

DLR-Lidar observations during DEEPWAVE

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Wissen für Morgen









Sodium-Rayleigh-Brillouin-Raman Lidar (Na-RBR)

Transmitter

0.5 W at 589 nm

10 W at 532 nm

100 Hz repute

Bandwidth <100 MHz

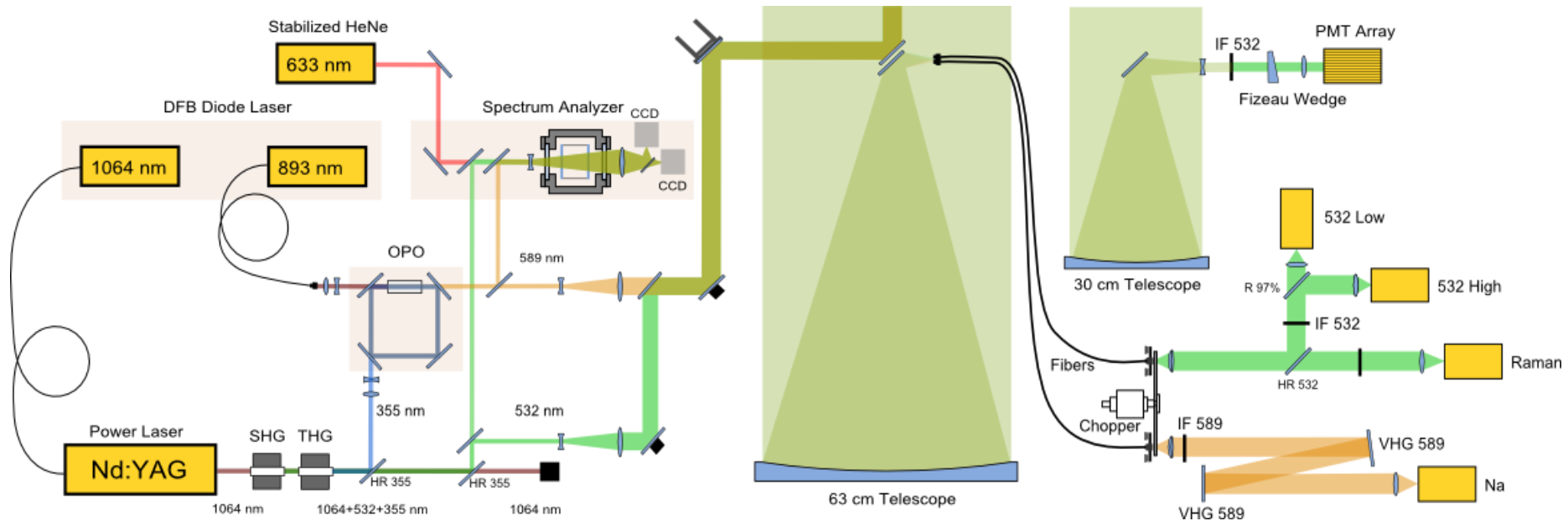
Receiver

1 Channel at 589 nm

1 Raman channel

2 Channels at 532 nm

