



N43RF ERROR SUMMARY PECAN FLIGHT D BETWEEN KANSAS CITY AND ST. LOUIS



Flight ID: 20150702I1

<u>Sensor or system</u>	<u>Number or Name</u>
INE (for wind derivation)	INE1
Accelerometer	AccZfilterI-GPS.2
Temperature Probe	TTM.1X
Dew Point Probe	TDM.2X (EdgeTech)
Static Pressure	PSM.2
Dynamic Pressure	PQM.2
Altimeter (for Vert. Wind)	ALTGPS.3 (Novatel GPS)
Project Directory	/acdata/2015/MET/20150702I1

Notes:

There were no data gaps.

The uncorrected NOVATEL altimeter output (AltGPS.4) and corresponding LAT/LON values exhibited 15 upward/downward spikes throughout the flight.

Total temperature #1 (TTM.1) output exhibited erroneous values between 022500Z – 022708Z. The erroneous output was remove and replaced using total temperature #2 (TTM.2) values applying an offset,

$$\text{TTM.1} = \text{TTM.2} - 0.20$$

During the flight there were instances where dewpoint temperature values exceeded derived ambient temperature values resulting in humidity values above 100%. These situations occurred during heavy precipitation events.

However dewpoint sensor #2 (TDM.2 [EdgeTech]) displayed erroneous output during the following time periods: 032945Z – 034643Z, 034716Z – 035010Z, and 043127Z - 044744Z. The TDM.2 erroneous values were removed and replaced with dewpoint sensor #1 (TDM.1 [Buck]) output,

$$\text{TDM.2} = \text{TDM.1}$$

Also ewpoint sensor #2 (TDM.2 [EdgeTech]) exhibited a erroneous data spike between 042800Z – 043000Z. The spike was removed and replaced using

statistical techniques with a patch of 0.30.

All other instrumentation worked optimally.

SPECIAL NOTE!!! The variable names DPJ_GSZ, DPJ_ASZ and DPJ_WSZ in the netCDF file represent vertical ground speeds, vertical air speeds and vertical wind speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff (0157Z) KSLN	Landing (0732Z) KSLN
Aircraft Static Pressure	963.0mb	964.5mb
Corrected Tower Pressure	963.2mb	965.3mb
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