Chronomics Analysis Toolbox (CAT)

05 Apr, 2017−−19:28:05

Parameters

Functions

These parameters describe the functions run, and key modifiers for those functions:

Smoothing= TRUE
(k= 5)

Actogram= TRUE
(modulo= 1440)

AutoCorr= TRUE
(LagPcnt= 1)

CrossCorr= TRUE

yLab= " NA "

Data and Processing

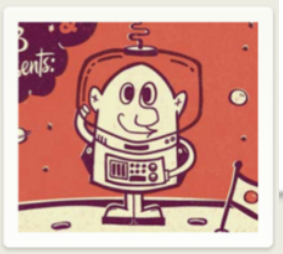
Indicate columns to be processed, interval between observations, desired bin sizes, and other details:

TimeFormat= %d/%m/%y %H:%M:%S
TimeCol= c(1, 2)
valCols= 5 , sumCols= NULL
Avg= FALSE
sizePts= 2 , binPts= 30
RmaxGap= 3000
Span = 0 , Increment= 0
lum= NA
Darkness1= 0
Darkness2= 0
header= TRUE , Skip= 0
nFiles= 2

Output Format

Graphic format, whether to export the data, verbosity, and other details:

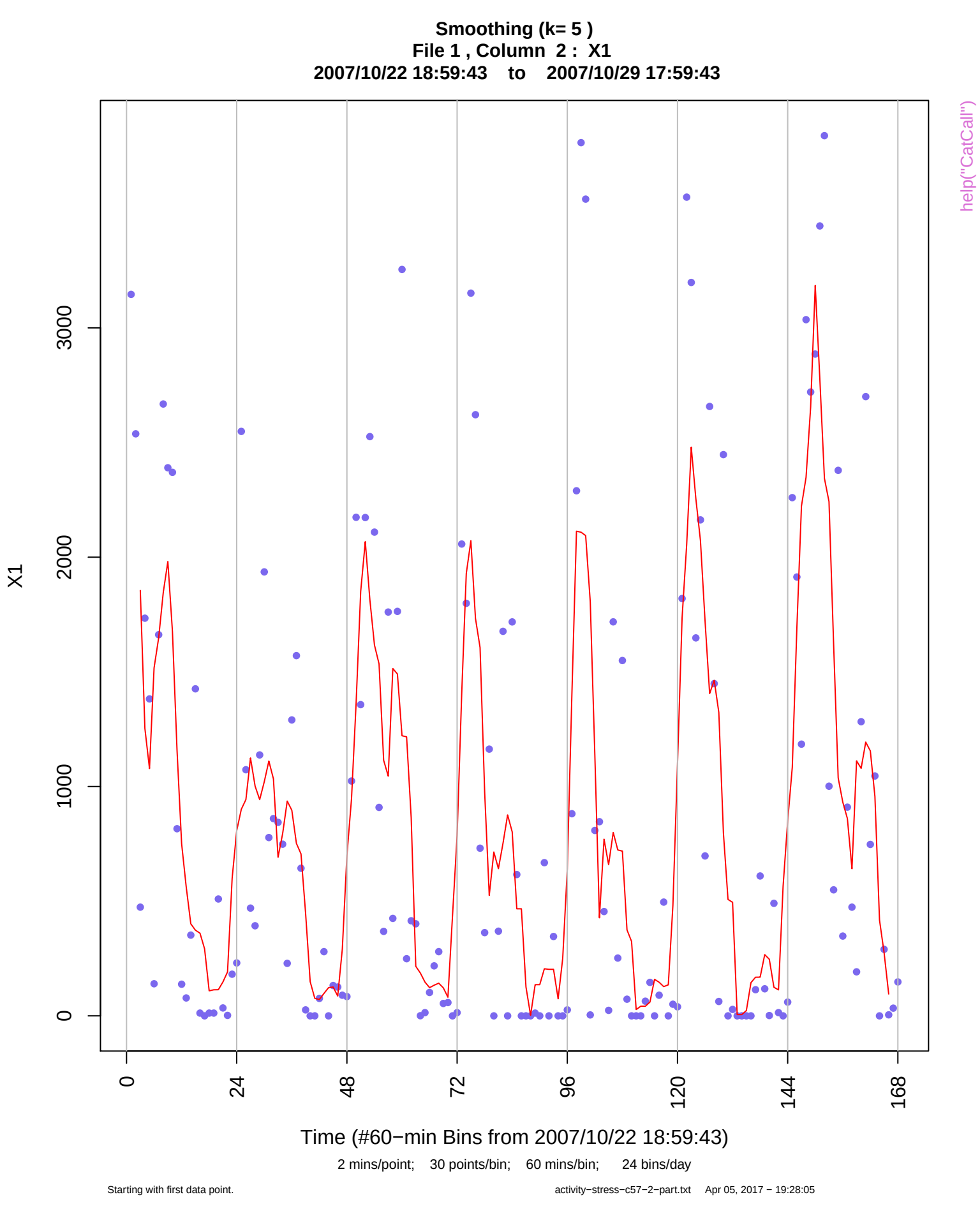
Rverbose= 0
Console= FALSE
Graphics= pdf
export= TRUE

