Preliminary Match-up of AIRS to ARM CART Soundings and AVN Grids

Eric Fetzer

AIRS Science Team Meeting

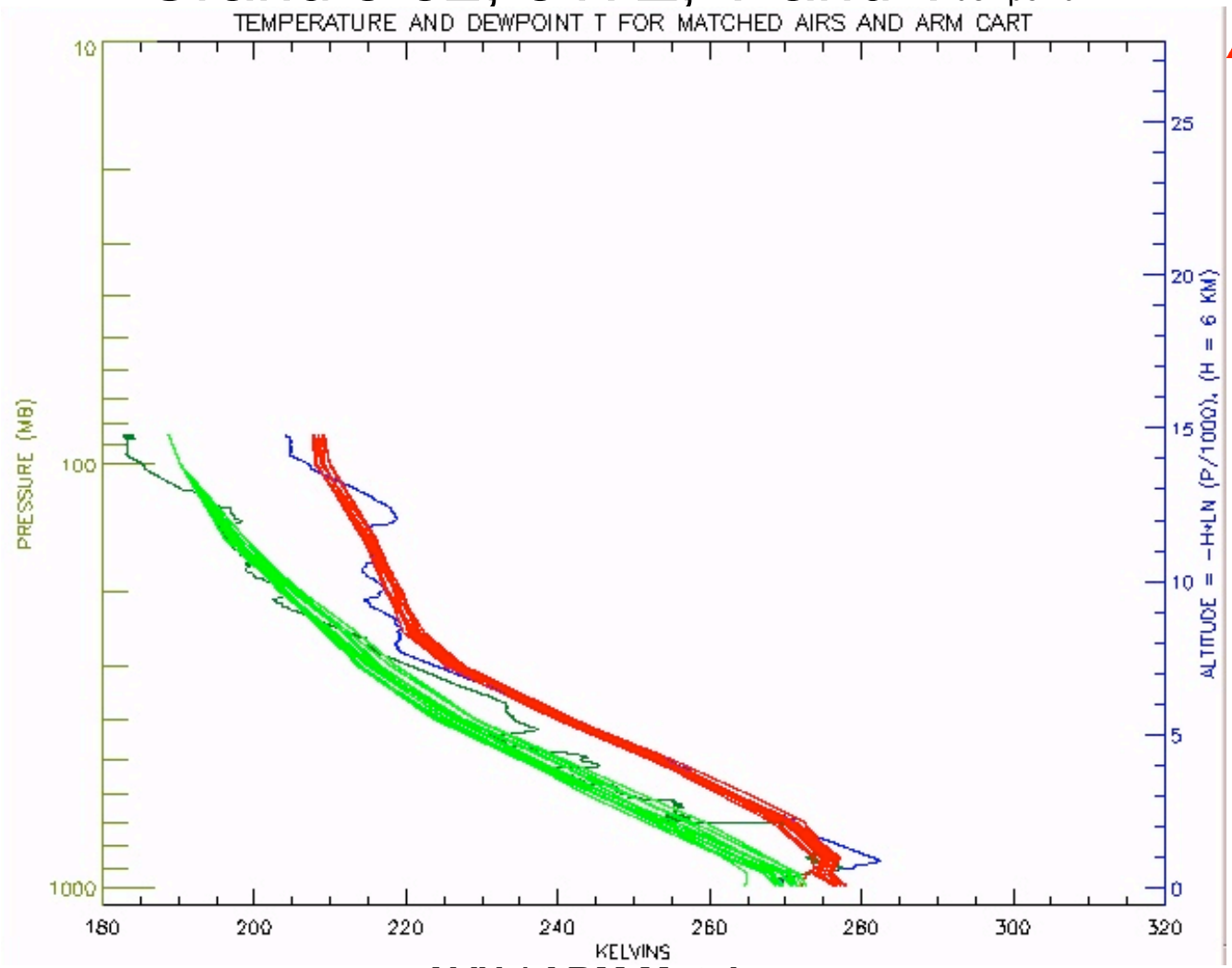
June, 2001

Pasadena

