John Erinjery

BS-MS (Physics), IISER Pune – Expected 2029

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RESEARCH INTRESTS

Astrophysics, Computational Physics, High-energy Stellar systems, Gravitational Physics, Analysis of observational survey data.

EDUCATION

BS-MS in Physics, IISER Pune – *Expected 2029*

RELEVANT COURSEWORK

Classical Mechanics, Electricity and Magnetism, Quantum Physics, Mathematical Methods for Physics, Thermal & Statistical Physics (*in progress*), Calculus I-II, Linear Algebra, Probability, Data Analysis.

PROJECTS

Replication of Eclipsing Binary Detection from ZTF Light Curves *(Ongoing)*

- Reproduced published methodology for identifying eclipsing binary systems using ZTF time-domain photometric data.
- Implemented light-curve preprocessing, period search (e.g., Lomb-Scargle), and phase folding in Python.
- Validated results by comparison with catalogued binaries and discussed limitations of the approach.

SKILLS

- Programming: Python
- Scientific Libraries: NumPy, Matplotlib, Astropy (*familiar*), SciPy (*basic*)
- Tools: Git, LaTeX, SAOImage DS9, Jupyter Notebook

HONORS & AWARDS

- Reliance Foundation Scholarship – Awarded for academic merit.

SCHOOLS & WORKSHOPS

- Undergraduate Summer School on Nuclear Physics, IIT Roorkee, 2025 – *Participant, Presented a talk on the Yukawa potential.*
- IISc Physics Winter School, 2025 – Evaluated Participant (coursework and quizzes).