

Dawn Erb

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Research Interests

- Galaxy formation and evolution
- Low mass galaxies in the early universe
- Chemical evolution, kinematics and stellar populations of galaxies at high redshift
- Feedback processes in starburst galaxies
- Gas ejection and accretion in high redshift galaxies
- Evolution of the intergalactic medium at high redshift

Employment

- Associate Professor, University of Wisconsin Milwaukee Department of Physics, 2014 –
- Visiting Associate Professor, University of Wisconsin Madison Department of Astronomy, 2014 –
- Assistant Professor, University of Wisconsin Milwaukee Department of Physics, 2010 – 2014
- Visiting Assistant Professor, University of Wisconsin Madison Department of Astronomy, 2010 – 2014
- Associate Editor, Publications of the Astronomical Society of Australia, 2013 – 2015
- Spitzer Postdoctoral Fellow, University of California at Santa Barbara, 2008 – 2010
- CfA Postdoctoral Fellow, Harvard-Smithsonian Center for Astrophysics, 2005 – 2008

Education

- Ph.D. Astrophysics, California Institute of Technology, 2005
- Thesis Title: *"The Properties of Star-Forming Galaxies at $z \sim 2$: Kinematics, Stellar Populations, and Metallicities"*
- Research Advisor: Professor Charles C. Steidel
- B.S. Physics, Summa Cum Laude, University of Washington, 2000
- B.S. Astronomy, Summa Cum Laude, University of Washington, 2000

Proposals and Grants [**Total extramural funding: \$1,773,347**]

- "The Extreme Galaxy Reference Sample: Low Metallicity Galaxies Across Cosmic Time." 2019, National Science Foundation Astronomy and Astrophysics Grant, \$381,351
- "Lyman-alpha Imaging at ~20 pc Resolution in a Low Mass Lensed Galaxy at $z=1.85$." Space Telescope Science Institute, Hubble Space Telescope Cycle 24 (2016). 7 orbits, \$62,595
- NASA Keck PI Data Awards (2013-2019, \$100,100 total)
- "The Evolution of C/O in Low Metallicity Dwarf Galaxies." Space Telescope Science Institute, Hubble Space Telescope Cycle 24 (2016). 20 orbits, UWM budget \$113,360 (PI Danielle Berg)
- "Stellar Populations and Physical Conditions at ~100 pc Resolution in a Lensed Galaxy at $z \sim 4$." Space Telescope Science Institute, Hubble Space Telescope Cycle 23 (2015). 2 orbits, \$7,625 (PI Danielle Berg)
- "CAREER: The Early Stages of Galaxy Evolution." 2013, National Science Foundation Early Career Award, \$779,965

- “Gaseous outflows from low mass galaxies: Understanding local laboratories for high red-shift star formation.” Space Telescope Science Institute, Hubble Space Telescope Cycle 20 (2012). 26 orbits, \$18K (UWM budget; PI Alaina Henry)
- “The Herschel Proto-cluster Survey: SPIRE Mapping of the Nodes of the Cosmic Web at $z > 2$.” California Institute of Technology, NASA Herschel Science Center, OT2 (2012). \$9,647 (UWM budget; PI Yuichi Matsuda)
- “The Bottom of the Iceberg: Faint $z \sim 2$ Galaxies and the Enrichment of the IGM.” Space Telescope Science Institute, Hubble Space Telescope Cycle 19 (2011). 30 orbits, \$92K (UWM budget; PI Erb)
- “3D-HST: A Spectroscopic Galaxy Evolution Treasury.” Space Telescope Science Institute, Hubble Space Telescope Cycle 18 (2010), 248 orbits, \$42K (UWM budget; PI Pieter van Dokkum)
- “The Youngest Galaxies in the Young Universe.” University of Wisconsin Milwaukee Research Grant Initiative, 2010. \$307K
- “Mapping the Interaction between High-Redshift Galaxies and the Intergalactic Environment.” Space Telescope Science Institute, Hubble Space Telescope Cycle 17 (2009). 42 orbits (PI David Law)
- Spitzer Space Telescope (DDT, GO7, GO3)
- Ground-based observing time: Keck Observatory, Subaru Observatory, Very Large Telescope, Magellan Observatory, Palomar Observatory (2005-2016)

