

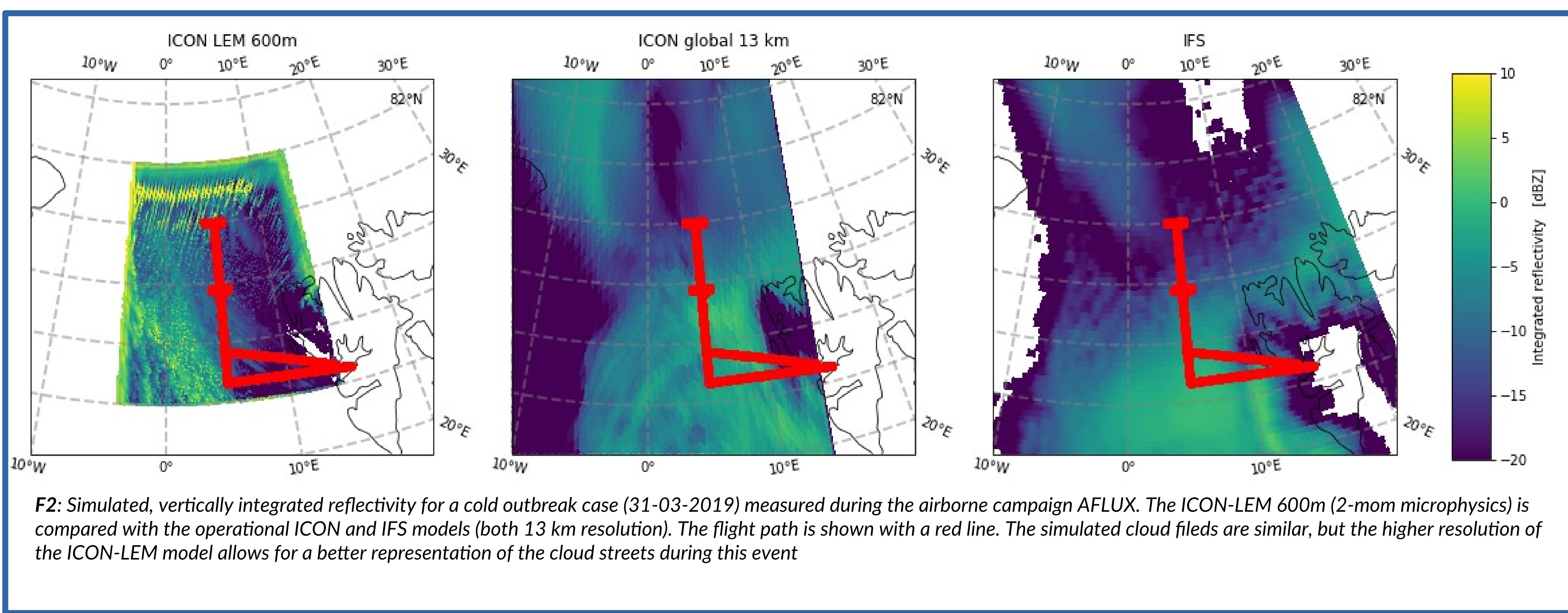
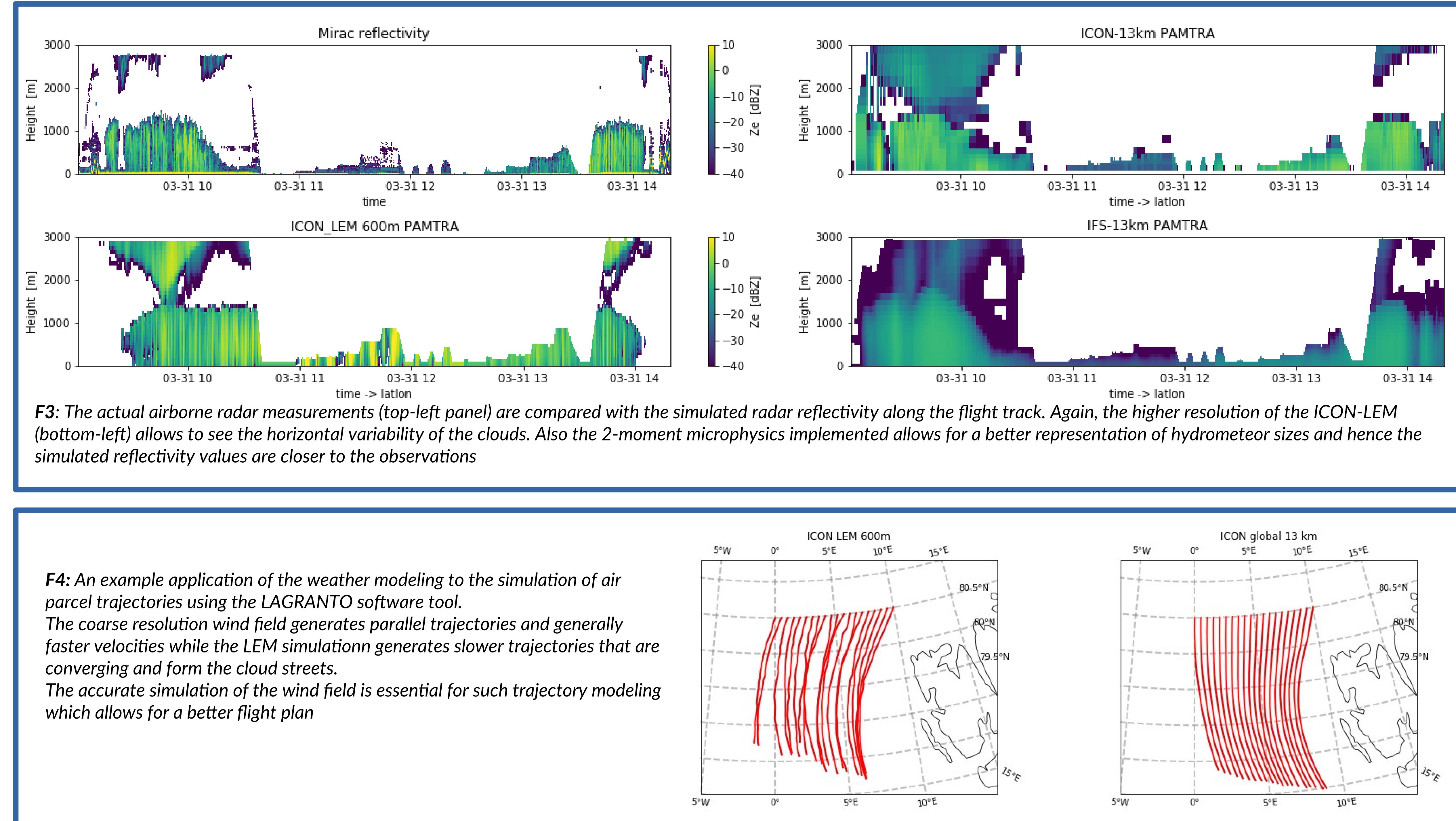
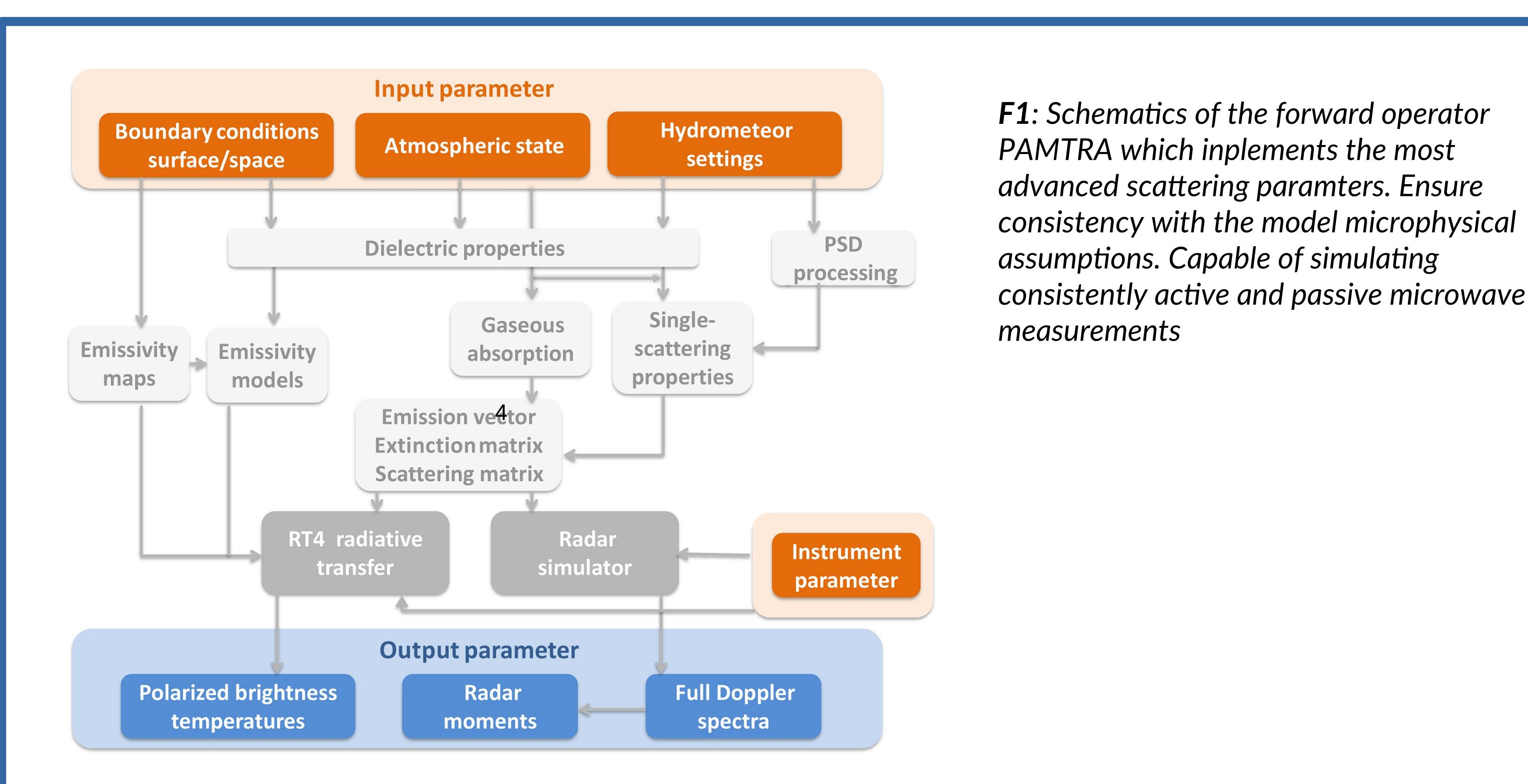
# Simulation of airborne radar measurements in the Arctic using weather models and an advanced forward operator



Davide Ori, Vera Schemann  
University of Cologne, Germany

## MOTIVATION

- 1) Weather models are an essential component of the upcoming HALO-AC3 campaign. Applications include better flight planning and actual interpretation of the collected data
- 2) Model domain and resolution needs to be optimized for best results
- 3) Forward operators are useful to simulate the expected measurements
- 4) Model data are essential also for air parcel trajectory simulation



## SUMMARY

- The HiRes simulations allow for a better representation of clouds and wind fields
- The instrument forward simulations and trajectory modeling will help in the flight planning phase and in the post-mission data interpretation
- The size of the simulation domain must be adapted to reduce the computational cost
- Forward simulations are also expensive. Working on a LUT scattering table implementation for fast (online) computations during the campaign