

Billy Quarles | Assistant Professor

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Education

University of Texas at Arlington

Doctor of Philosophy

Physics

2008–2012

Stephen F. Austin State University

Master of Science

Physics

2006–2008

Texas Christian University

Bachelor of Science

Physics & Astronomy

2002–2006

PhD Dissertation

Title: *Selected studies of celestial dynamics and habitability of extrasolar planetary systems*

Supervisors: Zdzislaw Musielak & Manfred Cuntz

Research Interests

Theory: Gravitational Dynamics, Planetary Spin Dynamics, Planet Formation, Planetary Habitability

Observation: Exoplanets in Binary Stars, Multiple Planet Systems

Research Experience

GEORGIA INSTITUTE OF TECHNOLOGY

Research Scientist

Atlanta, GA

August 2018 – August 2021

- **Investigated** the orbital stability of planets in binary star systems.
- **Identified** the changes in climate for exoplanets in binary systems due evolution of planetary spin.
- **Explored** the orbital stability and tidal evolution potential exomoons.
- **Improved** the characterization of warm, large exoplanets using Gaussian Process based methods of noise characterization

UNIVERSITY OF OKLAHOMA

Postdoctoral Research Associate

Norman, OK

September 2016 – August 2018

- **Performed** an investigation of stability for multiple planets that may exist binary star systems.
- **Identified** the possible compositions of the TRAPPIST-1 planets based upon system stability.
- **Implemented** a new code to take advantage of GPUs to understand the processes of giant planet migration in the early Solar System.

UNIVERSITY OF IDAHO

Postdoctoral Research Associate

Moscow, ID

May 2016 – August 2016

- **Investigated** the stability of obliquity in exoplanet systems.

SAN DIEGO STATE UNIVERSITY

Technical Consultant

San Diego, CA

September 2015 – August 2016

- **Implemented** new computational methods that improve the efficiency of planet detection in binary systems.
- **Assisted** in the discovery of Kepler-1647, the largest and longest period circumbinary planet.

NASA AMES RESEARCH CENTER

Postdoctoral Research Fellow

Moffett Field, CA

January 2013 – August 2015

- **Assisted** in the discovery of Kepler-186f, the first Earth-sized exoplanet in the habitable zone.
- **Performed** investigation of orbital dynamics and the resulting consequences for habitability.
- **Assisted** in the discovery of circumbinary planets that orbit binary stars.
- **Participated** in vetting of Kepler Objects of Interest for Q12, Q16, & Q17 catalogs.
- **Assisted** in target selection of binary stars for K2 campaigns.
- **Proposed and Observed** the comet *Siding Spring* using K2.
- **Proposed** for 2500 stars hotter than 6000K using K2, which were later observed in 2016.

Teaching Experience

VALDOSTA STATE UNIVERSITY

Assistant Professor of Astronomy & Physics

Valdosta GA, GA

August 2021 – present

- **Introduction to the Universe:** curricula includes lectures on basic physics, astronomy, and chemistry; stars and star clusters; galaxies and galaxy clusters; and origin and fate of the universe.
- **Astronomy of the Solar System:** curricula includes lectures on introductory science and historical Astronomy; planets of the Solar System; small bodies within the Solar System; exoplanets; and search for life in the universe.
- **Stellar and Galactic Astronomy:** curricula includes lectures on introductory science and historical Astronomy; birth and death of stars (including the Sun); Milky Way and other galaxies; quasars and AGNs; and origin and fate of the universe.
- **Modern Physics:** curricula includes a historical approach to the development of modern physics, special theory of relativity, experimental quantum physics, structure of the atom, quantum mechanics, and the hydrogen atom.
- **Astrobiology:** curricula includes an overview of the Solar System; Physics and Astrophysics; Planetary Atmospheres; requirements for life; origins of life; life on the early Earth; environments during the Hadean and Archean; Gaia hypothesis; and the rise of oxygen.
- **Computational Physics:** curricula includes an introduction to python, GitHub and L^AT_EX; data fitting and interpolation; numerical methods for integration, differentiation, and searching; and numerically solving ordinary differential equations.
- **Modern Astrophysics:** curricula includes interaction of matter and light; telescopes; dynamics of the solar atmosphere; stellar interiors, ISM and star formation; stellar evolution; fates of the stars; and the death of stars.
- **Cosmology:** curricula includes special and general relativity; Milky Way and the nature of galaxies; galactic evolution; structure of the universe; Newtonian cosmology; and the cosmic microwave background.

