

# Aaron J. Barth

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Department of Physics and Astronomy  
4129 Frederick Reines Hall  
University of California, Irvine  
Irvine, CA 92697-4575

barth@uci.edu  
Tel: (949) 824-3013  
<http://sites.uci.edu/barth>  
ORCID: 0000-0002-3026-0562

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## Appointments

University of California, Irvine:	
Professor	2012 – present
Associate Professor	2009 – 2012
Assistant Professor	2004 – 2009
Hubble Fellow, California Institute of Technology	2001 – 2004
CfA Postdoctoral Fellow, Harvard-Smithsonian Center for Astrophysics	1998 – 2001

## Education

Ph.D. in Astronomy, University of California, Berkeley	1998
M.S. in Physics, University of Chicago	1992
B.S. in Physics, <i>summa cum laude</i> , Yale University	1990

## Research Interests

- Supermassive black holes in nearby galaxies
- Active galactic nuclei and quasars
- AGN variability and reverberation mapping
- Intermediate-mass black holes
- Low-luminosity active galactic nuclei
- Astronomical polarimetry
- Structure, morphology, and dynamics of galaxies

## Awards and Honors

Outstanding Contributions to Undergraduate Education, UCI School of Physical Sciences	2018
NSF Faculty Early Career Development (CAREER) Award	2006–2011
Hubble Fellowship	2001–2004
Dorothea Klumpke-Roberts Prize, UC Berkeley Department of Astronomy	1996
Phi Beta Kappa, Yale University	1990
Eastman Kodak Scholarship, Yale University	1988-1990
American Honda Foundation Scholarship, Yale University	1986-1987

