

# GRANT C. WELDON

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## EDUCATION

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

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<b>University of Michigan</b> LIGO SCIENTIFIC COLLABORATION - MICHIGAN GRAVITATIONAL WAVE GROUP <i>Undergraduate Researcher</i> with Professor Keith Riles	April 2018 - Present Ann Arbor, MI
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- Gravitational wave astrophysics, computational methods, and Advanced LIGO data analysis
- Searches for continuous waves emitted by non-axisymmetric, rapidly spinning neutron stars

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<b>Istituto Nazionale di Fisica Nucleare (INFN)</b> DEPARTMENT OF ENERGY - INFN EXCHANGE, VIRGO COLLABORATION <i>Undergraduate Researcher</i> with Professor Viviana Fafone	June 2019 - July 2019 Rome, Italy
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- Laser interferometry and thermal noise reduction for future gravitational wave detectors

## HONORS & AWARDS

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| · <b>Sophomore Honors Award with Distinction</b> , University of Michigan LSA Honors Program                                 | 2019        |
| · <b>William J. Branstrom Freshman Prize</b> , University of Michigan  | 2018        |
| · <b>Dr. Sidney J. and Irene Shipman Scholarship</b> , University of Michigan<br>(full tuition, four year merit scholarship) | 2017 - 2021 |
| · <b>Regents Merit Scholarship</b> , University of Michigan  | 2017        |
| · <b>National Merit Scholarship Finalist</b>   | 2017        |

## PUBLICATIONS

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- 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

[\* denotes presenter]

- D. Lumaca\*, *et al.* (including **G. Weldon**), *Stability of Low Loss Substrates for Coating Research: From Edge Effect to Ageing*, 13th Amaldi Conference on Gravitational Waves, Valencia, Spain (July 2019)
- **G. Weldon**\*, K. Riles, *Strain Histograms for Evaluating Continuous Gravitational Wave Candidates*, American Physical Society Meeting, Denver, Colorado (April 2019)
- **G. Weldon**, K. Riles\*, *Strain Histograms for Evaluating Putative CW Outliers*, LIGO-Virgo Continuous-Wave Group Teleconference (February 2019)
- **G. Weldon**\*, *Continuous Gravitational Wave Simulations*, Society of Physics Students Talk, University of Michigan (November 2018)
- **G. Weldon**\*, *et al.*, *O2 Line Search Using 18000 Second-Long SFTs*, LIGO-Virgo Continuous-Wave Group Teleconference (July 2018)
- **G. Weldon**\*, *et al.*, *New Narrow Spectral Artifacts in O1 Data Using 18000 Second-Long SFTs*, LIGO-Virgo Continuous-Wave Group Teleconference (June 2018)

## ORGANIZATIONS

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

## OUTREACH

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

## RELEVANT COURSEWORK

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[\* denotes Fall 2019 enrollment]

### Physics and Astronomy

- General Relativity (Graduate)\*
- High-Energy Astrophysics
- Quantum Mechanics\*
- Classical Mechanics
- Modern Physics & Lab
- Honors Physics Sequence

### Mathematics

- Probability\*
- Linear Algebra
- Honors Differential Equations
- Honors Applied Calculus Sequence

## TECHNICAL KNOWLEDGE

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Python, C, MATLAB, Linux/Unix, Bash, Shell scripting, HTML, L<sup>A</sup>T<sub>E</sub>X, Excel