ARM CART Matchup Procedure

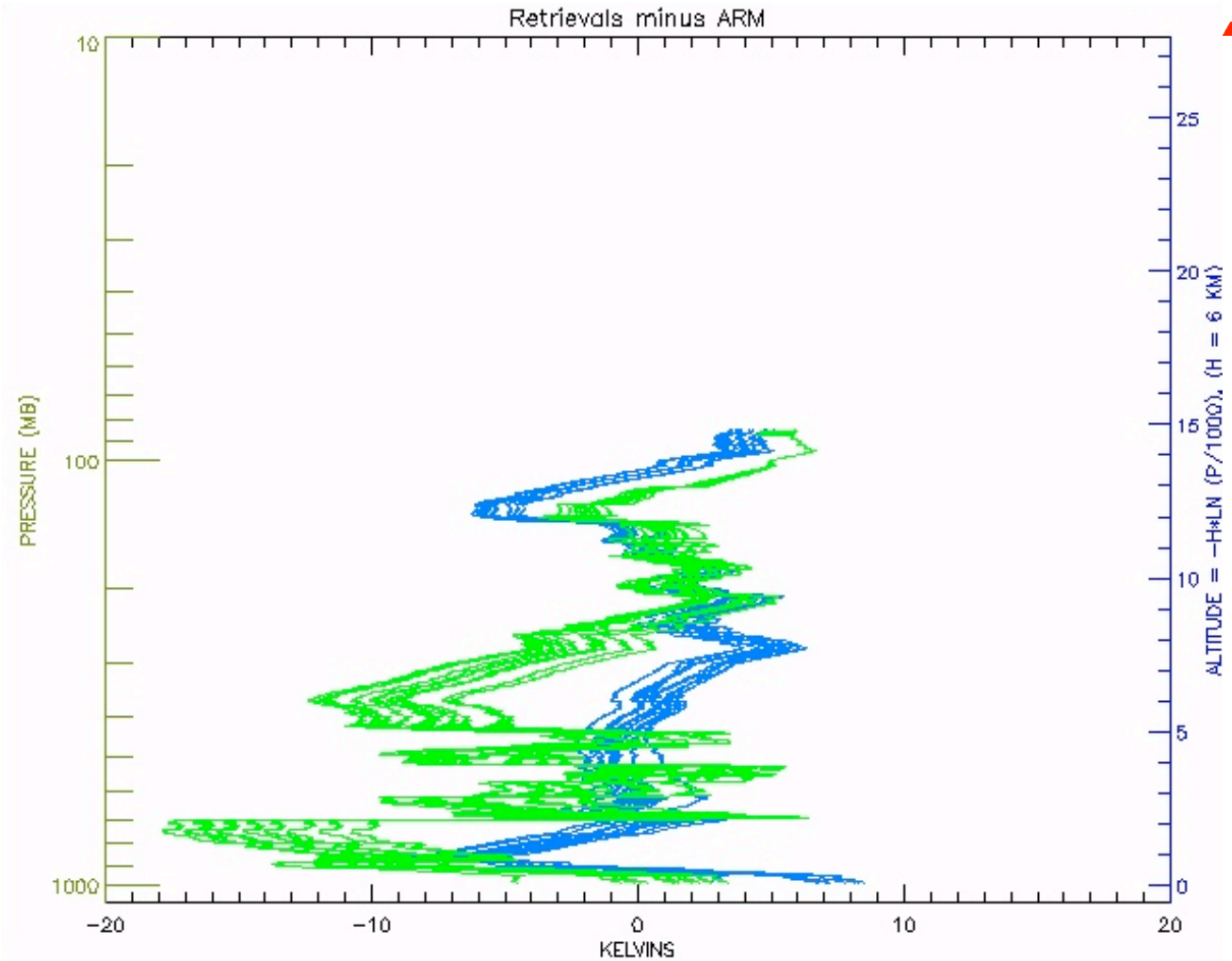
- Match Dave Tobin's ARM CART best estimate to AIRS simulated retrievals.
- Explain the synoptic picture

