

GRANT C. WELDON

gcweldon@umich.edu

EDUCATION

B.S. Honors Physics, Mathematics , <i>University of Michigan</i> Concentration in Mathematical Physics	2017 - 2021 <i>Ann Arbor, MI</i>
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RESEARCH INTERESTS

General Relativity, Gravitational Waves, High-Energy Astrophysics

RESEARCH EXPERIENCE

University of Michigan LIGO SCIENTIFIC COLLABORATION · MICHIGAN GRAVITATIONAL WAVE GROUP <i>Advisor:</i> Prof. Keith Riles	April 2018 - Present <i>Ann Arbor, MI</i>
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- Gravitational wave astrophysics, Advanced LIGO data analysis, and detector characterization
- Searching for continuous gravitational radiation emitted by rapidly spinning neutron stars

Istituto Nazionale di Fisica Nucleare (INFN) VIRGO COLLABORATION · TOR VERGATA GRAVITATIONAL WAVE GROUP <i>Advisors:</i> Prof. Viviana Fafone and Dr. Elisabetta Cesarini	June 2019 - July 2019 <i>Rome, Italy</i>
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- Metrology for thermal noise reduction in future gravitational wave interferometers

HONORS & AWARDS

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

PUBLICATIONS

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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

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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) <i>Division of Gravitational Physics</i>	2017 - Present
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ORGANIZATIONS

Society of Physics Students (SPS) <i>Vice President</i> (2019 - 2020) <i>Outreach Chair</i> (2018 - 2019)	2017 - Present
Shipman Scholarship Society	2017 - Present
Honors Program, College of LSA	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>

GRADING EXPERIENCE

Course Grader for PHYSICS 160: Honors Physics I (Mechanics)	Winter 2020
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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, L^AT_EX