



Leibniz-Institut für Astrophysik Potsdam

The Leibniz Institute for Astrophysics Potsdam (AIP) is dedicated to astrophysical questions ranging from the study of our Sun to the evolution of the cosmos. Research focuses on cosmic magnetic fields and extragalactic astrophysics as well as the development of research technologies in the fields of spectroscopy, robotic telescopes and e-science. The AIP carries out its research mandate within the framework of numerous national, European and international cooperations. The institute is the successor to the Berlin Observatory, founded in 1700, and the Astrophysical Observatory Potsdam, founded in 1874, which was the first institute in the world to be explicitly dedicated to astrophysics. The AIP has been a member of the Leibniz Association since 1992. AIP is located in the middle of a beautiful park landscape in Potsdam, not far from Berlin, and has about 200 employees.

To strengthen Astrophotonics (innoFSPEC), we are looking for

Postdoctoral Researcher (m/f/d) Frequency combs

The researcher will undertake development of frequency combs using micro-ring resonators, interact with Leibniz Institute for Innovative Microelectronics (IHP) and Technology Transfer Laboratory of the University of Potsdam to exploit the results and foster follow up applications outside of astronomy. The position offers the unique opportunity to assemble, integrate and test the astrophotonic instruments as per ESO standards, leading to first-light on-sky demonstrations as well as adjacent applications.

Your tasks:

- Development of photonic micro-ring resonator-based frequency combs in NIR and VIS
- Design, model, fabricate, and characterize resonators.
- Build stand-alone astrophotonic frequency comb as per ESO standards, leading to first-light on-sky demonstrations
- Explore adjacent applications through technology transfer
- Support the research activities of PhD students and contribute to peer-reviewed publications, patents, and conference papers.

What you bring to the table:

- **Essential:**
 - PhD in astronomy, astrophysics, instrumentation, or in related fields.
 - Hands-on experience in designing and characterizing photonic chips, such as micro-ring resonators.
 - Knowledge of nonlinear photonic processes and generating frequency combs
 - Experience with designing lithographic mask layouts (GDS)
 - A track record of scientific publications in peer-reviewed journals
 - Excellent interpersonal and communication skill and ability to work as a member of a team.
 - Demonstrated proficiency in communicating technical information, including written reports and oral presentations.
 - Excellent proficiency in the English language. Basic German skills will be an advantage.
- **Desirable:**

- Competent to submit proposals to funding agencies e.g., DFG, BMBF, H2020. ERC.
- Skills in Python, KLayout, LabView, MAL TAB, Zemax, Quooda or RSoft, will be an added advantage.
- Experience in building astronomical instruments
- Knowledge and experience building instruments as per ESO standards

This is what we offer:

- a modern working environment; the office is spacious, very well equipped and located in the middle of the World Heritage Site,
- an open and collegial working atmosphere,
- flexible working hours,
- good opportunities for internal and external training,
- Salary and social benefits are calculated based on the German public service scale TV-L and depends on qualification/experience
- Social benefits of the collective agreement for the public service (TV-L) including the VBL company pension with reduced earning capacity and survivors' pensions as well as a subsidy for the job ticket

The appointment could start immediately after the recruitment process is completed and is for 4 years until 31.12.2028. To apply, please send the following documents (PDF) to

bewerbung-2024-08@aip.de

- (1) A cover letter (one page maximum) motivating your application
- (2) Curriculum Vitae
- (3) PhD degree certificate (if already available, otherwise specify the expected completion date)
- (4) Copies of academic degrees
- (5) List of publications and talks
- (6) Research summary describing your experience, skills, and project-related work so far (no more than two pages, including any figures). In the cover letter, a link to a PDF of your PhD thesis would be appreciated (if applicable).
- (7) Contact information for two individuals willing to provide reference letters upon request. Note that we will request such letters only for a subset of applicants after an initial selection step.
- (8) A brief research plan

Review of applications will begin immediately & continued until the position is filled.

Equal opportunities are an integral part of personnel and organizational development at AIP, which is why applications from men and women are equally welcome. Preference will be given to people with disabilities if they have the same professional aptitude and ability.

Your application documents will be kept for a period of at least three months after the completion of the filling process. As a rule, your documents will be made available to a selection committee as well as to the committees and functionaries to be involved.