## Memberships

- American Astronomical Society
- International Astronomical Union

## Aaron J. Barth: Publications

### Refereed Publications

162. “Intensive disc-reverberation mapping of Fairall 9: 1st year of *Swift* & LCO monitoring.” J. V. Hernández Santisteban, R. Edelson, K. Horne, J. M. Gelbord, A. J. Barth, *et al.* 2020, accepted for publication in *Monthly Notices of the Royal Astronomical Society*.
161. “Robotic reverberation mapping of the broad-line radio galaxy 3C 120.” M. Hlabathe, D. Starkey, K. Horne, E. Romero-Colmenero, S. Crawford, S. Valenti, H. Winkler, A. J. Barth, C. Onken, D. Sand, T. Treu, A. Diamond-Stanic, & C. Vilforth. 2020, accepted for publication in *Monthly Notices of the Royal Astronomical Society* (arXiv:2007.11522).
160. “Revealing the intermediate-mass black hole at the heart of the dwarf galaxy NGC 404 with sub-parsec resolution ALMA observations.” T. A. Davis, D. D. Nguyen, A. C. Seth, J. E. Greene, K. Nyland, A. J. Barth, M. Bureau, M. Cappellari, M. den Brok, S. Iguchi, F. Lelli, L. Liu, N. Neumayer, E. V. North, K. Onishi, M. Sarzi, M. D. Smith, & T. G. Williams. 2020, *Monthly Notices of the Royal Astronomical Society*, 496, 4061.
159. “Pōniuā‘ena: A Luminous  $z = 7.5$  Quasar Hosting a 1.5 Billion Solar Mass Black Hole.” J. Yang, F. Wang, X. Fan, J. F. Hennawi, F. B. Davies, M. Yue, E. Banados, X.-B. Wu, B. Venemans, A. J. Barth, F. Bian, K. Boutsia, R. Decarli, E. P. Farina, R. Green, L. Jiang, J.-T. Li, C. Mazzucchelli, & F. Walter. 2020, *The Astrophysical Journal Letters*, 897:L14.
158. “A Significantly Neutral Intergalactic Medium Around the Luminous  $z=7$  Quasar J0252-0503.” F. Wang, F. B. Davies, J. Yang, J. F. Hennawi, X. Fan, A. J. Barth, L. Jiang, X.-B. Wu, D. M. Mudd, E. Bañados, F. Bian, R. Decarli, A.-C. Eilers, E. P. Farina, B. Venemans, F. Walter, & M. Yue. 2020, *The Astrophysical Journal*, 896:23.
157. “Supermassive black holes with high accretion rates in active galactic nuclei. XI. Accretion disk reverberation mapping of Mrk 142.” E. M. Cackett, J. Gelbord, Y.-R. Li, K. Horne, J.-M. Wang, A. J. Barth, J.-M. Bai, W.-H. Bian, R. W. Carroll, P. Du, R. Edelson, M. R. Goad, L. C. Ho, C. Hu, V. C. Khatu, B. Luo, J. Miller, & Y.-F. Yuan. 2020, *The Astrophysical Journal*, 896:1.
156. “The Carnegie-Irvine Galaxy Survey. IX. Classification of Bulge Types and Statistical Properties of Pseudo Bulges.” H. Gao, L. C. Ho, A. J. Barth, & Z.-Y. Li. 2020, *The Astrophysical Journal Supplement Series*, 247:20.
155. “Modelling the AGN broad line region using single-epoch spectra I. The test case of Arp 151.” S. I. Raimundo, A. Pancoast, M. Vestergaard, M. R. Goad, & A. J. Barth. 2019, *Monthly Notices of the Royal Astronomical Society*, 489, 1899.
154. “The first spectroscopic dust reverberation programme on active galactic nuclei: the torus in NGC 5548.” H. Landt *et al.* 2019, *Monthly Notices of the Royal Astronomical Society*, 489, 1572.
153. “The Carnegie-Irvine Galaxy Survey. VIII. Demographics of Bulges along the Hubble Sequence.” H. Gao, L. C. Ho, A. J. Barth, & Z.-Y. Li. 2019, *The Astrophysical Journal Supplement Series*, 244:34.
152. “Space Telescope and Optical Reverberation Mapping Project. VIII. Time Variability of Emission and Absorption in NGC 5548 Based on Modeling the Ultraviolet Spectrum.” G. A. Kriss *et al.* 2019, *The Astrophysical Journal*, 881:153.
151. “A Precision Measurement of the Mass of the Black Hole in NGC 3258 from High-Resolution ALMA Observations of its Circumnuclear Disk.” B. D. Boizelle, A. J. Barth, J. L. Walsh, D. A. Buote, A. J. Baker, J. Darling, & L. C. Ho. 2019, *The Astrophysical Journal*, 881:10.
150. “Space Telescope and Optical Reverberation Mapping Project. X. Understanding the Absorption-line Holiday in NGC 5548” M. Deghanian *et al.* 2019, *The Astrophysical Journal*, 877:119.
149. “The Extremely High Dark Matter Halo Concentration of the Relic Compact Elliptical Galaxy Mrk 1216.” D. A. Buote & A. J. Barth. 2019, *The Astrophysical Journal*, 877:91.
148. “The Lick AGN Monitoring Project 2011: Photometric Light Curves.” A. Pancoast, A. Skielboe, L. Pei, V. N. Bennert, D. J. Sand, A. J. Barth, M. D. Joner, *et al.* 2019, *The Astrophysical Journal*, 871:108.

