

Harvard Forest Data Archive HF113-08

Data File:

Name = hf113-08-hf-propane-hourly.csv  
Description = HF propane usage (hourly)  
Rows = 50106 Columns = 30  
MD5 checksum = 7cb88b540b716a1f6a153e828b797e43

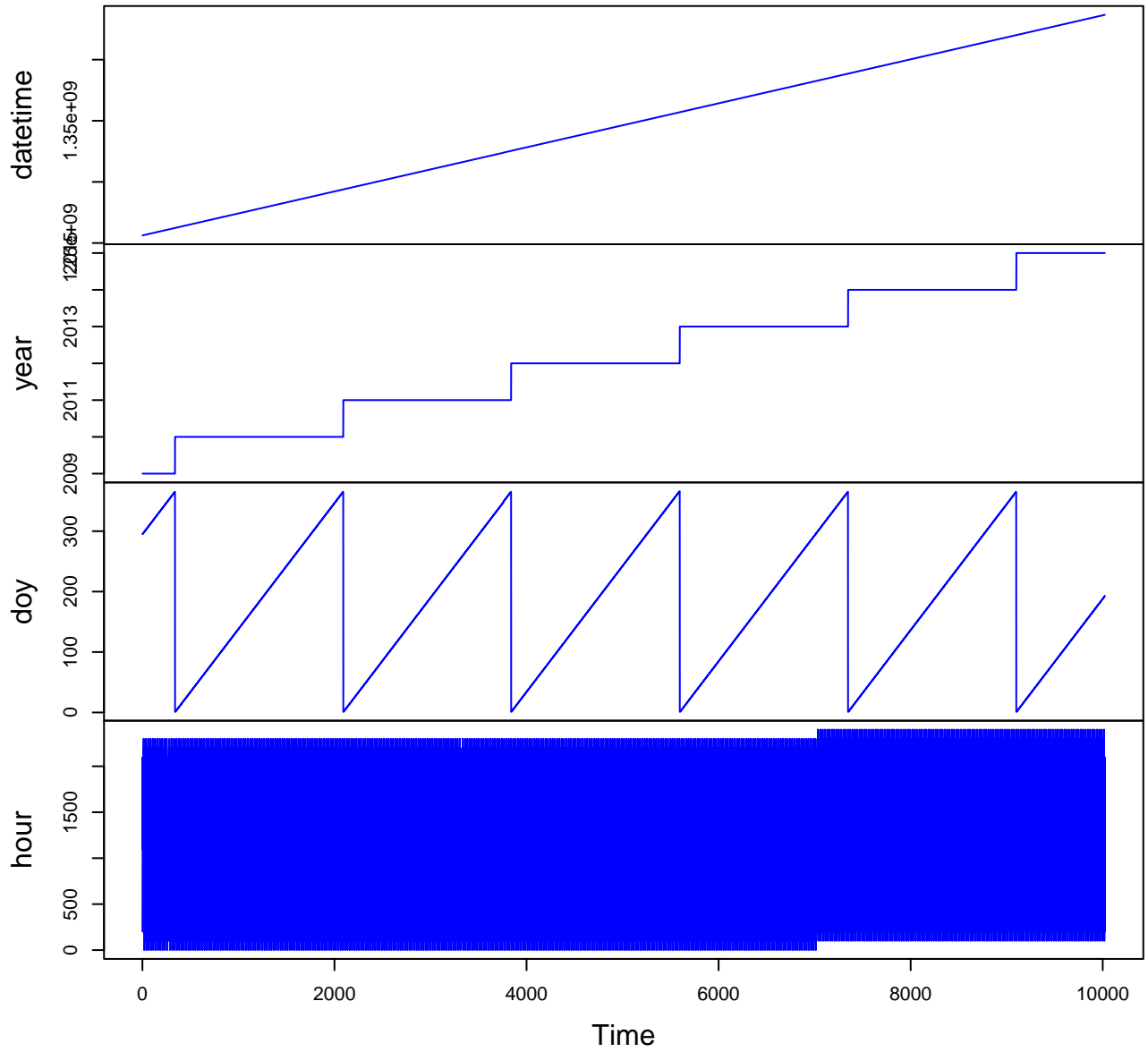
Variables:

datetime = date  
year = year  
doy = day of year (nominalDay)  
hour = hour (number)  
seconds = seconds (number)  
ants1.high.avg = average water temperature of supply on Ants Block #1 (celsius)  
ants1.low.avg = average water temperature of return on Ants Block #1 (celsius)  
ants2.high.avg = average water temperature of supply on Ants Block #2 (celsius)  
ants2.low.avg = average water temperature of return on Ants Block #2 (celsius)  
ants3.high.avg = average water temperature of supply on Ants Block #3 (celsius)  
ants3.low.avg = average water temperature of return on Ants Block #3 (celsius)  
plants1.high.avg = average water temperature of supply on Plants Block #1 (celsius)  
plants1.low.avg = average water temperature of return on Plants Block #1 (celsius)  
plants2.high.avg = average water temperature of supply on Plants Block #2 (celsius)  
plants2.low.avg = average water temperature of return on Plants Block #2 (celsius)  
boiler.supply.avg = average water temperature of supply for the whole system (celsius)  
boiler.return.avg = average water temperature of return for the whole system (celsius)  
ants.flow.avg = average rate of water flow for all Ant Blocks (gallonPerMinute)  
plants.flow.avg = average rate of water flow for all Plant Blocks (gallonPerMinute)  
ants.btuh.avg = estimate of heat used per hour in the Ants chambers (britishThermalUnit)  
ants1.delta.avg = average difference between supply and return temperatures for Ants Block #1 (celsius)  
ants2.delta.avg = average difference between supply and return temperatures for Ants Block #2 (celsius)  
ants3.delta.avg = average difference between supply and return temperatures for Ants Block #3 (celsius)