Awards and Honors

- Kavli Fellow, National Academy of Sciences Kavli Frontiers of Science, 2018
- UWM Research Foundation Award, 2017
- Spitzer Fellowship, 2008
- Center for Astrophysics Fellowship, 2005
- Holloway Fellowship, Caltech, 2001
- Baer Prize in Astronomy, University of Washington, 2000
- Higgs-Osborn Prize in Experimental Physics, University of Washington, 2000

Outreach

- Advisor, UWM Astronomy Club, 2010 –
- Public lectures, Wehr Astronomical Society, October 2014, May 2016
- UWM Science Bag presentations, February 2016
- Public lecture, NCRAL 2014: Gazing at the Stars, April 2014
- Presentation at Vieau School, Milwaukee, December 2013
- Milwaukee Astronomical Society presentation, 2012
- Public lecture, Yerkes Observatory, 2012
- Presentation at James Madison High School, Milwaukee, 2012

Service

- Gemini Board of Directors, 2017 –
- Hubble Space Telescope Users Committee, 2015 – 2019
- NOAO telescope allocation committee, 2012 – 2015
- Spitzer Space Telescope review panel, 2010, 2011 (panel chair)
- NASA Postdoctoral Program review, 2011
- NSF review panel, 2007, 2008, 2010
- Hubble Space Telescope review panel, 2006, 2010, 2013, 2016, 2019

- NRAO proposal review, 2007 – 2008
- Peer reviewer, 2004 – present: *Nature*, *Science*, *The Astrophysical Journal*, *The Astrophysical Journal Letters*, *The Astronomical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, *Publications of the Astronomical Society of the Pacific*

Teaching

- Astronomy 103: Survey of Astronomy (Spring 2013, 2014, 2015, 2017, 2018, 2019; Fall 2015, 2017, 2019)
- Astronomy 320: Astronomy II: Extragalactic Astronomy and Cosmology (Spring 2011)
- Astronomy 401: Astrophysics II: Extragalactic Astrophysics and Cosmology (Spring 2013)
- Astronomy 401/Physics 903: Astrophysics II: Extragalactic Astrophysics and Cosmology (Spring 2015, 2017, 2019)
- Physics 817: Cosmology (Fall 2011, Spring 2014, Spring 2018, Fall 2019)

Invited Conference Presentations

- "Small galaxies, big halos: Ly α emission in the CGM of low-mass galaxies at $z \sim 2$." Small Galaxies, Cosmic Questions, Durham, UK, July 2019
- "Ly α Emission and the Circumgalactic Medium in Low Mass Galaxies." What matter(s) between galaxies, Spineto, Italy, June 2019
- "Ly α Emission and the Circumgalactic Medium in Low Mass Galaxies." Escape of Lyman radiation from galactic labyrinths, Kolymbari, Crete, Greece, September 2018
- "Ly α Emission in Low Metallicity Galaxies at $z \sim 2$." Tokyo Spring Sakura Cosmic Ly α Workshop, University of Tokyo, March 2018
- "Observing Outflows at High Redshifts." Characterizing Galaxies with Spectroscopy with a view for JWST, Lorentz Center, Leiden, Netherlands, October 2017
- "Young Galaxies in the Young Universe." Keynote presentation, MidAmerican Regional Astrophysics Conference 2017, University of Kansas, April 2017 (scheduled)
- "The Rest-Frame UV Spectra of Low Mass Galaxies at $z \sim 2$." 32nd Institut d'Astrophysique de Paris Colloquium, Cosmic dawn of galaxy formation: linking observations and theory with new-generation spectral models. Paris, June 2016
- "Ly α Profiles and Lyman Continuum Emission in Star-Forming Galaxies." Escape of Lyman radiation from galactic labyrinths, Kolymbari, Crete, Greece, April 2016
- "The physical conditions in young, low metallicity galaxies at high redshift." Understanding Nebular Emission in High Redshift Galaxies, Pasadena, CA, July 2015
- "Galactic Outflows and Galactic Structure at $z \sim 2$." Good Sense and Dominant Ideology in Galaxy Formation and Evolution, Ascona, Switzerland, July 2014
- "Gas Flows and Galaxy Formation." Plenary talk, 221st Meeting of the American Astronomical Society, Long Beach, CA, January 2013
- "Rising Star Formation Histories and the Redshift Evolution of the Mass-Metallicity Relation." Galaxies: Insight Out, Leiden, July 2012
- "Rising Star Formation Histories and the Redshift Evolution of the Mass-Metallicity Relation." Metals in Tuscany, Spineto, Italy, June 2012
- "Chemical Abundances in Star-Forming Galaxies at High Redshift." International Astronomical Union Symposium 265, Rio de Janeiro, August 2009
- "Star Formation and Chemical Enrichment in the Youngest Galaxies." SFR@50, Spineto, Italy, July 2009

