
Professor Sara Seager Publications

Papers Submitted to Refereed Journals (*= Student in Seager's Research Group)

*Rogers, L. & **Seager, S.** "Three Possible Origins for the Gas Layer on GJ 1214b", submitted to ApJ.

*Madhusudhan, N., & **Seager, S.** "Do Hot Jupiter Atmospheres Host Thermal Inversions?", submitted to ApJ.

*Rogers, L. & **Seager, S.** "A Framework for Quantifying the Degeneracies of Exoplanet Interior Compositions", submitted to ApJ.

*Beatty, T. & **Seager, S.** "Transit Probabilities for Stars with Stellar Inclination Constraints", submitted to ApJ.

Robinson, T. and the EPOXI Team "Earth as an Extrasolar Planet: Earth Model Validation Using EPOXI Earth Observations", submitted to Icarus.

Selected Publications in Refereed Journals (*= Student in Seager's Research Group)

Christiansen, J. et al. and the EPOXI Team 2010 "Studying the Atmosphere of the Exoplanet HAT-P-7b via Secondary Eclipse Measurements with *EPOXI*, *Spitzer*, and *Kepler*", ApJ, in press.

Deming, D., & **Seager, S.** 2009, "Light and Shadow from Distant Worlds", Nature, 462, 301-306.

*Madhusudhan, N., & **Seager, S.** 2009, "A Temperature and Abundance Retrieval Method for Exoplanet Atmospheres", ApJ, 707, 24-39.

Deming, D., **Seager, S.**, et al. 2009, "Discovery and Characterization of Transiting Super Earths Using an All-Sky Transit Survey and Follow-up by the *James Webb Space Telescope*.

*Miller-Ricci, E., Meyer, M., **Seager, S.**, & Elkins-Tanton, L. 2009, "On the Possibility of Detecting Hot Protoplanet Collision Afterglows", ApJ, 704, 770-780.

Soummer, R., Cash, W., Brown, R. A., Jordan, I. Roberge, A., Glassman, T., Lo, A. **Seager, S.**, & Pueyo, L. 2009, "A Starshade for JWST: Science Goals and Optimization", SPIE, 7440, 8.

Cowan et al. and the EPOXI Team 2009, "Alien Maps of an Ocean-Bearing World", ApJ, 700, 915-923.

Deming, D., **Seager, S.**, et al. and the TESS Team, “Discovery and Characterization of Transiting Super Earths Using an All-Sky Transit Survey and Follow-up by the James Webb Space Telescope” 2009, *PASP*, 121, 952-967.

Seager, S., & Deming, D. “On the Method to Infer an Atmosphere on a Tidally-Locked Super Earth Exoplanet and Upper limits to GJ 876d”, *ApJ*, 703, 1884-1889.

*Miller-Ricci, E., **Seager, S.**, & Sasselov, D. 2009 “The Atmospheric Signatures of Super-Earths: How to Distinguish Between Hydrogen-Rich and Hydrogen-Poor Atmospheres”, *ApJ*, 690, 1056-1067.

Rowe, J. F., Matthews, J. M., **Seager, S.**, et al. 2008, “The Very Low Albedo of an Extrasolar Planet: MOST Spacebased Photometry of HD 209458”, *ApJ*, 689, 1345-1353.

Elkins-Tanton, L., & **Seager, S.** 2008, “Coreless Terrestrial Exoplanets”, *ApJ*, 688, 628-635.

Elkins-Tanton, L., & **Seager, S.** 2008, “Range of Masses and Atmospheric Composition for Terrestrial Exoplanets”, *ApJ*, 685, 1237-1246.

*Zeng, Li, & **Seager, S.** 2008, “A Computational Tool to Interpret the Bulk Composition of Solid Exoplanets Based on Mass and Radius Measurements”, *PASP*, 120, 983-991.