1 Rayleigh-Brillouin channel

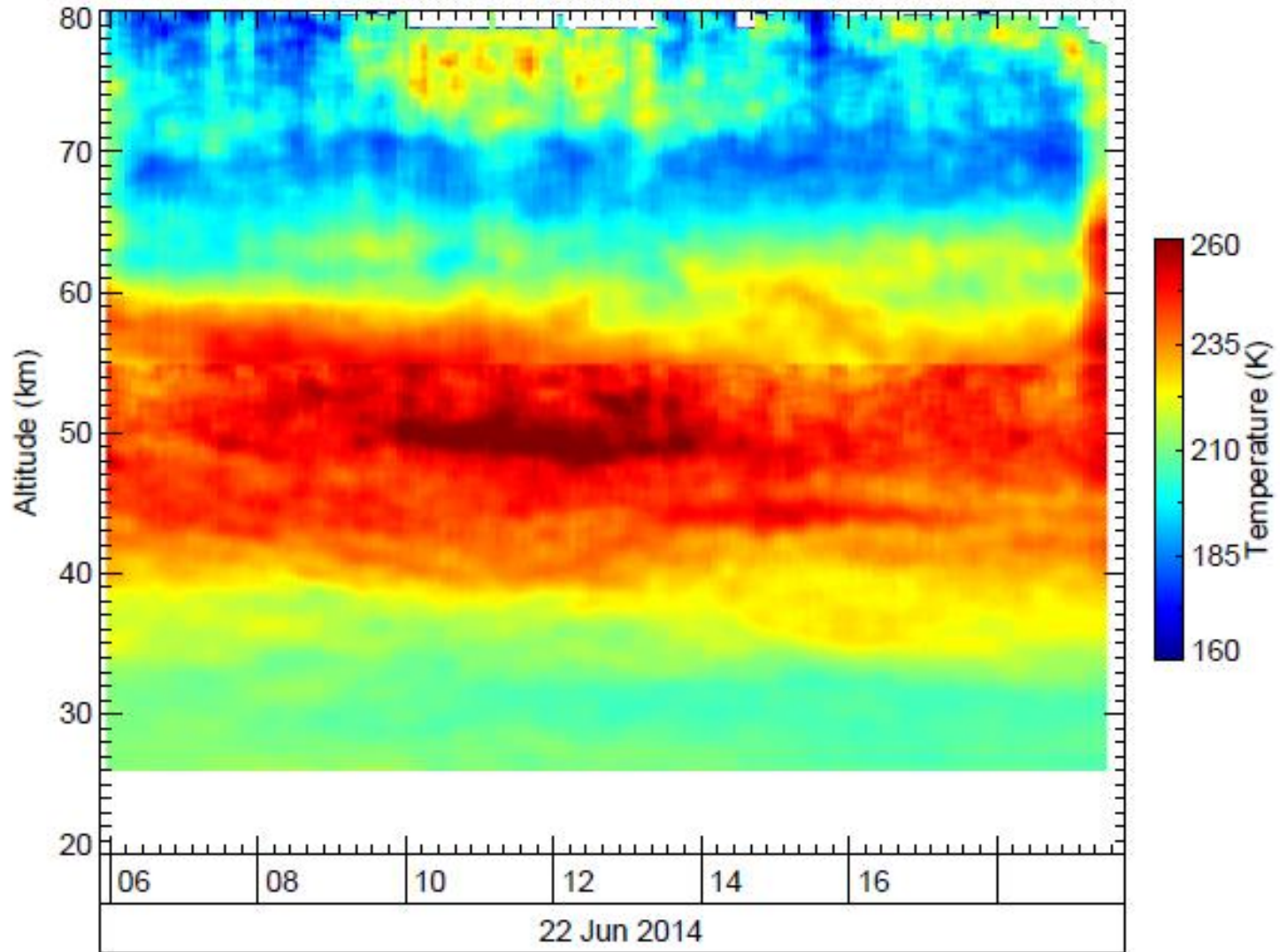


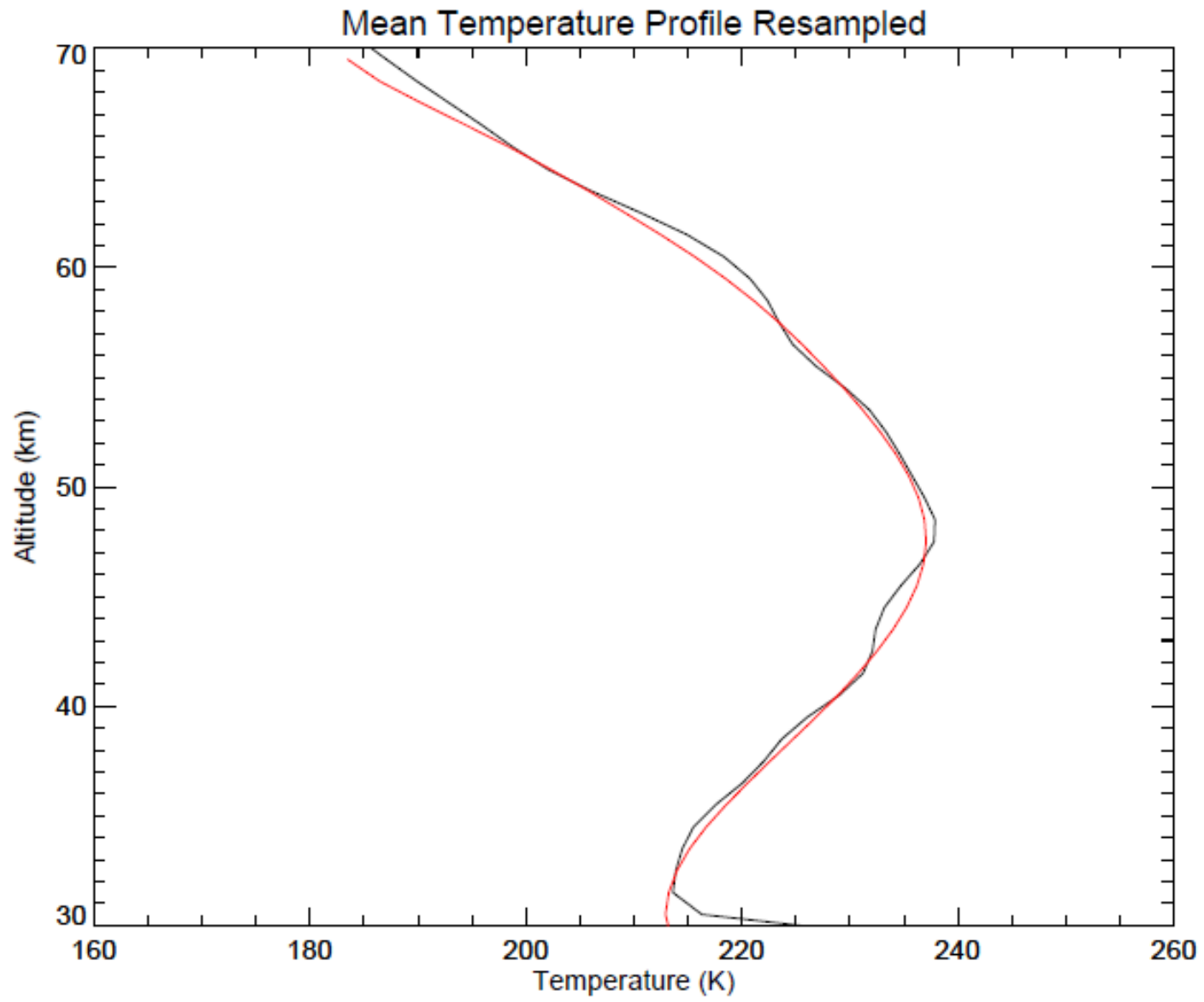
Comparison

	ALIMA	Na-RBR
Operation	Airborne system, Operated in campaigns	Ground based system, Autonomous operation
Metal	Iron (372 nm)	Sodium (589 nm)
Measurements	Temperature (14-100 km) Vertical wind (80-100 km) Iron density (70-120 km) Momentum flux Aerosol (14-35 km)	Temperature (5-100 km) Sodium density (80-110 km) Aerosol (5-35 km)
Resolution in metal layer	1 km, 1.5 min	1 km, 15 min
Daylight capability	Yes	No / maybe degraded
Output power	9 W at 372 nm 4 W at 744 nm	0.5 W at 589 nm 10 W at 532 nm
Telescope aperture	42 cm	63 cm
Field of view	90 microrad	365 microrad