147. “The First Swift Intensive AGN Accretion Disk Reverberation Mapping Survey.” R. Edelson, J. Gelbord, E. Cackett, B. M. Peterson, K. Horne, A. J. Barth, *et al.* 2019, *The Astrophysical Journal*, 870:123.
146. “The Berkeley Sample of Stripped-Envelope Supernovae.” I. Shivvers, A. V. Filippenko, J. M. Silverman, W. Zheng, R. J. Foley, R. Chornock, A. J. Barth, *et al.* 2018, *Monthly Notices of the Royal Astronomical Society*, 482, 1545-1556.
145. “Velocity-resolved reverberation mapping of five bright Seyfert 1 galaxies.” G. De Rosa *et al.* 2018, *The Astrophysical Journal*, 866:133.
144. “The Lick AGN Monitoring Project 2011: Dynamical Modeling of the Broad-Line Region.” P. R. Williams, A. Pancoast, T. Treu, B. J. Brewer, A. J. Barth, *et al.* 2018, *The Astrophysical Journal*, 866:75.
143. “The Shocking Power Sources of LINERs.” M. Molina, M. Eracleous, A. J. Barth, D. Maoz, J. C. Runnoe, L. C. Ho, J. C. Shields, & J. L. Walsh. 2018, *The Astrophysical Journal*, 864:90.
142. “The Carnegie-Irvine Galaxy Survey. VII. Constraints on the Origin of S0 Galaxies from Their Photometric Structure.” H. Gao, L. C. Ho, A. J. Barth, & Z.-Y. Li. 2018, *The Astrophysical Journal*, 862:100.
141. “The Carnegie-Irvine Galaxy Survey. VI. Quantifying Spiral Structure.” S.-Y. Yu, L. C. Ho, A. J. Barth, & Z.-Y. Li. 2018, *The Astrophysical Journal*, 862:13.
140. “Spectropolarimetry of High Redshift Obscured and Red Quasars.” R. M. Alexandroff, N. L. Zakamska, A. J. Barth, F. Hamann, M. A. Strauss, J. Krolik, J. E. Greene, I. Paris, & N. P. Ross. 2018, *Monthly Notices of the Royal Astronomical Society*, 479, 4936.
139. “No Evidence for Periodic Variability in the Light Curve of Active Galaxy J0045+41.” A. J. Barth & D. Stern. 2018, *The Astrophysical Journal*, 859:10.
138. “Stability of the Broad-Line Region Geometry and Dynamics in Arp 151 over Seven Years.” A. Pancoast, A. J. Barth, K. Horne, T. Treu, *et al.* 2018, *The Astrophysical Journal*, 856:108.
137. “The Luminous X-Ray Halos of Two Compact Elliptical Galaxies.” D. A. Buote & A. J. Barth. 2018, *The Astrophysical Journal*, 854:143.
136. “Continuum Reverberation Mapping of the Accretion Disks in Two Seyfert 1 Galaxies.” M. M. Fausnaugh *et al.* 2018, *The Astrophysical Journal*, 854:107.
135. “The Structure of the Broad-Line Region in Active Galactic Nuclei. II. Dynamical Modeling of Data from the AGN10 Reverberation Mapping Campaign.” C. J. Grier, A. Pancoast, A. J. Barth, M. M. Fausnaugh, B. J. Brewer, T. Treu, & B. M. Peterson. 2017, *The Astrophysical Journal*, 849:146.
134. “Stellar Photometric Structures of the Host Galaxies of Nearby Type 1 Active Galactic Nuclei.” M. Kim, L. C. Ho, C. Y. Peng, A. J. Barth, & M. Im. 2017, *The Astrophysical Journal Supplement Series*, 232:21.
133. “Reverberation Mapping of PG 0934+013 with the Southern African Large Telescope.” S. Park, J.-H. Woo, E. Romero-Colmenero, S. M. Crawford, D. Park, H. Cho, Y. Jeon, C. Choi, A. J. Barth, L. Pei, R. C. Hickox, H.-I. Sung, M. Im. 2017, *The Astrophysical Journal*, 847:125.
132. “Space Telescope and Optical Reverberation Mapping Project. VII. Understanding the Ultraviolet Anomaly in NGC 5548 with X-ray Spectroscopy. S. Mathur *et al.* 2017, *The Astrophysical Journal*, 846:55.
131. “ALMA Observations of Circumnuclear Disks in Early Type Galaxies:  $^{12}\text{CO}(2-1)$  and Continuum Properities.” B. D. Boizelle, A. J. Barth, J. Darling, A. J. Baker, D. A. Buote, L. C. Ho, & J. L. Walsh. 2017, *The Astrophysical Journal*, 845:170.
130. “The Carnegie-Irvine Galaxy Survey. V. Statistical Study of Bars and Buckled Bars.” Z.-Y. Li, L. C. Ho, & A. J. Barth. 2017, *The Astrophysical Journal*, 845:87.
129. “Discovery and Follow-Up Observations of the Young Type Ia Supernova 2016coj.” W. Zheng *et al.* 2017, *The Astrophysical Journal*, 841:64.
128. “Reverberation Mapping of Optical Emission Lines in Five Active Galaxies.” M. M. Fausnaugh *et al.* 2017, *The Astrophysical Journal*, 840:97.
127. “Swift Monitoring of NGC 4151: Evidence for a Second X-ray/UV Reprocessing.” R. Edelson *et al.* 2017, *ApJ*, 840:41.

