Hina Saeed Shaikh

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EDUCATION

PhD.Candidate: High Energy Astrophysics   **Since Dec 2021**
Eberhard Karls University of Tuebingen, Germany
Research: X-ray Binary Black Holes
Advisor: Prof. Dr. Andrea Santangelo

MSc.Mathematical Physics   **June 2020**
Eberhard Karls University of Tuebingen, Germany
Fourier Decomposition Circumbinary Potential
Advisor: Prof. Dr. Wilhelm Kley

MS. Master in Applied Mathematics   **Dec 2014**
NED University of Engineering and Technology Karachi, Pakistan
Advisor: Dr. Abdul Majid

B.Ed Bachelor of Education(Professional Qualification)   **August 2010**
BSc. Mathematics   **2006**
PGD. Computer Sciences   **2005**
University of Sindh Jamshoro, Pakistan

RELEVANT COURSES in PhD

- Introduction to Astronomy and Astrophysics • Theoretical Astrophysics
- Numerical Astrophysics • Computational Astrophysics • High Energy Astrophysics
- Endpoints of Stellar Evolution • Advanced Lab Course in Astronomy and Astrophysics

EXPERIENCE

Instructor   **Since Aug 2023**
Department of Physics and Astronomy University of Georgia

Astro1020 - Stellar & Galactic Astronomy   **Winter 2023**
Phys1111 - Introductory Physics Mechanics, Waves,
Thermodynamics   **Spring 2024**

Research Assistant   **Feb 2020 - Aug 2020**
Kepler Institute of Astronomy and Astrophysics Tuebingen, Germany

Lecturer in Mathematics   **Aug 2008 - Oct 2017**
Federal Govt. Educational Institutions Pakistan
Analytical Geometry and Differential Equations
Pre-Calculus, Calculus, Calculus of Multi variables and Differential Calculus
Higher Engineering Mathematics, Linear Algebra and Transforms
Numerical Analysis I and II

ADDITIONAL ACTIVITIES
- **Scientific collaborator**   **Since Jan 2024**
Georgia-Tech Oak Ridge National Laboratory
- **Member of G-PhAsEr**   **Since Oct 2023**
Georgia Physics Astronomy Education Research
- **Mentor:** Mathematics mentoring program (Women in Mathematics)   **Since April 2018**
Eberhard Karls University of Tuebingen
- **Counselor:** Mathematics mentoring program (Women in STEM career)   **2008-2017**
Federal Govt. Colleges Pakistan

TECHNICAL SKILLS
Programming: Python, Linux, LaTeX
Familiar: Matlab and C++

LANGUAGES:
Urdu/Hindi Native Speaker
English: Proficient
German: Basic

SCIENTIFIC PROJECTS/ THESIS
X-Ray Binary GRS1915+105   **Since December 2021**

Light Curve variability as function of of energy
Institute of Astronomy and Astrophysics Eberhard Karls University of Tuebingen
Technology/Tools: *XSpec(NASA), HEASoft*

Cirumbinary Potential   ***April 2019***

Calculation of the Orbital Elements of a planet a in Binary System.
Institute of Astronomy and Astrophysics Eberhard Karls University of Tuebingen

Thermal Analysis of Space Vehicles in Continuum region.   ***Dec 2014***

Analysing heat dissipation in hypersonic Space vehicles.
Technology/Tools: *Wind Tunnel Data(NASA), MATLAB*

PUBLICATIONS
In Preparation:**• Discovery of the energy-dependent variability in GRS 1915+105 with *Insight*-HXMT**
• A mathematical Study of Magnetohydrodynamic Casson Fluid via Special Functions with Heat and Mass Transfer embedded in Porous Plate. *https://arxiv.org/abs/1706.03829*