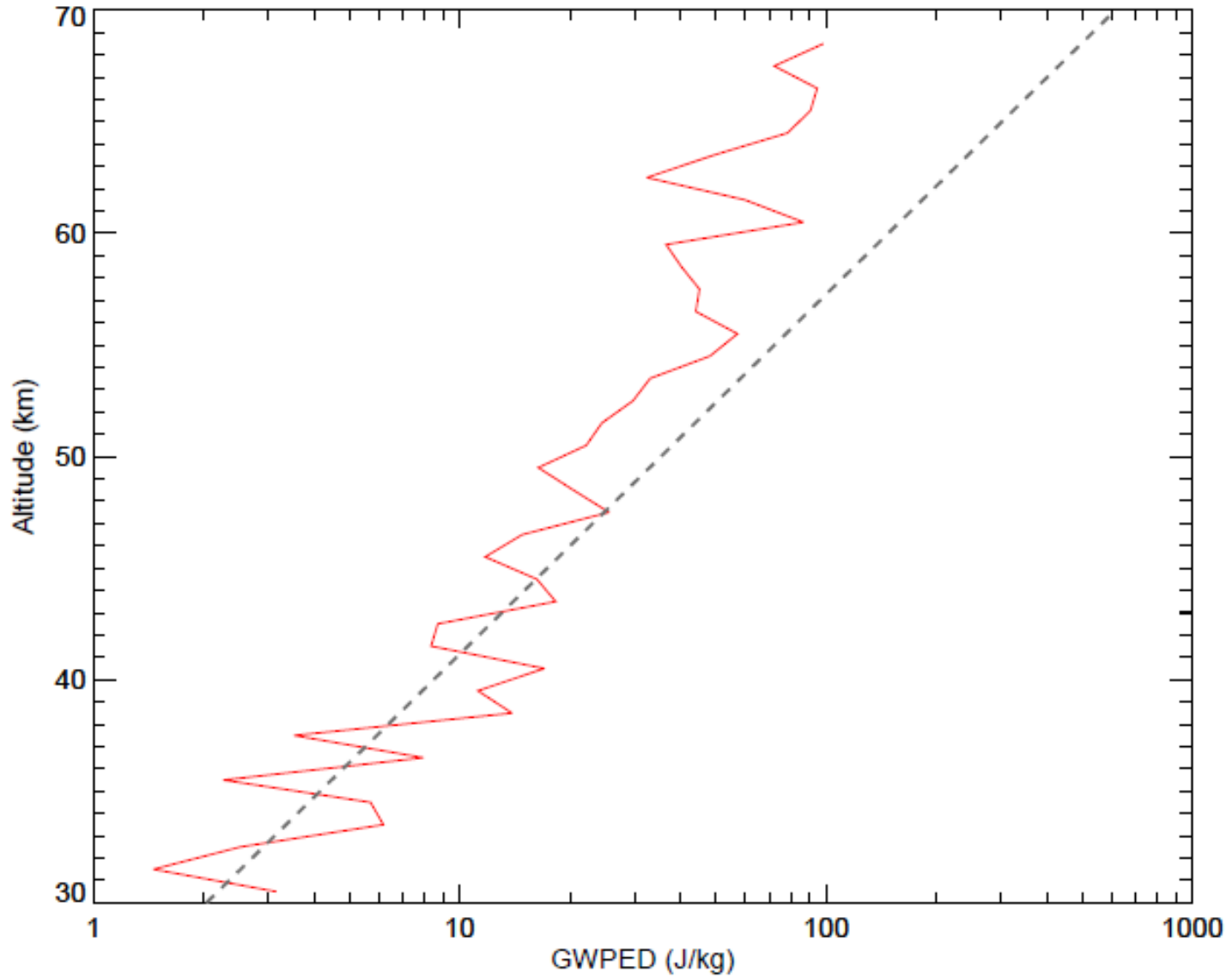


DLR Lidar at Lauder

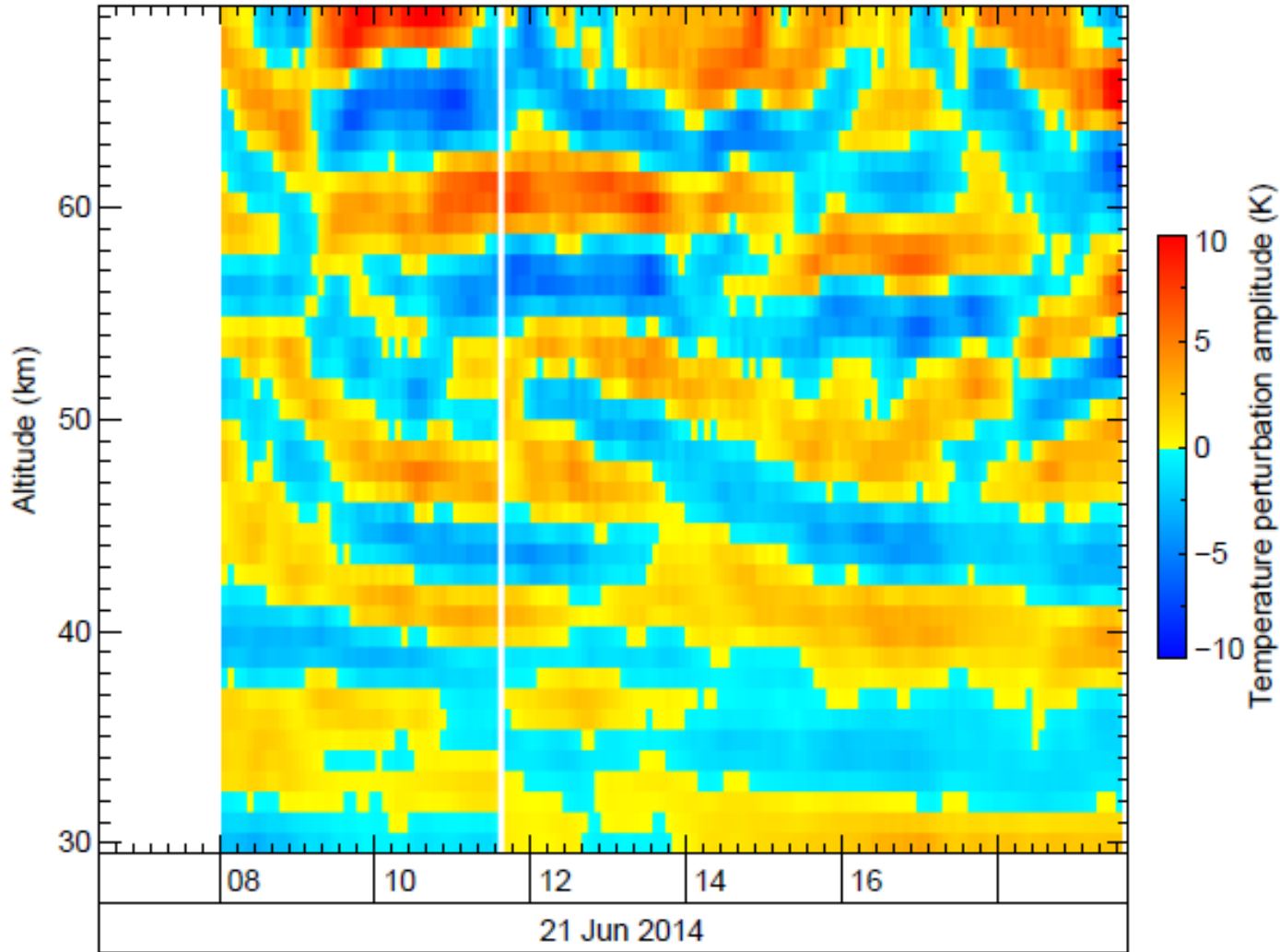




