

# Aaron S. Wolf

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## Publications

### Citation Metrics (Mar 2019)

- *Google Scholar*: h-index = 14, i10-index = 15, citations = 1564
- *Scopus*: h-index = 13, citations = 1043, (Author ID = 10039345400)

◦ underline indicates student advisee

### In Prep

- **Wolf**, A. S. and Bower, D. J., Constraining the Mantle Liquidus and the impact on Magma Ocean Crystallization. *Earth and Planetary Science Letters*
- **Wolf**, A. S., Ghiorso, M. S., Bayesian calibration of geological thermodynamic databases. *American Journal of Science*.
- Hurt, S., **Wolf**, A. S., Anomalous structure of MgCO<sub>3</sub> liquid and the buoyancy of carbonatite melts. *Earth and Planetary Science Letters*
- Adams, J., **Wolf**, A. S., Spera, J., Ghiorso, M., A new seven-component solution model for garnet and application to genesis of ocean island basalts. *Geochimica et Cosmochimica Acta*

### In Review

1. Tye, A. R., **Wolf**, A. S., Niemi, N. A., Bayesian Population Correlation: A probabilistic approach to inferring and comparing population distributions for detrital zircon ages. *Chemical Geology*.

### Accepted

1. Cruz, N. L. L., Simon, A. C., **Wolf**, A. S., Reich, M., Barra, F., Gagnon, J. E., The geochemistry of apatite from the Los Colorados iron oxide – apatite deposit, Chile: Implications for ore genesis. *Mineralium Deposita*.

### Published

1. Kim, Y.J., **Wolf**, A. S., Becker, U. (2019), Thermodynamic mixing properties of alunite supergroup minerals: Quantum-mechanical modeling and statistical thermodynamic analysis of sulfate, chromate, selenate, phosphate, and arsenate solid solutions, as well as uranyl incorporation. *Geochimica et Cosmochimica Acta*.
2. Hurt, S., **Wolf**, A. S. (2018), Thermodynamic properties of CaCO<sub>3</sub>-SrCO<sub>3</sub>-BaCO<sub>3</sub> liquids: a molecular dynamics study using new empirical atomic potentials for alkaline earth carbonates. *Physics and Chemistry of Minerals*, 1–16.
3. **Wolf**, A. S., Bower, D. J. (2018), An equation of state for high pressure-temperature liquids (RTpress) with application to MgSiO<sub>3</sub> melt. *Physics of the Earth and Planetary Interiors*, 278: 59–74.
4. Jackson, A., Parker, R. L., Sambridge, M., Constable, C., **Wolf**, A. S., (2018), The inverse problem of unpolarized infrared spectroscopy of geological materials: Estimation from noisy random sampling of a quadratic form. *American Mineralogist*, 103 (8): 1176–1184.
5. Bower, D. J., Sanan, P. D., **Wolf**, A. S. (2018), Numerical solution of a non-linear conservation law applicable to the interior dynamics of partially molten planets. *Physics of the Earth and Planetary Interiors*, 274: 49–62.
6. **Wolf**, A. S., Asimow, P. D., Stevenson, D. J. (2015), Coordinated Hard Sphere Mixture (CHaSM): A simplified model for oxide and silicate melts at mantle pressures and temperatures. *Geochimica et Cosmochimica Acta*, 163:40–58,
7. **Wolf**, A. S., Jackson, J. M., Dera, P., Prakapenka, V. B. (2015), The thermal equation of state of (Mg, Fe)SiO<sub>3</sub> bridgmanite (perovskite) and implications for lower mantle structures. *J. Geophys. Res. Solid Earth*, 120:7460–7489,

