

Li Zeng

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Education

Harvard University **PhD, Astronomy & Astrophysics** **May 2015**

Advisor: Professor Dimitar Sasselov. Thesis: "Interior Structure and Chemistry of Solid Exoplanets".

Harvard University **AM, Astronomy & Astrophysics** **May 2011**

Advisor: Professor Dimitar Sasselov. Research Exam: "New High-Pressure Equation of State (EOS) of Water and Its Implication for GJ 1214b and other Water Planets".

Massachusetts Institute of Technology **SB, Physics** **June 2009**

Advisor: Professor Sara Seager. Research Project: "A Computational Tool to Interpret the Bulk Composition of Solid Exoplanets based on Mass and Radius Measurements".

Elected to ΦΒΚ and ΣΠΣ. GPA 5.0/5.0.

Professional Appointment

Harvard University **Department of Earth & Planetary Sciences**

Research Associate **06/2018-Present**

Harvard University **Department of Earth & Planetary Sciences**

Simons Postdoctoral Fellow **06/2015-05/2018**

Advisor: Professor Stein Jacobsen. Simons Collaboration on the Origins of Life. Research focus on understanding the chemistry of planet formation and interior structure, including Earth-like planets and water worlds, to identify potentially habitable planets, and their connections to the origins of life in the universe.

Harvard University **Department of Astronomy**

Teaching Fellow **02/2011-05/2011**

Head Teaching Fellow **02/2012-05/2012**

Harvard University Undergraduate General Education Course: SPU (Science of the Physical Universe) 30: Life as a Planetary Phenomenon. Instructor: Professor Dimitar D. Sasselov.

Selected Publications

"Growth Model Interpretation of Planet Size Distribution". **Li Zeng**, Stein B. Jacobsen, Dimitar D. Sasselov, Andrew Vanderburg, Mercedes Lopez-Morales, Juan Perez-Mercader, Michail I. Petaev, Thomas R. Mattsson, Gongjie Li, and Matthew Z. Heising, Aldo S. Bonomo, Mario Damasso, Travis A. Berger, Hao Cao, Amit Levi, Robin Wordsworth. *PNAS*, 2019, 116 (20) 9723-9728. DOI: 10.1073/pnas.181295116

"A giant impact as the likely origin of different twins in the Kepler-107 exoplanet system". Aldo S. Bonomo, **Li Zeng**, Mario Damasso, Zoe M. Leinhardt, Anders B. Justesen, et al. *Nature Astronomy* 3, 416-423 (2019). DOI: 10.1038/s41550-018-0684-9

"Homogeneous Analysis of Hot Earths: Masses, Sizes, and Compositions". Fei Dai, Kento Masuda, Joshua N. Winn, and **Li Zeng**. *ApJ*, 883, 79, 2019. DOI: 10.3847/1538-4357/ab3a3b

"So close, so different: characterization of the K2-36 planetary system with HARPS-N". Mario Damasso, **Li Zeng**, Luca Malavolta, Andrew W. Mayo, Alessandro Sozzetti, et al. *A&A*, 624, A38, 2019. DOI: 10.1051/0004-6361/201834671

"Survival Function Analysis of Planet Size Distribution". **Li Zeng**, Stein B. Jacobsen, Dimitar D. Sasselov, Andrew Vanderburg. *MNRAS*, 479, 4, 2018. DOI: 10.1093/mnras/sty1749

"Eyes on K2-3: A System of Three likely sub-Neptunes characterized with HARPS-N and HARPS". Mario Damasso, Aldo Bonomo, ..., **Li Zeng**, et al. *A&A*, 615, A69, 2018.

"A Simple Analytical Model for Rocky Planet Interior". **Li Zeng**, and Stein B. Jacobsen. *ApJ*, 837, 164, 2017. DOI: 10.3847/1538-4357/aa6218

"Planet Size Distribution from the Kepler Mission and Its Implication for Planet Formation". **Li Zeng**, Stein B. Jacobsen, et al. 48th *LPSC* Abstract 1576 (2017). arXiv: 1806.05909

"Exoplanet Radius Gap Dependence on Host Star Type". **Li Zeng**, Stein B. Jacobsen, Dimitar D. Sasselov. *RNAAS* (Research Notes of the AAS), 2017. DOI: 10.3847/2515-5172/aa9ed9

"Variational Principle for Planetary Interiors". **Li Zeng**, and Stein B. Jacobsen. *ApJ*, 829, 18, 2016. DOI: 10.3847/0004-637X/829/1/18

"Kepler-21b: A rocky planet around a $V = 8.25$ magnitude star". Mercedes Lopez-Morales, Raphaelle Haywood, Jeffrey Coughlin, **Li Zeng**, Lars Buchhave, et al. *AJ*, 152, 204, 2016.

"Mass-Radius Relation for Rocky Planets based on PREM". **Li Zeng**, Dimitar D. Sasselov, and Stein B. Jacobsen. *ApJ*, 819, 127, 2016.

"Characterizing K2 Planet Discoveries: A Super-Earth Transiting the Bright K Dwarf HIP 116454". Andrew Vanderburg, Benjamin Montet, John Johnson, Lars Buchhave, **Li Zeng**, et al. *ApJ*, 800, 59, 2015.

"Kepler-93b: A Terrestrial World Measured to within 120 km, and a Test Case for a New Spitzer Observing Mode". Sarah Ballard, William Chaplin, David Charbonneau, ..., **Li Zeng**, et al. *ApJ*, 790, 12, 2014.

"The Effect of Temperature Evolution on the Interior Structure of H₂O-rich Planets". **Li Zeng** and Dimitar D. Sasselov. *ApJ*, 784, 96, 2014.

"A Detailed Model Grid for Solid Planets from 0.1 through 100 Earth Masses". **Li Zeng** and Dimitar D. Sasselov. *PASP*, 125, 227, 2013.

"A Computational Tool to Interpret the Bulk Composition of Solid Exoplanets based on Mass and Radius Measurements". **Li Zeng** and Sara Seager. *PASP*, 120, 983, 2008.