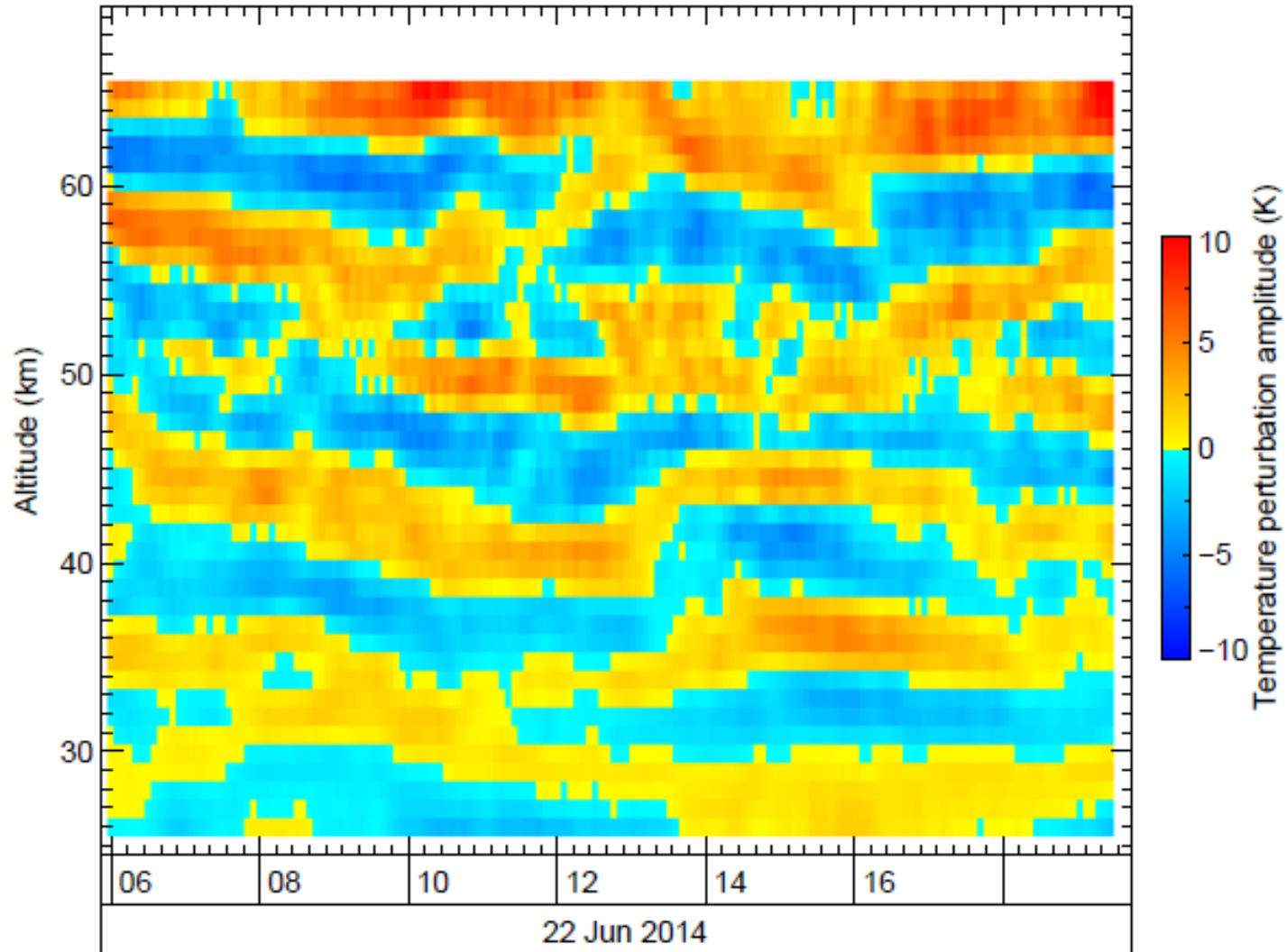
DLR Lidar at Lauder



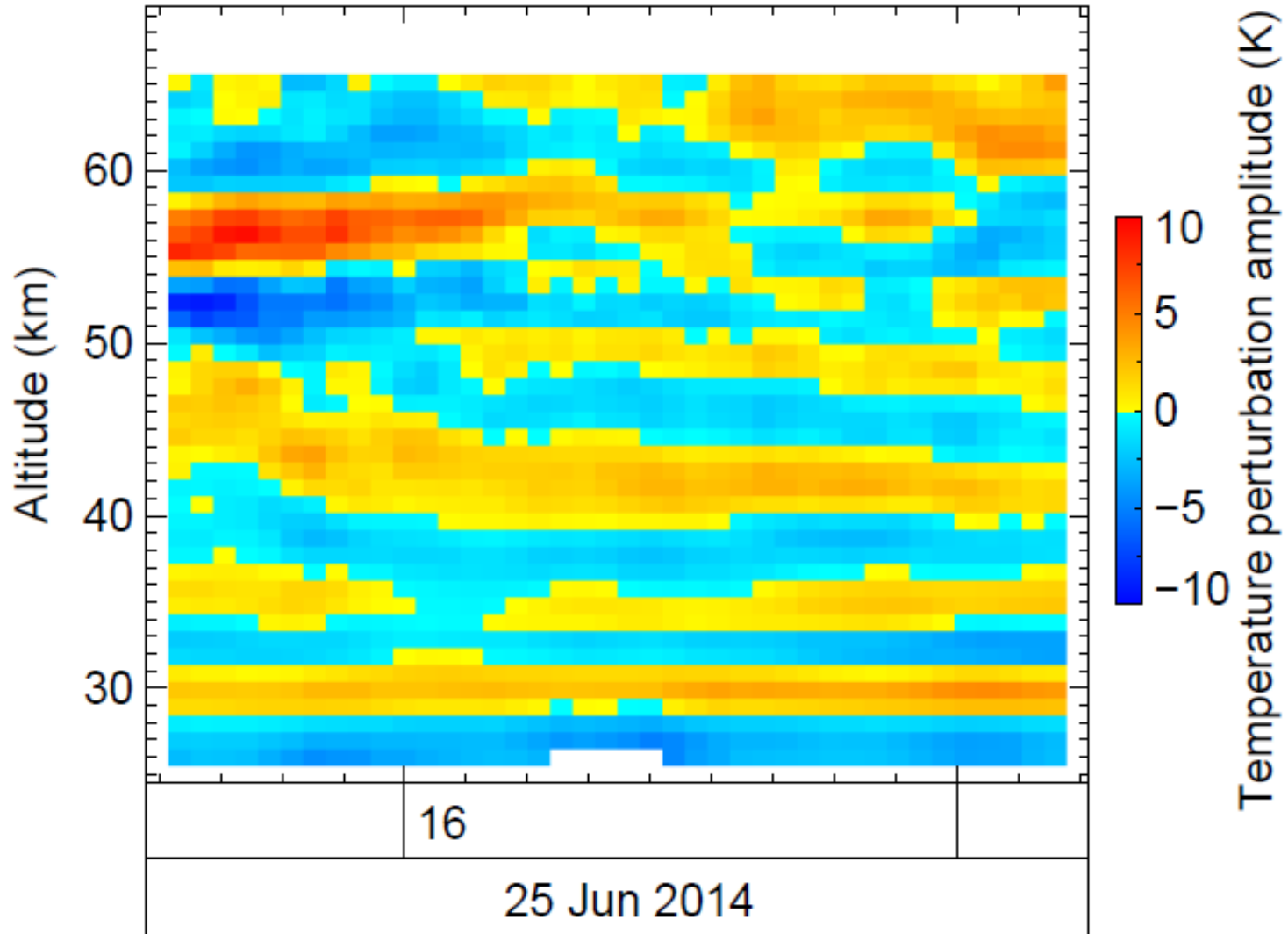
