Montag, 15.01.2024, 16.00 Uhr

Sonderkolloquium

Dr. Maryna Lukach
(National Centre for Atmospheric Science (NCAS), Leeds, UK)

"Advancing Aeroecological Insights: Next-Generation Applications of Weather Radar and Machine Learning in Biodiversity Monitoring"

This talk presents machine learning advancements in application of hierarchical clustering to the Met Office's extensive archive of weather radar data. Building on the successful classification of weather radar observations using novel data-driven techniques, we delve into the potential of these methods in analyzing C-Band radars' big-scale datasets. Our focus is on identifying distinct aeroecological classes, using Quasi-Vertical Profiles (QVPs) and Columnar Vertical Products (CVP). This approach has demonstrated robust and accurate performance, promising significant improvements in the UK's quantitative observation and biodiversity monitoring capabilities. The talk highlights recent advancements in using weather radar data, particularly from the NCAS X-band and the C-band of the Met Office radar network, for a more nuanced understanding of spatial and temporal patterns in various airborne biological entities. Our findings offer a new perspective on the utility of weather radars in ecological monitoring, underscoring the importance of integrating advanced clustering techniques in environmental science and global biodiversity conservation efforts.

Link:
https://uni-leipzig.zoom.us/j/2221796012