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Guest Lecturer

August 2020

- **Mathematical Physics:** introduction to complex analysis, properties of analytic functions, and Cauchy-Riemann condition.

UNIVERSITY OF NEBRASKA AT KEARNEY

Kearney, NE

Visiting Assistant Professor

August 2015 – May 2016

- **Introductory Physics I & II for Health Science majors:** curricula included lectures on Mechanics, Thermodynamics, Electromagnetism, and Special Relativity.
- **Conceptual Physical Science:** curricula included lectures and lab experiments on Physics, Geology, Hydrology, Meteorology, & Astronomy
- **Introductory Astronomy:** curricula included lectures on the night sky, physical description of atoms & light, stars, planets, and cosmology.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Astronomy Lab Supervisor

September 2012 – December 2012

- **Supervised** and **managed** undergraduate astronomy lab instructors.
- **Designed** and **implemented** new lab exercises.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Graduate Teaching Assistant

January 2009 – August 2012

- **Provided** mini-lectures for students in Physics lab sections.
- **Provided** procedural support for students in Physics lab sections.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Astronomy Lecturer

August 2010 – December 2010

- **Introductory Astronomy:** curricula included the night sky, physical description of atoms & light, and the solar system.

STEPHEN F. AUSTIN STATE UNIVERSITY

Nacogdoches, TX

Graduate Teaching Assistant

August 2006 – May 2008

- **Provided** mini-lectures for students in Physics & Astronomy lab sections.
- **Provided** procedural support for students in Physics & Astronomy lab sections.
- **Administered** the Astronomy night labs.
- **Provided** technical support for public astronomical viewing events at SFA Observatory.

Student Research

Undergraduate Students.....

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Oshina Jagtap[†]

Mar 2021 – Aug 2021

- **Investigating** the conditions for *flux variations* of a circumbinary planet within the habitable zone of the host binary.

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Karthik Yadavalli[†]

Aug 2018 – Aug 2021

- **Investigating** the conditions for *flux variations* of a circumbinary planet within the habitable zone of the host binary.

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

Ziqian Hong[†]

Aug 2018 – May 2019

- Investigated the conditions for *observation* of an additional circumbinary planet near the stability limit within Kepler-1647AB.

UNIVERSITY OF OKLAHOMA

Norman, OK

Ethan White

Aug 2017 – May 2018

- Investigated the conditions for *planetary stability* within alpha Centauri AB including the effects of the Proxima Centauri and the Galactic environment.

Graduate Students.....

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Shaan Patel

Jan 2022 – present

- Investigating the influence of giant planets on *moons and submoons* considering both hypothetical and candidate systems from Kepler.

UNIVERSITY OF IDAHO

Moscow, ID

Steven Kreyche[†]

Aug 2018 – present

- Investigated the influence of giant planets on *terrestrial planet obliquity* considering both prograde and retrograde spinning planets.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Marialis Rosario-Franco[†] (Ph.D. awarded in 2021)

Aug 2017 – present

- Investigated the conditions for *stable orbits of moons* in the Kepler & TESS data.

UNIVERSITY OF OKLAHOMA

Norman, OK

Matt Clement (Ph.D. awarded in 2019)

Aug 2016 – May 2019

- Identified the impact on outcomes of *terrestrial planet formation* in the solar system considering an early orbital instability of the giant planets.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Sarah Moorman[†]

Aug 2017 – May 2018

- Re-examined the conditions for *habitability* within the Kepler-16 AB system.

UNIVERSITY OF TEXAS AT ARLINGTON

Arlington, TX

Suman Satyal[†] (Ph.D. awarded in 2014)

Aug 2012 – Dec 2014

- Explored the applicability of chaos indicators to study exoplanets in binary systems.
- Re-examined the stability constraints for circumbinary planets and the *consequences* for those discovered by the Kepler mission.

[†]Mentoring resulted in a publication and is denoted by color in my publication list.

