Justin C. Feng

Curriculum Vitae

Instituto Superior Técnico
Departamento de Física / CENTRA
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Education

The University of Texas at Austin   AUSTIN, TEXAS
    Doctor of Philosophy in Physics   *2009 – 2017*
      Advisor: Richard A. Matzner

The University of California, Irvine   IRVINE, CALIFORNIA
    Bachelor of Science in Physics with a minor in Mathematics (2009)   *2004 – 2009*
      Honors: Sigma Pi Sigma

Appointments Held

Postdoctoral Researcher (Current)
    CENTRA, Instituto Superior Técnico (University of Lisbon)

Adjunct Faculty (Fall 2018)
    St. Edward's University

Research Affiliate Postdoctoral Scholar (2017-2018)
    Weinberg Theory Group, The University of Texas at Austin

Assistant Instructor (2011-2017)
    The University of Texas at Austin

Graduate Research Assistant (Summers 2016, 2017)
    Weinberg Theory Group, The University of Texas at Austin

Teaching Assistant (2009-2011, Spring 2015)
    The University of Texas at Austin

Undergraduate Research Assistant (Summers 2007,2008)
    University of California, Irvine

Conferences and Talks

Conferences, Workshops, and Schools

- Presenter: GR22/Amaldi13, July 2019, Valencia, Spain
  Title: *Can solutions of the almost-Killing equation yield approximate Killing vectors?*

- Participant: SIGRAV Graduate School, XI Edition, "Gravity and the Quantum", June 2014, Como, Italy.

- Participant: 27th Texas Symposium on Relativistic Astrophysics, December 2013, Dallas, TX.

- Presenter: 7th Gulf Coast Gravity Meeting, April 2013, University of Mississippi, Oxford MS.
  Title: *Rigid Surfaces in General Relativity*

- Participant: 6th Gulf Coast Gravity Meeting, May 2011, Florida Atlantic University, Boca Raton, FL.

- Participant: Experimental Search for Quantum Gravity Workshop, July 2010, NORDITA, Stockholm, Sweden

- Poster: APS April Meeting, Denver, CO (2009)
  Title: *Modeling Inflation with CMB and 21 cm Anisotropy Measurements*

Seminars and Public Talks

- Organizer for CENTRA seminar (Fall 2019 to Spring 2020)

- Seminar Talk: CENTRA, Instituto Superior Técnico (University of Lisbon)
  Title: *Weiss Variation in General Relativity* (Given May 16th, 2019)

- Seminar Talk: Okinawa Institute for Science and Technology
  Title: *Temporal Insights from the End of Space* (Given November 14th, 2017)

- PhD Defense: *Temporal Insights from the End of Space* (Given August 15th, 2017)

- Participant: Whizkey Seminar (2011-2015)

- Participant: Differential Geometry Seminar, led by Prof. Larry Shepley, Summer 2011

- Public Qualifier Talk: *Variations of Area in Geometrodynamics* (Given November 17th, 2011)

Publications and Works

Articles

[1] Justin C. Feng, Edgar Gasperín, and Jarrod L. Williams. Almost-Killing equation: Stability, hyperbolicity, and black hole Gauss law. Nov 2019. arxiv:1911.04354.

[2] Justin C. Feng and Sante Carloni. A new class of generalized coupling theories. Oct 2019. arxiv:1910.06978.

[3] Chinmoy Bhattacharjee, Justin C. Feng, and S. M. Mahajan. Black hole in a superconducting plasma. *Phys. Rev. D*, 99:024027, Jan 2019.

[4] Justin C. Feng. Some globally conserved currents from generalized Killing vectors and scalar test fields. *Phys. Rev. D*, 98:104035, Nov 2018.

[5] Chinmoy Bhattacharjee, Justin C Feng, and David J Stark. Surveying the implications of generalized vortical dynamics in curved spacetime. *Monthly Notices of the Royal Astronomical Society*, page sty2277, 2018.

[6] Ignazio Ciufolini, Richard A. Matzner, Justin C. Feng, Antonio Paolozzi, David P. Rubincam, Erricos C. Pavlis, John C. Ries, Giampiero Sindoni, and Claudio Paris. A new laser-ranged satellite for General Relativity and space geodesy: IV. Thermal drag and the LARES 2 space experiment. *The European Physical Journal Plus*, 133(8):333, Aug 2018.

[7] Justin C. Feng. Volume average regularization for the Wheeler-DeWitt equation. *Phys. Rev. D*, 98:026024, Jul 2018.

[8] Justin Feng, Mark Baumann, Bryton Hall, Joel Doss, Lucas Spencer, and Richard Matzner. PoMiN: A Post-Minkowskian N -body Solver. *The Astrophysical Journal*, 859(2):130, 2018.

[9] Justin C. Feng and Richard A. Matzner. From path integrals to the Wheeler-DeWitt equation: Time evolution in spacetimes with a spatial boundary. *Phys. Rev. D*, 96:106005, Nov 2017.

[10] Justin C. Feng and Richard A. Matzner. The Weiss variation of the gravitational action. *General Relativity and Gravitation*, 50(8):99, Jul 2018.

Dissertation

Feng, Justin C., *Temporal Insights from the End of Space* (2017)

Notes

Feng, J. C., *The Poor Man's Introduction to Tensors*, 40 pages (2017)
(https://justincfeng.github.io/Tensors_Poor_Man.pdf)