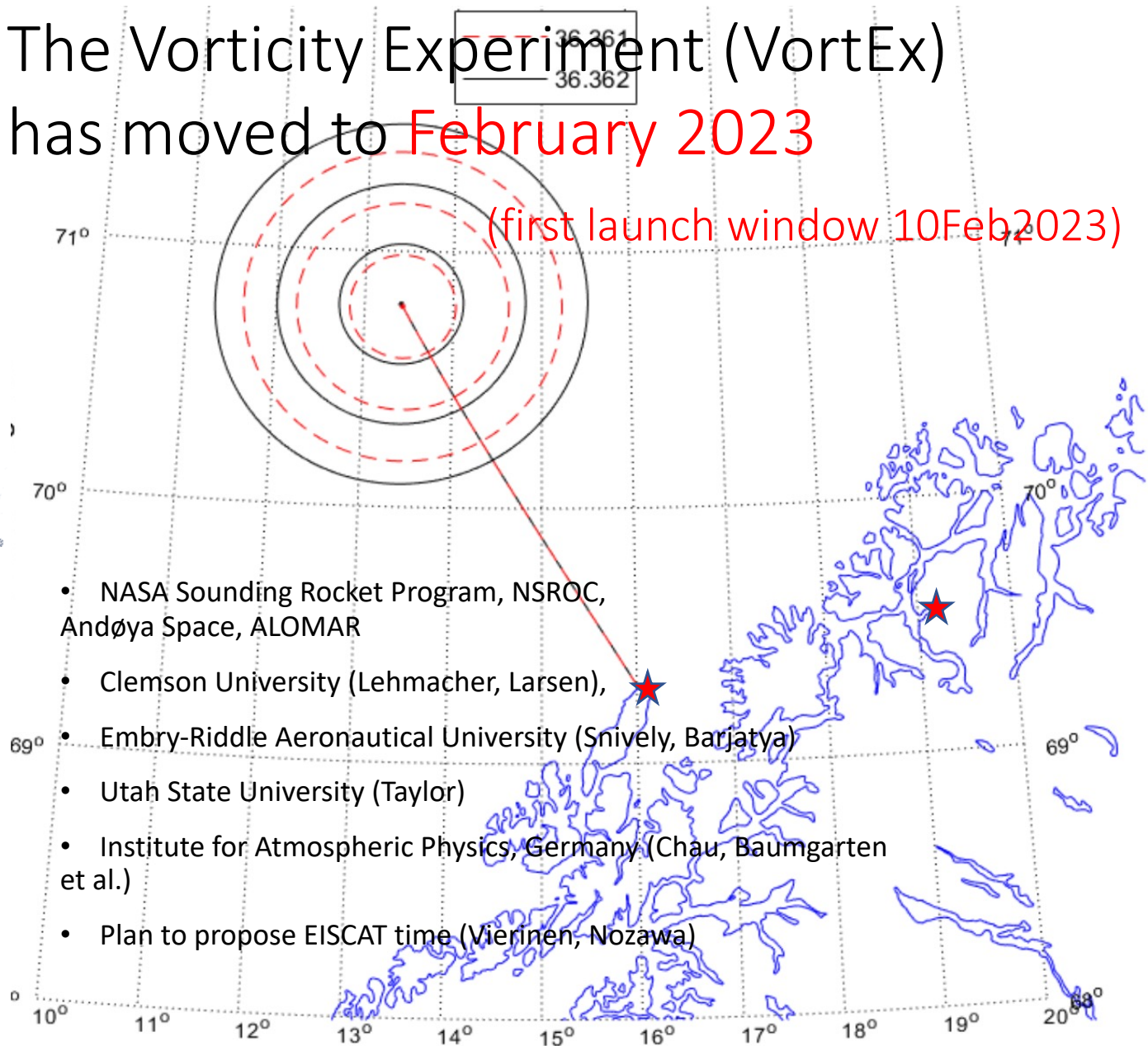




The Vorticity Experiment (VortEx) has moved to February 2023

36.361
36.362

(first launch window 10Feb2023)



- NASA Sounding Rocket Program, NSROC, Andøya Space, ALOMAR
- Clemson University (Lehmacher, Larsen),
- Embry-Riddle Aeronautical University (Snively, Barjatya)
- Utah State University (Taylor)
- Institute for Atmospheric Physics, Germany (Chau, Baumgarten et al.)
- Plan to propose EISCAT time (Vierinen, Nozawa)