Awards

NASA – ARC

National Aeronautics and Space Administration

Group Achievement Award

2013

Department of Physics

University of Texas at Arlington

Outstanding Physics Major

2012

Dept. of Physics & U.S. Dept. of Ed.

University of Texas at Arlington

GAANN Fellowship

2009 – 2012

Media Coverage

November 2019: Phys.org – [Exoplanet axis study boosts hopes of complex life, just not next door](#)

July 2019: Cosmos Magazine – [Planets in multiple-star systems may be habitable](#)

May 2019: Sky and Telescope – [Third planet found orbiting binary star system](#)

June 2017: ScienceDaily.com – [Composition of Earth-size planets in TRAPPIST-1 system](#)

June 2016: Astrobiology Magazine – [New planet largest discovered orbits two suns](#)

April 2014: National Geographic – [Kepler Telescope Discovers Most Earth-Like Planet Yet](#)

January 2012: Universe Today – [Goldilocks moons](#)

January 2012: National Geographic – ["Tatooine" Planet With Two Suns Could Host Habitable Moon?](#)

January 2012: Space.com (NBC News) – [Alien Earths could have 2 suns like Star Wars Tatooine](#)

Computer skills

Programming: MATLAB, PYTHON, C, C++, FORTRAN, java, Linux/Unix script

Software: Mercury, SWIFT, HNBody, GENGA, Rebound

Institutional Service

2018 – present: Cosmic Coffee (journal club) organizer in the Center for Relativistic Astrophysics at Georgia Tech

Review Experience

Journals: Nature Astronomy, Astrophysical/Astronomical Journal, Astronomy & Astrophysics, Icarus, Monthly Notices of the Royal Astronomical Society, Advances in Space Research, Physical Letters A, Advances in Astronomy

Grants: K2 Guest Observer Program, NASA Earth and Space Science Fellowship Program, NASA Postdoctoral Program

Research Collaborations

Kepler Working Groups

2013 – present: Eclipsing Binary, Transit Timing Variations & Multiple-Body, Threshold Crossing Event Review Team (TCERT)

TESS Working Groups

2016 – present: Circumbinary Planets, Transit Timing Variations & Multiple-Body

Books and Monographs Published

Z. Musielak and [B. Quarles](#). Three Body Dynamics and Its Applications to Exoplanets. SpringerBriefs in Astronomy, July 2017. [Google Scholar](#) ISBN 9783319582269

Conference Talks (21)

1. [B. Quarles](#), G. Li, and J. J. Lissauer. Milankovitch Cycles for Earth-analogs in Binary Star Systems. In *AGU/Astrobiology Science Conference*, AGU/Astrobiology Science Conference, May 2022.
2. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Validation of Exomoon Candidates Using Orbital Stability and Tidal Constraints. In *American Astronomical Society Meeting Abstracts #237*, volume 53 of *American Astronomical Society Meeting Abstracts*, page #239.04, January 2021.
3. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Validation of Exomoon Candidates Using Orbital Stability and Tidal Constraints. (Virtual Meeting) ExomoonFest, November 2020.
4. [B. Quarles](#), G. Li, V. Kostov, and N. Haghighipour. Orbital Stability of Circumstellar Earth-like planets in Binary Systems. In *AAS/Division of Dynamical Astronomy (Virtual Meeting)*, AAS/Division of Dynamical Astronomy Meeting, August 2020.
5. [B. Quarles](#). Obliquity Variations of Terrestrial Planets in α Centauri Chesapeake Bay Exoplanet Meeting, January 2020.
6. [B. Quarles](#), G. Li, and J. J. Lissauer. Obliquity Variations and Habitability in Alpha Centauri AB. In *AGU/Astrobiology Science Conference*, AGU/Astrobiology Science Conference, June 2019.
7. [B. Quarles](#), G. Li, and J. J. Lissauer. Obliquity Evolution of Earthlike planets in α Centauri AB. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, June 2019.
8. [B. Quarles](#). The Habitability of Exoplanets Around Sunlike Stars. Georgia Tech Exploration and Origins Colloquium, March 2019.
9. [B. Quarles](#), J. Barnes, J. J. Lissauer, and J. E. Chambers. Obliquity Variations of a Potentially Habitable Kepler-62f. In *AAS/Division of Planetary Sciences Meeting*, AAS/Division of Planetary Sciences Meeting, October 2018.
10. [B. Quarles](#), S. Satyal, V. Kostov, N. Kaib, and N. Haghighipour. Dynamics of Circumbinary Planets Near the Stability Limit. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, April 2018.
11. [B. Quarles](#), and N. Kaib. Probing the Early Solar System using GPUs. Numerical Integrations Methods in Planetary Science Meeting, University of Toronto - Scarborough, August 2017.
12. [B. Quarles](#), J. J. Lissauer, and N. Kaib. Maximizing planet packing in the alpha Centauri AB system. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, June 2017.
13. [B. Quarles](#), and N. Kaib. Dynamics of the Giant Planets due to a Fully Self-gravitating Planetesimal Disk. In *American Astronomical Society Meeting Abstracts #229*, volume 229 of *American Astronomical Society Meeting Abstracts*, page #112.02, January 2017.

