



INTER-UNIVERSITY CENTRE FOR ASTRONOMY AND ASTROPHYSICS

(An Autonomous Institution of the University Grants Commission)

Tel.: (020) 25691414 Fax: (020) 25604699 Webpage: www.iucaa.in

Post-Doctoral Fellow in WALOP Project *at IUCAA, Pune*

Applications are invited for a postdoctoral position at the **Inter-University Centre for Astronomy and Astrophysics (IUCAA)** to work on the **Wide Area Linear Optical Polarimeter (WALOP)** project. Two bespoke WALOP instruments are being built to carry out an optical linear polarimetric survey (PASIPHAЕ: Polar-Areas Stellar Imaging in Polarization High-Accuracy Experiment) simultaneously from a northern (Skinakas, Greece) and a southern (Sutherland, South Africa) site. The high sample density (>100 stars per sq. degree), sensitivity ($R < 16.5$), low polarization errors ($< 0.1\%$) and large area coverage (~ 1000 sq. degrees) of PASIPHAЕ measurements, augmented by stellar distance data from GAIA and dust cloud distributions from CO maps, will allow creation of a unique tomographic map of the magnetic field structure towards the high Galactic latitude survey regions. The unprecedented combination of depth, precision and breadth will produce a legacy data set over four years of the survey.

Description:

The successful applicant will work as part of the international WALOP/PASIPHAЕ team. She/He will be responsible for developing instrument polarization models for the two WALOP instruments. Accurate models are essential to understand and eliminate the instrument systematic effects to levels acceptable for the scientific aims of the survey. The candidate will participate in instrument assembly, testing and commissioning on the telescopes, and executing the survey and carrying out early data analysis.

Qualification & Experience:

The candidate should have experience working with a mixed environment employing optical design tools like Zemax integrated with Python for data generation, analysis and presentation. She/He should be able to augment the capabilities and overcome the limitations of standard optical design software packages through first principle ray tracing techniques which accounts for polarization effects at interfaces, materials, polarization elements etc. Prior experience in complex instrument modelling especially for polarimetry will be of advantage. Familiarity with instrument assembly, integration and testing will add strength to the application.

Associated faculty at IUCAA is **Prof. A. N. Ramaprakash** (anr@iucaa.in). The position will start in October 2020 or later. The total tenure of the position will be three years, renewable annually based on performance, continued requirements etc.

Application & recommendation letters deadline: September 21, 2020

How to apply:

Interested candidates should submit (i) **A Curriculum Vitae including a list of publications** (marking refereed publications), (ii) **Statement of purpose in Portable Document Format (PDF) and (iii) Three confidential letters of reference sent directly by the persons recommending to pdfapply@iucaa.in** for full consideration. In your email application, please mention in the subject line '*Application for a Post-Doctoral Fellow in WALOP Project*'. For further information regarding the positions please contact Prof. A. N. Ramaprakash (anr@iucaa.in)