GRANT C. WELDON

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EDUCATION

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

RESEARCH INTERESTS

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

RESEARCH EXPERIENCE

University of Michigan — April 2018 - Present
LIGO Scientific Collaboration - Michigan Gravitational Wave Group — *Ann Arbor, MI*
Undergraduate Researcher with Professor Keith Riles

· Gravitational wave astrophysics, computational methods, and Advanced LIGO data analysis
· Searches for continuous waves emitted by non-axisymmetric, rapidly spinning neutron stars

Istituto Nazionale di Fisica Nucleare (INFN) — June 2019 - July 2019
Department of Energy - INFN Exchange, Virgo Collaboration — *Rome, Italy*
Undergraduate Researcher with Professor Viviana Fafone

· Laser interferometry and thermal noise reduction for future gravitational wave detectors

HONORS & AWARDS

· **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 (full tuition, four year merit scholarship) — 2017 - 2021
· **Regents Merit Scholarship**, University of Michigan — 2017
· **National Merit Scholarship Finalist** — 2017

PUBLICATIONS

· 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

[* 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

Society of Physics Students (SPS), University of Michigan — 2017 - Present
Vice President (2019 - 2020), *Outreach Chair* (2018 - 2019)

American Physical Society (APS) — 2017 - Present

Shipman Scholarship Society, University of Michigan — 2017 - Present

Honors Program (College of LSA), University of Michigan — 2017 - Present

OUTREACH

SPS Biweekly Meeting 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*

RELEVANT COURSEWORK

[* 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

Python, C, MATLAB, Linux/Unix, Bash, Shell scripting, HTML, LaTeX, Excel