

Michael Wentzel

PH.D. CANDIDATE IN THEORETICAL HIGH ENERGY PHYSICS

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOW

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Education

University of Illinois

PH.D. CANDIDATE IN THEORETICAL HIGH ENERGY PHYSICS

Advisor: Yoni Kahn

Urbana-Champaign, IL

Aug. 2020 - Present

University of Michigan, College of LSA

B.S. IN PHYSICS AND MATHEMATICAL PHYSICS WITH HIGH DISTINCTION AND HIGH HONORS

Advisor: Ben Safdi

Ann Arbor, MI

Sept. 2016 - April 2020

Schools and Workshops

TASI 2024 “The Frontiers of Particle Theory”

UNIVERSITY OF COLORADO BOULDER

Boulder, CO

June 2024

Tri-Institute Summer School on Elementary Particles 2023

PERIMETER INSTITUTE FOR THEORETICAL PHYSICS

Waterloo, ON

June 2023

School on Table-Top Experiments for Fundamental Physics

PERIMETER INSTITUTE FOR THEORETICAL PHYSICS

Waterloo, ON

Sept. 2022

Research

Kahn Research Group, University of Illinois

GRADUATE RESEARCH ASSISTANT

Urbana-Champaign, IL

May 2021 - Present

Safdi Research Group, University of Michigan

UNDERGRADUATE RESEARCH ASSISTANT

Ann Arbor, MI

Dec. 2018 - Aug. 2020

Facility for Rare Isotope Beams (FRIB), Michigan State University

UNDERGRADUATE RESEARCH ASSISTANT

East Lansing, MI

Jun. 2018 - Jul. 2018

Deng Research Group, University of Michigan

UNDERGRADUATE RESEARCH ASSISTANT

Ann Arbor, MI

Oct. 2017 - Apr. 2018

Teaching

Department of Physics, University of Illinois

GRADUATE TEACHING ASSISTANT

Urbana-Champaign, IL

Aug. 2020 - Present

Description: taught Physics 213/214 (introductory quantum and thermal physics), Physics 212 (introductory electromagnetism), and Physics 211 (introductory classical mechanics); received student rating of “Outstanding” three consecutive terms

Department of Mathematics, University of Michigan

MICHIGAN MATH AND SCIENCE SCHOLARS COURSE INSTRUCTOR

Ann Arbor, MI

Jun. - Jul. 2020; Jun. - Jul. 2021

Description: taught introductory gravitational physics for high school students, designed and taught a python overview

Department of Mathematics, University of Michigan

MATHEMATICS TUTOR

Ann Arbor, MI

Sept. 2018 - April 2020

Description: tutored students in introductory and advanced mathematics courses

Service & Outreach

Journal Referee

Physical Review Letters, Physical Review D

Sept. 2021 - Present

Description: refereed three papers for *Physical Review D* and one paper for *Physical Review Letters*

Guidance for Physics Students (GPS)

Urbana-Champaign, IL

GRADUATE STUDENT MENTOR

Sept. 2021 - Present

Description: mentored seven undergraduate students providing advice in research, academics, graduate applications, and work-life balance

Honors Summer Fellowship, Museum of Natural History

Ann Arbor, MI

OUTREACH VOLUNTEER

Jul. 2019 - Aug. 2019

Description: designed and administered dark matter demonstrations

Quora

Ann Arbor, MI

CONTRIBUTOR

Jul. 2017 - Jul. 2019

Description: answered ~ 70 physics questions with ~ 100K answer views

Michigan State University

Detroit, MI

OUTREACH VOLUNTEER

Jul. 2018

Description: administered nuclear physics demonstrations at the Henry Ford Museum

Society of Physics Students (SPS)

Ann Arbor, MI

OUTREACH VOLUNTEER

Jan. 2018

Description: administered physics demonstrations at the Ann Arbor Hands-On Museum

Awards & Fellowships

National Science Foundation Graduate Research Fellow

Urbana-Champaign, IL

UNIVERSITY OF ILLINOIS

Jun. 2022 - Jun. 2027

Leon P. Zukowski Prize

Ann Arbor, MI

UNIVERSITY OF MICHIGAN

May 2020

Honors Summer Fellowship

Ann Arbor, MI

UNIVERSITY OF MICHIGAN

May 2019 - Jul. 2019

Talks and Posters

Apr. 2024 **UIUC High Energy Pheno./Exp. Seminar**, University of Illinois at Urbana-Champaign

Talk

Feb. 2024 **Unofficial Seminar**, Lawrence Berkeley National Lab

Talk

Oct. 2023 **Illinois Pheno Symposium**, University of Illinois at Urbana-Champaign

Talk

June 2023 **TRISEP 2023**, Perimeter Institute

Poster

Apr. 2023 **UIUC High Energy Pheno./Exp. Seminar**, University of Illinois at Urbana-Champaign

Talk

Nov. 2022 **Chicago Quantum Summit**, University of Chicago

Poster

Oct. 2022 **SQMS Annual Meeting**, Fermilab

Poster

Sept. 2022 **School on Table-Top Experiments for High Energy Physics**, Perimeter Institute

Poster

May 2022 **Illinois Pheno Symposium**, University of Chicago

Talk

May 2022 **PIKIMO 12**, Notre Dame University

Talk

Apr. 2022 **IQUIST Young Researchers Seminar**, University of Illinois at Urbana-Champaign

Talk

July 2019 **Honors Summer Fellowship Poster Session**, University of Michigan

Poster

July 2018 **Michigan State University REU Poster Session**, Michigan State University

Poster

Apr. 2018 **Undergraduate Research Opportunity Program Symposium**, University of Michigan

Poster

Publications

† denotes corresponding author

- [1] Daniel Carney, Gerard Higgins, Giacomo Marocco, and **Wentzel, Michael**[†]. *A Superconducting Levitated Detector of Gravitational Waves*. 2024. arXiv: 2408.01583 [hep-ph]. URL: <https://arxiv.org/abs/2408.01583>.
- [2] Asher Berlin, Diego Blas, Raffaele Tito D'Agnolo, Sebastian A. R. Ellis, Roni Harnik, Yonatan Kahn, Jan Schütte-Engel, and **Wentzel, Michael**[†]. "Electromagnetic cavities as mechanical bars for gravitational waves". In: *Phys. Rev. D* 108.8 (2023), p. 084058. DOI: 10.1103/PhysRevD.108.084058. arXiv: 2303.01518 [hep-ph].
- [3] Yonatan Kahn, Bianca Giaccone, Andrei Lunin, Alexandr Netepenko, Roman Pilipenko, and **Wentzel, Michael**. "Searching for axions and light-by-light scattering with superconducting RF cavities". In: *Proc. SPIE Int. Soc. Opt. Eng.* 12016 (2022), p. 29. DOI: 10.1117/12.2616734.