

Daily status, July 5

AHATS daily status 7/05/08

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Summary: Gordon is experimenting with replacing Semmer's active low-pass filter circuit with a passive filter circuit suggested by Paroscientific.

For more details, see the ahats logbook at <https://wiki.ucar.edu/display/ahatslogbook>

Good wind direction: For the period 7/1 13:00 through 7/5 13:00, we have 63 hours of data periods of length 20 minutes or longer with wind directions from 295-355 degrees. This includes 52.5 hours of periods longer than one hour and equates to good wind direction periods 66% of the time. Sorted by stability, there are 31 hours of stable stratification ($\langle w'tc \rangle < 0$) and 31.92 hours of unstable stratification.

Note that the normal to the array is 325 degrees. If the array orientation were 315 degrees (NW: 285-345 degrees) as for HATS/SGS, then the division is 33.83 hours stable and only 21.33 hours unstable.

Profiles:

diag: ok
samples.sonic: ok
spd: ok
dir: ok
w: ok
tc: ok
sigma_w/u*: ok (1.3 at night)
u*: ok
w'tc': ok
T: ok
RH: 4m may be low by less than 1% RH
P: okay

Upwind (hts=3.5):

(+/- = ~1 std deviation)
missing sonics 5u-11u 3:10 - 07:40, July 4
missing all sonics 9:15 - 11:50, July 4

diag: ok
samples.sonic: ok
spd: ok, +/- 15 cm/s (6u has +15 cm/s offset in u)
dir: ok, +/- 3 deg
w: ok, +/- 6 cm/s
tc: ok, +/- 0.2 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 0.04 m/s
sigma_w/u*: ok (1.3 at night)
w'tc': ok, +/- 0.015 m/s degC
tc'tc': ok, +/- 0.06 degC²

Lower (hts=3):

diag: ok
samples.sonic: ok
spd: ok, +/- 20 cm/s
dir: ok, +/- 5 deg
w: ok, +/- 5 cm/s
tc: ok, +/- 0.25 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 3 cm/s
sigma_w/u*: ok (1.3 at night)
w'tc': ok, +/- 0.02 m/s degC
tc'tc': ok, +/- 0.1 degC²

Upper (hts=4):

diag: ok
samples.sonic: ok
spd: ok, +/- 17 cm/s
dir: ok, +/- 4 deg; 6t is about 6.5 degrees off from profile sonic
w: ok, +/- 5 cm/s
tc: ok, +/- 0.2 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 3 cm/s
sigma_w/u*: ok (1.3 at night)
w'tc': ok, +/- 0.02 m/s degC
tc'tc': ok, +/- 0.05 degC ²