126. “Extending the Calibration of CIV-Based Single-Epoch Black Hole Mass Estimators for Active Galactic Nuclei.” D. Park, A. J. Barth, J.-H. Woo, M. A. Malkan, T. Treu, V. N. Bennert, R. J. Assef, & A. Pancoast. 2017, *The Astrophysical Journal*, 839:93.
125. “Extreme Variability in a Broad Absorption Line Quasar.” D. Stern, M. J. Graham, N. Arav, S. G. Djorgovski, C. Chamberlain, A. J. Barth, C. Donalek, A. J. Drake, E. Glikman, H. D. Jun, A. A. Mahabal, & C. C. Steidel. 2017, *The Astrophysical Journal*, 839:106.
124. “A Spitzer Spectral Atlas of Low-mass Active Galactic Nuclei.” C. E. Hood, A. J. Barth, L. C. Ho, & J. E. Greene. 2017, *The Astrophysical Journal*, 838:26.
123. “Space Telescope and Optical Reverberation Mapping Project. V. Optical Spectroscopic Campaign and Emission-Line Analysis for NGC 5548.” L. Pei, M. M., Fausnaugh, A. J. Barth, *et al.* 2017, *The Astrophysical Journal*, 837:131.
122. “Improved Dynamical Constraints on the Mass of the Central Black Hole in NGC 404.” D. D. Nguyen, A. C. Seth, M. den Brok, N. Neumayer, M. Cappellari, A. J. Barth, N. Caldwell, B. F. Williams, & B. Binder. 2017, *The Astrophysical Journal*, 836:237.
121. “Space Telescope and Optical Reverberation Mapping Project VI: Reverberating Disk Models for NGC 5548.” D. Starkey *et al.* 2017, *The Astrophysical Journal*, 835:65.
120. “Reverberation Mapping of the Broad Line Region: Application to a Hydrodynamical Line-Driven Disk Wind Solution.” T. Waters, A. Kashi, D. Proga, M. Eracleous, A. J. Barth, & J. Greene. 2016, *The Astrophysical Journal*, 827:53.
119. “Space Telescope and Optical Reverberation Mapping Project. IV. Anomalous behavior of the broad ultraviolet emission lines in NGC 5548.” M. R. Goad *et al.* 2016, *The Astrophysical Journal*, 824:11.
118. “Measurement of the Black Hole Mass in NGC 1332 from ALMA Observations at 0.044 Arcsecond Resolution.” A. J. Barth, B. D. Boizelle, J. Darling, A. J. Baker, D. A. Buote, L. C. Ho, J. L. Walsh. 2016, *The Astrophysical Journal Letters*, 822:L28.
117. “Toward Precision Black Hole Masses with ALMA: NGC 1332 as a Case Study in Molecular Disk Dynamics.” A. J. Barth, J. Darling, A. J. Baker, B. D. Boizelle, D. A. Buote, L. C. Ho, & J. L. Walsh. 2016, *The Astrophysical Journal*, 823:51.
116. “No Evidence for [O III] Variability in Mrk 142.” A. J. Barth & M. C. Bentz. 2016, *Monthly Notices of the Royal Astronomical Society Letters*, 458, L109.
115. “The Carnegie-Irvine Galaxy Survey. IV. A Method to Determine the Average Mass Ratio of Mergers That Built Massive Elliptical Galaxies.” S. Huang, L. C. Ho, C. Y. Peng, Z.-Y. Li, & A. J. Barth. 2016, *The Astrophysical Journal*, 821:114.
114. “Space Telescope and Optical Reverberation Mapping Project. III. Optical Continuum Emission and Broad-Band Time Delays in NGC 5548.” M. M. Fausnaugh *et al.* (98 authors). 2016, *The Astrophysical Journal*, 821:56.
113. “Robotic Reverberation Mapping of Arp 151.” S. Valenti, D. J. Sand, A. J. Barth, K. Horne, T. Treu, L. Raganit, T. Boroson, S. Crawford, A. Pancoast, L. Pei, E. Romero-Colmenero, C. Villforth, & H. Winkler. 2015, *The Astrophysical Journal Letters*, 813:L36.
112. “Dissecting the Power Sources of Low-Luminosity Emission-Line Galaxy Nuclei via Comparison of *HST*-STIS and Ground-Based Spectroscopy.” A. Constantin, J. C. Shields, L. C. Ho, A. J. Barth, A. V. Filippenko, & C. A. Castillo. 2015, *The Astrophysical Journal*, 814:149.
111. “Constraints on the broad line region from regularized linear inversion: Velocity-delay maps for five nearby active galactic nuclei.” A. Skielboe, A. Pancoast, T. Treu, D. Park, A. J. Barth, & M. C. Bentz. 2015, *Monthly Notices of the Royal Astronomical Society*, 454, 144–160.
110. “Measuring the mass of the central black hole in the bulgeless galaxy NGC 4395 from gas dynamical modeling.” M. den Brok, A. C. Seth, A. J. Barth, D. J. Carson, N. Neumayer, M. Cappellari, V. P. Debattista, L. C. Ho, C. E. Hood, & R. M. McDermid. 2015, *The Astrophysical Journal*, 809:101.
109. “Space Telescope and Optical Reverberation Mapping Project. II. Swift and *HST* Reverberation Mapping of the Accretion Disk of NGC 5548.” R. Edelson *et al.* 2015, *The Astrophysical Journal*, 806:129.

