

# XUVI

## Exoplanet Detection

## Solar Flare Analysis

## Python Libraries Spectroscopy

NUMPY PANDAS  
SCIPY ASTROPY  
MATPLOTLIB

Basic Tools for  
Data Analysis

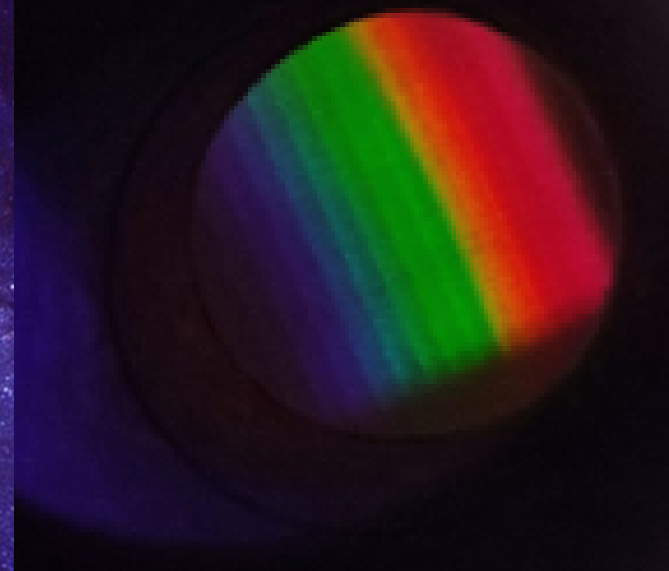
-Understanding the principles of spectroscopy  
-Astronomical Spectroscopy & working of Spectroscope.  
-Handcrafting Spectroscope & Visualisation of Solar Spectrum

## JUX ON PYPI

-**JUX**: A Ready-to-use package & it is now Freely Available on Open Source Pypi Python Package Manager.

### MENTEES:

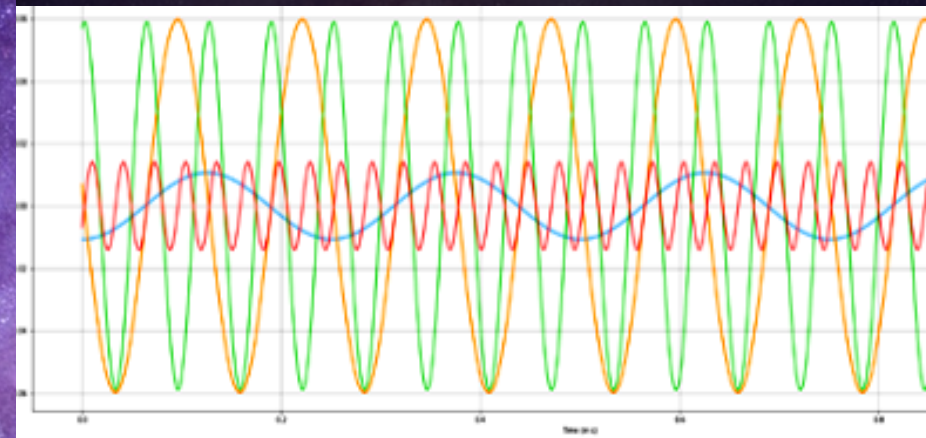
Shreya Rajak, Nandan Madhuj,  
Ritik B Kumar, Jaya Santhi  
K Arnav, Priyanshu Bhatia



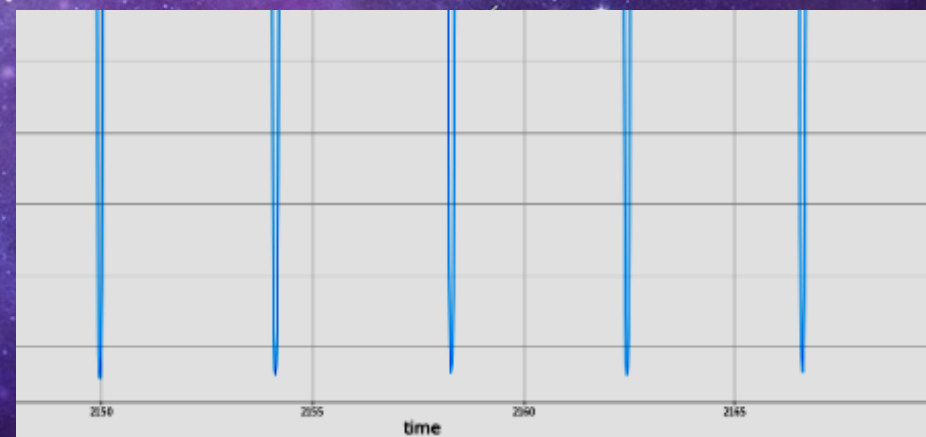
Observations Through Hand-Crafted Spectroscope

-Astronomical Methods for Detection of Exoplanets  
-Preprocessing of Data by Development of Python Codes for Standard & Contrived Algorithms & Used of 4 methods

- Direct Imaging
- Radial Velocity
- Astrometry
- Transit Photometry

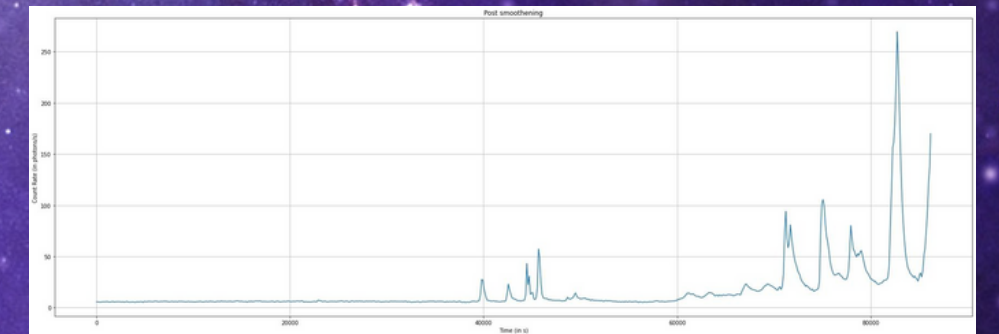


Astrometry: Individual Frequencies



Transit Photometry: Processed Data

-Data Analysis from Chandrayaan XSM Observatory.  
-Development of Python code to study the Solar Flares  
-Classification & Categorization of each Solar Flare by its Recorded Intensity.



Solar Flare Curves



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