GRANT C. WELDON

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EDUCATION

B.S. Honors Physics, *University of Michigan* — 2017 - 2021
Minors in Mathematics and Astronomy — *Ann Arbor, MI*
Honors Thesis Advisor: Prof. Keith Riles

RESEARCH EXPERIENCE

NASA Goddard Space Flight Center — June 2020 - August 2020
Gravitational Astrophysics Laboratory · LISA Group — *Virtual* (COVID-19 pandemic)
Advisors: Dr. Jacob Slutsky, Dr. Ira Thorpe, Dr. Quentin Baghi

· Gravitational wave data analysis and instrumentation for the upcoming space-based LISA interferometer
· Developed Bayesian routine to jointly remove tilt-to-length noise and search for gravitational waves

Istituto Nazionale di Fisica Nucleare (INFN) — June 2019 - July 2019
University of Rome Tor Vergata · Virgo Group — *Rome, Italy*
Advisor: Dr. Elisabetta Cesarini

· Optical coating metrology for thermal noise reduction in the Virgo gravitational wave interferometer
· Streamlined Gentle Nodal Suspension (GeNS) procedure and performed novel coating measurements

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

· Advanced LIGO data analysis in searches for continuous gravitational waves from spinning neutron stars
· Developed robust infrastructure to simulate astrophysical signals for evaluation of candidates

HONORS & AWARDS

· **DOE–INFN Summer Research Fellowship**, *U.S. Department of Energy & INFN* — 2019
· **Sophomore Honors Award with Distinction**, *University of Michigan Honors Program* — 2019
· **University Honors**, *University of Michigan* — 2017 - 2020
· **Dr. Sidney J. and Irene Shipman Scholarship**, *University of Michigan* — 2017 - 2021
(full-tuition merit scholarship awarded to top ∼25 incoming students annually)
· **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

4. **NASA Intern Presentation Symposium**, Virtual (COVID-19 pandemic) (August 2020); presented a talk, *Data analysis impacts of tilt-to-length couplings in the LISA gravitational wave detector*
3. **University of Michigan Physics Research Fair**, Ann Arbor, MI (November 2019); presented a poster, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
2. **Midwest Relativity Meeting**, APS Division of Gravitational Physics, Grand Valley State University (October 2019); presented a talk, *Signal Overlays for Evaluating Continuous Gravitational Wave Candidates*
1. **American Physical Society (APS) April Meeting**, 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
President (2020 - 2021)
Vice President (2019 - 2020)
Outreach Co-Chair (2018 - 2019)

Student Astronomical Society 2017 - Present

Shipman Scholarship Society 2017 - Present

OUTREACH & SERVICE

Novi High School - STEM Without Boundaries Tech Series June 2020
Panelist *Virtual*

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*

OTHER ACADEMIC EXPERIENCE

Course Grader for PHYSICS 160: Honors Physics I (Mechanics) Winter 2020, Winter 2021

TECHNICAL KNOWLEDGE

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