- *"The Mass-Dependent Spectral Properties of High Redshift Galaxies."* Napa Valley Galaxy Evolution Workshop, Napa, CA, February 2009
- *"Galaxy Metallicity in the Redshift Desert."* Harvesting the Desert: The Universe Between Redshifts 1 and 3, Marseille, July 2009
- *"Observing Distant Galaxies with the GMT."* Science with the Giant Magellan Telescope, Australian National University, Canberra, Australia, March 2008
- *"Gas Masses and Gas Fractions: Applications of the Kennicutt-Schmidt Law at High Redshift."* University of California San Diego Kennicutt-Schmidt Workshop, December 2006
- *"Galactic Winds, Galaxy Masses and Metallicities at $1 < z < 3$: An observational perspective."* Chemodynamics: From First Stars to Local Galaxies, Lyon, July 2006

Colloquia and Seminars

- University of Oslo, December 2018
- University of Geneva, November 2018
- University of Copenhagen, November 2018
- Stockholm University, September 2018
- University of Kansas, April 2017
- University of Toronto, December 2016
- University of Wisconsin Madison, September 2016
- University of Arizona, March 2016
- University of Washington, March 2016
- Ohio State University, March 2016
- Arizona State University, September 2015
- Northwestern University, April 2015
- Space Telescope Science Institute, March 2014
- University of Virginia/NRAO, September 2013
- University of Minnesota, April 2013
- University of Texas Austin, March 2013
- University of Wisconsin Madison, February 2013
- Cornell University, November 2012
- University of Notre Dame, March 2012
- Indiana University, November 2011
- Northwestern University, April 2010
- University of Wisconsin Madison, April 2010
- University of Chicago, October 2009
- Texas A&M University, September 2009
- Princeton University, February 2009
- University of Massachusetts Amherst, October 2008
- Carnegie Observatories, March 2008
- Harvard University, March 2008
- Ohio State University, February 2008
- University of Utah, January 2008
- University of Michigan, January 2008
- University of California San Diego, January 2008
- Harvard University, February 2007
- Space Telescope Science Institute, February 2007
- University of California Los Angeles, February 2007
- University of Central Lancashire, Preston, UK, July 2006

- University of California Santa Cruz, May 2006
- University of Toronto, February 2006

Media

- "[Giant Gas Halo May Reveal How Early Galaxies Evolved](#)," Space.com, July 26, 2018
- "[Giant Gaseous Halo Surrounds Young Star-Forming Galaxy](#)", sci-news.com, July 26, 2018
- "UWM researchers win national early career awards," Milwaukee Journal-Sentinel, April 3, 2013

Commentary:

- "University of Wisconsin astronomer helps improve understanding of galaxies," Milwaukee Journal-Sentinel, April 4, 2013
- "Meteor streaks through the sky in Russia," Milwaukee CBS 58 news, February 15, 2013

Refereed Publications [**Total citations: 12,694**]