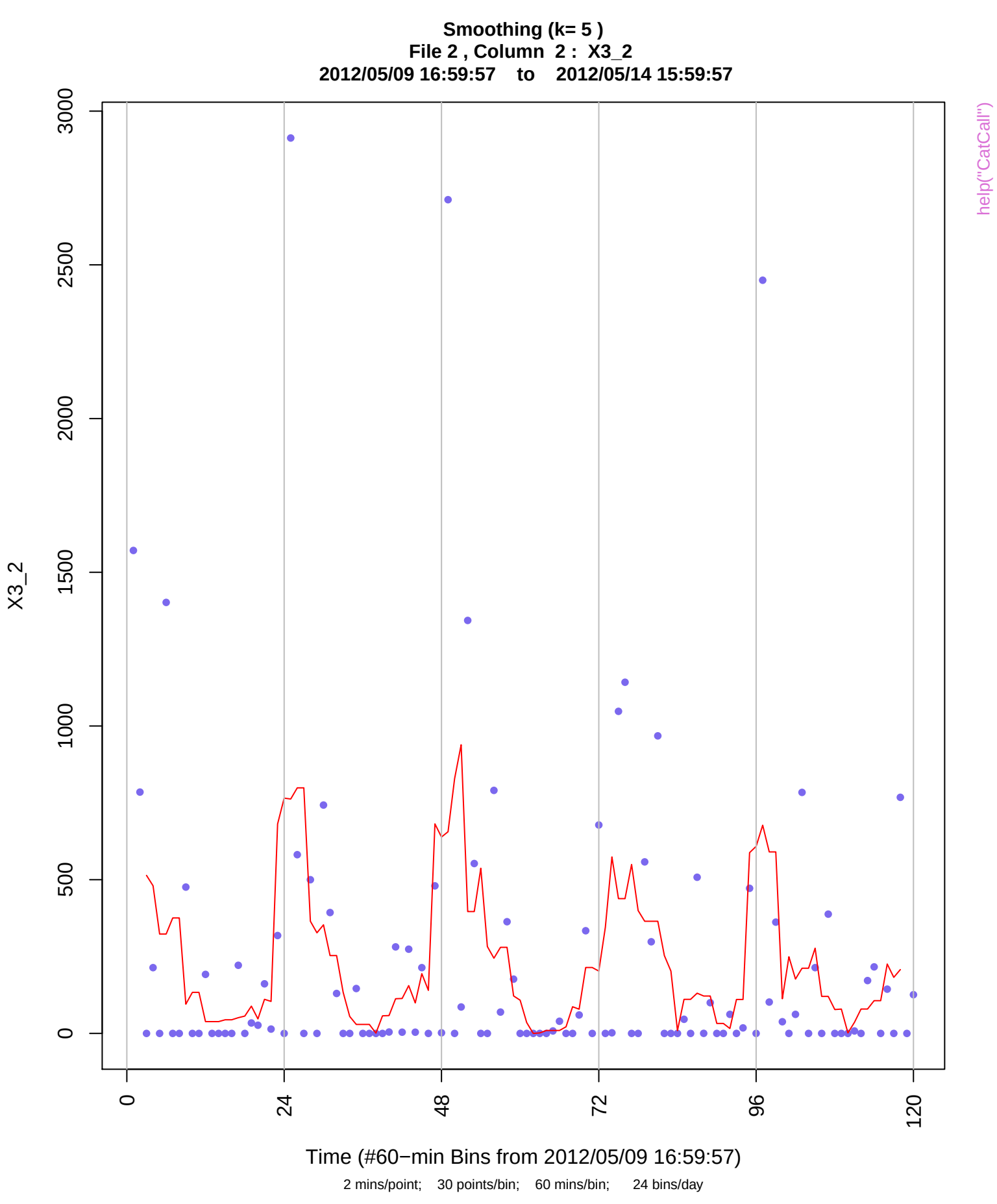