*Hood, B., Wood, K., **Seager, S.**, Collier-Cameron, A. 2008, “Reflected Light from 3D Exoplanetary Atmospheres and Simulation of HD 209458b”, *MNRAS*, 389, 257-269.

Rauscher, E., Menou, K., Cho, J. Y.-K., **Seager, S.** 2008, “On Signatures of Atmospheric Features in Thermal Phase Curves of Hot Jupiters”, *ApJ*, 681, 1646-1652.

*Adams, E. R., **Seager, S.**, & Elkins-Tanton, L. 2008, “Ocean Planet or Thick Atmosphere: On the Mass-Radius Relationship for Solid Exoplanets with Massive Atmospheres”, *ApJ*, 673, 1160-1164.

Palle, E., Ford, E. B., **Seager, S.**, Montanes-Rodriguez, P., & Vazquez, M. 2008, “Identifying the Rotation Rate and the Presence of Dynamic Weather on Extrasolar Earth-like Planets from Photometric Observations”, *ApJ*, 676, 1319-1329.

Seager, S., Kuchner, M., Hier-Majumder, C. A., & Militzer, 2007, “Mass-Radius Relationships for Solid Exoplanets”, *ApJ*, 669, 1279-1297.

Deming, D., Harrington, J., Laughlin, G., **Seager, S.**, Navarro, S. B., Bowman, W. C., Horning, K. 2007, “*Spitzer* Transit and Secondary Eclipse Photometry of GJ 436”, *ApJ*, 667, L199-202.

Lopez-Morales, M. & **Seager, S.**, 2007, “Thermal Emission from Transiting Very-Hot Jupiters: Prospects for Ground-based Detection at Optical Wavelengths”, *ApJ*, 667, L191-194.

Rauscher, E., Menou, K., **Seager, S.**, Deming D., Cho, J. Y.-K., Hansen, B. M. S. 2007, “Toward Eclipse Mapping of Hot Jupiters”, *ApJ*, 664, 1199-1209.

Harrington, J., Luszcz, S., **Seager, S.**, Deming, D., Richardson, L. J. 2007, “The Hottest Planet”, *Nature*, 447, 691-693.

Richardson, L. J., Deming, D., Horning, K., **Seager, S.**, & Harrington, J. 2007, “A Spectrum of an Extrasolar Planet”, *Nature*, 445, 892-895.