1. "Sub-kiloparsec Imaging of Ly α Emission in a Low Mass, Highly Ionized, Gravitationally Lensed Galaxy at $z = 1.84$ " **D. K. Erb**, D. A. Berg, M.W. Auger, D.L. Kaplan, G. B. Brammer and M. Pettini. 2019, *Astrophysical Journal*, in press
2. "Intense C IV and He II Emission in $z \sim 0$ Galaxies: Probing High-energy Ionizing Photons" D. A. Berg, J. Chisholm, **D. K. Erb**, R. Pogge, A. Henry, and G. M. Olivier. 2019, *Astrophysical Journal Letters*, 878, L3
3. "The Chemical Evolution of Carbon, Nitrogen, and Oxygen in Metal-Poor Dwarf Galaxies" D. A. Berg, **D. K. Erb**, R. B. C. Henry, E. D. Skillman and K. B. W. McQuinn. 2019, *Astrophysical Journal*, 874, 93
4. "The Kinematics of Extended Ly α Emission in a Low Mass, Low Metallicity Galaxy at $z = 2.3$ " **D. K. Erb**, C. C. Steidel, Y. Chen. 2018, *Astrophysical Journal Letters*, 862, L10
5. "A Window on the Earliest Star Formation: Extreme Photoionization Conditions of a High-Ionization, Low Metallicity Lensed Galaxy at $z \sim 2$ " D. A. Berg, **D. K. Erb**, M.W. Auger, M. Pettini, G. B. Brammer. 2018, *The Astrophysical Journal*, i859, 164
6. "The redshift evolution of rest-UV spectroscopic properties in Lyman Break Galaxies at $z \sim 2-4$ " X. Du, A. E. Shapley, N. A. Reddy, T. Jones, D. P. Stark, C. C. Steidel, A. L. Strom, G. C. Rudie, **D. K. Erb**, R. S. Ellis and M. Pettini. 2018, *The Astrophysical Journal*, 860, 75
7. "A Close Relationship Between Ly α and MgII in Green Pea Galaxies" A. Henry, D. A. Berg, C. Scarlata, A. Verhamme, **D. K. Erb**. 2018, *The Astrophysical Journal*, 855, 96
8. "A High Fraction of Ly α -Emitters Among Galaxies with Extreme Emission Line Ratios at $z \sim 2$ " **D. K. Erb**, M. Pettini, C. C. Steidel, A. L. Strom, G. C. Rudie, R. F. Trainor, A. E. Shapley, N. A. Reddy. 2016, *The Astrophysical Journal*, 830, 52
9. "Carbon and Oxygen Abundances in Low Metallicity Dwarf Galaxies" D. A. Berg, E. D. Skillman, R. B. C. Henry, **D. K. Erb**, L. Carigi. 2016, *The Astrophysical Journal*, 827, 126