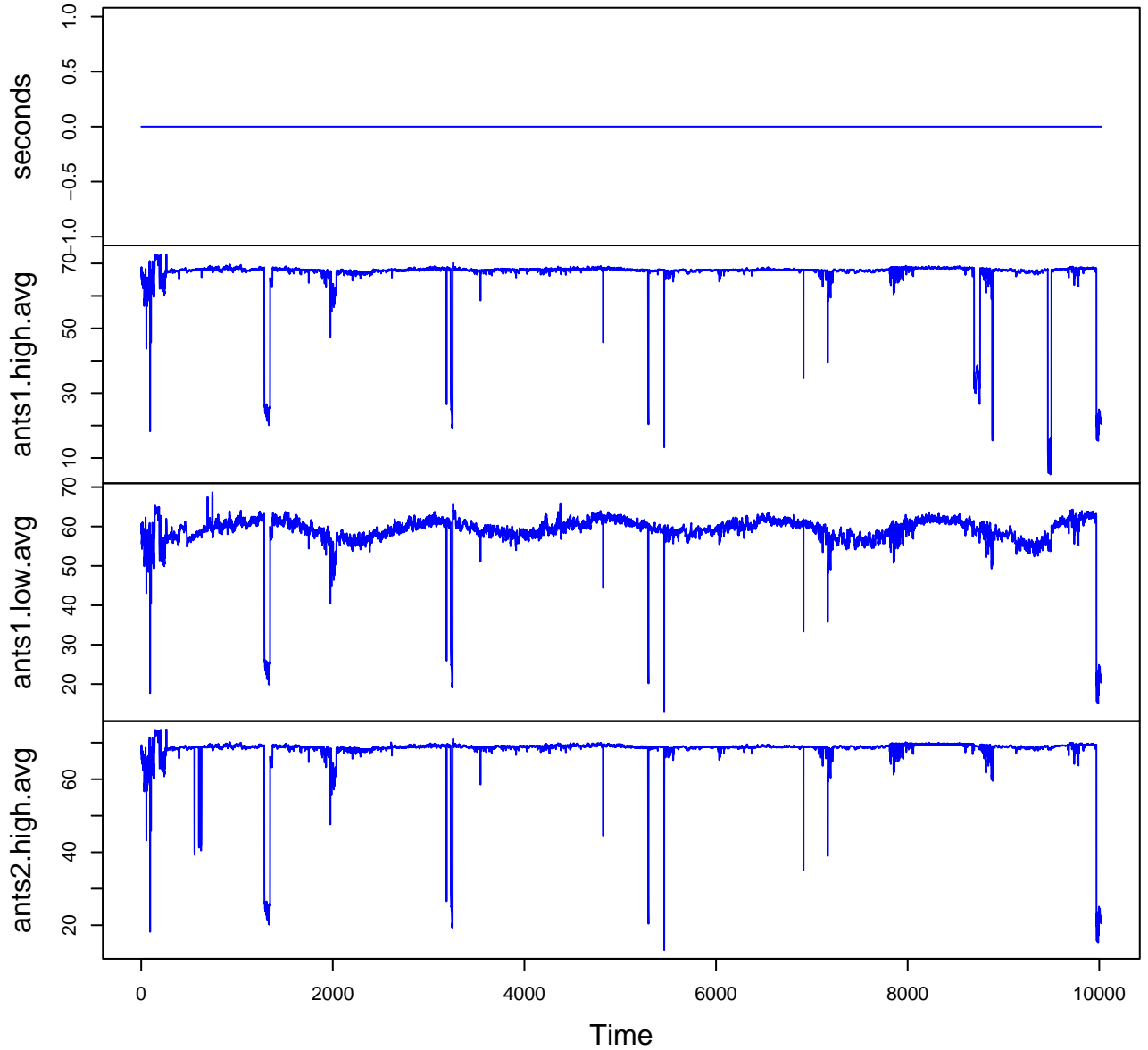
plants.btuh.avg = estimate of heat used per hour in the Plants chambers (britishThermalUnit)  
plants1.delta.avg = average difference between supply and return temperatures for Plants Block #1 (celsius)  
plants2.delta.avg = average difference between supply and return temperatures for Plants Block #2 (celsius)  
batt.volt = datalogger battery voltage (volt)  
gas.flow.cf.tot = total propane used (footCubed)  
gas.flow.gal.tot = total propane used (gallon)

Variable	Min	Median	Mean	Max	NAs
datetime	2009-10-22T11:00		2015-07-12T02:00		0
year	2009.000	2012.000	2012.175	2015.000	0
doy	1.000	174.000	180.033	366.000	0
hour	0.000	1200.000	1180.110	2400.000	0
seconds	0.000	0.000	0.000	0.000	0
ants1.high.a	4.830	68.000	66.746	72.820	24
ants1.low.av	12.610	59.550	58.795	68.780	24
ants2.high.a	12.840	68.870	67.994	73.520	24
ants2.low.av	12.870	58.860	57.923	67.950	24
ants3.high.a	14.450	67.970	67.157	72.850	24
ants3.low.av	13.180	58.240	57.416	68.060	24
plants1.high	-9.720	29.520	40.682	73.040	24
plants1.low.	-9.560	34.030	38.000	68.540	24
plants2.high	-8.690	29.560	40.229	71.530	24
plants2.low.	-9.370	33.960	36.982	70.190	24
boiler.suppl	12.710	68.980	68.171	73.860	24
boiler.retur	12.720	59.120	58.299	67.430	24
ants.flow.av	0.000	20.640	19.919	30.690	24
plants.flow.	0.000	0.005	4.732	14.490	24
ants.btuh.av	-82696.740	157485.500	156048.029	237918.800	9331
ants1.delta.	-48.840	8.290	7.951	14.370	24
ants2.delta.	-1.107	9.870	10.071	18.390	24
ants3.delta.	-6.824	9.730	9.740	15.630	24
plants.btuh.	-38788.690	0.000	30615.774	148578.100	9331
plants1.delt	-16.650	-0.170	2.681	19.920	24
plants2.delt	-9.480	0.050	3.247	16.890	24
batt.volt	9.030	13.180	13.175	13.420	24
gas.flow.cf.	0.000	93.000	97.809	245.000	24
gas.flow.gal	0.000	2.598	2.732	6.844	24