AIRS-ARM CART Matchup
Granule 82, 817Z, T and $T_{dewpoint}$



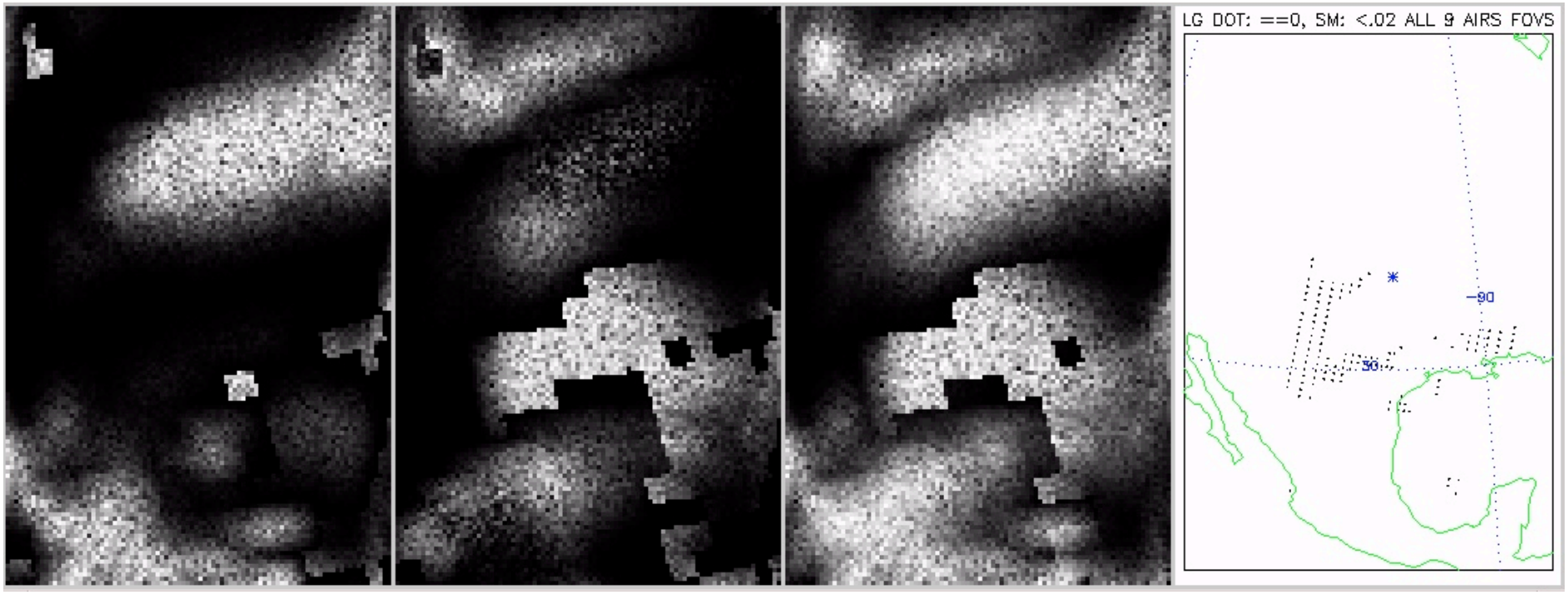
AVN / ARM Match-ups

AIRS-ARM CART Matchup Difference Granule 82 (green =T, blue = $T_{dewpoint}$)



AVN / ARM Match-ups

Granule 82 *Truth* Clouds



ARM CART Conclusions

- Hope for clear, calm, conditions during ARM CART overpasses.

- Supplemental information about the synoptic state (e. g, satellite imagery, model analyses) is needed to identify these desirable conditions.

