GRANT C. WELDON

gcweldon@umich.edu

EDUCATION

B.S. Honors Physics, Mathematics, *University of Michigan* 2017 - 2021
Concentration in Mathematical Physics *Ann Arbor, MI*

RESEARCH INTERESTS

General relativity, gravitational waves, relativistic astrophysics, cosmology

RESEARCH EXPERIENCE

University of Michigan April 2018 - Present
LIGO Scientific Collaboration · Michigan Gravitational Wave Group *Ann Arbor, MI*
Advisor: Prof. Keith Riles

· Gravitational wave astrophysics, data analysis, and detector characterization
· Searches for continuous waves emitted by rapidly spinning neutron stars

Istituto Nazionale di Fisica Nucleare (INFN) June 2019 - July 2019
Virgo Collaboration · Tor Vergata Gravitational Wave Group *Rome, Italy*
Advisors: Prof. Viviana Fafone and Dr. Elisabetta Cesarini

· Metrology for thermal noise reduction in future gravitational wave interferometers

HONORS & AWARDS

· **DOE–INFN Summer Research Fellowship**, *U.S. Department of Energy & INFN* 2019
· **Sophomore Honors Award with Distinction**, *University of Michigan LSA Honors Program* 2019
· **William J. Branstrom Freshman Prize**, *University of Michigan* 2018
· **University Honors**, *University of Michigan* 2017 - 2019
· **Dr. Sidney J. and Irene Shipman Scholarship**, *University of Michigan* 2017 - 2021
(full-tuition merit scholarship)
· **Regents Merit Scholarship**, *University of Michigan* 2017
· **National Merit Scholarship Finalist**, *National Merit Scholarship Corporation* 2017

PUBLICATIONS

1. B. P. Abbott, *et al.* (including **G. Weldon**), *All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data*, Phys. Rev. D **100**, 024004 [arXiv:1903.01901] (2019)

PRESENTATIONS

3. **UM Physics Research Fair**, University of Michigan Physics Department, Ann Arbor, MI (November 2019); presented a poster, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
2. **Midwest Relativity Meeting**, American Physical Society Division of Gravitational Physics, Grand Valley State University, Grand Rapids, MI (October 2019); presented a talk, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
1. **APS April Meeting**, American Physical Society, Denver, CO (April 2019); presented a talk, *Strain Histograms for Evaluating Continuous Gravitational Wave Candidates*

PROFESSIONAL MEMBERSHIP

American Physical Society (APS) 2017 - Present
Division of Gravitational Physics

ORGANIZATIONS

Society of Physics Students (SPS) 2017 - Present
Vice President (2019 - 2020)
Outreach Chair (2018 - 2019)

Shipman Scholarship Society 2017 - Present

Honors Program, College of LSA 2017 - Present

OUTREACH & SERVICE

SPS Biweekly Speaker Series 2019 - 2020
Coordinator *Ann Arbor, MI*

Michigan Science Center - Physics Demo Day 2018 - Present
Volunteer with SPS (*Coordinator* in 2019) *Detroit, MI*

Ann Arbor Hands-On Museum - Physics Palooza 2018 - Present
Volunteer with SPS (*Coordinator* in 2019) *Ann Arbor, MI*

Burns Park Elementary School - Physics Night 2017
Volunteer with SPS *Ann Arbor, MI*

GRADING EXPERIENCE

Course Grader for PHYSICS 160: Honors Physics I (Mechanics) Winter 2020

COURSEWORK

Physics
· General Relativity (Graduate)
· High-Energy Astrophysics
· Quantum Mechanics
· Statistical Mechanics & Thermodynamics*
· Classical Electrodynamics*
· Classical Mechanics

Mathematics
· Numerical Methods*
· Probability
· Linear Algebra
· Honors Differential Equations

[* denotes Winter 2020 enrollment]

TECHNICAL KNOWLEDGE

Python, MATLAB, Linux/Unix, Bash, HTML, LaTeX