

The Institute for Atmospheric Physics (IPA) at Johannes Gutenberg University Mainz (JGU) invites applications for a

PhD position (m/f/d)

funded within the Transregional Collaborative Research Centre 301

TPChange – The Tropopause Region in a Changing Atmosphere

by the German Research Foundation (DFG, Deutsche Forschungsgemeinschaft).

Within TPChange we aim to improve the understanding of relevant multiscale processes in the tropopause region and to specify their impact on composition, dynamics and ultimately on future climate and climate variability. The PhD candidate will work in project B07

Impact of cirrus clouds on tropopause structure

Cirrus clouds frequently occur in the tropopause region. They have a crucial impact on the thermodynamic structure of the tropopause region by diabatic processes (e.g. latent heat and radiation); temperature gradients and water vapour distributions are actively changed by these clouds. On the other hand, cirrus clouds are crucially affected by local dynamics, originating from gravity waves as well as dynamic and convective instabilities. The main goal of the project is to investigate the interaction of cirrus clouds and local dynamical processes, and their impact on the tropopause region. Using theoretical investigations with sophisticated mathematical methods as well as numerical modelling, we will investigate these interactions in order to develop new consistent parameterisations for the use in coarse grid models, finally. The main focus in this PhD project is on the interaction of ice clouds and instabilities.

Requirements

The ideal candidate holds a MSc in meteorology, physics, applied mathematics, computational sciences, or similar disciplines. Solid programming skills (e.g. Python) are desirable. Experience with mathematical model development would be an advantage, but is not mandatory.

Employment conditions

The position is offered for 4 years and the place of employment will be in Mainz, Germany. The targeted starting date is 1 July 2021.

Applications and deadline

Please send applications with reference of the code **B07-PHD-JGU** as one single pdf file to tpc_jobs@uni-mainz.de, including a motivation letter including your preferred project, CV, copies of relevant certificates, preferred starting date, and the names of at minimum two references.

Review of all applications will start on 1 June 2021 and will continue until the position is filled.

For further information, please contact peter.spichtinger@uni-mainz.de

TPChange offers a comprehensive and structured training for early career researchers. In addition to self-organised activities such as workshops, trainings and a guest program, the successful candidate will have the opportunity, if desired, to pursue international research visits. The consortium conducts an ambitious program to gradually enhance gender equality on all career levels.

IPA actively supports equality, diversity and inclusion, and as an equal opportunity employer, IPA explicitly encourages applications from women as well as from all others who will bring additional diversity to the university's research and teaching. Applicants with disabilities will be preferentially considered if suitably qualified.

We look forward to your application!

Notes on Data Protection: <https://www.verwaltung.personal.uni-mainz.de/files/2020/09/Datenschutz-BewerberInnen.pdf>