

Akash Vani

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Education

BACHELOR OF SCIENCE | NOWROSJEE WADIA COLLEGE, PUNE-MAHARASHTRA 2019

- Affiliated to Savitribai Phule Pune University
- Major: Physics
- Score: 82.58%

HSSC | ST. XAVIER'S HIGHER SECONDARY SCHOOL, MAPUSA-GOA 2016

- Goa Board of Secondary and Higher Secondary Education
- Score: 82.66%

SSC | NEW GOA'S G.S. AMONKAR VIDHYA MANDIR, MAPUSA-GOA 2014

- Goa Board of Secondary and Higher Secondary Education
- Score: 88.33%

Projects

1. The study of LMXB 4U 1702-429 using ASTROSAT data Aug 2019 - Present

The study of thermonuclear (Type-I) X-ray burst of 4U 1702-429, a low mass X-ray binary (LMXB), using ASTROSAT's Large Area X-ray Proportional Counter (LAPXC) data.
Guide: Prof. Sudip Bhattacharyya, TIFR, Mumbai

2. Introduction to Polarimetry June 2019-Aug 2019

A literature survey and a presentation on the theme of polarimetry, covering the topics of Jones and Stokes formalism and material interactions.
Guide: Prof. Nirmalya Ghosh, IISER Kolkata

3. CPT synthesis of layered BiOI nanodiscs and its photocatalytic applications Jan 2019-Mar 2019

We, a group of two, synthesized Bismuth Oxyiodide (BiOI) nanodiscs using co-precipitative (CPT) method and intern used X-ray diffraction (XRD) and Scanning electron microscopy (SEM) to confirm its formation. We also tried to experiment with its photocatalytic properties.
Guide: Prof. Sambhaji Warule, Nowrosjee Wadia College

4. Photometric calibration of UVIT June 2018-Jan 2019

This project discusses the procedures to find best estimates of counts per second in the filters of UVIT (Ultraviolet Imaging Telescope onboard ASTROSAT) for the calibration source HZ4 (a white dwarf) and an open cluster NGC188 at high declination. It also verifies that the process of Flat field correction (inclusive of Remainder Correction) leads to improved photometry.
Guide: Prof. Shyam Tandon, IUCAA, Pune

5. Construction of a cloud chamber as a particle detector Jan 2018-Feb 2018

We, a group of 2, tried to detect and classify the natural background radiation by using supersaturated vapors of isopropyl alcohol in an enclosed chamber.
Guide: Prof. Vivek Antad, Nowrosjee Wadia College

6. Uncertainty principle using lasers

Dec 2016-Feb 2017

We, a group of 3, aimed to demonstrate and explain the spreading of light in a single slit experiment using Heisenberg's uncertainty principle.

Guide: Prof. Vivek Antad, Nowrosjee Wadia College

7. Probing road surface friction

Mar 2015-June 2015

We, a team of three, gathered and analyzed data to find and model the mileage of road surfaces with respect to the coefficient of rolling friction.

Guide: Prof. Roger Ferrao, St. Xavier's HSS

Co-curricular and Extra-curricular activities

- **Selected for a national workshop on 'Astrosat's Data Analysis' (Nov 2019)**

- A three-day workshop on Astrosat's LAXPC and SXT data analysis organized by Goa University in collaboration with IUCAA, Pune.

- **Awarded a fellowship at the 'Quantum Information and Quantum Technology' summer school organized by IISER Kolkata (June 2019-Aug 2019)**

- A summer school based on the theme of quantum information and technology, organized by the Indian Institute of Science Education and Research (IISER), Kolkata

- **Attended the IUCAA's 'Introductory Summer School in Astronomy and Astrophysics' (May 2018-June 2018)**

- An introductory course for astronomy and astrophysics, organized by Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune

- **Co-wrote and directed short films**

- Directed a short film - "My Discovery of India" (2015) which was awarded 3rd place at a state level competition
- Wrote and directed a short film - "Umangi" (2017), on the theme of 'Save the girl child'

Achievements

- **Science exhibitions and camps**

- Selected for the Western India Science Fair (2016), Mumbai and represented the state of Goa
- Awarded the first place in the science exhibition organized by my junior college in 2014, 2015 and senior college in 2016 and second place in 2019.
- Selected for the INSPIRE science camp (5 day), organized by the Department of Science and Technology, Government of India in September 2014

- **National Cadet Corps (NCC) camps and related competitions**

- Selected to the National Integration Camp (NIC), Mysore (2012) and represented the directorate of Goa and Karnataka
- Annual Training Camp (ATC), Goa (2013) and Basic Weapon training
- Awarded 3rd place at state level marching competition (2013)
- Scored the highest in my school in the 'A' certificate NCC exam (2013)

- **Featured on 'TradePost' magazine (August 2008 edition)**

- Featured on an International Watch & Clock Magazine, for my competence in assembling and repairing automatic and quartz wrist watches in our family run business

Community services

- **Volunteered for Serendipity Arts Festival 2019, Goa** **Dec 2019**
 - Volunteered to help the artists and curators to set up their installations at the festival. The Serendipity Arts Festival is one of the largest multi-disciplinary arts initiatives facilitating cultural expression and sparking conversations around the theme of art.
- **Youth Red Cross, Mapusa-Goa** **2014-2016**
 - An organization that organizes community awareness drives, seminars and blood donation camps with the help of Red Cross Society of India
- **National Cadet Corps (NCC), Directorate of Goa & Karnataka** **2011-2013**
 - Apart from being the largest voluntary military cadet corps it also organizes community services like cleanliness drives and awareness drives on various issues

Competencies

Languages (SRW)

- English, German, Hindi, Marathi, Konkani

Programing

- C, C++, Python

Basic utilities

- Photoshop, MS Word, MS Excel, Latex

Operating System

- Windows, Ubuntu

Personal interest

- Actively volunteers and participates in activities and competitions.
- Budding photographer and filmmaker
- Roller skating and swimming enthusiast