Working Group on Precipitation Life cycle

Participants:

- Janek Zimmer, University of Leipzig
  quantification of topographic effects; high precipitation events, mostly stratiform precip, embedded convection, rain gauges, radar precipitation products, vertical velocity structure
- Armin Mathes, University of Bonn
  probability forecast, rain gauges data analysis (quality control)
- Susanne Keyn, University of Hannover
  benefit of total lightning for precipitation forecast, probablistic model for showers, Siemens lightning system only cloud to ground lightning, model validation
- Eberhard Reimer, Freie Universität Berlin
  distribution of extremes from 1 min to 1 year, analysis of 3D-precipitation, vertical profiles of precipitation, 3D-analysis of clouds, separation of stratiform and convective precipitation, radar analysis in Brandenburg for assimilation in chemical models
- Alessandro Battaglia, University of Bonn
  2 MRR, MICCY, life cycle of convective systems, Is local model capturing the life cycle of convection in terms of cell size, cell duration? Combine satellite (cloudsat) overpasses, RHI ? Low-frequency microwave radiometer for separation between cloud and rain water? MSG data effective radius, precipitation productions
- Susanne Crewell, University of Munich
  Synergy, combination of instruments, GOP, HATPRO together with AMF
- Martin Hagen, DLR
  Polarimetric Weather radar, hydrometeor classification, DSD from radar. Warm precipitation in orographic regions. Does it occur? Lightning system of DLR

- Refine science questions

  What is the role of orography on the development of convective cell? Organised convection?

  Does orography effect the hydrometeor distribution, development of graupel and hail and the precipitation DSD ?

  What triggers the transfer of drizzle (virga) into full precipitation?

  Hypothesis: Life cycle of single cells are probably affected by orography but not the larger systems?

- Define measurement strategy

  Polarimetric radar (Poldirad), Weather Radar, Satellite precipitation products from combination of polar orbiting and geostationary satellites, MRR, disdrometer, Doppler on wheels

- Hail pads

- cloud radar/lidar/microwave at super sites for drizzle detections (eventually scanning)

  Shouldn’t we do observations at the lee side (transect with MRR)
- Define links to other WGs
  Hot spots for starting deep convection for location of MRR
- Coordinate observations, provide real-data
  real-time is no problem if internet access available
- Develop instrument strategies
  strategies for volume and RHI scans (transects together with aircraft flights and satellite)
- Data management

  quicklooks

Discussion of scanning strategies of French and Swiss radars, uncertainties of rain gauges

Validation of satellite precipitation products (contact Chris Kidd, Florence group)

Martin Hagen
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