DLR Lidar at Lauder



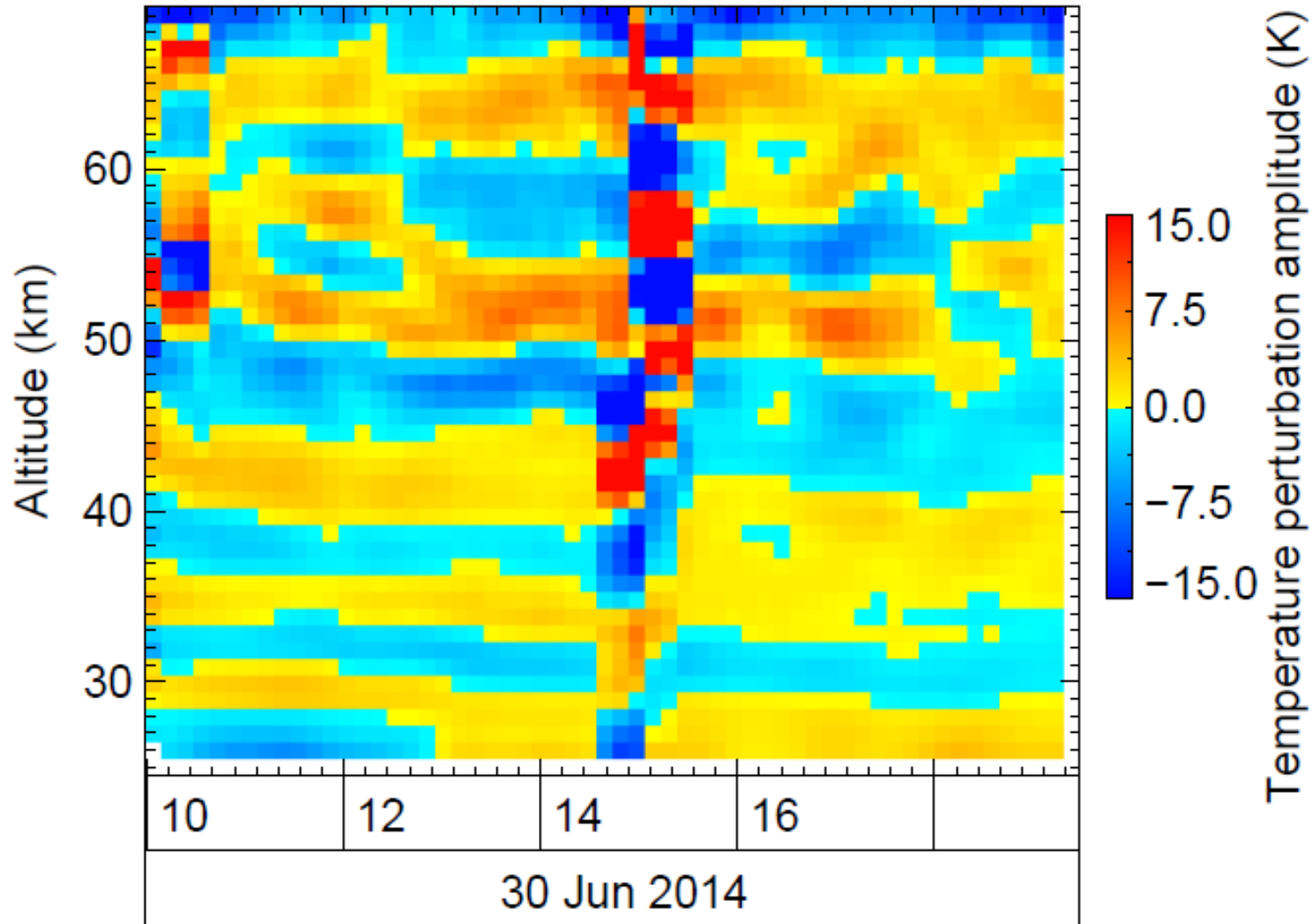
DLR Lidar at Lauder



DLR Lidar at Lauder



DLR Lidar at Lauder



Measurements since July 1st:

- July 1st: „flat structures“, not propagating
- July 2nd : „flat structures“, not propagating
- July 4th: propagating waves

Sorry no new plots: Internet conn. to Lauder broken...