10. "Herschel protocluster survey: A search for dusty star-forming galaxies in protoclusters at $z = 2 - 3$ " Y. Kato, Y. Matsuda, I. Smail, A. M. Swinbank, B. Hatsukade, H. Umehata, I. Tanaka, T. Saito, D. Iono, Y. Tamura, K. Kohno, **D. K. Erb**, B. D. Lehmer, J. E. Geach, C. C. Steidel, D. M. Alexander, T. Yamada, T. Hayashino. 2016, *Monthly Notices of the Royal Astronomical Society*, 460, 3861
11. "Feedback in low-mass galaxies in the early Universe" **D. K. Erb**. 2015, *Nature*, 523, 169
12. "Ly α emission from Green Peas: the role of circumgalactic gas density, covering, and kinematics" A. Henry, C. Scarlata, C. L. Martin, **D. K. Erb**. 2015, *The Astrophysical Journal*, 809, 19
13. "The Ly α Properties of Faint Galaxies at $z \sim 2-3$ with Systemic Redshifts and Velocity Dispersions from Keck-MOSFIRE" **D. K. Erb**, C. C. Steidel, R. F. Trainor, M. Bogosavljevic, A. E. Shapley, D. B. Nestor, K. R. Kulas, D. R. Law, A. L. Strom, G. C. Rudie, N. A. Reddy, M. Pettini, N. P. Konidaris, G. Mace, K. Matthews, I. S. McLean. 2014, *The Astrophysical Journal*, 795, 33
14. "Strong Nebular Line Ratios in the Spectra of $z \sim 2-3$ Star-forming Galaxies: First Results from KBSS-MOSFIRE" C. C. Steidel, G. C. Rudie, A. L. Strom, M. Pettini, N. A. Reddy, A. E. Shapley, R. F. Trainor, **D. K. Erb**, M. L. Turner, N. P. Konidaris, K. R. Kulas, G. Mace, K. Matthews, I. S. McLean. 2014, *The Astrophysical Journal*, 795, 165
15. "Galactic Outflows in Absorption and Emission: Near-UV Spectroscopy of Galaxies at $1 < z < 2$," **D.K. Erb**, A.M. Quider, A.L. Henry, C.L. Martin. 2012, *The Astrophysical Journal*, 759, 26
16. "Stellar Populations of UV-Selected Active Galactic Nuclei Host Galaxies at $z \sim 2 - 3$," K. N. Hainline, A. E. Shapley, J. E. Greene, C. C. Steidel, N. A. Reddy, **D. K. Erb**. 2012, *The Astrophysical Journal*, 760, 74
17. "3D-HST Grism Spectroscopy of a Gravitationally Lensed, Low-metallicity Starburst Galaxy at $z = 1.847$ ", G. B. Brammer, R. Sánchez-Janssen, I. Labbé, E. da Cunha, **D. K. Erb**, M. Franx, M. Fumagalli, B. Lundgren, D. Marchesini, I. Momcheva, E. Nelson, S. Patel, R. Quadri, H.-W. Rix, R. E. Skelton, K. B. Schmidt, A. van der Wel, P. G. van Dokkum, D. A. Wake, K. E. Whitaker. 2012, *Astrophysical Journal Letters*, 758, 17
18. "High velocity dispersion in a rare grand-design spiral galaxy at redshift $z = 2.18$," D. R. Law, A.E. Shapley, C.C. Steidel, N. A. Reddy, C.R. Christensen, **D. K. Erb**. 2012, *Nature*, 487, 338
19. "A Census of Oxygen in Star-Forming Galaxies: An Empirical Model Linking Metallicities, Star Formation Rates and Outflows," H.J. Zahid, G.I. Dima, L.J. Kewley, **D.K. Erb**, R. Dave. 2012, *The Astrophysical Journal*, 757, 54
20. "Large-Scale Star Formation-Driven Outflows at $1 < z < 2$ in the 3D-HST Survey", B. F. Lundgren, G. Brammer, P. G. van Dokkum, R. Bezanson, M. Franx, M. Fumagalli, I. Momcheva, E. Nelson, R. E. Skelton, D. Wake, K. Whitaker, E. da Cunha, **D. K. Erb**, X. Fan, M. Kriek, I. Labbé, D. Marchesini, S. Patel, H.-W. Rix, K. Schmidt, A. van der Wel. 2012, *Astrophysical Journal*, 760, 49