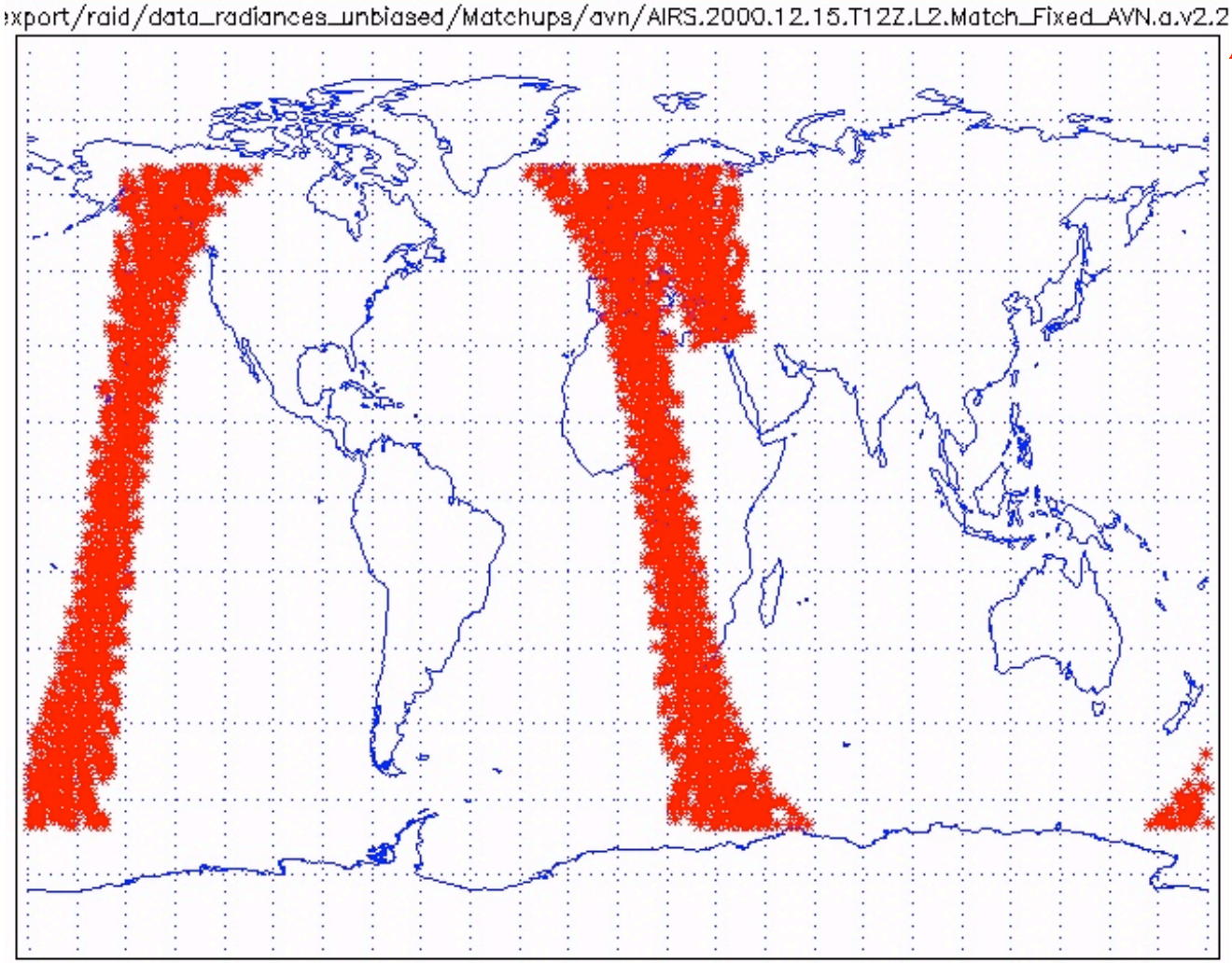
ARM CART Future Needs

- Stability of Dave Tobin's best estimate algorithm
  - Handles 12 data streams (!)
- A regular subscription of twice daily data from Wisconsin to JPL.
- The associated synoptic information (GOES, model analyses, etc.).

