

Valentin SKOUTNEV

PERSONAL DATA

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EMPLOYMENT

2022-present THEA Postdoctoral Fellow, Department of Physics, Columbia University

EDUCATION

2016-2022 PhD in Astrophysical Sciences (Plasma Physics). Princeton University, Princeton, NJ.
Completed: July 11, 2022
Advisor: Prof. Amitava Bhattacharjee
2012-2016 Bachelor of Science
California Institute of Technology, Pasadena, CA
Major: Physics. GPA: 3.8/4.0

GENERAL INTERESTS

plasma physics, turbulence, magnetohydrodynamics, geophysical fluid dynamics

REFEREED PUBLICATION LIST

- 2022 **Skoutnev, V.**, Critical Balance and Scaling of Strongly Stratified Turbulence at Low Prandtl Number. *JFM*.
- 2022 **Skoutnev, V.**, Squire, J., Bhattacharjee, A., On Large-scale Dynamos with Stable Stratification and the Application to Stellar Radiative Zones. *MNRAS*.
- 2021 **Skoutnev, V.**, Most, E. R., Bhattacharjee, A., Philippov, A. A., Scaling of Small-Scale Dynamo Properties in the Rayleigh-Taylor Instability. *ApJ* 921 (1).
- 2020 **Skoutnev, V.**, Squire, J., Bhattacharjee, A., Small-Scale Dynamo in Stably Stratified Turbulence. *ApJ* 906 (1)
- 2020 Juno, J., Swisdak, M.M., Tenborge, J.M., **Skoutnev, V.**, Noise-induced magnetic field saturation in kinetic simulations. *JPP*, 86(4), 175860401
- 2019 **Skoutnev, V.**, Hakim, A., Juno, J., TenBorge, J. M., Temperature-dependent Saturation of Weibel-type Instabilities in Counter-streaming Plasmas. *ApJL*, 872(2), L28.
- 2019 Rodriguez, E., **Skoutnev, V.**, Raitses, Y., Powis, A., Kaganovich, I., Smolyakov, A., Boundary-induced effect on the spoke-like activity in ExB plasma. *PoP*, 26(5), 053503.
- 2018 **Skoutnev, V.**, Dourbal, P., Rodriguez, E., Raitses, Y., Fast sweeping probe system for characterization of spokes in ExB discharges. *RSI*, 89(12), 123501.

SEMINARS & TALKS

- 2022 Leeds Dynamo conference. "Fundamentals of Dynamos in Stably Stratified Fluids"
- 2022 Stanford COFFIES Tachocline workshop . "Fundamentals of Dynamos in Stably Stratified Fluids"
- 2022 NORDITA Dynamo conference. "Dynamos in Stably Stratified Fluids"
- 2022 UC Santa Cruz GAFD Colloquium. "Large-Scale Dynamo in Stellar Radiative Zones."
- 2022 CIPS Colloquium at CU Boulder. "Large-Scale Dynamo in Stellar Radiative Zones."
- 2021 APS-Division of Plasma Physics-Conference (invited talk). "Scaling of small-scale dynamo properties in fluid instabilities and stably stratified turbulence."
- 2021 APS-Division of Plasma Physics-Student Day (invited tutorial talk). "Intro to Plasma Astrophysics"
- 2021 NORDITA Virtual Dynamo Colloquium. "Scaling of small-scale dynamo properties in fluid instabilities and stably stratified turbulence."
- 2021 UC Santa Cruz GAFD Colloquium. "Stably stratified small-scale dynamo."
- 2020 Max Plank-Princeton Center Conference-University of Goettingen. "Magnetic shear current effect in the solar tachocline."

LETTERS OF REFERENCE

Amitava Bhattacharjee Email: amitava@pppl.gov, Phone: 609-243-3100,
Department of Astrophysical Sciences, Princeton University
Jonathan Squire Email: jonathan.squire@otago.ac.nz, Phone: 64 21-032-6218,
Department of Physics, University of Otago, NZ
Alexander Philippov Email: sashaph@umd.edu, Phone: 732-763-2320,
Assistant Professor, Department of Physics, University of Maryland.

COMPUTATIONAL EXPERIENCE

Languages Python, C, C++, Mathematica, Fortran
Experience Running, analyzing output from, and modifying scientific codes (Gkeyll, Dedalus, Snoop, Athena++, Rayleigh) on TACC and Princeton HPC systems.

OUTREACH

2022-present The Reading Team—weekly educational community service in Harlem area.
2020-2021 First Outreach chair of the Princeton Plasma Physics Graduate Student Government.
(1) Coordinated outreach events between graduate students and PPPL Science Education.
(2) Organized outreach talks to undergraduate universities about plasma physics careers.
2017-present Annual: National Science Bowl Question writer or reviewer.
NJ local and NY state Science Fair judge.
2017-2021 Annual: PPPL Public Outreach volunteering (Young Women's Conference in STEM at PPPL, plasma physics demo tables at APS DPP and local events).
PPPL State Science Bowl Volunteer.

SUMMER SCHOOLS

2021 Kavli Summer Program in Astrophysics (virtual)
2019 The Computational Physics School for Fusion Research at MIT PSFC
2018 NASA Heliophysics Summer School at UCAR