- Lopez-Moralez, M. Morell, N. I., Butler, R. P., & **Seager, S.** 2006, PASP, “Limit to Transits of the Neptune-Mass Planet Orbiting Gl 581”, PASP, 118, 1506-1509.
- Harrington, J., Hansen, B. M. S., Luszcz, S., **Seager, S.**, Deming, D., Menou, K., Cho, J. Y.-K., & Richardson, L. J. 2006, “The Phase-Dependent Infrared Brightness of the Extrasolar Planet υ Andromedae b”, Science, 314, 623-626.
- Richardson, L. J., Harrington, J. **Seager, S.**, & Deming, D. 2006, “A *Spitzer* Infrared Radius for the Transiting Extrasolar Planet HD 209458b”, ApJ, 649, L1043-1047.
- Rowe, J. F., Matthews, J. M., **Seager, S.**, Kuschnig, R., Guenther, D. B., Moffat, A. F. J., Rucinski, S., Sasselov, D. D., Walker, G. A. H. 2006, “An Upper Limit on the Albedo of HD 209458b: Direct Imaging Photometry with the MOST Satellite”, ApJ, 646, 1241-1251.
- Deming, D., Harrington, J., **Seager, S.**, & Richardson, L. J. 2006, “Strong Infrared Emission from the Extrasolar Planet HD 189733b”, ApJ, 644, 560-564.
- Wong, W. Y., **Seager, S.**, & Scott, D. 2006, “Spectral Distortions to the Cosmic Microwave Background from the Recombination of Hydrogen and Helium”, MNRAS, 367, 1666-1676.
- Seager, S.**, Richardson, L. J., Hansen, B. M. S., Menou, K., Cho, J., & Deming, D. 2005, “On the Day Side Thermal Emission of Hot Jupiters”, ApJ, 632, 1122-1131.
- Seager, S.**, Turner, E. L., Schafer, J., & Ford, E. B. 2005, “Vegetation’s Red Edge: A Possible Biosignature of Extraterrestrial Plants”, Astrobiology, 5, 372-390.
- Deming, D., **Seager, S.**, Richardson, L. J., & Harrington, J. 2005, “Detection of Infrared Radiation from an Extrasolar Planet”, Nature, 434, 740-743.
- Gaudi, B. S., **Seager, S.**, & Mallen-Ornelas, G. 2004, “On the Period Distribution of Close-In Extrasolar Giant Planets”, ApJ, 623, 472-481.
- von Braun, K., Lee, B. L., **Seager, S.**, Yee, H. K. C., Mallen-Ornelas, G., & Gladders, M. D. 2004, “Searching for Planetary Transits in Galactic Open Clusters: EXPLORE/OC”, PASP, 117, 141-159.
- Dyudina, U. A., Sackett, P. D., Bayliss, D. D. R., **Seager, S.**, Porco, C. C., Throop, H. B., & Dones, L. 2005, “Phase Light Curves for Extrasolar Jupiters and Saturns”, ApJ, 618, 973-986.
- Liang, M.-C., **Seager, S.**, Parkinson, C. D., Lee, A. Y.-T., & Yung, Y. L. 2004, “On the Insignificance of Photochemical Hydrocarbon Aerosols in the Atmospheres of Close-in Extrasolar Giant Planets” ApJ, 605, L61-64.
- Danchi, W. C., Deming, D., Kuchner, M. J., & **Seager, S.** 2003, “Detection of Close-In Extrasolar Giant Planets Using the Fourier-Kelvin Stellar Interferometer”, ApJ, 597, L57-60.
- Green, D., Matthews, J. M., **Seager, S.**, Kuschnig, R. 2003, “MOST’s Potential to Detect and Characterize Scattered Light from Extrasolar Planets”, ApJ, 597, 590-601.

Richardson, L. J., Deming, D., & **Seager, S.** 2003, “Infrared Observations During the Secondary Eclipse of HD209458b II. Strong Limits on the Infrared Spectrum Near 2.2 Microns”, *ApJ*, 597, 581-589.

Liang, M.-C., Parkinson, C. D., Lee, A. U.-T., Yung, Y. L., & **Seager, S.** 2003, “Source of Atomic Hydrogen in the Atmosphere of HD209458b”, *ApJ*, 596, L247-250.

Menou, K., Cho, J. Y.-K., **Seager, S.**, & Hansen, B. 2003, “Weather Variability of Close-in Extrasolar Giant Planets”, *ApJ*, 587, L113-116.

Cho, J. Y.-K., Menou, K., Hansen, B., & **Seager, S.** 2003, “The Changing Face of the Extrasolar Giant Planet HD209458b”, *ApJ*, 587, L117-120.

Seager, S. 2003, “The Search for Earth-like Extrasolar Planets”, *E&PSL (Frontiers)*, 208, 113-124.

Seager, S., & Mallen-Ornelas, G. 2003, “On the Unique Solution of Planet and Star Parameters from an Extrasolar Planet Transit Light Curve”, *ApJ*, 585, 1038-1055.

Mallen-Ornelas, G., **Seager, S.**, Yee, H. K. C., Minniti, D., Gladders, M., Mallen-Fullerton, G., & Brown, T. 2003, “The EXPLORE Project I: A Deep Search for Transiting Extrasolar Planets”, *ApJ*, 582, 1123-1140.

Des Marais, D. J., Harwit, M., Jucks, K., Kasting, J. F., Lunine, J. I., Lin, D., **Seager, S.**, Schneider, J., Traub, W., & Woolf, N. 2002, “Remote Sensing of Planetary Properties and Biosignatures on Extrasolar Terrestrial Planets”, *Astrobiology*, 2, 153-181.

