

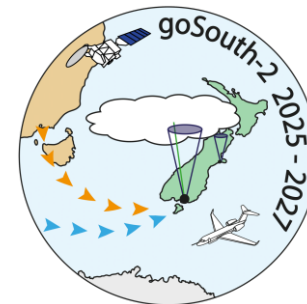
Possible misalignment of the internal leveling sensor of the LACROS RPG-94-FMCW cloud radar

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22. Oct. 2025,
CCRES workshop,
Evora, Pt

<https://gosouth2.tropos.de/>



*LACROS at Invercargill,
NZ, for goSouth-2
campaign*

Member of the



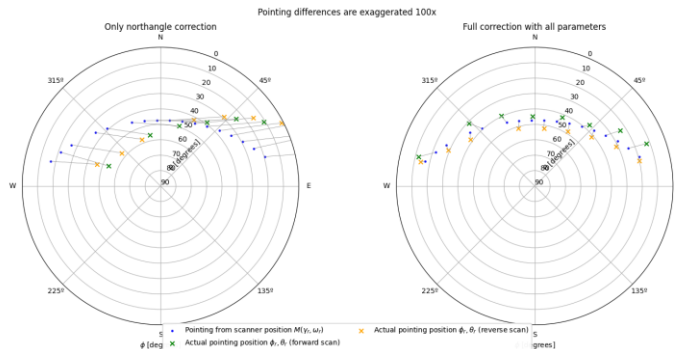
UNIVERSITÄT
LEIPZIG



TROPOS
Leibniz Institute for
Tropospheric Research

MIRA-35 LACROS Sun Scans @ Invercargill, New Zealand

Before adjustment of radar pointing → ELV 0.4° off



General Scanner Model:

Azimuth Offset: 269.6206 °

Elevation Offset: 0.0568 °

Alpha: -0.4070 °

Delta: 0.0610 °

Beta: 0.0002 °

Epsilon: 0.0090 °

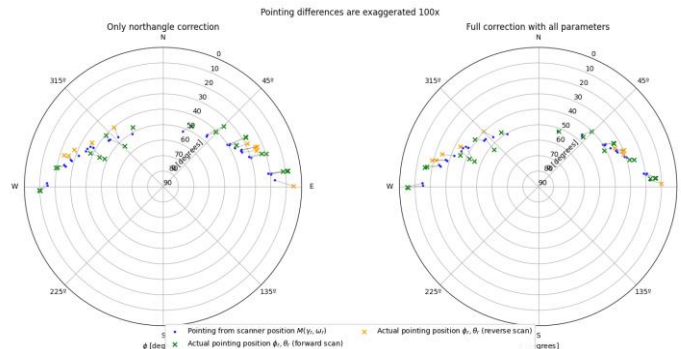
Time Offset: -0.2721 s

Azimuth Backlash: -0.0424 °

Flex: 0.0000 ° at 0 elevation

Radiation on (no errors due to Precip radar
off for maintenance)

After adjustment of radar pointing → ELV 0.05° off



General Scanner Model:

Azimuth Offset: 269.5746 °

Elevation Offset: -0.0009 °

Alpha: -0.0485 °

Delta: 0.0353 °

Beta: -0.0567 °

Epsilon: 0.0390 °

Time Offset: -0.3078 s

Azimuth Backlash: -0.0344 °

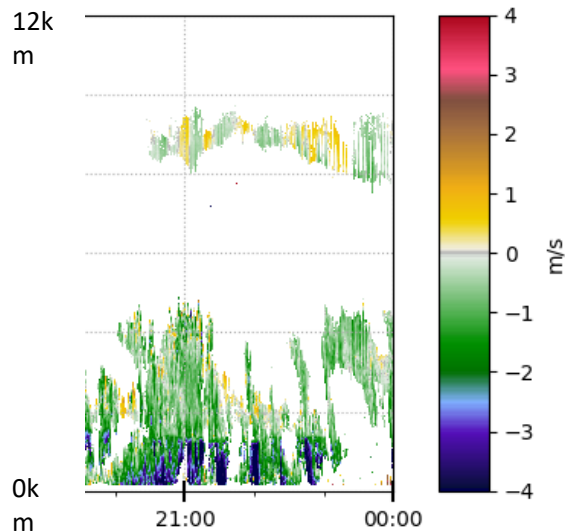
Flex: 0.0000 ° at 0 elevation



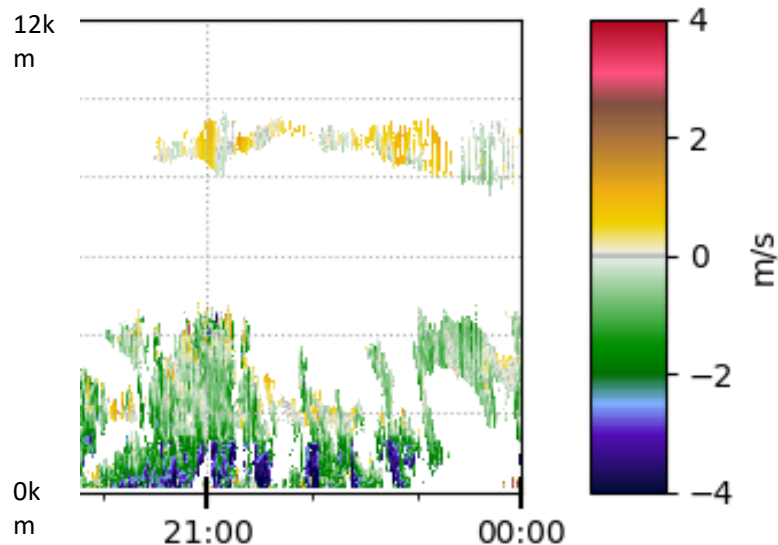
Transmitter off, but still quite frequent receiver problems,
Especially gap around noon

Observation Example (2025-10-17 Invercargill)

MIRA-35 LACROS already adjusted



RPG94 LACROS not yet adjusted



23UTC Radiosonde horizontal Wind 8-10km: 75m/s

RPG FMCW94 LACROS

before



N-S was ok



E-W not so much,
Regardless of position of
spirit level (top of radar
unit or stand) or
direction of the spirit
level.
(also checked opposite
direction on stand but
omitted the picture).

But software tells us
everything fine...

El / Az Positioner

Status: NOT FOUND

Elevation: -----

Azimuth: -----

Radar Inclination Angles

Elevation: -0.01°

Elevation Axis: 0.00°

after



N-S still fine



E-W a lot better



Internal sensor now off

Radar Inclination Angles

Elevation: 0.54°

Elevation Axis: -0.01°