

UH Sodar Data

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This data set contains 15-min averaged Sodar data collected by the University of Houston during the T-REX field campaign. The time period covered by the data set is from March 3 through April 29 of 2006. The measurement site was at the Owens Valley Radio Observatory about 14 miles south of Bishop and close to the town of Big Pine. The exact position of the Sodar site is at 37°13'59.45" N and 118°17'06.33"W , 3971 ft MSL.

The University of Houston's sodar is a Scintec Flat Array Sodar (FAS) Model MFAS-64. It operates in the 2 kHz acoustic frequencies band (1650-2750 Hz). It measures directly vertical profiles of three components of wind velocity, standard deviation of the three wind speed components, and structural parameter of temperature fluctuation. The lowest range gate is 30 m and the profile goes up to 400 m, with a vertical revolution of 10 m. The operational parameters for the Sodar are shown in Table 1.

Table 1. Operational Parameters

Operational Parameter	Values
Frequency Range	1650 - 2750 Hz
Acoustic output power	2.5 w
Beam Angles	0°, ±22°, ±29°
No. of vertical layers	38
Thickness of the layer	10 m
Lowest range gate	30 m
Averaging time	15 min
Accuracy of horizontal wind	0.1 – 0.3 m/s
Accuracy of vertical wind	0.03 – 0.1 m/s
Accuracy of wind direction	2° – 3°

The naming convention used for the data files is `yymmdd_data`. The files are ascii data files. Each file contains 15-min vertical profiles starting at 0015 PST and ending at 2400 PST for the day specified by the file name. Each file starts with a header that describes

the day and time of the data, the location, and the variable with unit for each data column. Missing data are indicated by 99.99 or 999.9. Except for the basic quality control through specification of the percentage of acceptable data and signal to noise ratio threshold in the real-time data processing software, no additional quality control has been performed.