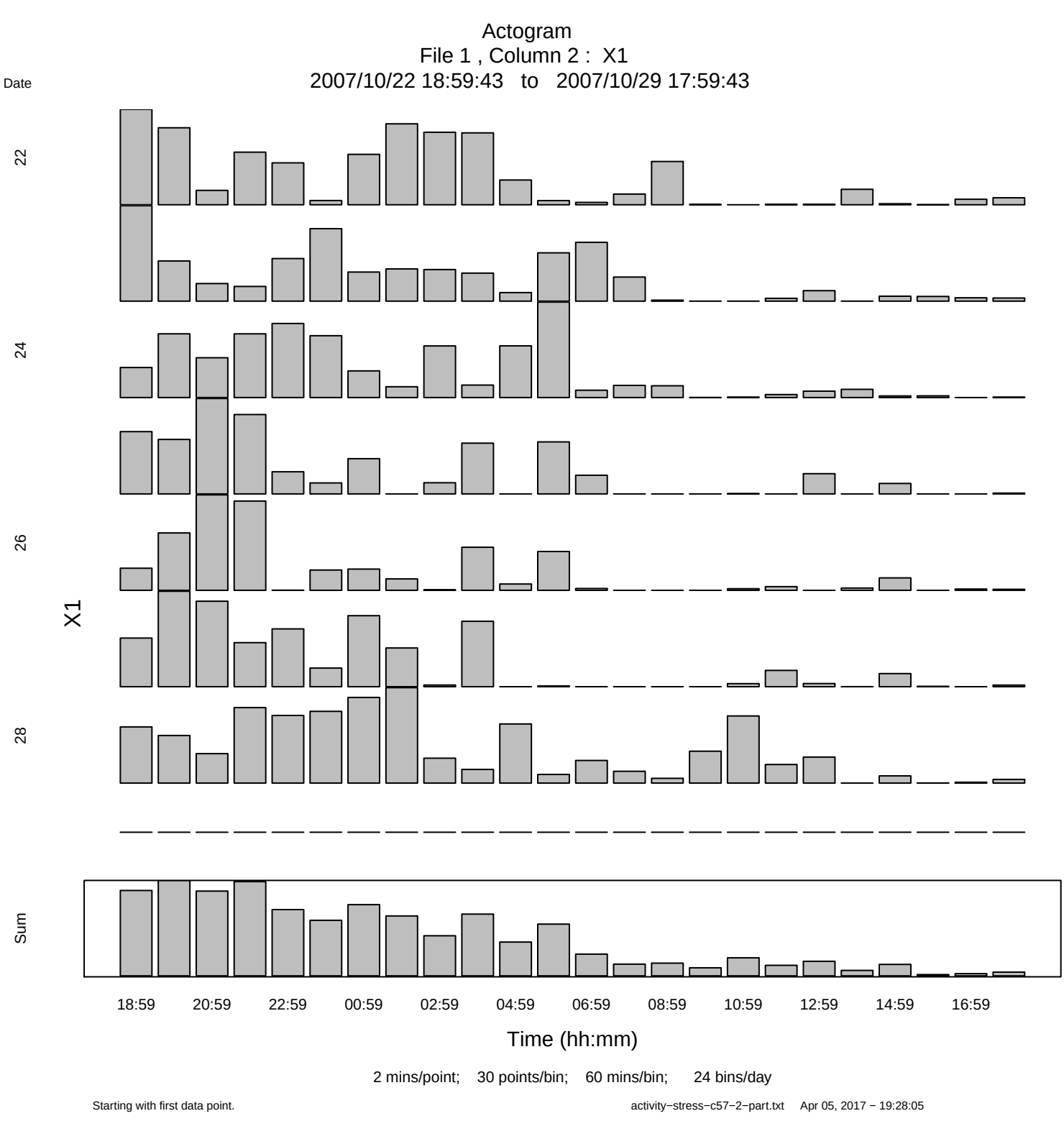
Data Files:

