

Rixin Li

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EDUCATION

- **University of Arizona** Ph.D, Astronomy & Astrophysics in progress
Expected Graduation: Jun 2020
- **Peking University** Bachelor of Science, Astronomy
Graduation: Jul 2014

RESEARCH EXPERIENCE

- **Dust Concentrations in Viscous Protoplanetary Disks** 2016-present
Advisor: Dr. Andrew Youdin, University of Arizona
- **The Origin of Planetesimal in the Early Evolution of Planetary Systems** 2014 - present
Advisor: Dr. Andrew Youdin, University of Arizona
- **Formation and Evolution of Super-Earths** 2013 - 2014
Advisor: Dr. Douglas Lin, UC Santa Cruz
- **Parallel Halo Finder** 2013
Advisor: Dr. Brant Robertson, University of Arizona
- **Accretion Features of Transition Disks in Star Forming Regions** 2012 - 2013
Advisor: Dr. Gregory Herczeg, Kavli Institute for Astronomy and Astrophysics (KIAA)

TEACHING EXPERIENCE

- Teaching Assistant for PHYS 105A, “Introduction to Scientific Computation” Fall 2015
- Teaching Assistant for ASTR 400B, “Theoretical Astrophysics” Spring 2020

PUBLICATIONS

- **Li, R.**, Youdin, A. N., “Planetesimal Formation via the Secular Gravitational Instability. I. Linear Evolution”, in prep
- **Li, R.**, Youdin, A. N., Simon, J. B., “Demographics of Planetesimals Formed by the Streaming Instability”, 2019, ApJ, 855, 69
- Nesvorný, D., **Li, R.**, Youdin, A. N., Simon, J. B., Grundy, W. M., “Trans-Neptunian Binaries as Evidence for Planetesimal Formation by the Streaming Instability”, 2019, **Nature Astronomy**
- Gole, D., Simon, J. B., **Li, R.**, Youdin, A. N., Armitage, P. J., “Turbulence regulates the rate of planetesimal formation via gravitational collapse”, 2020, submitted
- Abod, C. P., Simon, J. B., **Li, R.**, Armitage, P. J., Youdin, A. N., Kretke, K. A. “The Mass and Size Distribution of Planetesimals Formed by the Streaming Instability. II. The Effect of the Radial Gas Pressure Gradient”, 2019, ApJ, 883, 192

- **Li, R.**, Youdin, A. N., Simon, J. B., “On the Numerical Robustness of the Streaming Instability: Particle Concentration and Gas Dynamics in Protoplanetary Disks”, 2018, *APJ*, 862, 14
- Simon, J. B., Armitage, P. J., Youdin, A. N., **Li, R.**, “Evidence for universality in the initial planetesimal mass function”, 2017, *ApJL*, 847, 12
- Simon, J. B., Armitage, P. J., **Li, R.**, Youdin, A. N., “The Initial Mass and Size Distribution of Planetesimals. I. The Role of Self-gravity”, 2016, *ApJ*, 822, 55

HONORS AND AWARDS

- **NASA Earth and Space Science Fellowship for 2016-2019** 2016-2019
- **College of Science Fellowship**, University of Arizona Aug 2014
- Second Lin-Qiao Prize for Excellent Undergraduate Research, KIAA Sep 2013
- Study Abroad Scholarship for Excellent Students, China Scholarship Council Jan 2013
- First Lin-Qiao Prize for Excellent Undergraduate Research, KIAA Sep 2012
- May Fourth Scholarship for Excellent Students, Peking University Sep 2012
- National Creative Research Fund for Undergraduate Research, KIAA Jun 2012
- Annual Scholarship of National Astronomical Observatories of China Dec 2011

PROFESSIONAL SERVICE AND AFFILIATIONS

- Referee for The American Astronomical Society Journals
- Executive Secretary and External Reviewer for NASA Review Panel
- Local Organizing Committee Member, Star and Planet Formation in the Southwest 2
- American Astronomical Society Junior Member
- University of Arizona Theoretical Astrophysical Program Member

PRESENTATIONS

- **235th American Astronomical Society Meeting** Honolulu, HI Jan 2020
Simulating Planetesimal Formation in the Kuiper Belt and Beyond
- **Colloquium at New Mexico State University** Las Cruces, NM Nov 2019
(Invited) *Simulating Planetesimal Formation in the Kuiper Belt and Beyond*
- **Turbulence and Structure Formation in Protoplanetary Disks** Ringberg, Germany Jul 2019
(Invited) *Particle Concentration and Planetesimal Formation by the Streaming Instability*
- **MPIA’s Planet and Star Formation Coffee** Heidelberg, Germany Jul 2019
Trans-neptunian binaries as evidence for planetesimal formation by the streaming instability
- **Planet Formation Meeting** Lund, Sweden Jun 2019
Particle Concentration, Gas Dynamics, and Planetesimal Formation by the Streaming Instability
- **From Star to Planet II** Gothenburg, Sweden Jun 2019

Demographics of Planetesimals Formed by the Streaming Instability

- **New Horizons in Planetary Systems** Victoria, BC May 2019
A Pathway to Form Objects like Ultima Thule: Planetesimal Formation by the Streaming Instability
- **Steward Observatory Internal Symposium** Tucson, AZ Feb 2018
Properties of Planetesimals Formed by the Streaming Instability
- **Protoplanetary Disk Workshop** Los Alamos, NM Aug 2017
Forming Planetesimals by the Streaming Instability and Dust Concentrations in Viscous Disks
- **Visiting ITA, ZAH, University of Heidelberg** Heidelberg, Germany May 2017
Forming Planetesimals by the Streaming Instability
- **Steward Observatory Journal Club** Tucson, AZ May 2017
Planetesimal formation by the Streaming Instability in a Photoevaporating Disk
- **Steward Observatory Journal Club** Tucson, AZ Nov 2016
The Formation of Dust Rings in the HL Tau Protoplanetary Disk
- **Steward Observatory Journal Club** Tucson, AZ Apr 2016
The Origin of Planetesimal Size Distribution
- **Steward Observatory Internal Symposium** Tucson, AZ Mar 2016
Forming Planetesimals by the Streaming Instability in Protoplanetary Disks

POSTERS & POP TALKS

- **Astrophysical Frontiers in the Next Decade and Beyond** Portland, OR Jun 2018
Properties of Planetesimals Formed by the Streaming Instability
- **Star and Planet Formation in the Southwest II** Biosphere 2, AZ Mar 2018
Properties of Planetesimals Formed by the Streaming Instability
- **Sagan Exoplanet Summer Workshop** Pasadena, CA Jul 2015
On the Robustness of Particle Concentration by the Streaming Instability
- **Disk Dynamics & Planet Formation** Larnaca, Cyprus Jun 2015
On the Robustness of Particle Concentration by the Streaming Instability
- **Star and Planet Formation in the Southwest** Biosphere 2, AZ Mar 2015
On the Robustness of Particle Concentration by the Streaming Instability

DEPARTMENT SERVICE & SELECTED OUTREACH

- Discussion Leader for Astro Code Coffee at Steward Observatory 2018
- Steward Observatory Astro-ph Science Coffee Discussion Host 2016-present
- Tucson Initiative for Minority Engagement in Science and TEchnology Program (TIMESTEP)
: Introducing The Realities of Graduate School to Undergraduate Students Oct 2018
- Senita Valley Elementary School Family Science Night, Tucson, AZ Jan 2015
- Volunteer at the International Astronomical Union 28th General Assembly, Beijing Aug 2012