

ARM Microwave Radiometer Configuration File

RADIOMETER IDENTIFICATION (Line 1 in data file)

016 Serial number (3 digits; 000=simulated instrument)

COMPUTER CONFIGURATION

1 COMM port of computer
'E:\SEND_DIR' Directory where data files are placed for collection
60 Create a new data file every N minutes
1 1 = graphical display, 0 = textual display

CALIBRATION (Line 2 in data file)

02 02 26 Date of latest calibration update
1 automatic calibration switch (1=enabled, 0=disabled)
14 maximum number of days between calibration checks
50 minimum number of new tips needed to check calibration
1500 minimum number of tips needed for regression of Tnd on Tbb
3.0 factor for calibration change test limits
0.008 minimum LWP std dev (mm) for clear sky detection
198.61 23.8 GHz noise injection temperature @ T_nominal
171.00 31.4 GHz noise injection temperature @ T_nominal
290.0 T_nominal (K)
-0.046 23.8 GHz temperature correction coefficient (K/K)
-0.031 31.4 GHz temperature correction coefficient (K/K)
0.00164 23.8 GHz window correction coefficient
0.00217 31.4 GHz window correction coefficient

TIP CONFIGURATION (Line 3 in data file)

1000 sky sampling time (milliseconds)
1000 blackbody sampling time (milliseconds)
1000 blackbody+noise diode sampling time (milliseconds)
8 number of elevation angles
23.6 first elevation angle in TIP
30.0
41.8
90.0
138.2
150.0
156.4
90.0 last elevation angle in TIP
0.0 azimuth angle
0.998 minimum correlation coefficient for a valid tip
0.1 max allowable change in TIP iteration convergence (%)

LOS CONFIGURATION (Line 4 in data file)

1000 sky sampling time (milliseconds)
1000 blackbody sampling time (milliseconds)
1000 blackbody+noise diode sampling time (milliseconds)
1 number of sky samples per blackbody sample
90.0 elevation angle
0.0 azimuth angle

RETRIEVAL COEFFICIENTS for January thru December (Line 5 in data file) PNG
1992-1993 RS-80 sondes

vap0	vap1	vap2	rmsvap	Tmr23
0.114390	23.2847	-13.5175	3.02222E-02	287.199
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liq0	liq1	liq2	rmsliq	Tmr31
-1.75842E-02	-0.250981	0.733938	2.57261E-03	286.432
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-1.75842E-02	-0.250981	0.733938	2.57261E-03	286.432
-1.75842E-02	-0.250981	0.733938	2.57261E-03	286.432
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-1.75842E-02	-0.250981	0.733938	2.57261E-03	286.432

2.75 Cosmic Background Temperature (K)

WARMUP CONFIGURATION

5.0	Minimum difference between noise diode and blackbody (K)
0.50	Maximum dT/dt of mixer/noise diode temperature (K/min)
720	Maximum allowable warmup time (minutes)
100	Local Oscillator warm-up delay (milliseconds)
0.08	Moisture sensor ON/OFF threshold (volts)

PLOT CONFIGURATION

-180.	Minimum time to plot (minutes)
0.	Maximum time to plot (minutes)
30.	Time increment (minutes)
273.	Minimum temperature to plot (K)
333.	Maximum temperature to plot (K)
10.	Temperature increment (K)
2.	Minimum PWV to plot (cm)
7.	Maximum PWV to plot (cm)
1.	PWV increment (cm)
0.	Minimum airmass to plot
3.5	Maximum airmass to plot
0.5	Airmass increment
0.0	Minimum opacity to plot
1.0	Maximum opacity to plot
0.2	Opacity increment

IRT CONFIGURATION (Line 6 in data file)

0000	IRT serial number (0000 = no IRT)
13	IRT attached to radiometer A/D channel no.
1.0	IRT voltage conversion slope (K/volt)
223.15	IRT voltage conversion offset (K)