14. [B. Quarles](#), and J. J. Lissauer. Mapping α Centauri AB for Possible Habitable Planets. In *American Astronomical Society Meeting Abstracts #228*, volume 228 of *American Astronomical Society Meeting Abstracts*, page #404.07, June 2016.
15. [B. Quarles](#), J. W. Barnes, J. J. Lissauer, J. E. Chambers, and M. M. Hedman. Obliquity Variations of a Rapidly Rotating Venus. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, May 2015.
16. [B. Quarles](#), and J. J. Lissauer. Dynamical Evolution of planets in α Centauri AB. In *AAS/Division of Dynamical Astronomy Meeting*, AAS/Division of Dynamical Astronomy Meeting, May 2015.
17. [B. Quarles](#), J. Barnes, J. J. Lissauer, and J. E. Chambers. Obliquity Evolution of an Early Venus. In *AAS/Division of Planetary Sciences Meeting*, AAS/Division of Planetary Sciences Meeting, November 2014.
18. [B. Quarles](#) and J. J. Lissauer. Dynamical Evolution of the Earth-Moon Progenitors. In *IAU/Complex Planetary Systems Symposium*, IAU/Complex Planetary Systems Symposium, July 2014.
19. [B. Quarles](#) and J. J. Lissauer. Theia's Provenance: Regional Source of Earth's Late Impactor. In *AAS/Division of Dynamical Astronomy Meeting*, volume 45 of *AAS/Division of Dynamical Astronomy Meeting*, page #102.04, May 2014.
20. [B. Quarles](#), M. Cuntz, and Z. Musielak. The stability of the suggested planet in the ν Octantis system: a numerical and statistical study. In *APS Texas Sections Spring Meeting Abstracts*, page C1003, March 2012.
21. [B. Quarles](#), Z. E. Musielak, and M. Cuntz. On The Existence Of Earth-like Planets In The Circumbinary System Kepler-16. In *American Astronomical Society Meeting Abstracts #219*, volume 219 of *American Astronomical Society Meeting Abstracts*, page #110.03, January 2012.

Invited Talks (13)

1. [B. Quarles](#). Dangers for Earthlike Planets in Binary Systems. Carnegie Institution for Science: DTM Colloquium, January 2020.
2. [B. Quarles](#). Potential for Exoplanetary Neighbors in Alpha Centauri. Texas Section of the American Physical Society, March 2019.
3. [B. Quarles](#). Extrasolar Planets with 2 Suns: Paradise Lost?. Tulsa City-County Library Idea Box Series, April 2018.
4. [B. Quarles](#). Living on the Edge: Stability Limits of Circumbinary Planets. Georgia Tech CRA Seminar, March 2018.
5. [B. Quarles](#). Exoplanets in Binary Star Systems: Friends or foes?. Louisiana School for Math, Science, and the Arts, Natchitoches, January 2018.

