Javier Roulet

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Department of Physics, Princeton University
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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 (Electromagnetism), Introduction to the Quantum Theory

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

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

[3] 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]

[4] 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]

[5] 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.

[6] 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.

[7] 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.

[8] 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.

[9] 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.

[10] 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

[11] 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

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.*