Preliminary AVN Matchups

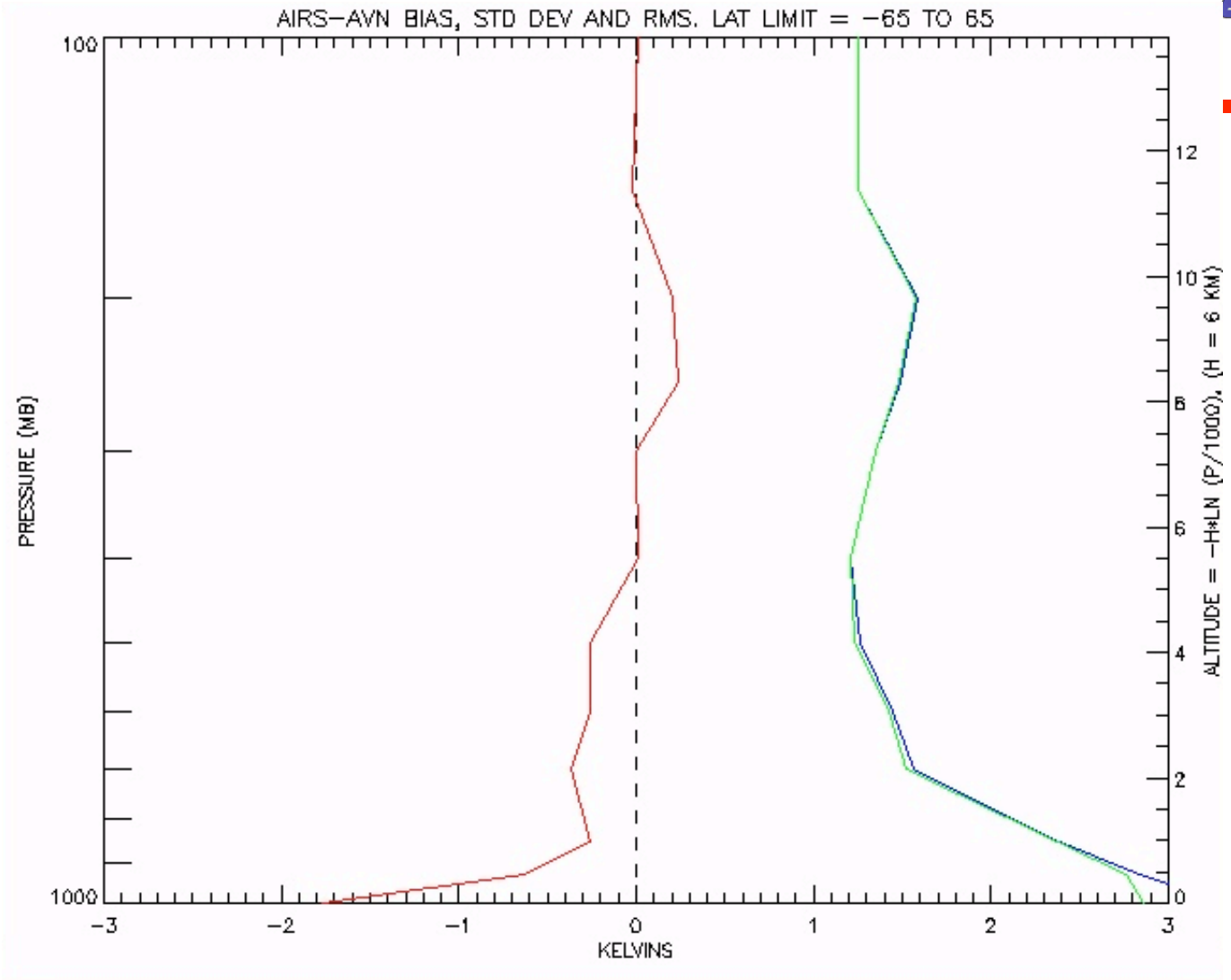
- Match AIRS retrievals to all AVN grid points within a ~25 km / 1 hr window.
- Look at global and regional temperature statistics