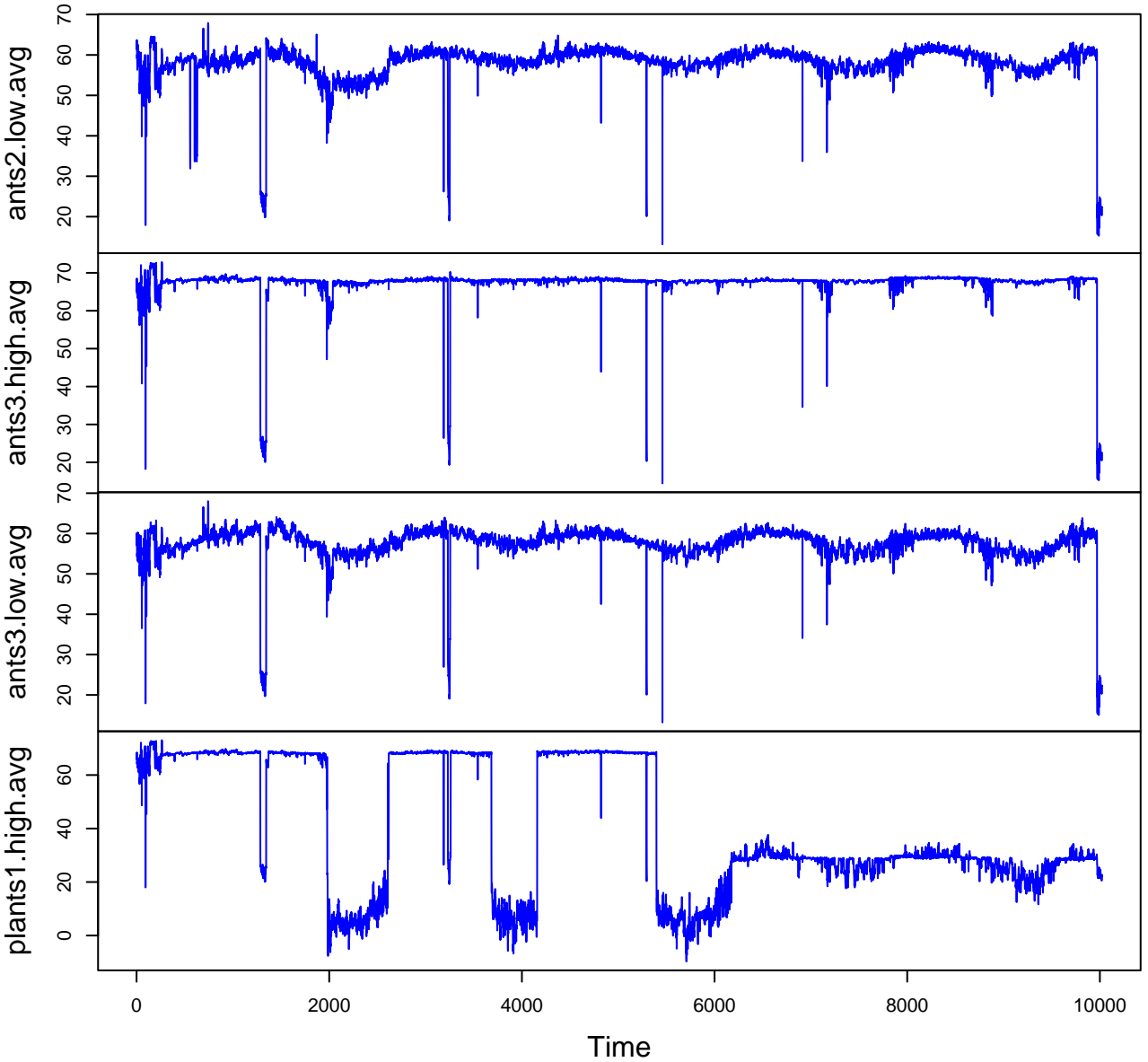
# HF113-08 Plot 1



