Javier Roulet

Citizenship: Argentina
Email: jroulet@princeton.edu
Phone: +1 908 3440660
DOB: September 11, 1992

Department of Physics, Princeton University
Office Address: Jadwin Hall 307
Princeton University
Princeton, NJ, USA

Education

Department of Physics, Princeton University, USA — 2016 – Expected 2021
Ph.D. in Physics
Thesis Advisor: Prof. Matias Zaldarriaga

Universidad de Buenos Aires, Argentina — 2011 – 2016
Licenciatura in Physics
Thesis Title: "Average Activities in Populations of Excitable Phase Oscillators"
Thesis Advisor: Prof. Gabriel B. Mindlin

Teaching Experience

Assistant in Instruction
Princeton University, USA — Sep. 2017 – Present
Courses: Physics for Future Leaders, Advanced Electromagnetism, Introduction to General Relativity, Advanced Physics, Introduction to the Quantum Theory, General Physics

Teaching Assistant
Universidad de Buenos Aires, Argentina — Mar. 2015 – Aug. 2016
Courses: Fluid Dynamics, Wave Mechanics, Physics for Biologists

Fellowships

President's Fellowship, Princeton University — Sep. 2016 – Jun. 2017
Dean's Grant Research Allowance, Princeton University — 2016
CONICET Fellow — Apr. – Aug. 2016

Publications

[1] Javier Roulet, Tejaswi Venumadhav, Barak Zackay, Liang Dai and Matias Zaldarriaga, (2020). *Binary Black Hole Mergers from LIGO/Virgo O1 and O2: Population Inference Combining Confident and Marginal Events.* arXiv:2008.07014 [astro-ph.HE].

[2] Liang Dai, Barak Zackay, Tejaswi Venumadhav, Javier Roulet and Matias Zaldarriaga (2020). *Search for Lensed Gravitational Waves Including Morse Phase Information: An Intriguing Candidate in O2.* arXiv:2007.12709 [astro-ph].

[3] Yiwen Huang, Carl-Johan Haster, Javier Roulet, Salvatore Vitale, Aaron Zimmerman, Tejaswi Venumadhav, Barak Zackay, Liang Dai and Matias Zaldarriaga (2020). *Source properties of the lowest signal-to-noise-ratio binary black hole detections.* Accepted for publication in PRD. arXiv:2003.04513 [gr-qc].

[4] Barak Zackay, Liang Dai, Tejaswi Venumadhav, Javier Roulet and Matias Zaldarriaga (2019). *Detecting Gravitational Waves With Disparate Detector Responses: Two New Binary Black Hole Mergers.* arXiv:1910.09528 [astro-ph.HE].

[5] Barak Zackay, Tejaswi Venumadhav, Javier Roulet, Liang Dai and Matias Zaldarriaga (2019). *Detecting Gravitational Waves in Data with Non-Gaussian Noise.* arXiv:1908.05644 [astro-ph.IM].

[6] Tejaswi Venumadhav, Barak Zackay, Javier Roulet, Liang Dai and Matias Zaldarriaga (2019). *New Binary Black Hole Mergers in the Second Observing Run of Advanced LIGO and Advanced Virgo.* Physical Review D. 101, 083030.

[7] Javier Roulet, Liang Dai, Tejaswi Venumadhav, Barak Zackay and Matias Zaldarriaga (2019). *Template Bank for Compact Binary Coalescence Searches in Gravitational Wave Data: A General Geometric Placement Algorithm.* Physical Review D. 99.123022.

[8] Barak Zackay, Tejaswi Venumadhav, Liang Dai, Javier Roulet and Matias Zaldarriaga (2019). *A Highly Spinning and Aligned Binary Black Hole Merger in the Advanced LIGO First Observing Run.* Physical Review D. 100, 023007.

[9] Tejaswi Venumadhav, Barak Zackay, Javier Roulet, Liang Dai and Matias Zaldarriaga (2019). *A New Search Pipeline for Compact Binary Mergers: Results for Binary Black Holes in the First Observing Run of Advanced LIGO.* Physical Review D. 100, 023011.

[10] Javier Roulet and Matias Zaldarriaga (2019). *Constraints on Binary Black Hole Populations from LIGO–Virgo Detections.* Monthly Notices of the Royal Astronomical Society. 484, 4216.

[11] Javier Roulet and Gabriel B. Mindlin (2017). *A Diagrammatic Representation of Phase Portraits and Bifurcation Diagrams of Two-Dimensional Dynamical Systems.* International Journal of Bifurcation and Chaos. 27. 1730045. 10.1142/S0218127417300452

[12] Javier Roulet and Gabriel B. Mindlin (2016). *Average Activity of Excitatory and Inhibitory Neural Populations.* Chaos: An Interdisciplinary Journal of Nonlinear Science. 26. 10.1063/1.4962326

Talks

Invited Seminar, Max Planck Institute for Gravitational Physics (Albert Einstein Institute) 2020
Binary Black Hole Populations with LIGO–Virgo

Talk, APS April Meeting 2020 2020
Binary black hole populations including independently found events and marginal triggers

Invited talk, High Energy Physics Journal Club, Princeton University 2020
Binary Black Hole Populations with LIGO–Virgo

Talk, 22nd International Conference on General Relativity and Gravitation – 13th Edoardo Amaldi Conference on Gravitational Waves 2019
A Highly Spinning and Aligned Binary Black Hole Merger in the Advanced LIGO First Observing Run

Invited Seminar, Institut de Ciències del Cosmos, Universitat de Barcelona 2019
Binary Black Hole Populations with LIGO–Virgo

Talk, JSI Workshop 2018: Gravitational Wave Physics and Astronomy Workshop 2018
Constraints on Binary Black Hole Populations from LIGO–Virgo Detections

Poster, Princeton Research Day, Princeton University 2017
Average activity of excitatory and inhibitory neural populations

Professional service

Referee for *Chaos, Solitons and Fractals: the interdisciplinary journal of Nonlinear Science, and Nonequilibrium and Complex Phenomena.*