AVN Matchup Locations for Dec 15, 12Z

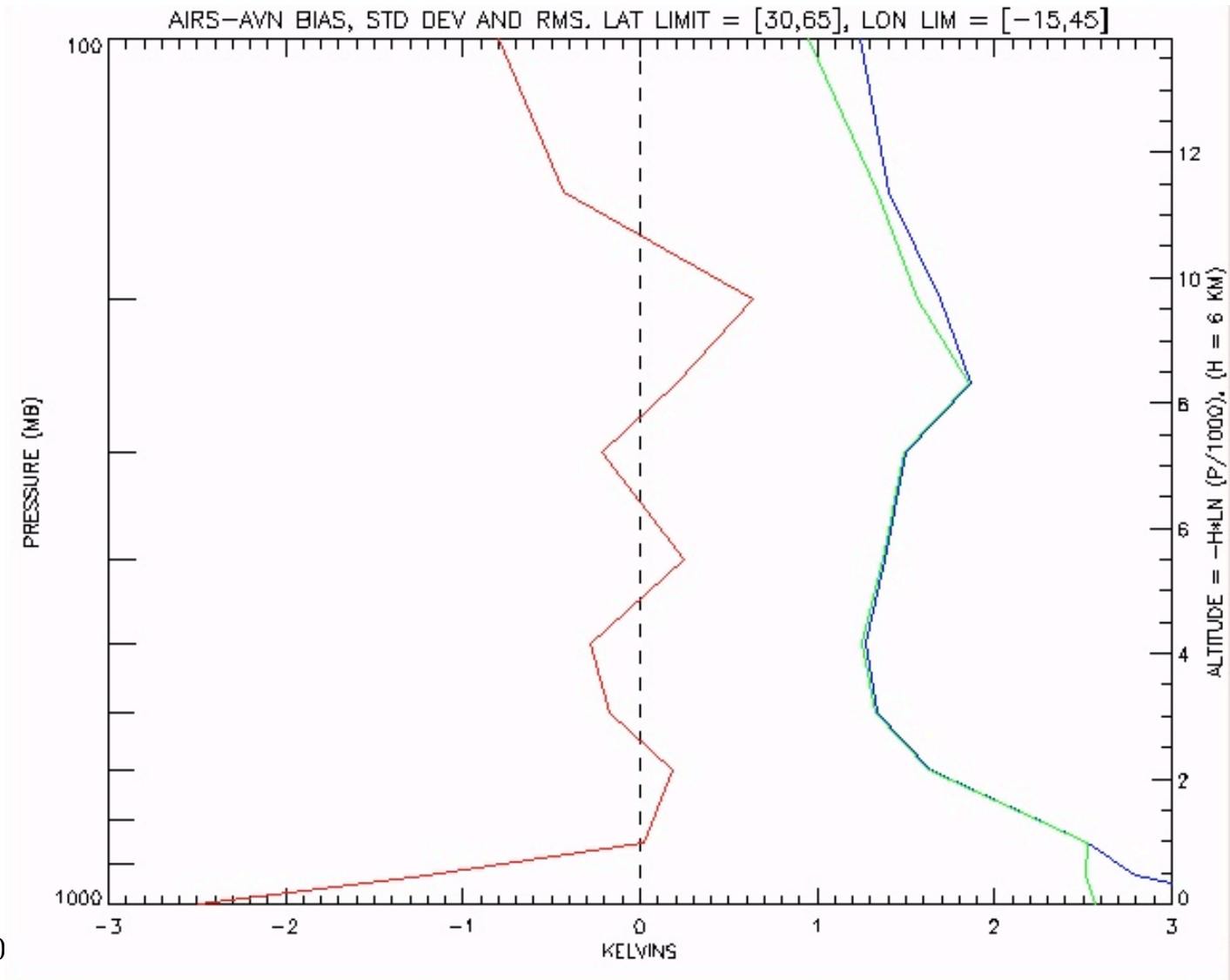


AVN / ARM Match-ups

Global Results for AVN / AIRS Matchups, 12 Z



AVN / AIRS Matchups 12 Z, Europe Only: 15E- 45W by 30-65N



Conclusions from Matchups with AVN

- Statistics are similar to Granule 401 results
- This matchup procedure can be applied to *ANY* gridded synoptic field.
- Supplemental to other Golden Day analyses.

Further work on AVN Matchups

- Generate statistics by retrieval type, cloud flags, day/night, ocean/land, etc.
- Look in more detail at the other four model time steps on December 15.
- Prepare for other gridded fields
  - ECMWF
  - DAO