Anuj Apte

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EDUCATION

UNIVERSITY OF CHICAGO **GPA: 4.0/4.0**
Candidate for Ph.D. in Physics *September 2020 - Current*
Selected Coursework: Quantum Information · Quantum Computation
Implementation of Quantum Processors · Quantum Complexity Theory

MASSACHUSETTS INSTITUTE OF TECHNOLOGY **GPA: 4.9/5.0**
B.S. in Physics and Philosophy with minor in Music and Mathematics *August 2016 - June 2020*

RESEARCH EXPERIENCE

NASA QUANTUM AI LAB Mountain View, CA
Research Intern with Dr. Norman Tubman *June 2021 - Sept. 2021*
- Studied performance of Pulse level VQE via simulations
- Currently working on applications of QAOA to Quantum Chemistry problems

MICHELSON CENTER FOR PHYSICS Chicago, IL
Research Assistant to Prof. Clay Cordova *July 2020 - Current*
- Studied the physics behind Topological Quantum Computing
- Currently investigating Spin-TQFT's and the associated Tensor Categories

DEPARTMENT OF NUCLEAR SCIENCE AND ENGINEERING Cambridge, MA
Research Assistant to Prof. Mingda Li *Feb. 2019 - June 2020*
- Studied Kohn anomalies in Topolgical Weyl Semi-metals using QFT
- Characterized behaviour of Semi-metals via spectroscopy at Oak Ridge

KAVLI INSTITUTE FOR ASTROPHYSICS Cambridge, MA
Research Assistant to Prof. Scott Hughes *Dec 2016 - Feb 2018*
- Devised a framework to calculate inclined inspiral trajectories into Kerr Black holes
- Implemented a code to numerically compute inspiral trajectories

SELECTED PUBLICATIONS

- Topological Signatures in Nodal Semimetals through Neutron Scattering Arxiv:2101.04046
  To appear in Physical Review B
- Topological Singularity Induced Chiral Kohn Anomaly in a Weyl Semimetal PhysRevLett.124.236401
- Learning about black hole binaries from their ringdown spectra PhysRevLett.123.161101
- Exciting black hole modes via misaligned coalescences: PhysRevD.100.084031
  I. Inspiral, transition, and plunge trajectories using a generalized Ori-Thorne procedure
- Exciting black hole modes via misaligned coalescences: PhysRevD.100.084032
  II. The mode content of late-time coalescence waveforms

PROFESSIONAL ACTIVITIES

- Poster Presentation at conference 'Topological Quantum Matter' KITP, Santa Barbara
- Participated in STAQ Quantum Ideas Summer School Duke University, Durham
- Participated in the Third ERC (HoloBHC) Solvay Workshop on Holography ULB, Brussels
- Talk at APS 2018 April meeting held in Columbus, Ohio APS Presentation
- Invited outreach talk: 'Physics in Everday Life' SRM University, Chennai

HONORS AND AWARDS

- Awarded **Nambu Fellowship** for being the highest rated applicant to the Ph.D. Program
- **Phi Beta Kappa** inductee from the Class of 2020
- **Gold Medal** in Asian Physics Olympiad 2015
- **Silver Medal** in International Physics Olympiad 2015
- Awarded **NTSE** Scholarship by Human Resources Department, Government of India

SKILLS

- Languages: Mathematica, Python, C++
- Tools and Frameworks: git, Slurm, Qiskit