Ganesh Pawar

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Education

Department of Physics, University of Mumbai, India CGPA 7.63/10.00
Master of Science, Physics *Aug. 2018 – Oct. 2020*

K. J. Somaiya College of Science and Commerce, Mumbai, India CGPA 5.58/7.00
Bachelor of Science, Physics *Jul. 2015 – May 2018*

Appointments

Visiting Project Student February, 2021 – June, 2021
Aryabhatta Research Institute of observational sciencES (ARIES)

Research Experience

i. Stellar activity of 'B, A and F' type stars. February, 2021 – Present
ARIES, India

- TESS Lightcurve Data is used to generate clean lightcurves with 5-sigma clipping to remove the jumps and outliers and the LombScargle algorithm were used to find the dominating pulsating frequencies.
- I have reduced the spectroscopic data taken from 2.0-m IUCAA Girawali Observatory by writing a python script to study variations in Equivalent Widths and I am using synthetic spectrum to find projected rotational velocity.

ii. Observation of Stellar occultations by an Asteroid. February, 2019 – June, 2020
Akashmitra Mandal, India

As a part of the team, I have observed and reduced the lightcurves of 15 Stellar occultations out of which 9 positive events were reported to International Occultation Timing Association.

iii. Differential photometry of the Narrow line Seyfert-I galaxy 1H 0323+342 March, 2019
ARIES, India

I have cleaned the data for systemic noise and performed aperture photometry using IRAF. To find the variability, the target's magnitude is subtracted with the reference stars.

iv. DSLR photometry of a δ Scuti variable star. December, 2017
Akashmitra Mandal, India

A High Amplitude δ Scuti star, AD CMi was observed for 3 hours using 20 cm aperture reflector telescope and with a standard Canon DSLR camera. The time-series data was submitted to AAVSO and its period was deduce to 2.513 hr.

M.Sc. Project

X-Ray study of Active Galactic Nuclei. August, 2019 – August, 2020
Department of Physics, University of Mumbai

- I have surveyed the available data for AGN of various classes from Chandra Data Archive.
- I obtained X-ray data from the Chandra Data Archive. I extracted X-ray spectra and pre-processed using Chandra Interactive Analysis of Observations (CIAO) tool. Also, I integrated the work flow by writing a script and corrected them for the red-shift.
- I found common features which are visible from the spectrum and studied the atomic radiative and collisional processes which lead to emission of X-rays in astrophysical sources.

Observing Runs

Rotational state of the elusive Lucy targets, 2-m Himalayan Chandra Telescope (HCT),
cycle: HCT-2020-C3, as Co-I. PI: Prof. N. M. Ashok.

Stellar occultations by Dwarf Planets, TNOs and Centaurs, 3.6-m Devasthal Optical Telescope (DOT),
cycle: DOT-2020-C2, as Co-I. PI: Prof. N. M. Ashok.

Stellar occultations by Pluto, 3.6-m DOT, 1.3-m Devasthal Fast Optical Telescope & 2-m HCT,
cycle: Director's Discretionary Time-2020, as Co-I. PI: Prof. N. M. Ashok.

Publications

Pluto's Atmosphere in Plateau Phase Since 2015 from a Stellar Occultation at Devasthal
Sicardy, B., Ashok, N. M., Tej, A., ***Pawar, G.,*** *et al. 2021,* ***ApJL,*** *923, L31.*

*LAMOST J*045019.27 + 394758.7**: with peculiar abundances of N, Na, V, Zn a likely Sculptor dwarf galaxy escapee**
Purandardas, M., Goswami, A., Sonamben, M., ***Pawar, G.,*** *et al.,* ***MNRAS,*** *submitted with revision.*

Measurements of 60 Double Star Systems Using a Small Telescope and Four Different Methods
Deshmukh, S., Deshpande, A., ***Pawar, G.,*** *et al. 2019,* ***Journal of Double Star Observations,*** *15, 1, p. 193.*

Workshops/Schools

CHEOPS Science Workshop-VI, *CHEOPS Consortium*	January 11-13, 2022
Heidelberg Summer School 2021: Stellar Ecosystems, *IMPRS-HD*	September 13-17, 2021
TESS Science Conference-II, *MIT*	August 2-6, 2021
PHysics Of Eclipsing BinariEs Virtual Workshop, *PHOEBE*	June, 2021
AAVSO Spectroscopy Workshop, *AAVSO*	November 6-8, 2020
Regional Astronomy Meeting-VI: Opportunities and Challenges, *IUCAA*	July 9-10, 2020
CHOICE Course: How to use VStar, *AAVSO*	June, 2020
CHOICE Course: Exoplanet Observing, *AAVSO*	May, 2020
Gravitational-Wave Open Data Workshop 3, *GWOSC*	May 26-28, 2020
ARIES Training School in Observational Astronomy(ATSOA), *ARIES*	March, 2019
IAPT Summer School: Theoretical Physics, *IAPT*	April, 2017
Certificate Course: Astronomy and Astrophysics, *Centre for Extra-Mural Studies*	2015

Technical Skills

Languages: Bash, C++, Python and ADQL.

Operating System: Linux and Windows.

Plotting Software: GNUPlot and OriginLab.

Image Overlay software: Aladin, Limovie and SAO Image DS9.

Data reduction software: AstroImageJ, CIAO, IRAF, IRIS, iSpec, PYOTE, TOPCAT and VStar.

Libraries: astropy, astroquery, emcee, lightkurve, matplotlib, numpy, and pandas.

Other: LaTeX and Microsoft Office.

Extra-curricular activities

Asteroid Search Campaign by IASC: Participated in an asteroid search campaign held by International Astronomical Search Collaboration, 2020.

Volunteer for CERN at Vigyan Samagam: Volunteered for the CERN exhibits during the Vigyan Samagam mega science exhibition in Mumbai, 2019.

Hobbies and Activities: Watching Sci-Fi movies, reading science blogs, travelling, trekking, playing football and member of Akashmitra Mandal, Kalyan (Amateur Astronomers' Organization).

References

The names and contact details of referees are available on request.