Jaydeep Singh

Princeton University
Department of Mathematics
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Education

Princeton University
Ph.D. in Mathematics, 2025 (Expected).
Advisor: Igor Rodnianski
Thesis: Regimes of Stability for Spherical Naked Singularities

Stanford University
B.S. in Mathematics *with Honors*, 2019.

Research Interests

Nonlinear partial differential equations, general relativity, plasma physics

Publications and Preprints

1. J. Singh. High regularity waves on self-similar naked singularity interiors: decay and the role of blue-shift, arXiv:2402.00062, *preprint*, 2024.

2. J. Singh. A construction of approximately self-similar naked singularities for the spherically symmetric Einstein-scalar field system, arXiv:2210.11325, to appear in *Annales Henri Poincaré*, 2024.

Invited Talks

September 24 2024, Analysis and PDE Seminar, M.I.T.
May 29, 2024, Analysis and PDE Seminar, National University Singapore
February 16, 2024, Mathematical GR and Hyperbolic PDEs Seminar, *via zoom*
November 8, 2023, Hyperbolic and Dispersive PDE Seminar, Rutgers University
February 17, 2023, Mathematical GR and Hyperbolic PDEs Seminar, *via zoom*
December 9, 2022, Analysis Seminar, University of Toronto

Teaching

Assistant in Instruction, Multivariable Calculus, Princeton, Fall 2024, Fall 2023, Fall 2022
Assistant in Instruction, Linear Algebra, Princeton, Spring 2024, Spring 2023, Spring 2022
Grader, Fourier Analysis, Princeton, Spring 2021
Assistant in Instruction, Functional Analysis, Princeton, Fall 2020

Service

Directed Reading Program, Princeton, Fall 2020, Spring 2022
Prison Teaching Initiative, Princeton, Fall 2022
Mentoring Mobius, Princeton, Spring 2022
Peer Math Advisors, Princeton, Fall 2020–Spring 2021
Co-organizer of Graduate Student Seminar, Fall 2020–Spring 2021

Awards

Graduate Teaching Award, 2023