Seager, S., & Hui, L. 2002, “Constraining the Rotation Rate of Transiting Extrasolar Planets by an Oblateness Measurement”, *ApJ*, 574, 1004-1010.

Hui, L., & **Seager, S.** 2002, “Atmospheric Lensing and Oblateness Effect During an Extrasolar Planetary Transit”, *ApJ*, 572, 540-555.

Gurfil P., Kasdin, J., Arrell, R., **Seager, S.**, & Nissanke, S. M. 2002, “Infrared Space Observatories: How to Mitigate Zodiacal Dust Interference”, *ApJ*, 567, 1250-1261.

Marley, M. S., **Seager, S.**, Saumon, D., Lodders, K., Ackerman, A. S., Freedman, R., & Fan, X. 2002, “Clouds and Chemistry: Ultracool Dwarf Atmospheric Properties from Optical and Infrared Colors”, *ApJ*, 568, 335-342.

*Ford, E. B., **Seager, S.**, & Turner, E. L. 2001, “Characterization of Extrasolar Terrestrial Planets from Diurnal Photometric Variability”, *Nature*, 412, 885-887.

Seager, S., Whitney, B. A., & Sasselov, D. D. 2000, “Light Curves and Polarization of the Close-in Extrasolar Giant Planets”, *ApJ*, 540, 504-520.

Peebles, P. J. E., **Seager, S.**, & Hu, W. 2000, “Delayed Recombination”, *ApJ*, 539, L1-4.

Seager, S., & Sasselov, D. D. 2000, “Theoretical Transmission Spectra During an Extrasolar Giant Planet Transit”, *ApJ*, 537, 916-921.

Seager, S., Sasselov, D. D., & Scott, D. 2000, “How Exactly Did the Universe Become Neutral?”, *ApJS*, 128, 407-430.

Seager, S., Sasselov, D. D., & Scott, D. 1999, “A New Calculation of the Recombination Epoch”, 1999, *ApJ*, 523, L1-5.

Seager, S., & Sasselov, D. D. 1998, “Extrasolar Giant Planets Under Strong Stellar Irradiation”, *ApJ*, 502, L157-161.

Fernie, J. D., & **Seager, S.** 1995, “V441 Herculis (89 Her) and V814 Herculis (HD 161796) in 1993 and 1994”, *PASP*, 107, 853-855.

Fernie, J. D., Khoshnevisan, M. H., & **Seager, S.** 1995 “Secular Changes in the Classical Cepheid Y Ophiuchi”, *AJ*, 110, 1326-1332.

Fernie, J. D., & **Seager, S.** 1994, “R Coronae Borealis in 1992 and 1993”, *PASP*, 106, 1138-1140.

Fernie, J. D., Kamper, Karl W., & **Seager, S.** 1993, “Goodbye to Polaris the Cepheid”, *ApJ*, 416, 820-824.

Zsoldos, E., Fernie, J. D., Arellano-Ferro, A., & **Seager, S.** 1993, “The Double-mode Semiregular Variable UU-Herculis - 1990-1992 Photometry”, *A&A*, 275, 484-488.

Fernie, J. D., & **Seager, S.** 1993, “V441 Herculis (89 Herculis) and V814 Herculis (HD 161796) in 1991 and 1992”, *PASP*, 105, 751-754.

Popular Articles

S. Seager 2008, “Alien Earths from A to Z”, *Sky and Telescope*, 115, 22.

S. Seager 2006, “Unveiling Distant Worlds”, *Sky and Telescope*, 111, 28-34.

Books

Seager, S. 2010, “Exoplanet Atmospheres: Physical Processes”, Princeton University Press (Princeton: Princeton University Press).

Deming, D., & **Seager, S.** eds. 2003, “Scientific Frontiers in Research on Extrasolar Planets”, ASP Conf. Ser. 294 (San Fransisco: ASP).
