

Pip Samuel Petersen

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EDUCATION

UNIVERSITY OF WASHINGTON	2023–
– Doctor of Philosophy in Astronomy	
CASE WESTERN RESERVE UNIVERSITY	2021–2023
– Master’s of Science in Physics	
– <i>Thesis: Cosmic Topology: Limits on Orientable Euclidean Manifolds From Circle Searches</i>	
PENNSYLVANIA STATE UNIVERSITY	2017–2021
– B.S. in Astronomy & Astrophysics with Honors	
– B.S. in Mathematics	
– <i>Thesis: Tunneling Time in Quantum Cosmology</i>	

TEACHING

INSTRUCTOR

- Modern Physics: *Spring 2023*

TEACHING ASSISTANT

- Introductory Astronomy: *Autumn 2023, Winter 2024, Spring 2024*
- Introductory Physics: *Spring 2022, Fall 2021, Fall 2017*
- Elementary/Observational Astronomy: *Spring 2021, Fall 2020, Fall 2019*
- Modern Physics: *Spring 2019*

SERVICE & LEADERSHIP

Cleveland Public Library Demo Program, <i>Organizer</i>	2022
Physics Graduate Student Association, <i>Secretary & Treasurer</i>	
Physics UnderRepresented Minority Students, <i>Outreach Chair</i>	
PURMS, <i>Graduate Student Mentor</i>	
Student Handbook Review Committee, <i>Chair</i>	
Gilead’s Hackathon-4-HIV, <i>1st Place</i>	
Youth Science Olympiad, <i>Volunteer</i>	
Penn State Instructor Award Committee, <i>Reviewer</i>	2020
Physics Magic Show, <i>Lead Performer</i>	2019
Penn State AstroFest, <i>Volunteer</i>	2018

STUDENTS SUPERVISED

ALYSSA WANG - HIGH SCHOOL STUDENT	FEB 2023 – MAY 2024
– <i>Simulating Non-Trivial Topology: Finite Euclidean Universes</i>	

AWARDS

ARCS Fellow, <i>University of Washington</i>	2023
Graduate Dean’s Instructional Excellence Award, <i>Case Western Reserve University</i>	
NSF Graduate Research Fellow, <i>National Science Foundation</i>	
PATHS STEAM Educational Grant, <i>LGBT Tech</i>	
Gilead Hackathon-4-HIV 1st Place, <i>Gilead Sciences</i>	2022
APS Bridge Scholar, <i>American Physical Society</i>	2021
Schreyer Honors Scholar, <i>Pennsylvania State University</i>	2018
Presidential CES Scholarship, <i>Pennsylvania State University</i>	

RESEARCH

RESEARCHER, CASE WESTERN RESERVE UNIVERSITY
– *Advisor: Dr. Glenn Starkman*

JUL 2022 –

UNDERGRADUATE RESEARCHER, PENNSYLVANIA STATE UNIVERSITY
– *Advisor: Dr. Martin Bojowald*

SEPT 2019 – OCT 2021

UNDERGRADUATE REU RESEARCHER, MOUNT WILSON OBSERVATORY
– *Advisor: Dr. Paula Turner*

JUN 2018 – JUL 2018

UNDERGRADUATE RESEARCH, PSU - SCHUYLKILL
– *Advisor: Dr. Michael Gallis*

JAN 2018 – MAY 2018

UNDERGRADUATE LAB ASSISTANT, PSU - SCHUYLKILL
– *Advisor: Dr. Lee Silverberg*

SEPT 2017 – JUN 2018

PUBLICATIONS

- [1] Johannes R. Eskilt, Yashar Akrami, Stefano Anselmi, Craig J. Copi, Andrew H. Jaffe, Arthur Kosowsky, Deyan P. Mihaylov, Glenn D. Starkman, Andrius Tamosiunas, James B. Mertens, **Pip Petersen**, Samanta Saha, Quinn Taylor, and Özenç Güngör. Cosmic topology. part ii. eigenmodes, correlation matrices, and detectability of orientable euclidean manifolds, 2023.
- [2] **Pip Petersen**, Yashar Akrami, Craig J. Copi, Andrew H. Jaffe, Arthur Kosowsky, Glenn D. Starkman, Andrius Tamosiunas, Johannes R. Eskilt, Özenç Güngör, Samanta Saha, Quinn Taylor, and The COMPACT collaboration. Cosmic topology. part i. limits on orientable euclidean manifolds from circle searches. *Journal of Cosmology and Astroparticle Physics*, 2023(01):030, jan 2023.
- [3] Yashar Akrami, Stefano Anselmi, Craig J. Copi, Johannes R. Eskilt, Andrew H. Jaffe, Arthur Kosowsky, **Pip Petersen**, Glenn D. Starkman, Kevin González-Quesada, Özenç Güngör, Samanta Saha, Andrius Tamosiunas, Quinn Taylor, and Valeri Vardanyan. The search for the topology of the universe has just begun, 2023.
- [4] Martin Bojowald and **Pip Petersen**. Tunneling dynamics of an oscillating universe model. *Journal of Cosmology and Astroparticle Physics*, 2022(05):007, may 2022.
- [5] Hemant P Yennawar, **Samuel D Peterson**, and Lee J Silverberg. Crystal structures of two isomeric 2-aryl-3-phenyl-1,3-thia-zepan-4-ones. *Acta Crystallogr E Crystallogr Commun*, 75(Pt 8):1270–1273, July 2019.

PROGRAMS & CONFERENCES

Penn State 5th Annual Workshop, <i>State College, PA</i>	2023
American Astronomical Society 241st Session, <i>Seattle, WA</i>	
Astrophysical Multimessenger Observatory Network Workshop, <i>Chiba, Japan</i>	2019
American Association of Physics Teachers, <i>Schuylkill, PA</i>	2018
Undergraduate Research Symposium, <i>Schuylkill, PA</i>	2017