



# Doctoral Position (f/m/x) in time – resolved terahertz spectroscopy of quantum materials

## Institute of Physics II

We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

The position is available in the optical condensed matter research group (<https://ph2.uni-koeln.de/arbeitsgruppen/loosdrecht>) in the Department of Physics. The aim of the doctoral project is to explore and control terahertz-induced dynamics of quantum matter using pump-probe spectroscopy techniques.

### YOUR TASKS

- » Studying non-linear dynamics in quantum matter using THz spectroscopy
- » Presenting research results at seminars and conferences, and publishing research results in peer-reviewed journals
- » Actively participating in scientific events and training courses for doctoral candidates
- » Teaching and supervising bachelor's and Master's students

### YOUR PROFILE

- » Master's degree in physics, applied optics or materials science
- » Highly motivated person with hands-on experience in femtosecond lasers and time-resolved pump-probe spectroscopy
- » Solid background in condensed matter physics or/and terahertz photonics
- » Experience with advanced data analysis and interpretation
- » Proficiency in programming (e.g. Python, MATLAB, Labview, and Origin) is desirable
- » Very good communication skills in written and spoken English
- » Ability to work independently while demonstrating strong teamwork skills

### WE OFFER

- » An inspiring, collaborative, and international research environment
- » A diverse working environment with equal opportunities
- » Support in balancing work and family life
- » Extensive advanced training opportunities
- » Occupational health management offers
- » Flexible working time models
- » Opportunity to work remotely

The University of Cologne promotes equal opportunities and diversity. Women will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from all suitable candidates regardless of their gender, nationality, ethnic and social origin, religion, disability, age, sexual orientation and identity.

The position is available at the earliest possible time on a part-time basis (19,92 hours per week the first year and the 2nd and 3rd year 29,87 hours per week). The position is to be filled for a fixed term of 3 years. If the applicant meets the relevant wage requirements and personal qualifications, the salary will be based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the required qualifications without a photo under: <https://jobportal.uni-koeln.de>. The reference number is Wiss2412-17. The application deadline is 31 January 2025.

For further inquiries, please contact Dr. Evgeny Mashkovich ([mashkovich@ph2.uni-koeln.de](mailto:mashkovich@ph2.uni-koeln.de)) and take a look at our [FAQs](#).