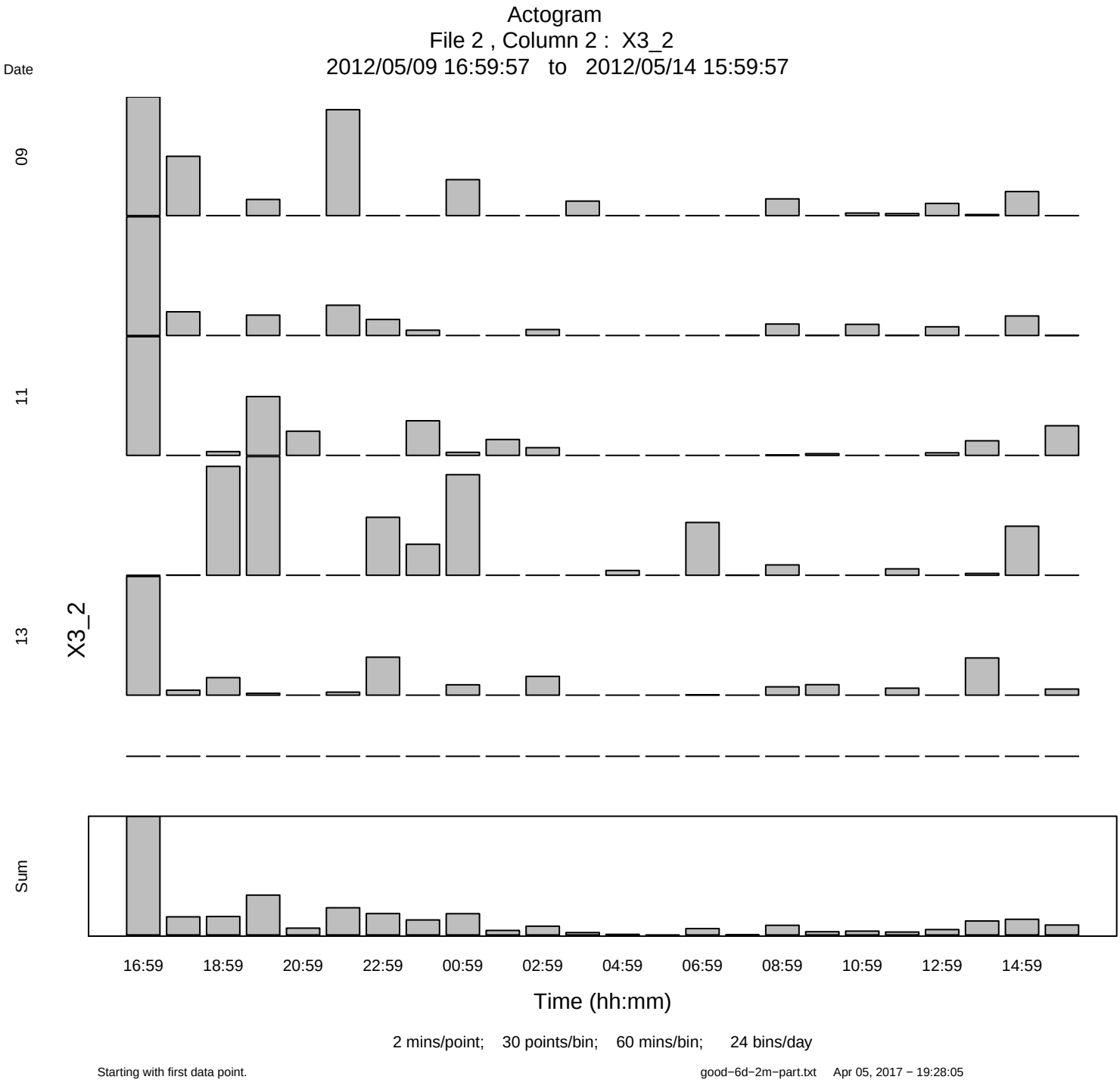
File1: 5.339 % missing data; max gap: 56 ; File2: 2.305 % missing data; max gap found: 25

