

Universität Bern  
Institut für Angewandte Physik  
Sidlerstrasse 5  
3012 Bern, Schweiz

Telefon: +41 (0)31 631 89 11  
E-Mail: [iapemail@iap.unibe.ch](mailto:iapemail@iap.unibe.ch)  
[www.iap.unibe.ch](http://www.iap.unibe.ch)



---

b  
**UNIVERSITÄT  
BERN**

## Seminar über Microwave Physics and Atmospheric Physics

**Referent/in:** Lidia-Marta Amarandi-Netedu, OCCR, University of Bern and PSI

**Titel:** Investigating the Characteristics and Origins of Ultrafine Primary Particles and New Particle Formation Events at the Rural Payerne Observatory

Atmospheric aerosol particles affect the Earth-atmosphere system, including its climate, air quality and ecosystems. In addition, they affect human health. Concerning the latter, Ultrafine particles (UFPs; aerodynamic diameter of <100 nm) have recently received more and more attention due to their ability to penetrate the alveolar regions in the human respiratory system, with solid UFPs suspected to even translocate into the blood and lymph circulatory systems. However, their sources (primary/ secondary), as well as their lifetimes and sinks, are a topic of ongoing research. This work investigates the precursors and frequency of new particle formation (NPF) and primary particles induced growth events at the rural Swiss-midland Payerne observatory with state of the art instrumentation including Mobility Particle Sizers and Air Ion Spectrometers for the size range between 2.5 nm and 467 nm. Preliminary results indicate that even for this rather rural station setting during weekdays, primary particles from traffic emissions observed during the rush-hours dominate the UFPs. By contrast, only 15 NPF events with distinct gas phase nucleation and growth have been detected between October 2020 and mid-May 2021.

**Zeit:** Freitag, 28. Mai 2021, 10:15 Uhr

**Ort:** Zoom Link: <https://unibe-ch.zoom.us/j/97081325603>  
Meeting ID: 970 8132 5603  
Passcode: iapmw