21. "An HST/WFC3-IR Morphological Survey of Galaxies at $z = 1.5-3.6$: II. The Relation between Morphology and Gas-Phase Kinematics", D. R. Law, C. C. Steidel, A. E. Shapley, S. R. Nagy, N. A. Reddy, **D. K. Erb**. 2012, *Astrophysical Journal*, 759, 29
22. "The Characteristic Star Formation Histories of Galaxies at Redshifts $z \sim 2-7$," N.A. Reddy, M. Pettini, C.C. Steidel, A.E. Shapley, **D.K. Erb**, D.R. Law. 2012, *The Astrophysical Journal*, 754, 25
23. "3D-HST: A Wide-field Grism Spectroscopic Survey with the Hubble Space Telescope," G. B. Brammer, P. G. van Dokkum, M. Franx, M. Fumagalli, S. Patel, H.-W. Rix, R. Skelton, M. Kriek, E. Nelson, K. B. Schmidt, R. Bezanson, E. da Cunha, **D. K. Erb**, X. Fan, N. Förster Schreiber, G. D. Illingworth, I. Labbé, J. Leja, B. Lundgren, D. Magee, D. Marchesini, P. McCarthy, I. Momcheva, A. Muzzin, R. Quadri, C. C. Steidel, T. Tal, D. Wake, K. E. Whitaker, A. Williams. 2012, *Astrophysical Journal*, 200, 13
24. "The Gaseous Environment of High- z Galaxies: Precision Measurements of Neutral Hydrogen in the Circumgalactic Medium of $z \sim 2-3$ Galaxies in the Keck Baryonic Structure Survey", G. C. Rudie, C. C. Steidel, R. F. Trainor, O. Rakic, M. Bogosavljević, M. Pettini, N. A. Reddy, A.E. Shapley, **D. K. Erb**, D. R. Law. 2012, *The Astrophysical Journal*, 750, 67
25. "An HST/WFC3-IR Morphological Survey of Galaxies at $z = 1.5-3.6$. I. Survey Description and Morphological Properties of Star-forming Galaxies", D. R. Law, C. C. Steidel, A. E. Shapley, S. R. Nagy, N.A. Reddy, **D. K. Erb**. 2012, *The Astrophysical Journal*, 745, 85
26. "First Results from the 3D-HST Survey: The Striking Diversity of Massive Galaxies at $z > 1$ ", P.G. van Dokkum, G. Brammer, M. Fumagalli, E. Nelson, M. Franx, H.-W. Rix, M. Kriek, R. E. Skelton, S. Patel, K. B. Schmidt, R. Bezanson, F. Bian, E. da Cunha, **D. K. Erb**, X. Fan, N.M. Förster Schreiber, G. D. Illingworth, I. Labbé, B. Lundgren, D. Magee, D. Marchesini, P. McCarthy, A. Muzzin, R. Quadri, C.C. Steidel, T. Tal, D. Wake, K. Whitaker, A. Williams. 2011, *The Astrophysical Journal Letters*, 743, 15
27. "Filamentary Large Scale Structure Traced by Six Ly α Blobs at $z = 2.3$ ", **D. K. Erb**, M. Bogosavljević, C.C. Steidel. 2011, *The Astrophysical Journal Letters*, 740, 31
28. "Constraints on the Assembly and Dynamics of Galaxies. II. Properties of Kiloparsec-scale Clumps in Rest-frame Optical Emission of $z \sim 2$ Star-forming Galaxies", N.M. Förster Schreiber, A. Shapley, R. Genzel, N. Bouché, G. Cresci, R. Davies, **D. K. Erb**, S. Genel, D. Lutz, S. Newman, K.L. Shapiro, C.C. Steidel, A. Sternberg, L.J. Tacconi. 2011, *The Astrophysical Journal*, 739, 45
29. "Diffuse Ly α Emitting Halos: A Generic Property of High-redshift Star-forming Galaxies." C.C. Steidel, M. Bogosavljević, A.E. Shapley, J.A. Kollmeier, N.A. Reddy, D. K. Erb, M. Pettini. 2011, *The Astrophysical Journal*, 736, 160
30. "Constraints on the Assembly and Dynamics of Galaxies. I. Detailed Rest-frame Optical Morphologies on Kiloparsec Scale of $z \sim 2$ Star-forming Galaxies." N.M. Förster Schreiber, A.E. Shapley, **D. K. Erb**, R. Genzel, C.C Steidel, N. Bouché, G. Cresci, R. Davies. 2011, *The Astrophysical Journal*, 731, 65