6. [B. Quarles](#). Archimedes and the Giant Planet Instability. Laboratoire d'Astrophysique de Bordeaux Guest Colloquium, June 2017.
7. [B. Quarles](#). An Extremely Cold Case: Formation of the Earth's Moon. University of Oklahoma Department of Physics & Astronomy Guest Colloquium, October 2015.
8. [B. Quarles](#). Vacations on an Earthlike planet: Just add water?. UC-Berkeley Center for Integrative Planetary Science Colloquium, April 2015.
9. [B. Quarles](#). Early Solar System Evolution and Consequences for Habitability. Baylor-CASPER Seminar Series, March 2015.
10. [B. Quarles](#). Early Solar System Evolution and Consequences for Habitability. Texas Christian University Seminar Series, March 2015.
11. [B. Quarles](#), and J. J. Lissauer. Theia's date with destiny: possible conditions leading to a Giant Impact. SETI Institute Seminar Series, [YouTube video](#) January 2015.
12. [B. Quarles](#). Theia's Provenance: Regional Source of Earth's Late Impactor, University of Texas at Arlington Department of Physics Colloquium, January 2014.
13. [B. Quarles](#). Chaos in Extrasolar Planets, Texas Christian University Department of Physics & Astronomy Colloquium, February 2011.

Peer-Reviewed Publications (51)

[NASA ADS Library](#) (~1980 citations; *H-index* = 20)

[Google Scholar Library](#) (>2550 citations; *H-index* = 22)

[ArXiv Library](#)

1. M. El Moutamid, K. Stevenson, [B. Quarles](#), N. Lewis, et al. Mass derivation of planets K2-21b and K2-21c from transit timing variations. *MNRAS*. Apr 2023 [NASA ADS: 2023MNRAS.520.4226E](#)
2. J. Jackson, R. Dawson, [B. Quarles](#), and J. Dong. Statistical Analysis of the Dearth of Super-eccentric Jupiters in the Kepler Sample. *AJ*. Mar 2023 [NASA ADS: 2023AJ....165...82J](#)
3. S. Satyal, [B. Quarles](#), and [M. Rosario-Franco](#). Moon packing around an Earth-mass planet. *MNRAS*. Oct 2022 [NASA ADS: 2022MNRAS.516...39S](#)
4. M. Clement, E. Quintana, and [B. Quarles](#). Habitable Planet Formation around Low-mass Stars: Rapid Accretion, Rapid Debris Removal, and the Essential Contribution of External Giants. *ApJ*. Mar 2022 [NASA ADS: 2022ApJ...928...91C](#)
5. D. Kipping, S. Bryson, C. Burke, J. Christiansen, et al. including [B. Quarles](#). An exomoon survey of 70 cool giant exoplanets and the new candidate Kepler-1708 b-i. *NatAs*. Jan 2022 [NASA ADS: 2022NatAs...6..367K](#)
6. [B. Quarles](#), G. Li, and J.J. Lissauer. Milankovitch cycles for a circumstellar Earth-analogue within α Centauri-like binaries. *MNRAS*. Jan 2022 [NASA ADS: 2022MNRAS.509.2736Q](#)
7. V. Kostov, B. Powell, J. Orosz, W. Welsh, et al. including [B. Quarles](#). TIC 172900988: A Transiting Circumbinary Planet Detected in One Sector of TESS Data. *AJ*. Dec 2021 [NASA ADS: 2021AJ....162..234K](#)
8. [O. Jagtap](#), [B. Quarles](#), and M. Cuntz. Updated studies on exomoons in the HD 23079 system. *PASA*. Nov 2021 [NASA ADS: 2021PASA...38...59J](#)
9. [S. Kreyche](#), J.W. Barnes, [B. Quarles](#), and J.E Chambers. Exploring Tidal Obliquity Variations with SMERCURY-T. *PSJ*. Oct 2021 [NASA ADS: 2021PSJ.....2..187K](#)
10. [B. Quarles](#), S. Ettl, [M. Rosario-Franco](#) and G. Li. Exomoons in Systems with a Strong Perturber: Applications to α Cen AB. *AJ*. Aug 2021 [NASA ADS: 2021AJ....162...58Q](#)
11. J. Dong, C. Huang, R. Dawson, D. Foreman-Mackey, et al. including [B. Quarles](#) Warm Jupiters in TESS Full-frame Images: A Catalog and Observed Eccentricity Distribution for Year 1. *ApJS*. July 2021 [NASA ADS: 2021ApJS..255....6D](#)
12. [B. Quarles](#), G. Li, and [M. Rosario-Franco](#). Application of Orbital Stability and Tidal Migration Constraints for Exomoon Candidates. *ApJL*. Oct 2020 [NASA ADS: 2020ApJ...902L..20Q](#)
13. V. Kostov, W. Welsh, N. Haghighipour, [B. Quarles](#), et al. Multiple Transits during a Single Conjunction: Identifying Transiting Circumbinary Planetary Candidates from TESS. *AJ*. October 2020 [NASA ADS: 2020AJ....160..174K](#)

