et al. 2010, Bulletin of the American Astronomical Society, 41, 400
"Dynamical Analysis of the Abell 1882 Super Group of Galaxies" Gomez, P. L., Miller, C. J., Ingraham, P. J., & Sifon, C. 2010, Bulletin of the American Astronomical Society, 41, 533
"X-ray and Optical Observations of the Merging Cluster Abell S1063" Gomez, P., Valkonen, L. E., Romer, K., Sabirli, K., & Lloyd-Davies, E. 2009, Chandra's First Decade of Discovery, Proceedings of the conference held 22-25 September, 2009 in Boston, MA. Edited by Scott Wolk, Antonella Fruscione, and Douglas Swartz, abstract #111
"Galaxy Cluster Mergers and Their Effect on Wide-Angle Tailed Radio Galaxies" Misra, A., & Gomez, P. 2009, Bulletin of the American Astronomical Society, 41, 338
"Strong Lensing at the Center of Abell 3827" Lee, H., Carrasco, R., Bergmann, M., Diaz, R., Gomez, P., Miller, B., Turner, J., & West, M. 2009, Bulletin of the American Astronomical Society, 41, 292
"Sunyaev-Zeldovich Observations of Massive Clusters of Galaxies",Gomez, P., Romer, A. K., Valkonen, L., Runyan, M., Holzapfel, W., Kuo, C. L., Newcomb, M., Ruhl, J., Goldstein, J., Lange, A.2005, ASPC, 344, 45G
"Imaging the Cosmic Microwave Background with the Arcminute Cosmology Bolometer Array Receiver", Peterson, J. B., Romer, A. K., Gomez, P. L.,, Ade, P. A. R., and 10 coauthors, 2005, IAUS, 216, 43
"Sunyaev-Zeldovich Observations of Massive Clusters of Galaxies", Gomez, P., Romer, A. K.; Peterson, J. B., Chase, W., Runyan, M., Holzapfel, W., Kuo, C. L., Newcomb, M., Ruhl, J., Goldstein, J., Lange, A. 2004, AIPC, 703, 361G
"Optical and X-ray Mass Estimates for Abell S1063", Gomez, P. L., Romer, A. K., Sabirli, K.,Peterson, J. 2003, American Astronomical Society Meeting 203, 47.03
"Galaxy Properties as a Function of Environment", Miller, C. J., Nichol, R. C., Gomez, P. L., Bernardi, M., Hopkins, A. M., Connolly, A. J., SDSS Collaboration, 2003, American

Astronomical Society Meeting 202, 51.01
“A Very Large, Uniform Sample of X-ray Emitting AGN: Selection Approach and Initial Catalog from ROSAT and SDSS”, Anderson, S. F., Voges, W., Margon, B., Trumper, J.,Boller, Th., Agueros, M. A., Homer, L., Stinson, G.,Annis, J., Collinge, M. J., Richards, G. T.,Strauss, M. A., Gomez, P. L., Nichol, R. C.,Schneider, D. P., Vanden Berk, D. E., 2002, American Astronomical Society, 201st AAS Meeting, 11.20, Bulletin of the American Astronomical Society, Vol. 34, p.1112
“Numerical Simulations of the Sunyaev-Zeldovich Effect of Merging Galaxy Clusters”, Gomez, P. L., Loken, C., Cantalupo, C., Romer, K., Burns, J. O., Peterson, J. 2001, BASS, 33
“The Dynamical State of Abell 665 and Ho”, Gomez, P. L., Hughes, J. P., & Birkinshaw, M. 1998, BASS, 31, 665
“Listening to Clusters Cooling Flows: Radio Emission and the Cluster Environment”, Burns, J. O., Loken, C., Gomez, P. L., Rizza, E., Bliton, M., & Ledlow, M. 1997, in ”Galactic Cluster Cooling Flows” ASP Conference Series, Ed. N. Soaker
“WAT Radio Galaxies as Indicators of Galaxy Cluster Evolution”, Pinkney, J., Burns, J. O., Ledlow, M., Gomez, & Hill, J. M. 1997, BAAS
“Recent ROSAT X-ray Observations of Galaxy Clusters with Wide-Angle Tailed Radio Sources”, Gomez, P. L., Pinkney, J., Burns, J. O., Wang, Q., & Owen, F. 1995, BAAS, 27, 1421
“The Effects of Cluster Mergers on X-ray Morphologies, Temperatures, and Radio Emission”, Burns, J. O., Gomez, P. L., Pinkney, J., Roettiger, K., & Loken, C. 1995, in ”Clusters, Lensing, and the Future of the Universe” ASP Conference Series, Ed. V. Trimble
“Monte Carlo Interior Models for Uranus and Neptune”, Podolak, M., Marley, M., & Gomez, P. L. 1995, BAAS, 27, 1089

Grants

- NASA Chandra Grant, $34,000, 2006
- AAS International Travel Grant, $1,200.00, 2004
- NASA XMM-Newton Grant $30,000, 2003
- AAS International Travel Grant, $1,900.00, 2003
- AAS International Travel Grant, $800.00, 2002
- AAS Small Research Grant, $4,500.00, 2002

Peer Review Committees

- CHANDRA (Cycle 3) 2001
- GALEX (Cycle 4) 2007
- CHANDRA (Cycle 17) 2015 invited

Professional References

Dr. Randy Campbell
Observing Support Manager & AO Sci Ops Lead
W. M. Keck Observatory

65-1120 Mamalahoa Hwy
Kamuela, HI 96743
Phone: (808) 881-3867
E-mail: randyc@keck.hawaii.edu

Dr. Andy Adamson
Associate Director of Science Operations
Gemini Observatory Northern Operations Center
670 N A'Ohoku Place
Hilo, HI 96720
(808) 964-2500
aadamson@gemini.edu

Dr. Michael West
Deputy Director for Science
Lowell Observatory
1400 West Mars Hill Road
Flagstaff, AZ 86001
(928) 233-3247
mwest@lowell.edu

Dr. John P. Hughes
Professor
Rutgers, The State University of New Jersey
136 Frelinghuysen Road, Piscataway, NJ 08854
(848) 445-8878
jph@physics.rutgers.edu