31. “Physical Conditions in a Young, Unreddened, Low Metallicity Galaxy at High Redshift”, **D. K. Erb**, M. Pettini, A.E. Shapley, C.C. Steidel, D.R. Law, N.A. Reddy. 2010, *The Astrophysical Journal*, 719, 1168
32. “The Structure and Kinematics of the Circumgalactic Medium from Far-ultraviolet Spectra of $z \approx 2-3$ Galaxies”, C.C. Steidel, **D. K. Erb**, A.E. Shapley, M. Pettini, N.A. Reddy, M. Bogosavljević, G.C. Rudie, O. Rakic. 2010, *The Astrophysical Journal*, 717, 289
33. “Dust Obscuration and Metallicity at High Redshift: New Inferences from UV, H α , and 8 μ m Observations of $z \sim 2$ Star-forming Galaxies”, N.A. Reddy, **D. K. Erb**, M. Pettini, C.C. Steidel, A.E. Shapley. 2010, *The Astrophysical Journal*, 712, 1070
34. “The Relationship between Stellar Populations and Ly α Emission in Lyman Break Galaxies”, K.A. Kornei, A.E. Shapley, **D. K. Erb**, C.C. Steidel, N.A. Reddy, M. Pettini, M. Bogosavljević. 2010, *The Astrophysical Journal*, 711, 693
35. “Excess AGN activity in the $z = 2.30$ Protocluster in HS 1700+64”, J.A. Digby-North, K. Nandra, E.S. Laird, C.C. Steidel, A. Georgakakis, M. Bogosavljević, **D. K. Erb**, A.E. Shapley, N.A. Reddy, J. Aird. 2010, *Monthly Notices of the Royal Astronomical Society*, 407, 846
36. “The SINS Survey: SINFONI Integral Field Spectroscopy of $z \sim 2$ Star-forming Galaxies”, N.M. Förster Schreiber, R. Genzel, N. Bouché, G. Cresci, R. Davies, P. Buschkamp, K.L. Shapiro, L. Tacconi, E.K.S. Hicks, S. Genel, A.E. Shapley, **D. K. Erb**, C.C. Steidel, D. Lutz, F. Eisenhauer, S. Gillessen, A. Sternberg, A. Renzini, A. Cimatti, E. Daddi, J. Kurk, S. Lilly, X. Kong, M.D. Lehnert, N. Nesvadba, A. Verma, H. McCracken, N. Arimoto, M. Mignoli, M. Onodera. 2009, *The Astrophysical Journal*, 706, 1364
37. “The SINS Survey: Broad H α Emission in High-Redshift Star-Forming Galaxies”, K. L. Shapiro, R. Genzel, E. Quataert, N. M. Förster Schreiber, R. Davies, L. Tacconi, L. Armus, N. Bouché, P. Buschkamp, A. Cimatti, G. Cresci, E. Daddi, F. Eisenhauer, **D. K. Erb**, S. Genel, E. K. S. Hicks, S. J. Lilly, D. Lutz, A. Renzini, A. Shapley, C. C. Steidel, and A. Sternberg, 2009, *The Astrophysical Journal*, 701, 955
38. “The SINS survey: modeling the dynamics of $z \sim 2$ galaxies and the high- z Tully-Fisher relation”, G. Cresci, E. K. S. Hicks, R. Genzel, N. M. Förster Schreiber, R. Davies, N. Bouché, P. Buschkamp, S. Genel, K. Shapiro, L. Tacconi, J. Sommer-Larsen, A. Burkert, F. Eisenhauer, O. Gerhard, D. Lutz, **D. K. Erb**, T. Naab, A. Sternberg, A. Cimatti, E. Daddi, D. K. Erb, J. Kurk, S. L. Lilly, A. Renzini, A. Shapley, C. C. Steidel, and K. Caputi, 2009, *The Astrophysical Journal*, 697, 115
39. “The Kiloparsec-Scale Kinematics of High-Redshift Star-Forming Galaxies”, D. R. Law, C. C. Steidel, **D. K. Erb**, J. E. Larkin, M. Pettini, A. E. Shapley, and S. A. Wright, 2009, *The Astrophysical Journal*, 697, 2057
40. “From Rings to Bulges: Evidence for Rapid Secular Galaxy Evolution at $z \sim 2$ from Integral Field Spectroscopy in the SINS Survey”, R. Genzel, A. Burkert, N. Bouché, G. Cresci, N. M. Förster Schreiber, A. Shapley, K. Shapiro, L. J. Tacconi, P. Buschkamp, A. Cimatti, E. Daddi, R. Davies, F. Eisenhauer, **D. K. Erb**, S. Genel, O. Gerhard, E. Hicks, D. Lutz, T. Naab, T. Ott, S. Rabien, A. Renzini, C. C. Steidel, A. Sternberg, and S. J. Lilly, 2008, *The Astrophysical Journal*, 687, 59

41. "Dynamics of Galactic Disks and Mergers at $z \sim 1.6$: Spatially Resolved Spectroscopy with Keck Laser Guide Star Adaptive Optics", S. A. Wright, J. E. Larkin, D. R. Law, C. C. Steidel, A. E. Shapley, and **D. K. Erb**, 2008, *The Astrophysical Journal*, 699, 421
42. "Kinemetry of SINS High-Redshift Star-Forming Galaxies: Distinguishing Rotating Disks from Major Mergers", K. L. Shapiro, R. Genzel, N. M. Förster Schreiber, L. J. Tacconi, N. Bouché, G. Cresci, R. Davies, F. Eisenhauer, P. H. Johansson, D. Krajnović, D. Lutz, T. Naab, N. Arimoto, S. Arribas, A. Cimatti, L. Colina, E. Daddi, O. Daigle, **D.K. Erb**, O. Hernandez, X. Kong, M. Mignoli, M. Onodera, A. Renzini, A. Shapley, and C. Steidel, 2008, *The Astrophysical Journal*, 682, 231
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