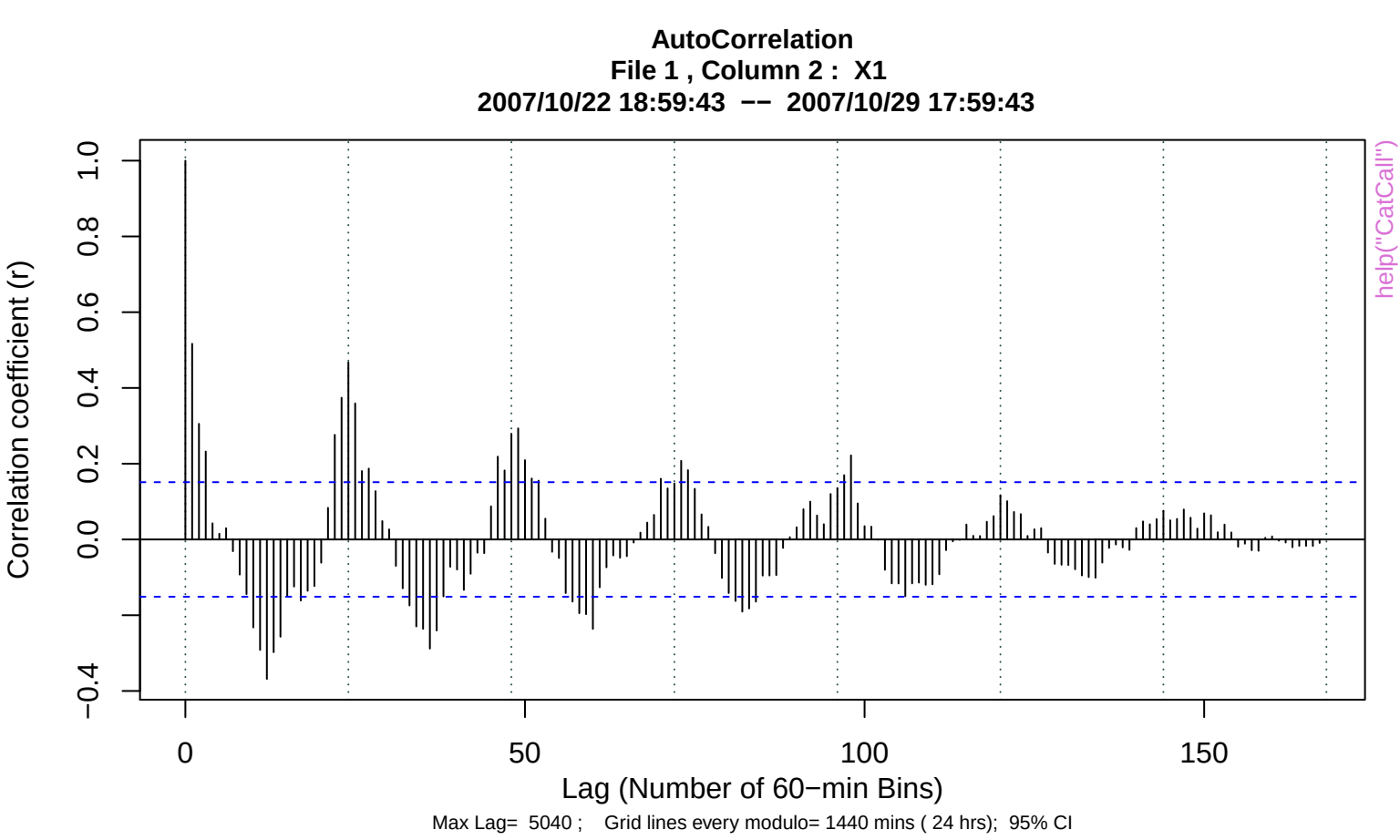
Input
File1 = /Users/user/CATkit/CATkit.Rcheck/CATkit/extdata/activity−stress−c57−2−part.txt
File2 = /Users/user/CATkit/CATkit.Rcheck/CATkit/extdata/good−6d−2m−part.txt
Output: Binned and interpolated data
File1out =... /Users/user/CATkit/CATkit.Rcheck/CATkit/extdata/activity−stress−c57−2−part.txt−−05Apr2017−−19−28−04CATfile1binned.txt
File2out =... /Users/user/CATkit/CATkit.Rcheck/CATkit/extdata/activity−stress−c57−2−part.txt−−05Apr2017−−19−28−04CATfile2binned.txt