4 Sounding Rockets • 2 Salvoes, to be launched in pairs, in same or different nights

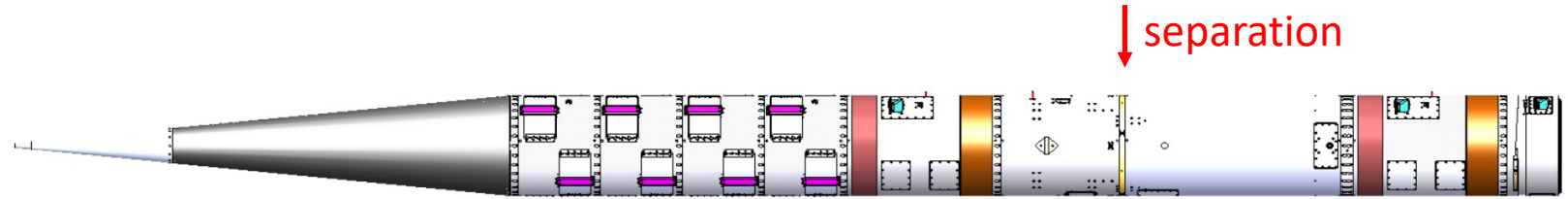
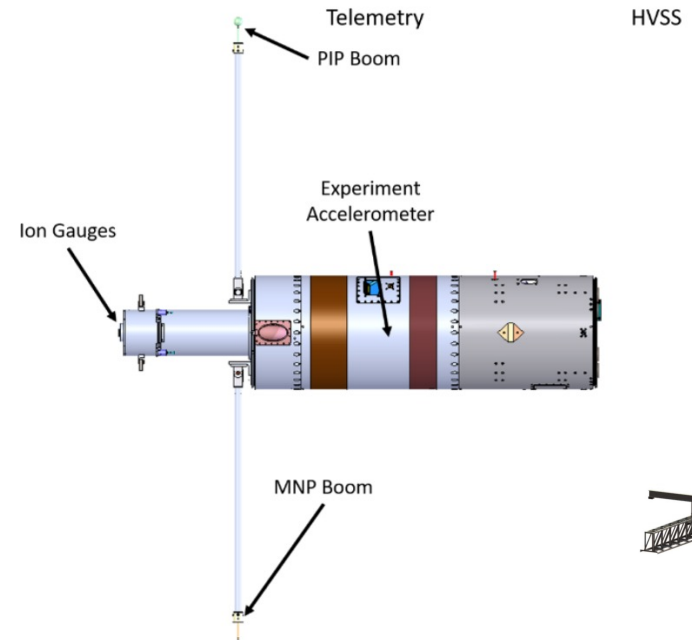
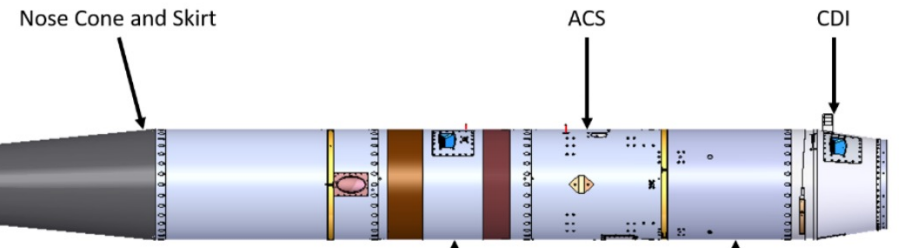


Figure 1: Payload Layout



36.361 & 36.362 Terrier-Black Brant (BBIX MOD2), Chemicals, **neutral winds**, up+down TMA **trails** & 16 TMA ejectables/ampules/**blobs**, 2x2x4 grid, 90, 100, 110, 120 km, ~70 km diagonal separation

Apogee 281 km, range 180 km (@80 km downleg), on Athena and U3 launcher, camera sites (2 ground + airplane)

41.127 & 41.128 Terrier Mk12-Improved Orion, Instrumented, **neutral density, temperature, plasma density and fluctuations**, up+down,