14. S. K. Yadavalli, B. Quarles, G. Li, and N. Haghighipour. Effects of flux variation on the surface temperatures of Earth-analog circumbinary planets. *MNRAS*. September 2020 [NASA ADS: 2020MNRAS.499.1506Y](#)
15. R. Martin, J. J. Lissauer, and B. Quarles. Evolution of α Centauri B's protoplanetary disc. *AJ*. June 2020 [NASA ADS: 2020MNRAS.496.2436M](#)
16. M. Rosario-Franco, B. Quarles, M. Cuntz, and Z. Musielak. Orbital Stability of Exomoons and Submoons with Applications to Kepler 1625b-I. *AJ*. June 2020 [NASA ADS: 2020AJ....159..260R](#)
17. V. Kostov, J. Orosz, A. Feinstein, W. Welsh, et al. including B. Quarles. TOI-1338: TESS' First Transiting Circumbinary Planet. *ApJ*. June 2020 [NASA ADS: 2020AJ....159..253K](#)
18. S. Kreyche, J. Barnes, B. Quarles, J. J. Lissauer, J. Chambers, and M. Hedman. Orbital eccentricity influences the obliquity stability of retrograde-rotating planets. *Planetary Science Journal*. June 2020 [NASA ADS: 2020PSJ.....1....8K](#)
19. Q. Socia, W. Welsh, J. Orosz, W. D. Cochran, et al. including B. Quarles. KOI-3152 b: A Kepler Transiting Circumbinary Planet in a Grazing Eclipsing Binary. *AJ*. March 2020 [NASA ADS: 2020AJ....159...94S](#)
20. B. Quarles, G. Li, V. Kostov, and N. Haghighipour. Orbital Stability of Circumstellar Planets in Binary Systems. *AJ*. March 2020 [NASA ADS: 2020AJ....159...80Q](#)
21. C. Beichman, M. Ygouf, J. Sayson, Y. Yung, et al. including B. Quarles. Searching for Planets Orbiting α Cen A with the James Webb Space Telescope. *PASP*. January 2020 [NASA ADS: 2020PASP..132a5002B](#)
22. B. Quarles, J. W. Barnes, J. J. Lissauer, and J. Chambers. Obliquity Evolution of the Potentially Habitable Exoplanet Kepler-62F. *Astrobiology*. January 2020 [NASA ADS: 2020As-Bio..20...73Q](#)
23. B. Quarles, G. Li, and J. J. Lissauer. Obliquity Evolution of Circumstellar Planets in Sun-like Stellar Binaries. *ApJ*. November 2019 [NASA ADS: 2019ApJ....886..56Q](#)
24. J. A. Orosz, W. F. Welsh, N. Haghighipour, B. Quarles and the *Kepler CBP Working Group*. The Detection and Characterization of a Third Planet in the Kepler-47 Circumbinary System. *AJ*, May 2019. [NASA ADS: 2019AJ....157..174O](#)
25. Z. Hong, B. Quarles, G. Li, and J. Orosz. Could There Be an Undetected Inner Planet Near the Stability Limit in Kepler-1647?. *AJ*. [NASA ADS: 2019AJ....158....8H](#)
26. B. Quarles, and N. Kaib. Instabilities in the Early Solar System due to a Self-gravitating Disk. *AJ*. [NASA ADS: 2019AJ....157...67Q](#)
27. S. Moorman, B. Quarles, Zh. Wang, and M. Cuntz. The Habitable Zone of Kepler-16: Impact of Binarity and Climate Models. *International Journal of Astrobiology*, February 2019. [NASA ADS: 2019IJAsB..18...79M](#)

