



Leibniz-Institut für Astrophysik Potsdam

The Leibniz-Institute for Astrophysics Potsdam (AIP) addresses astrophysical questions ranging from the study of our Sun to the evolution of the cosmos. Its 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 astrophotonics. The 'Astronomical Spectroscopic Instrumentation' group pursues an ambitious programme in the field of optical spectroscopy and develops state-of-the-art multi-object, integral-field and high-resolution spectrographs for observatories worldwide.

You will join our team in the development of advanced fibre-optic technologies for use in astronomical instruments. This position offers the opportunity to work in an internationally renowned research environment. The positions require proven expertise in photonics and/or fibre optics. Successful candidates will contribute to the research and development of new technologies for fibre-optical systems to enhance the efficiency of the next generation of spectroscopic survey instruments, such as for the Wide-field Spectroscopic Telescope (WST) or the European Extremely Large Telescope (ELT). The AIP has been a member of the Leibniz Association since 1992. Around 200 staff members work at our site, situated in the heart of a beautiful parkland setting in Potsdam, not far from Berlin.

To strengthen the 'Astronomical Spectroscopic Instrumentation' group, we are looking for an

Engineer or Researcher in Fibre Optics/Photonics (d/f/m)

Your responsibilities:

Design, development, and testing of optical fibre technologies and photonics components:

- Speciality fibres & low-loss fibre connectors: Analyse different layouts to maximize light coupling into the fibre and to provide stable, high signal-to-noise output.
- Perform trade-off studies on performance and manufacturability of entire fibre systems and create and validate specialty fibre prototypes.
- Photonic Reformatting techniques: Evaluate different options to slice and reformat the output of fibres using photonic techniques in collaboration with partner institutes.
- Optical fibre-switches: Investigate commercial products and their potential modification and application for multiplex spectroscopy.
- Fibre Photonic Lanterns: Participate in the creation of prototypes and optimise performance of photonic lanterns manufactured in-house.
- Collaborate with colleagues on Ultra-fast Laser Inscription Waveguides to create prototypes, evaluate and optimise performance.
- Collaborate with industry and international partners consisting of interdisciplinary teams of scientists, engineers, and technicians.
- Prototyping, testing, and optimizing the fibre systems to meet the stringent requirements and standards for astronomical instrumentation.
- Document development processes, analyse performance and prepare technical reports.

Your profile:

The ideal candidate should hold an Engineering or scientific degree with a few years of experience at a professional level.

- **Master's or PhD degree** in Optical Engineering, Photonics or a related field.
- Experience in the **design, simulation, and testing** of optical fibres, optical waveguides, photonics components and systems.
- Familiarity with **fibre-optic technologies** and laboratory setups.
- Knowledge of and proficiency with **optical software and photonics tools**.
- Knowledge of (Python and C) programming for test data analysis.
- Knowledge of opto-mechanical systems and astronomical spectrographs is a plus.
- **Strong problem-solving skills** and the ability to work independently and within a team.
- Excellent **communication and written skills** in English; knowledge of German is advantageous but not required.

What we offer:

- Work in a highly dynamic and international research environment,
- Access to cutting-edge technology and state-of-the-art facilities,
- A strong team spirit within a dynamic research group,
- An open and collegial working atmosphere,
- Flexible working hours,
- Opportunities for professional development and growth,
- an attractive salary, depending on the terms of the collective agreement (professional experience and specialist knowledge) up to pay grade 13, as well as the social benefits provided under the collective agreement for the public sector (TV-L), including the VBL occupational pension scheme with reduced earning capacity and survivors' benefits, and a subsidy towards a Jobticket

The post is to be filled for a period of 3 years and is suitable for part-time work.

To apply, please send the following documents (preferably as one PDF) to:

bewerbung-2026-04@aip.de

- 1) A cover letter (one page maximum) motivating your application;
- 2) your Curriculum Vitae;
- 3) Copies of academic degrees;
- 4) Summary describing your experience, skills, and project-related work so far (2 pages max.);
- 5) Contact information for two individuals willing to provide reference letters upon request. Note that we will request such letters only for a subset after an initial selection step.

The selection process will begin immediately and will continue until the position is filled. Applications received by 30 April 2026 will be given full consideration. However, applications received after this date may still be considered until the position is filled.

Equal opportunities are an integral part of personnel and organisational development at the AIP; therefore, applications from both men and women are equally welcome. People with disabilities will be given preferential consideration where they have the same professional qualifications and skills.

Your application documents will be retained for a period of at least three months following the conclusion of the recruitment process. As a rule, your documents will be made available to a selection committee as well as to the relevant bodies and officials.

