

GRANT C. WELDON

gcweldon@umich.edu · <https://umich.edu/~gcweldon>

EDUCATION

University of Michigan
B.S. Honors Physics, Mathematics

2017 - 2021
Ann Arbor, MI

RESEARCH INTERESTS

High-Energy Astrophysics, Gravitational Waves, General Relativity, Cosmology

RESEARCH EXPERIENCE

University of Michigan
LIGO SCIENTIFIC COLLABORATION - MICHIGAN GRAVITATIONAL WAVE GROUP
Advisor: Prof. Keith Riles

April 2018 - Present
Ann Arbor, MI

- Gravitational wave astrophysics and Advanced LIGO data analysis
- Searching for continuous waves emitted by rapidly spinning neutron stars

Istituto Nazionale di Fisica Nucleare (INFN)
VIRGO COLLABORATION - TOR VERGATA GRAVITATIONAL WAVE GROUP
Advisors: Prof. Viviana Fafone and Dr. Elisabetta Cesarini

June 2019 - July 2019
Rome, Italy

- 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
- **Dr. Sidney J. and Irene Shipman Scholarship**, *University of Michigan* 2017 - 2021
(full tuition, four year 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](https://arxiv.org/abs/1903.01901)] (2019)

PRESENTATIONS

3. **Midwest Relativity Meeting**, American Physical Society Division of Gravitation, Grand Valley State University, Grand Rapids, MI (October 2019); presented a talk, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
2. **APS April Meeting**, American Physical Society, Denver, CO (April 2019); presented a talk, *Strain Histograms for Evaluating Continuous Gravitational Wave Candidates*
1. **Society of Physics Students Speaker Series**, University of Michigan, Ann Arbor, MI (November 2018); presented a talk, *Continuous Gravitational Wave Simulations*

ORGANIZATIONS

Society of Physics Students (SPS), University of Michigan
Vice President (2019 - 2020), *Outreach Chair* (2018 - 2019)

2017 - Present

American Physical Society (APS)

2017 - Present

Shipman Scholarship Society, University of Michigan

2017 - Present

OUTREACH & SERVICE

| | |
|---|--|
| SPS Biweekly Speaker Series <i>Coordinator</i> | 2019 - 2020 <i>Ann Arbor, MI</i> |
| Michigan Science Center - Physics Demo Day <i>Volunteer</i> with SPS (<i>Coordinator</i> in 2019) | 2018 - Present <i>Detroit, MI</i> |
| Ann Arbor Hands-On Museum - Physics Palooza <i>Volunteer</i> with SPS (<i>Coordinator</i> in 2019) | 2018 - Present <i>Ann Arbor, MI</i> |
| Burns Park Elementary School - Physics Night <i>Volunteer</i> with SPS | 2017 <i>Ann Arbor, MI</i> |

RELEVANT COURSEWORK

Physics

- General Relativity (Graduate)*
- High-Energy Astrophysics
- Quantum Mechanics*
- Classical Mechanics

Mathematics

- Probability*
- Linear Algebra
- Honors Differential Equations

[* denotes Fall 2019 enrollment]

TECHNICAL KNOWLEDGE

Python, MATLAB, Linux/Unix, Bash, HTML, L^AT_EX