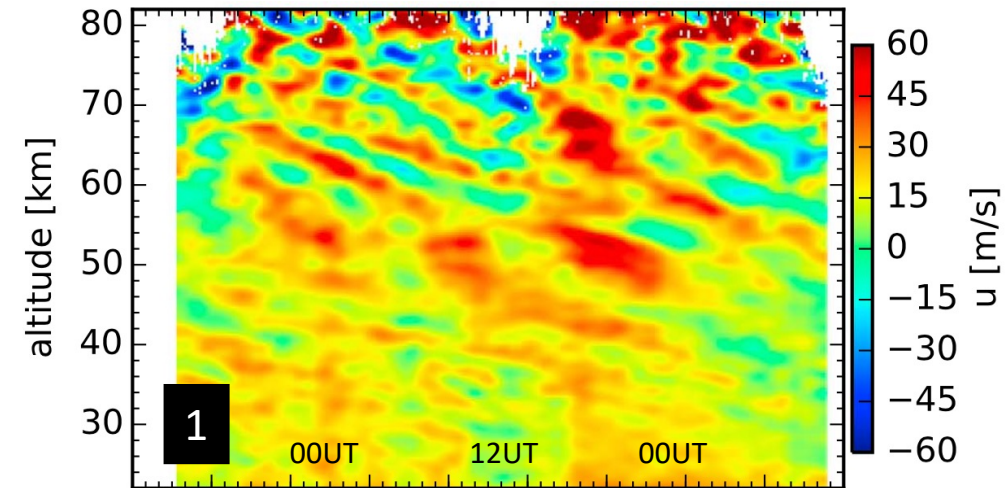
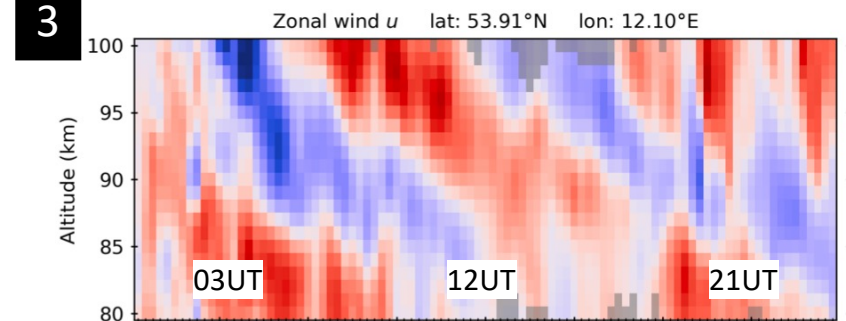
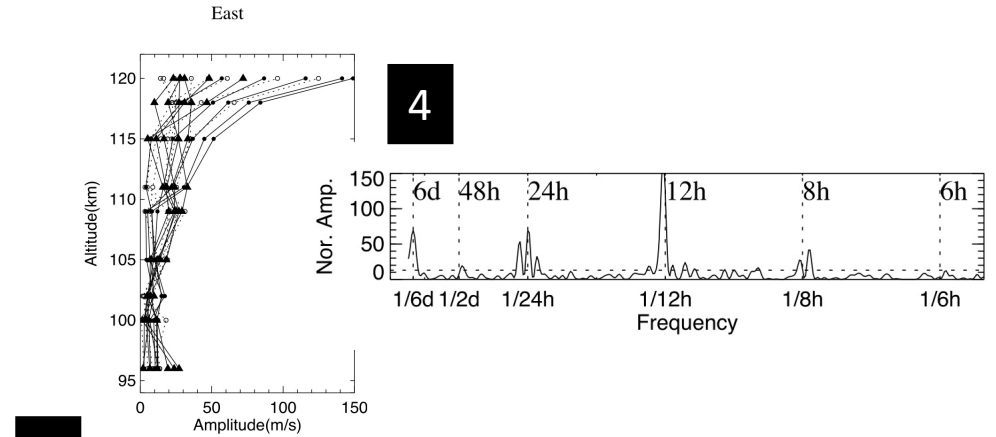
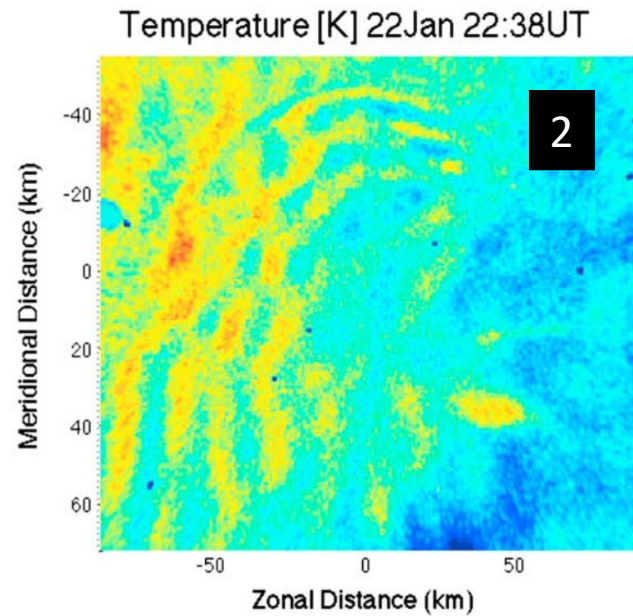
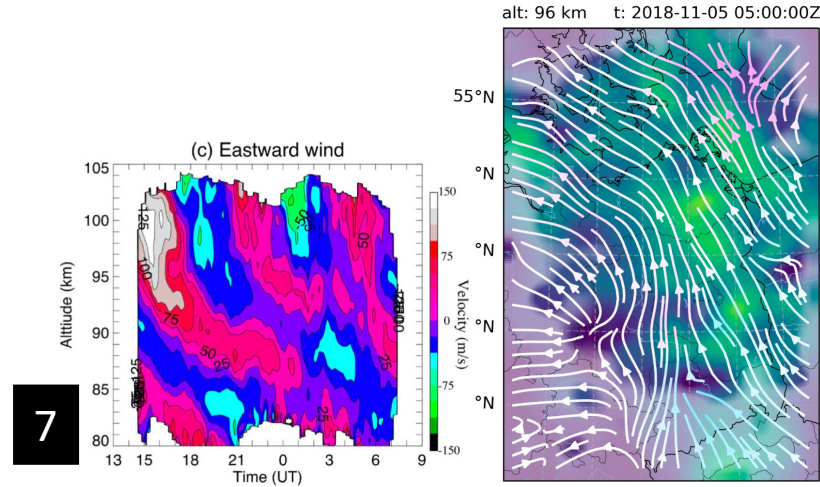
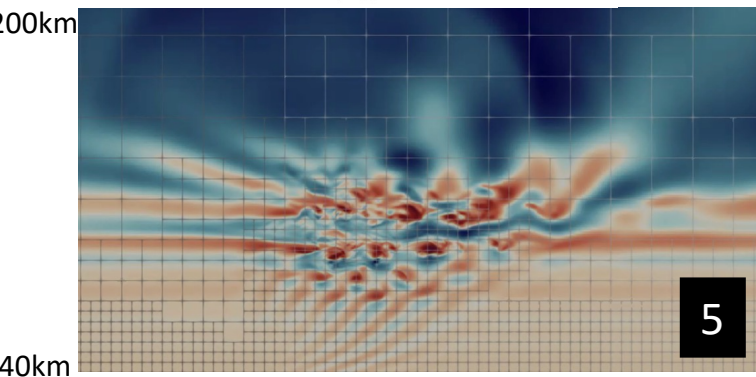
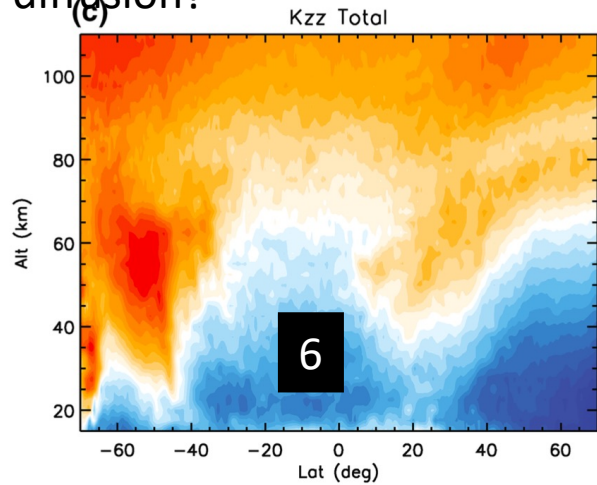
Apogee 146 km, range 106 km (@80 km downleg)
4k3 twin launcher (right)

Objective: Case studies of mesoscale dynamics in the MLT

What happens to GW below and above the turbopause?

Energy, divergence, vorticity...

What is the contribution of mesoscales to the effective eddy diffusion?



(1) RMR lidar, Baumgarten... 2015 (2) AMTM, OH*, Bossert... 2014 (3) SIMONE Germany, Volz... 2021 (4) EISCAT, Nozawa... 2010
 (5) MAGIC, Snively 2020 (6) WACCM, Liu 2020 (7) Na lidar, Kawahara... 2017.