2013 PMEC-NETS TRIAXYS Data README File

This document is included with every dataset from the 2013 TRIAXYS deployment at PMEC-NETS test site.

Contents

1 Quality Control Warning

It should be noted that, for unknown reasons, the data in some of the files is not in chronological order.

Date	TRIAXYS Directional Wave Buoy	Result
7/29/2013	TRIAXYS deployed at NETS	Good data begins at 2000 UTC on 7/29.
10/4/2013	TRIAXYS retrieved from NETS	Good data ends at 2020 UTC on 10/4

2 Data File Descriptions

Note: All times are in UTC.

2.1 DIRSPEC

- These files are named yyyymmddHHMM.DIRSPEC
- Each file has the 2D directional spectra of each 20-minute recording
  - 0-360°, 3° spacing
  - 0-0.64 Hz, 0.005 Hz spacing
  - Note the Resolvable Frequency Range parameter at the top of the file. This is not always the same.

2.2 FOURIER

- These files are named yyyymmddHHMM.FOURIER
- Each file has Fourier coefficients a1, b1, a2, and b2 for the given frequency range for each recording.
- Note the Resolvable Frequency Range parameter at the top of the file. This is not always the same.

2.3 HNE

- These files are named yyyymmddHHMM.HNE
- Each file has the Heave (vertical), North, and East displacement info in meters for each 20-minute recording
- The first column indicates the number of seconds past the top of the hour.
- Typically 1382 samples, sampling every 0.78 seconds

2.4 MEANDIR

- These files are named yyyymmddHHMM.MEANDIR
- Each file has the spectral density, mean wave direction, and directional spread for a range of frequencies for each 20-minute recording
- Note the Resolvable Frequency Range parameter at the top of the file. This is not always the same.

2.5 NONDIRSPEC

- These files are named yyyymmddHHMM.NONDIRSPEC
- Each file has the spectral density for a range of frequencies for each 20-minute recording

2.6 RAW

- These files are named yyyymmddHHMM.RAW
- Each file has the raw sensor data from the TRIAXYS for each sample in each 20-minute recording
- Includes sample number, compass value (heading); x, y, and z acceleration; and perhaps the pitch, yaw, and roll rates? (Rx, Ry, Rz, all in °/s)
- The meaning of the last row in the file is unknown.

2.7 STATUS

- Various diagnostic info in a tab-delimited format with one row per hour
- First column is the time the post-processing took place, not the message timestamp
- Timestamp format is yymmddHHMM
- Location format is [D]DDMM.MMMM[N/S][D]DDMM.MMMM[E/W]
- The Location value is sometimes missing.

2.8 UVH

- These files are named yyyymmddHHMM.UVH
- Similar to HNE, except instead of North and East displacement, the third and fourth columns are North and West velocity.
- Number of samples is higher (7761) and sample interval (0.14 s) is smaller than the HNE files.

2.9 WAVE

- Include various cumulative wave info like significant wave height, peak period, and mean wave direction in tab-delimited format, one row for each 20-minute recording.
- First column is the time the post-processing took place, not the message timestamp
- Year, MonthDay (mmdd) and Time (HHMMSS) are separate columns
- Location format is [D]DDMM.MMMM[N/S][D]DDMM.MMMM[E/W]
- Mean True Direction, Te, and Wave Steepness seem to always stay at 0 (no data?)

3 Scripts

Included in each zip file is a sample MATLAB script for parsing that type of data.