



LNG HRS airborne lidar contribution to Cal/Val for ADM-Aeolus

J. Pelon, J. Delanoë, A. Irbah, F. Blouzon*, M. VanHaecke, Q. Cazenave, P. Genau,
J.F. Mariscal, D. Bruneau

LATMOS/IPSL, UPC, UVQ, CNRS, Paris France and * INSU/DT, Meudon , France

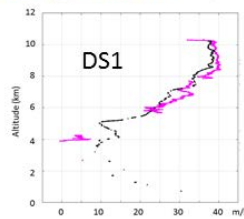
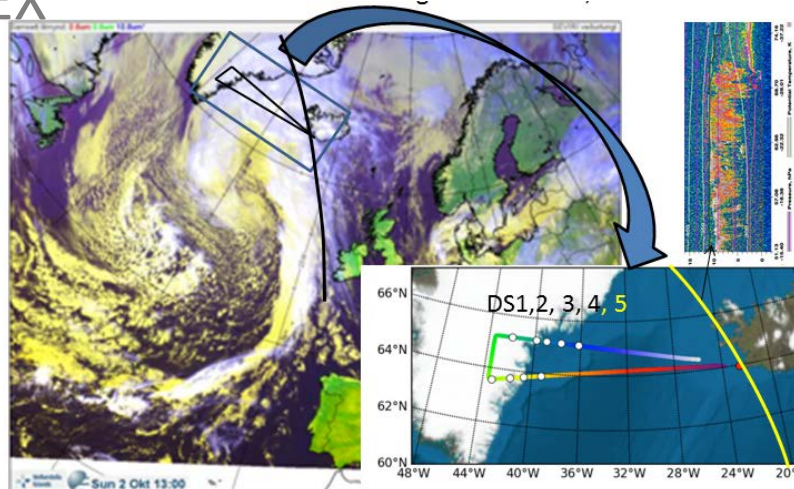
Proposal objectives

- Actively take part to the ADM-Aeolus CAL/VAL with flights of the airborne UV-HRS-LNG/RALI (lidar-radar) system on board the SAFIRE F-20
- Measure a large set of atmospheric parameters under the ADM-AEOLUS track (UV aerosol and cloud extinction, backscatter, depolarization, lidar ratio, color ratio, LOS wind and wind profiles from VADs in aerosol and cloud layers, ...) at any latitude up to 12 km altitude.
- Take advantage of combined LNG and Rasta (95 GHz radar part of RALI) observations for EarthCare preparation

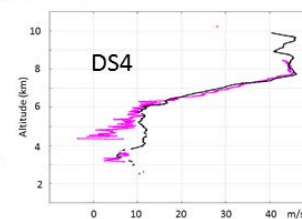
Description of CAL/VAL techniques applied

- The UV-HRS lidar LNG is operational: it has successfully been involved in the collaborative field experiment of NAWDEX

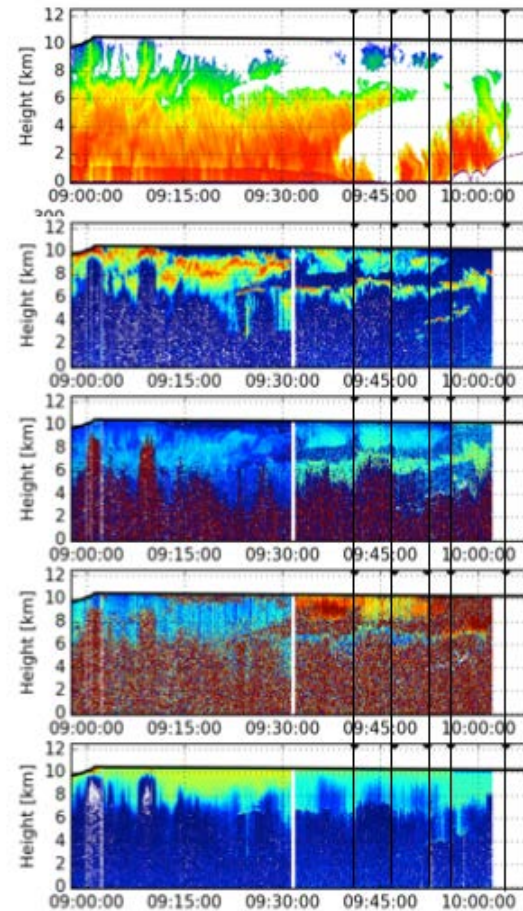
with
DLR



Comparison of Projected DS Wind (black) With LNG line of Sight measts (pink)



Oct, 2nd 2016 DS 1 2 3 4 5



Nadir 37° pointing

Contribution to Aeolus CAL/VAL requirements



- Validation of “MIE” products using LNG/RALI on board SAFIRE F 20
- Organize field experiment coordinated with DLR (following NAWDEX, Dirk’s talk yesterday) to fly with A2D
- Support from ESA and CNES
- Identify location and duration, flight plans

...

Status of manpower, tools and funding

- LATMOS and SAFIRE teams ready to participate
- HRS-LNG operational
- Combined RALI payload allows further insights and contribution to EarthCARE simultaneously
- Dropsondes
- Radiometry and base met parameters

Next steps

- Identify campaign period(s) and location(s) and organize with ESA and CNES

- See poster on HRS-LNG observations

