2025 LROSE AMS Workshop Notes

1st discussion session (Intro, Welcome, and Overview)

- Making the notebooks, and gateway available prior to the workshop was helpful.
- Consider making sound and connectivity check an Ice breaker: have participants chat where they are connecting from (Country, State, Univ, etc.)
- Thermodynamic retrieval: what are the inputs?
    - Reference sounding and wind output.
    - Related citation: doi:10.1175/JTECH-D-17-0073.1
- How much can an LROSE training be customized? (e.g., a professor is teaching a radar class and wants to teach LROSE, could something be set up?)
    - Yes, we have done this with a previous class.
- Please explain about the encoding for data when using RadxConvert -to_int16?
    - Two bytes is generally good for most radar data encoding
- Does HawkEye only work with cfradial netcdf? No DORADE sweeps?
    - HawkEye can read DORADE, the organization of the sweeps is different. Suggestion is to use RadxConvert as a first step for DORADE files.
- Can we display the geo border on HawkEye?
    - CIDD would be the way to do this. We are planning to add geo borders to HawkEye. Need to use RadxConvert to convert files to mdv format.

Isabel's Lidar Tutorial

- Question about the LROSE VAD (Velocity Azimuth display) analysis.
    - ISS wrote their own code for this.
- Question about errors with RHI generation.
    - We have to do something special with the Leosphere RHI format.
- PyArt handles all the Halo Photonics format and converts it to CfRadial
    - LROSE is working to get these other scan types into CfRadial, but Brenda will reach out to Bobby and Isabel.

Mike's ECCO Tutorial

- Are there confidence or altitude levels in ECCO displays?
    - Based on altitude. The default classification levels can be customized in the parameter files.
- Can the temperature profiles come from radiosonde temp profile instead of model data?
    - The model data are more useful in this case, in spite of the low resolution of global models. We could use output from the WRF model. The classification is only dependent on the vertical profile, and does not need temperature data.
- What model data does ECCO need?
    - WRF, RUC in NetCDF format.

Breakout Rooms and Wrapup

- Are the PID thresholds needed for RadxPid/RadxRate available for all the radar data formats?
    - PID thresholds file is independent of the data format, more dependent on the radar wavelength for PID and RadxRate.
    - The S-Band thresholds are the best, the C-Band thresholds are not so great in tropical weather because they were developed in continental convective precipitation
- In PID threshold files, SDSVR is in the S-Band parameter file, but not in the C-Band parameter file, can we add velocity or texture parameters?
    - It would be more of a research project about how to set/modify those velocity parameters, but Josh will send Jen and Mike an email.
- In task boxes for notebooks, try to distinguish between typing in the terminal vs. typing in a JupyterLab cell.
- Any plans to consider a python wrapper around the LROSE tools?
    - This is challenging, especially in a windows environment. The conda-forge packaging will help with this. The first round of conda-forge packaging may be without Qt, and the display apps.
- Consider providing data in a Zenodo repository for use outside of workshops.