8. Keppel-Aleks, G., **Wolf**, A. S., Mu, M., Doney, S. C., Morton, D. C., Kasibhatla, P. S., Miller, J. B., Dlugokencky, E. J., Randerson, J. T. (2014), Separating the influence of temperature, drought, and fire on interannual variability in atmospheric CO<sub>2</sub>. *Global Biogeochem. Cycles*, 28:1295–1310,
9. Line, M. R., Knutson, H., **Wolf**, A. S., Yung, Y. L. (2014), A Systematic Retrieval Analysis of Secondary Eclipse Spectra. II. A Uniform Analysis of Nine Planets and their C to O Ratios. *The Astrophysical Journal*, 783:70,
10. O’Rourke, J. G., **Wolf**, A. S., Ehlmann, B. L. (2014), Venus: Interpreting the spatial distribution of volcanically modified craters. *Geophys. Res. Lett.*, 41:8252–8260,
11. Line, M. R., **Wolf**, A. S., Zhang, X., Knutson, H., Kammer, J. A., Ellison, E., Deroo, P., Crisp, D., Yung, Y. L. (2013), A Systematic Retrieval Analysis of Secondary Eclipse Spectra. I. A Comparison of Atmospheric Retrieval Techniques. *The Astrophysical Journal*, 775:137,
12. Hayes, A. G., **Wolf**, A. S., Aharonson, O., Zebker, H., Lorenz, R., Kirk, R. L., Paillou, P., Lunine, J., Wye, L., Callahan, P., Wall, S., Elachi, C. (2010), Bathymetry and absorptivity of Titan’s Ontario Lacus. *J. Geophys. Res.*, 115:E09009,
13. Zhuravlev, K., Jackson, J., **Wolf**, A., Wicks, J., Yan, J., Clark, S. (2010), Isothermal compression behavior of (Mg,Fe)O using neon as a pressure medium. *Physics and Chemistry of Minerals*, 37:465–474,
14. Meschiari, S., **Wolf**, A. S., Rivera, E., Laughlin, G., Vogt, S., Butler, P. (2009), Systemic: A Testbed for Characterizing the Detection of Extrasolar Planets. I. The Systemic Console Package. *Publications of the Astronomical Society of the Pacific*, 121:1016–1027,
15. Ragozzine, D., **Wolf**, A. S. (2009), Probing the Interiors of very Hot Jupiters Using Transit Light Curves. *The Astrophysical Journal*, 698:1778, (**authors contributed equally**).
16. **Wolf**, A. S., Laughlin, G., Henry, G. W., Fischer, D. A., Marcy, G., Butler, P., Vogt, S. (2007), A Determination of the Spin-Orbit Alignment of the Anomalously Dense Planet Orbiting HD 149026. *The Astrophysical Journal*, 667:549,
17. Ammons, S. M., Robinson, S. E., Strader, J., Laughlin, G., Fischer, D., **Wolf**, A. (2006), The N2K Consortium. IV. New Temperatures and Metallicities for More than 100,000 FGK Dwarfs. *The Astrophysical Journal*, 638:1004,
18. Shankland, P. D., Rivera, E. J., Laughlin, G., Blank, D. L., Price, A., Gary, B., Bissinger, R., Ringwald, F., White, G., Henry, G. W., McGee, P., **Wolf**, A. S., Carter, B., Lee, S., Biggs, J., Monard, B., Ashley, M. C. B. (2006), On the Search for Transits of the Planets Orbiting Gliese 876. *The Astrophysical Journal*, 653:700,
19. Laughlin, G., Butler, R. P., Fischer, D. A., Marcy, G. W., Vogt, S. S., **Wolf**, A. S. (2005), The GJ 876 Planetary System: A Progress Report. *The Astrophysical Journal*, 622:1182,
20. Laughlin, G., **Wolf**, A., Vanmunster, T., Bodenheimer, P., Fischer, D., Marcy, G., Butler, P., Vogt, S. (2005), A Comparison of Observationally Determined Radii with Theoretical Radius Predictions for Short-Period Transiting Extrasolar Planets. *The Astrophysical Journal*, 621:1072,
21. Sato, B., Fischer, D. A., Henry, G. W., Laughlin, G., Butler, R. P., Marcy, G. W., Vogt, S. S., Bodenheimer, P., Ida, S., Toyota, E., **Wolf**, A., Valenti, J. A., Boyd, L. J., Johnson, J. A., Wright, J. T., Ammons, M., Robinson, S., Strader, J., McCarthy, C., Tah, K. L., Minniti, D. (2005), The N2K Consortium. II. A Transiting Hot Saturn around HD 149026 with a Large Dense Core. *The Astrophysical Journal*, 633:465,