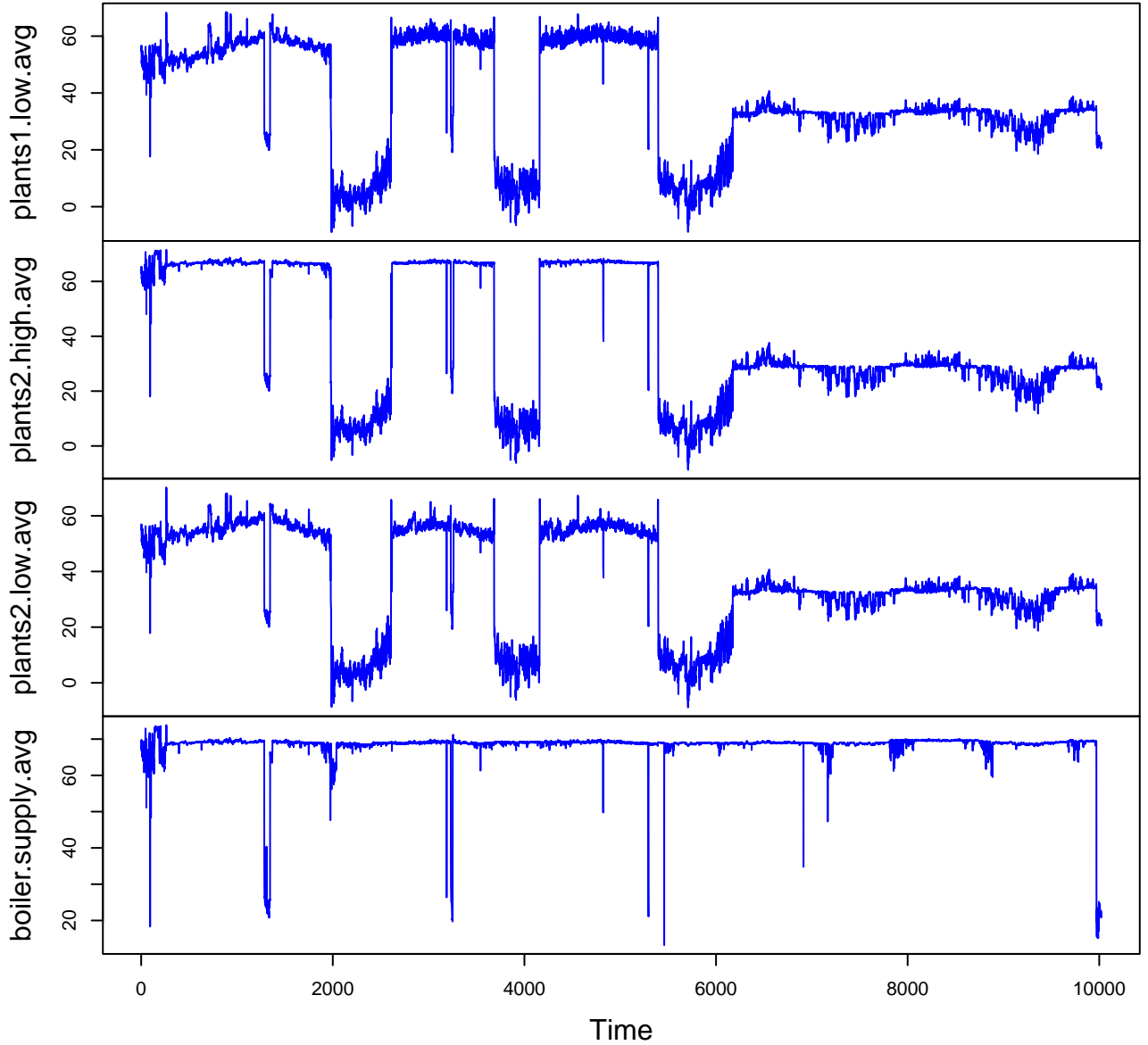
# HF113-08 Plot 2



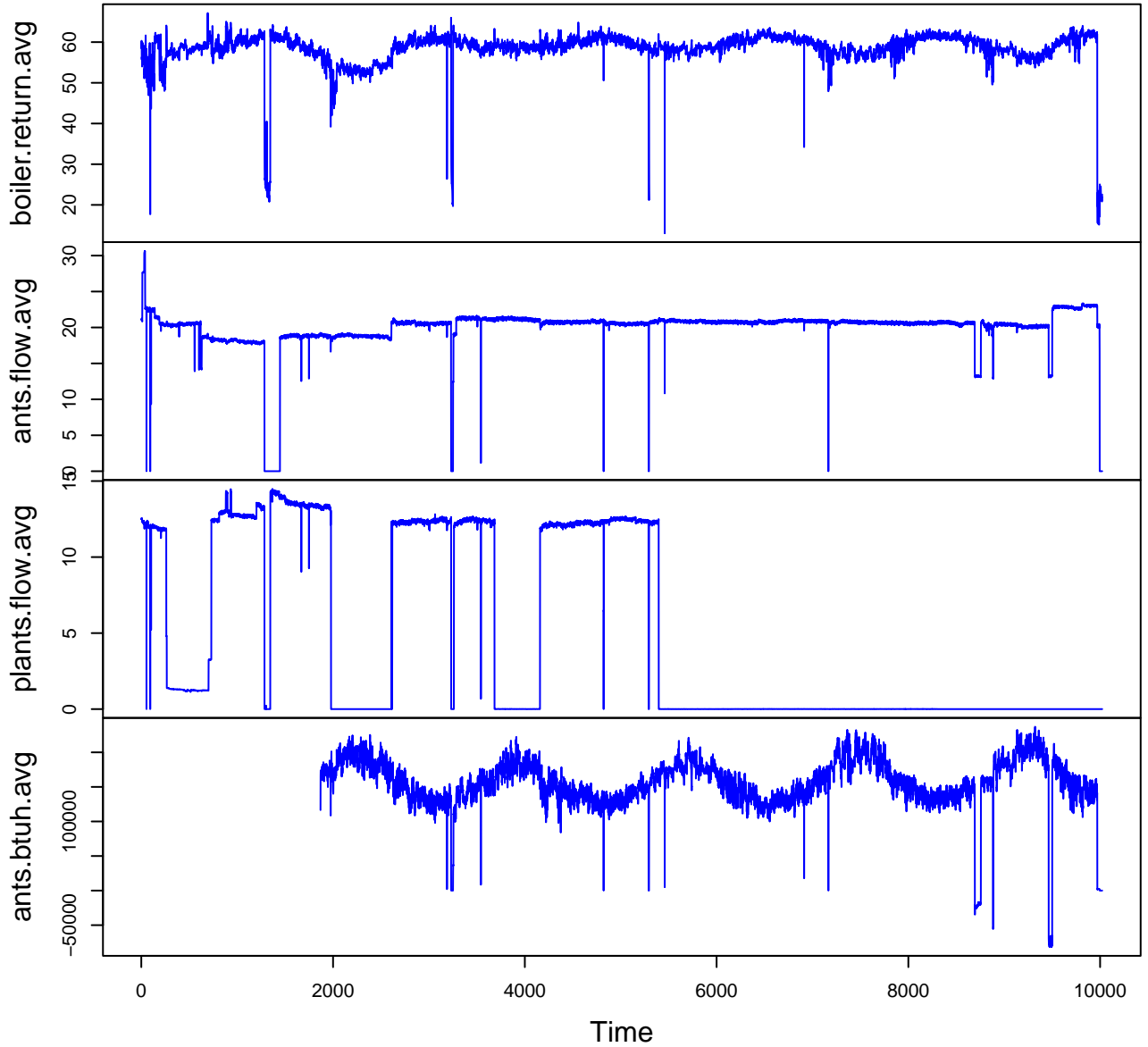