108. “Space Telescope and Optical Reverberation Mapping Project. I. Ultraviolet Observations of the Seyfert 1 Galaxy NGC 5548 with the Cosmic Origins Spectrograph on Hubble Space Telescope.” G. De Rosa *et al.* 2015, *The Astrophysical Journal*, 806:128.
107. “The Lick AGN Monitoring Project 2011: Spectroscopic Campaign and Emission-Line Light Curves.” A. J. Barth *et al.* (29 authors). 2015, *The Astrophysical Journal Supplement Series*, 217:26.
106. “The Structure of Nuclear Star Clusters in Nearby Late-type Spiral Galaxies from Hubble Space Telescope Wide Field Camera 3 Imaging.” D. J. Carson, A. J. Barth, A. C. Seth, M. den Brok, M. Cappellari, J. E. Greene, L. C. Ho, & N. Neumayer. 2015, *The Astronomical Journal*, 149:170.
105. “Reverberation Mapping of the *Kepler*-Field AGN KA1858+4850.” L. Pei, A. J. Barth, *et al.* (43 authors). 2014, *The Astrophysical Journal*, 795:38.
104. “Modeling reverberation mapping data II: dynamical modeling of the Lick AGN Monitoring Project 2008 dataset.” A. Pancoast, B. J. Brewer, T. Treu, D. Park, A. J. Barth, M. C. Bentz, & J.-H. Woo. 2014, *Monthly Notices of the Royal Astronomical Society*, 445, 3073–3091.
103. “On the Performance of Quasar Reverberation Mapping in the Era of Time-Domain Photometric Surveys.” D. Chelouche, O. Shemmer, G. I. Cotlier, A. J. Barth, & S. E. Rafter. 2014, *The Astrophysical Journal*, 785:140.
102. “Prospects for Measuring Supermassive Black Hole Masses with Future Extremely Large Telescopes.” T. Do., S. A. Wright, A. J. Barth, E. J. Barton, L. Simard, J. E. Larkin, A. M. Moore, L. Wang, & B. Ellerbroek. 2014, *The Astronomical Journal*, 147:93.
101. “A Tentative Size-Luminosity Relation for the Iron Emission-Line Region in Quasars.” D. Chelouche, S. E. Rafter, G. I. Cotlier, S. Kaspi, & A. J. Barth. 2014, *The Astrophysical Journal Letters*, 783:L34.
100. “A Search for Optical Variability of Type 2 Quasars in SDSS Stripe 82.” A. J. Barth, A. Voevodkin, P. Woźniak, & D. J. Carson. 2013, *The Astronomical Journal*, 147, 12.
99. “On the Virialization of Disk Winds: Implications for the Black Hole Mass Estimates in AGN.” A. Kashi, D. Proga, K. Nagamine, J. Greene, & A. J. Barth. 2013, *The Astrophysical Journal*, 778:50.
