

BHAVYA JAISWAL

3rd Year Undergraduate Student
Department of Physics

Indian Institute of Technology, Kanpur
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Education

BS Physics: *Indian Institute of Technology Kanpur*
12th Boards *CISCE : St. Mary's Convent Inter College, Prayagraj*
10th Boards *CISCE : St. Mary's Convent Inter College, Prayagraj*

Current CPI: 6.5
Percentage: 94.25
Percentage: 92.60

Projects

Understanding the Atmospheres of Exoplanets

Dec 2023- ongoing

Prof. Gopal Hazra, Dept. of Physics, IIT Kanpur

- I have recently started this project on the study of exoplanets, the composition of their atmosphere, and their interaction with stellar wind. Currently, I am studying a paper on "Atmospheric Escape from Hot Jupiters".

Large Scale Structure Formation in the Universe

May 2023- August 2023

Prof. Sharvari Nadkarni Ghosh, SPASE Dept., IIT Kanpur

- Learnt **21 cm Cosmology** and the various techniques used in N-body Simulations.
- Studied papers on **Non-Linear DVDR** and **EDE** and Λ CDM models of the universe.
- Also studied about the basics of **Radio Astronomy**.

Level Attraction in Coupled Pendulums (Lab Course Project)

5th Semester

Prof. Krishnacharya, Dept. of Physics, IIT Kanpur

- Experimentally demonstrated dissipative coupling between two pendulums coupled via electromagnetic damping. Learned about the dynamics of synchronization in linear systems, and learned how to use ImageJ software for image/video analysis.

Building Diffraction Grating Spectrometer (Lab Course Project)

3rd Semester

Prof. Venkata Jayasurya, Dept. of Physics, IIT Kanpur

- Built a diffraction grating spectrometer and used it to analyze the absorption spectrum of various chemicals. Also, determined the chemical composition of some liquid solutions by observing their absorption spectrum.

Project on Particle Physics and CERN and Its Mysteries

May 2023- July 2023

Science CoffeeHouse, IIT Kanpur

- Reading project aimed at studying the basics of Particle physics. Studied the discovery and properties of various of particles, learned about the Standard Model, and the workings of CERN, the experiments conducted there and its achievements.

Relevant Coursework

<i>SpecialRelativity</i> <i>GeneralRelativity^s</i> <i>Physics of Universe</i> <i>Optics Theory and Lab</i>	<i>QuantumMechanicsI</i> <i>QuantumMechanicsII^o</i> <i>QuantumOptics^o</i> <i>ClassicalElectrodynamics^o</i>	<i>ClassicalMechanicsI</i> <i>FluidMechanics</i> <i>StatisticalMechanics^o</i> <i>ComputationalPhysics^o</i>	<i>TensorAlgebra^s</i> <i>Probability and Statistics</i> <i>Mathematical Physics I</i>
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s= self-studied, o= ongoing

Technical skills

Programming Languages/Tools/Libraries

C, Java, Python, L^AT_EX, MATLAB, ImageJ

Positions of Responsibility

Leader *Science CoffeeHouse IIT Kanpur*

2023-ongoing

Science CoffeeHouse is a hobby group that presents a platform for discussions, talks, and sharing ideas regarding the field of science along with projects for learning. As a leader, I strive to popularize theoretical sciences amongst the institute community by organizing frequent talks.

Secretary *Science CoffeeHouse IIT Kanpur*

2022-23

As a secretary, it was my job to help the leaders in organizing talks and working along with the other secretaries in spreading awareness about Sciences and the group.

Student Guide *Counselling Service IIT Kanpur*

2022-23

Assisted a group of 5 students to ease their transition into the campus and adjust to the campus environment. Helped in organizing the Orientation Program for the incoming batch of 1200+ students.