

June 2014 – LB

Readme for RIEGL wave files

The RIEGL laser altimeter was mounted on the jackstaff of the R/V Knorr at about 14.4m. The measured displacement was corrected for the ship's heave. Lag correction between the two signals was applied based on the cross-correlation technique. Several files were generated and are now described. *doy* represents the day-of-year and *hh* the hour.

The columns for 10Hz data files *WaveandHeave\_doyhh.prn* are as follow:

- 1) Day-Of-Year
- 2) Hour
- 3) Time (s)
- 4) Raw wave height (m) – NaN when no detection
- 5) Heave displacement (m)
- 6) Amplitude

The columns for 10Hz data files *Wavecorrected\_doyhh.prn* are as follow:

- 1) Day-Of-Year
- 2) Hour
- 3) Time (s)
- 4) Heave corrected wave height (m)

*Hs\_hourly\_leg3.prn* is an hourly summary file made for the entire leg3 and includes several variables that can be used for quality control:

- 1) Day-Of-Year
- 2) Hour
- 3) Hourly significant wave height uncorrected (m)
- 4) Hourly significant wave height corrected (m)
- 5) Lag shift (in data points)
- 6) Number of data points in the hour (excluding the NaNs when no detection occurs)
- 7) Mean of wave (m)
- 8) Mean of Heave (m)
- 9) peak period/frequency of the waves
- 10) Hourly significant wave height corrected method #2 (m)
- 11) Hourly significant wave height corrected method #3 (m)