# HF113-08 Plot 3



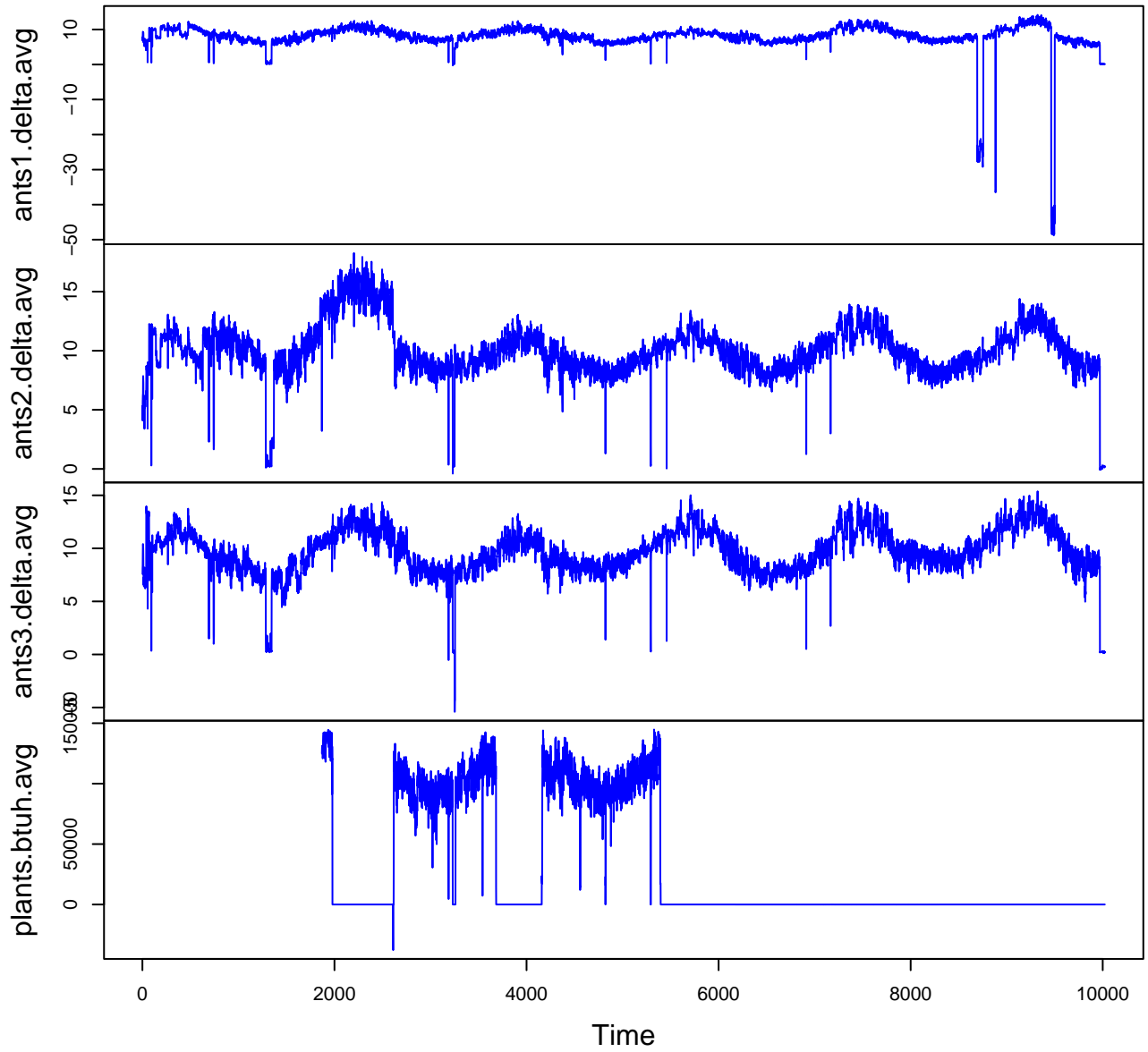
