MMM SEMINAR SERIES

Turbulence in clouds: nonstationary, nonuniform anisotropic and intermittent. What can we do?

Szymon Malinowski
University of Warsaw

There is no general theory of turbulence. While we investigate atmospheric turbulence, we usually use theoretical tools developed in mid 20th century under assumption of homogeneous, uniform, stationary and isotropic turbulence, despite the fact that we know that the turbulence we study does not fulfill these assumptions. In high-resolution numerical simulations we can, at least, diagnose some properties of turbulence from 3-D, evolving in time, fields of velocity components and thermodynamic variables. But analyzing airborne data, i.e. time series collected along the 1-D complicated trajectory, such diagnostics was, so far, hardly available. In this talk I will present new approaches which allow to diagnose nonstationarity, intermittency and anisotropy of turbulence from airborne measurements. I will focus on the measurements collected in and around clouds as well as within the atmospheric boundary layer and cloud fields.

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Thursday, 19 January 2023, 2:00pm

Refreshments 1:45pm
Please also join colleagues for refreshments and informal discussion after the seminar until 3:30pm

NCAR-Foothills Laboratory, 3450 Mitchell Lane
FL2-1022, Large Auditorium

Seminar will also be live webcast
https://operations.ucar.edu/live-mmm
Participants may ask questions during the seminar via Slido