Tobias G. Oliver

Curriculum Vitae

Department of Physics, 390 UCB

University of Colorado

Boulder, CO 80309-0390

Phone: (505) 382-9653

Email: tobias.oliver@colorado.edu

Field of Research: Theoretical and Computational Geophysical Fluid Dynamics

**Education**

2020-Present: Ph.D. in Geophysics, University of Colorado, Department of Physics (with Michael A. Calkins)

2020 B.S., University of California, San Diego, *magna cum laude* in Physics

**Honors and Awards**

2020, 2021, 2025 Outstanding TA Award

2019-2020 Physical Sciences Dean’s Undergraduate Award for Excellence (UC San Diego)

**Teaching Experience**

2020-2025 University of Colorado Boulder - Graduate Teaching Assistant

2023 (Fall) CU-Prime - Volunteer Graduate Teaching Assistant

**Publications**

Oliver, T.G., Blackman, E.G., Tarduno, J. A., and Calkins, M. A. Turbulence in earth’s core generates large topographic torques on the mantle, *Communications Earth and Environment.* 6:484 (2025). doi:10.1038/s43247-025-02451-6.

Oliver, T.G., Jacobi, A.S., Julien, K., and Calkins, M.A. Small scale quasigeostrophic convective turbulence at large Rayleigh number, *Physical Review Fluids.* 8 (9), 093502 (2023). doi:10.1103/PhysRevFluids.8.09350

Banasek, J.T., Oliver, T.G., Cordaro, S.W., and Bott-Suzuki, S.C. [Free space Thomson scattering to study high energy density shocks](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dI3u4LYAAAAJ&citation_for_view=dI3u4LYAAAAJ:9yKSN-GCB0IC), *Review of Scientific Instruments.* 92 (9) (2021). doi:[10.1063/5.0048615](https://doi.org/10.1063/5.0048615).

**Other Presentations**

*Juno and Jupiter: A turbulent affair.* CU-Prime Undergraduate Outreach. (2023)

*Fluid Planets and the Physics that Flows.* CU-Prime Undergraduate Outreach. (2024)