98. “The M87 Black Hole Mass from Gas-dynamical Models of Space Telescope Imaging Spectrograph Observations.” J. L. Walsh, A. J. Barth, L. C. Ho, & M. Sarzi. 2013, *The Astrophysical Journal*, 770:86.
97. “The Lick AGN Monitoring Project 2011: Fe II Reverberation from the Outer Broad-Line Region.” A. J. Barth, A. Pancoast, V. N. Bennert, B. J. Brewer, G. Canalizo, A. V. Filippenko, E. L. Gates, J. E. Greene, W. Li, M. A. Malkan, D. J. Sand, D. Stern, T. Treu, J.-H. Woo, & 15 co-authors. 2013, *The Astrophysical Journal*, 769:128.
96. “Fossil Evidence for the Two-phase Formation of Elliptical Galaxies.” S. Huang, L. C. Ho, C. Y. Peng, Z.-Y. Li, & A. J. Barth. 2013, *The Astrophysical Journal Letters*, 768:L28.
95. “The Low-Luminosity End of the Radius-Luminosity Relationship for Active Galactic Nuclei.” M. C. Bentz, K. D. Denney, C. J. Grier, A. J. Barth, B. M. Peterson, M. Vestergaard, V. N. Bennert, G. Canalizo, G. De Rosa, A. V. Filippenko, E. L. Gates, J. E. Greene, W. Li, M. A. Malkan, R. W. Pogge, D. Stern, T. Treu, & J.-H. Woo. 2013, *The Astrophysical Journal*, 767:149.
94. “The Carnegie-Irvine Galaxy Survey. III. The Three-Component Structure of Nearby Elliptical Galaxies.” S. Huang, L. C. Ho, C. Y. Peng, Z.-Y. Li, & A. J. Barth. 2013, *The Astrophysical Journal*, 766:47.
93. “Berkeley Supernova Ia Program I: Observations, Data Reduction, and Spectroscopic Sample of 582 Low-Redshift Type Ia Supernovae.” J. M. Silverman & 40 co-authors. 2012, *Monthly Notices of the Royal Astronomical Society*, 425, 1789–1818.
92. “The Very Young Type Ia Supernova 2012cg: Discovery and Early-Time Follow-Up Observations.” J. M. Silverman, M. Ganeshalingam, S. B. Cenko, A. V. Filippenko, W. Li, A. J. Barth, D. J. Carson, M. Childress, K. I. Clubb, A. Cucchiara, M. L. Graham, G. H. Marion, M. L. Nguyen, L. Pei, B. E. Tucker, J. Vinko, J. C. Wheeler, & G. Worseck. 2012, *The Astrophysical Journal Letters*, 756:L7.
91. “Physical Properties of the Narrow-Line Region of Low-Mass Active Galaxies.” R. R. Ludwig, J. E. Greene, A. J. Barth, & L. C. Ho. 2012, *The Astrophysical Journal*, 756:51.