# HF113-08 Plot 4



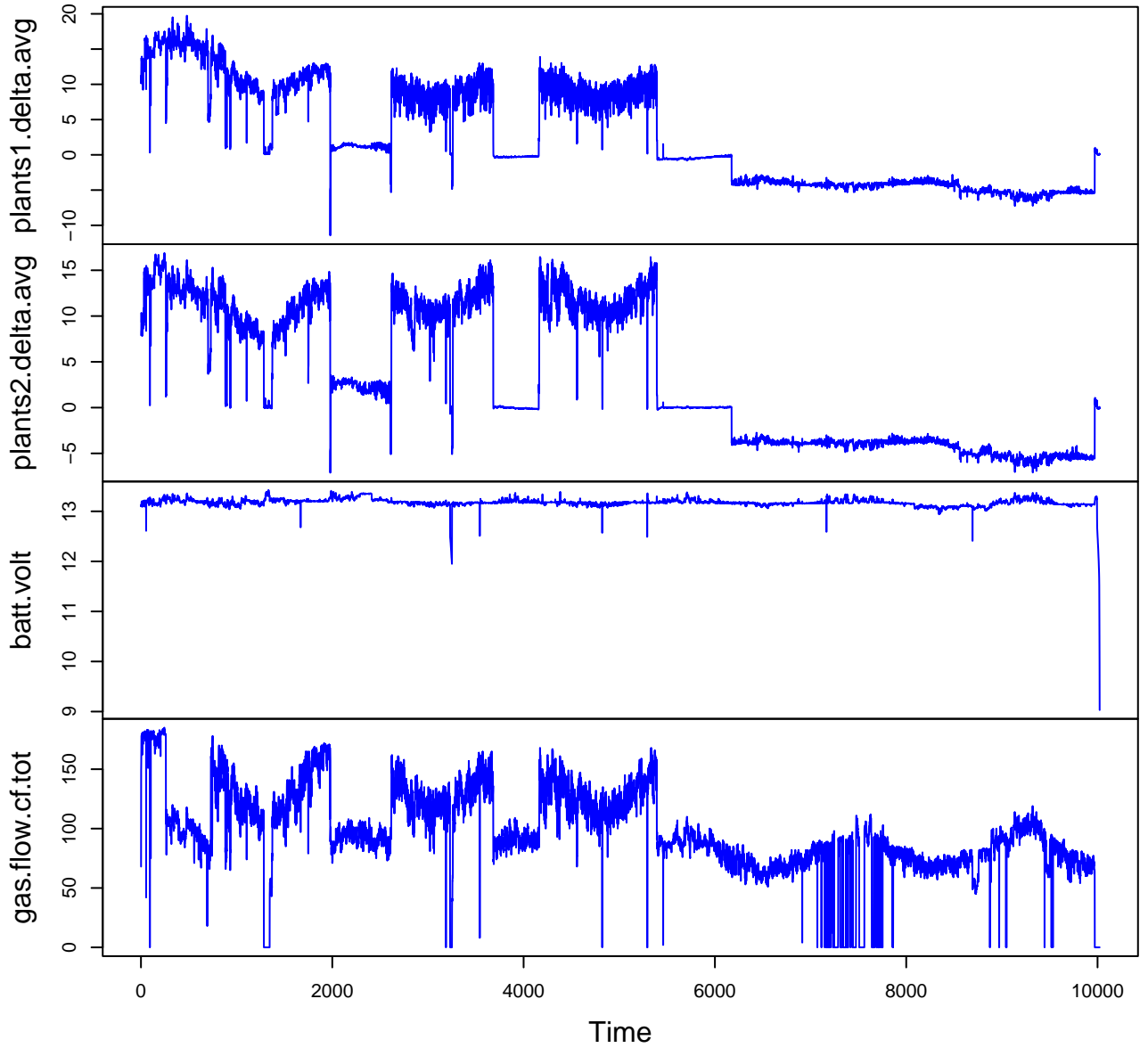
# HF113-08 Plot 5



# HF113-08 Plot 6



# HF113-08 Plot 7



# HF113-08 Plot 8

