

## Seminar über Microwave Physics and Atmospheric Physics

**Referent/in:** Dr. Miriam Sinnhuber Karlsruhe Institute of Technology (KIT)  
Institute for Meteorology and Climate Research  
Atmospheric Trace Gases and Remote Sensing (IMK-ASF)

**Titel:** Energetic charged particle precipitation and the composition of the middle atmosphere

Energetic charged particles – protons, electrons and heavier ions with energies from tens of keV to hundreds of MeV – precipitate into the atmosphere at high latitudes, guided by the Earth's magnetic field. They originate from the sun, accelerated in the solar corona during flares or coronal mass ejection events, or from the terrestrial magnetosphere, accelerated during geomagnetic storms or auroral substorms by variations in the high-speed solar wind. In the atmosphere, they interact with the most abundant species by collision reactions, leading to dissociation, excitation and ionization of air molecules, and starting a chain of reactions which can greatly affect the chemical composition from the lower thermosphere down to the stratosphere.

In this talk, an overview of the state of the art will be provided, and open issues will be highlighted.

**Zeit:** Freitag, 18. November 2022, 10:15 Uhr

**Ort:** Room A97, Sidlerstrasse 5, 3012 Bern  
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ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09](https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09)  
Meeting ID: 970 8132 5603  
Passcode: iapmw