90. “The Lick AGN Monitoring Project 2011: Dynamical Modeling of the Broad Line Region in Mrk 50.” A. Pancoast, B. J. Brewer, T. Treu, A. J. Barth, V. N. Bennert, *et al.* 2012, *The Astrophysical Journal*, 754:49.
89. “A Stellar Dynamical Mass Measurement of the Black Hole in NGC 3998 from Keck Adaptive Optics Observations.” J. L. Walsh, R. C. E. van den Bosch, A. J. Barth, & M. Sarzi. 2012, *The Astrophysical Journal*, 753:79.
88. “The Lick AGN Monitoring Project: Recalibrating Single-Epoch Virial Black Hole Mass Estimates.” D. Park, J.-H. Woo, T. Treu, A. J. Barth, M. C. Bentz, V. N. Bennert, G. Canalizo, A. V. Filippenko, E. Gates, J. E. Greene, M. A. Malkan, & J. L. Walsh. 2012, *The Astrophysical Journal*, 747:30.
87. “The Lick AGN Monitoring Project 2011: Reverberation Mapping of Markarian 50.” A. J. Barth, A. Pancoast, S. J. Thorman, V. N. Bennert, D. J. Sand, W. Li, G. Canalizo, A. V. Filippenko, E. L. Gates, J. E. Greene, M. A. Malkan, D. Stern, T. Treu, J.-H. Woo, *et al.* 2011, *The Astrophysical Journal Letters*, 743:L4.
86. “The Carnegie-Irvine Galaxy Survey. II. Isophotal Analysis.” Z.-Y. Li, L. C. Ho, A. J. Barth, & C. Y. Peng. 2011, *The Astrophysical Journal Supplement Series*, 197:22.
85. “The Carnegie-Irvine Galaxy Survey. I. Overview and Atlas of Optical Images.” L. C. Ho, Z.-Y. Li, A. J. Barth, M. S. Seigar, & C. Y. Peng. 2011, *The Astrophysical Journal Supplement Series*, 197:21.
84. “The Host Galaxies of Low-Mass Black Holes.” Y.-F. Jiang, J. E. Greene, L. C. Ho, T. Xiao, & A. J. Barth. 2011, *The Astrophysical Journal*, 742:68.
83. “Exploring the Low-Mass End of the  $M$ - $\sigma$  Relation with Active Galaxies.” T. Xiao, A. J. Barth, J. E. Greene, L. C. Ho, M. C. Bentz, R. R. Ludwig, & Y. Jiang. 2011, *The Astrophysical Journal*, 739:28.
82. “The Mass of the Black Hole in Arp 151 from Bayesian Modeling of Reverberation Mapping Data.” B. J. Brewer, T. Treu, A. Pancoast, A. J. Barth, V. N. Bennert, M. C. Bentz, A. V. Filippenko, J. E. Greene, M. A. Malkan, & J.-H. Woo. 2011, *The Astrophysical Journal*, 733, L33.
81. “Broad-Line Reverberation in the *Kepler*-Field Seyfert Galaxy Zw 229-015.” A. J. Barth, M. L. Nguyen, M. A. Malkan, A. V. Filippenko, W. Li, V. Gorjian, M. D. Joner, & 41 co-authors. 2011, *The Astrophysical Journal*, 732:121.
80. “Feedback in Luminous Obscured Quasars.” J. E. Greene, N. L. Zakamska, L. C. Ho, & A. J. Barth. 2011, *The Astrophysical Journal*, 732:9.
79. “The Lick AGN Monitoring Project: Alternate Routes to a Broad-Line Region Radius.” J. E. Greene, C. E. Hood, A. J. Barth, V. N. Bennert, M. C. Bentz, A. V. Filippenko, E. Gates, M. A. Malkan, T. Treu, J. L. Walsh, & J.-H. Woo. 2010, *The Astrophysical Journal*, 723, 409–416.
78. “The Supermassive Black Hole in M84 Revisited.” J. L. Walsh, A. J. Barth, & M. Sarzi. 2010, *The Astrophysical Journal*, 721, 762–776.
77. “The Lick AGN Monitoring Project: Velocity-Delay Maps from the Maximum-Entropy Method for Arp 151.” M. C. Bentz, K. Horne, A. J. Barth, V. N. Bennert, G. Canalizo, A. V. Filippenko, E. L. Gates, M. A. Malkan, T. Minezaki, T. Treu, J.-H. Woo, & J. L. Walsh. 2010, *The Astrophysical Journal*, 720, L46–L51.
76. “The Lick AGN Monitoring Project: Reverberation Mapping of Optical H and He Recombination Lines.” M. C. Bentz, J. L. Walsh, A. J. Barth, Y. Yoshii, J.-H. Woo, X. Wang, T. Treu, C. E. Thornton, R. A. Street, D. Stern, T. N. Steele, J. M. Silverman, F. J. D. Serduke, Y. Sakata, T. Minezaki, M. A. Malkan, W. Li, N. Lee, K. D. Hiner, M. G. Hidas, J. E. Greene, E. L. Gates, M. Ganeshalingam, A. V. Filippenko, G. Canalizo, V. N. Bennert, & N. Baliber. 2010, *The Astrophysical Journal*, 716, 993–1011.
75. “The Lick AGN Monitoring Project: The  $M_{\text{BH}} - \sigma_*$  Relation for Reverberation-Mapped Active Galaxies.” J.-H. Woo, T. Treu, A. J. Barth, S. A. Wright, J. L. Walsh, M. C. Bentz, P. Martini, V. N. Bennert, G. Canalizo, A. V. Filippenko, E. Gates, J. E. Greene, D. Stern, & T. Minezaki. 2010, *The Astrophysical Journal*, 716, 269–280.
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