28. [B. Quarles](#), S. Satyal, V. Kostov, N. Kaib, and N. Haghighipour. Stability Limits of Circumbinary Planets: Is There a Pile-up in the Kepler CBPs?. *ApJ*, April 2018. [NASA ADS: 2018ApJ...856..150Q](#)
29. [B. Quarles](#) and J. J. Lissauer. Long-Term Stability of Tightly Packed Multi-Planet Systems in Prograde, Coplanar, Circumstellar Orbits within the alpha Centauri AB System. *AJ*, March 2018. [NASA ADS: 2018AJ....155..130Q](#)
30. [B. Quarles](#), J. J. Lissauer, and N. Kaib. Long-Term Stability of Planets in the α Centauri System, II: Forced Eccentricities. *AJ*, February 2018. [NASA ADS: 2018AJ....155...64Q](#)
31. [B. Quarles](#), E. Quintana, E. Lopez, J. Schlieder, and T. Barclay. Plausible Compositions of the Seven TRAPPIST-1 Planets Using Long-term Dynamical Simulations. *ApJL*, June 2017. [NASA ADS: 2017ApJ...842L...5Q](#)
32. J. Barnes, [B. Quarles](#), J. J. Lissauer, J. E. Chambers, and M. Hedman. Obliquity Variations of an Early Venus. *Astrobiology*, July 2016. [NASA ADS: 2016AsBio..16..487B](#)
33. V. Kostov, W. F. Welsh, J. A. Orosz, L. R. Doyle, et al. including [B. Quarles](#). KOI-2939b: the largest and longest-period Kepler transiting circumbinary planet *ApJ*, August 2016. [NASA ADS: 2016ApJ...827...86K](#).
34. [B. Quarles](#) and J. J. Lissauer. Long Term Stability of planets in the α Centauri system. *AJ*, May 2016. [NASA ADS: 2016AJ....151..111Q](#).
35. J. Coughlin, F. Mullally, S. Thompson, J. F. Rowe, et al. including [B. Quarles](#). Planetary Candidates Observed By *Kepler*: VII. The First Fully Automated Catalog Based on the Entire 48 Month *Kepler* Dataset (Q1-Q17 DR24). *ApJS*, May 2016. [NASA ADS: 2016ApJS..224...12C](#).
36. B. Kirk, K. Conroy, A. Prša, M. Abdul-Masih, et al. including [B. Quarles](#). Kepler Eclipsing Binary Stars. VII. The Catalog of Eclipsing Binaries Found in the Entire Kepler Data-Set. *AJ*, March 2016. [NASA ADS: 2016AJ....151...68K](#).
37. W. F. Welsh, J. A. Orosz, D. R. Short, N. Haghighipour, et al. including [B. Quarles](#). KIC 9632895 - The 10th Kepler Transiting Circumbinary Planet. *ApJ*, August 2015. [NASA ADS: 2015ApJ...809...26W](#).
38. F. Mullally, J. L. Coughlin, S. E Thompson, J. Rowe, et al. including [B. Quarles](#). Planetary Candidates Observed by *Kepler* VI: Planet Sample from Q1-16 (46 Months). *ApJS*, April 2015. [NASA ADS: 2015ApJS..217...31M](#).
39. J. F., Rowe, J. L. Coughlin, V. Antoci, T. Barclay, et al. including [B. Quarles](#). Planetary Candidates Observed by *Kepler*. V. The Q1-Q12 Planet Candidate Catalogue. *ApJS*, March 2015. [NASA ADS: 2015ApJS..217...31M](#).
40. [B. Quarles](#) and J. J. Lissauer. Dynamical Evolution of the Earth-Moon Progenitors – Whence Theia?. *Icarus*, March 2015 [NASA ADS: 2015Icar..248..318Q](#).

41. K. E. Conroy, A. Prša, K. G. Stassun, S. Bloemen, et al. including [B. Quarles](#). Kepler Eclipsing Binary Stars. V. Identification of 31 Eclipsing Binaries in the K2 Engineering Data-set. *PASP*, October 2014, [NASA ADS: 2014PASP..126..914C](#).
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