

## Research project for MSc student

Research Specialisation: Astrophysics, AGN, Data Analysis Techniques

Title: Spectral energy distribution of bright phases of Blazar PKS 1424-418

### Abstract:

The bright gamma-ray blazar PKS 1424-418 is an Active Galactic Nucleus with jet that is oriented along our line of sight. This source has shown unusual flaring activity through the whole electromagnetic spectrum in recent years. The Fermi-Large Area Telescope, a space-based gamma-ray detector, has detected multiple outbursts and also followed up by the Hartebeesthoek Radio Astronomy Observatory. In this project, a student will use specialized tools to analyze Fermi-Large Area Telescope data of PKS 1424-418 during its outbursts and interpret results using scientific models. Studies of the flaring pattern and variability of this source can explain the physics of the gamma-ray production and the particles in the jet that are radiating.

### Requirements:

The student should be familiar with or willing to learn computer software and programming language. A background in Astrophysical object data analysis will be a plus.

### Host Contact:

Feraol F. Dirirsa (PhD)

Telephone: +251 900 645 373

E-mail: [ffdirirsa@gmail.com](mailto:ffdirirsa@gmail.com) or [fana@aims-senegal.org](mailto:fana@aims-senegal.org)

Addis Ababa University  
College of Natural Sciences  
Department of Physics  
Addis Ababa, Ethiopia