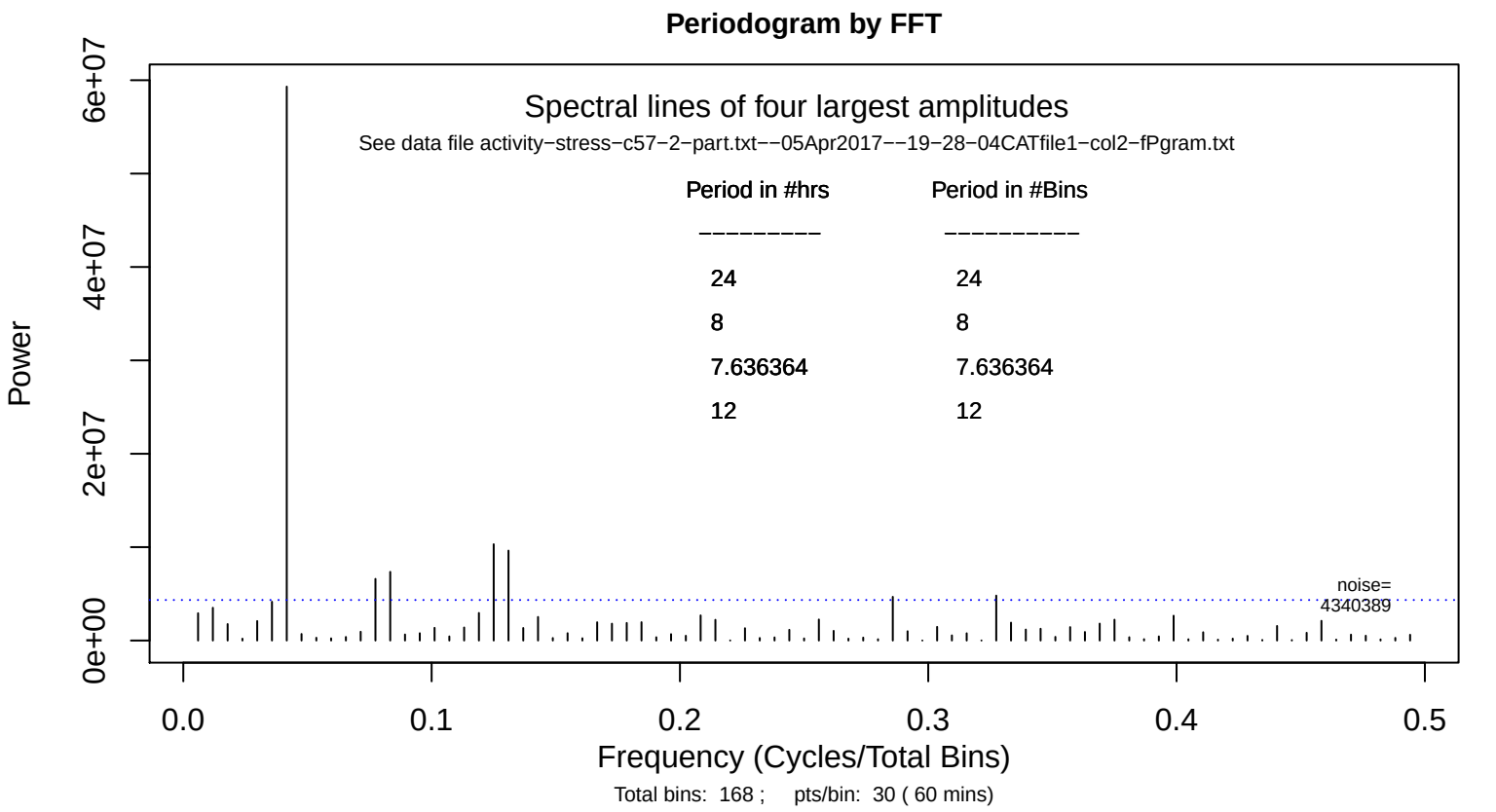

Smoothing (k= 5)
File 1 , Column 2 : X1
2007/10/22 18:59:43 to 2007/10/29 17:59:43
help("CatCall")
X1
0
1000
2000
3000
0
24
48
72
96
120
144
168
Time (#60−min Bins from 2007/10/22 18:59:43)
2 mins/point; 30 points/bin; 60 mins/bin; 24 bins/day
Starting with first data point.
activity−stress−c57−2−part.txt Apr 05, 2017 − 19:28:05

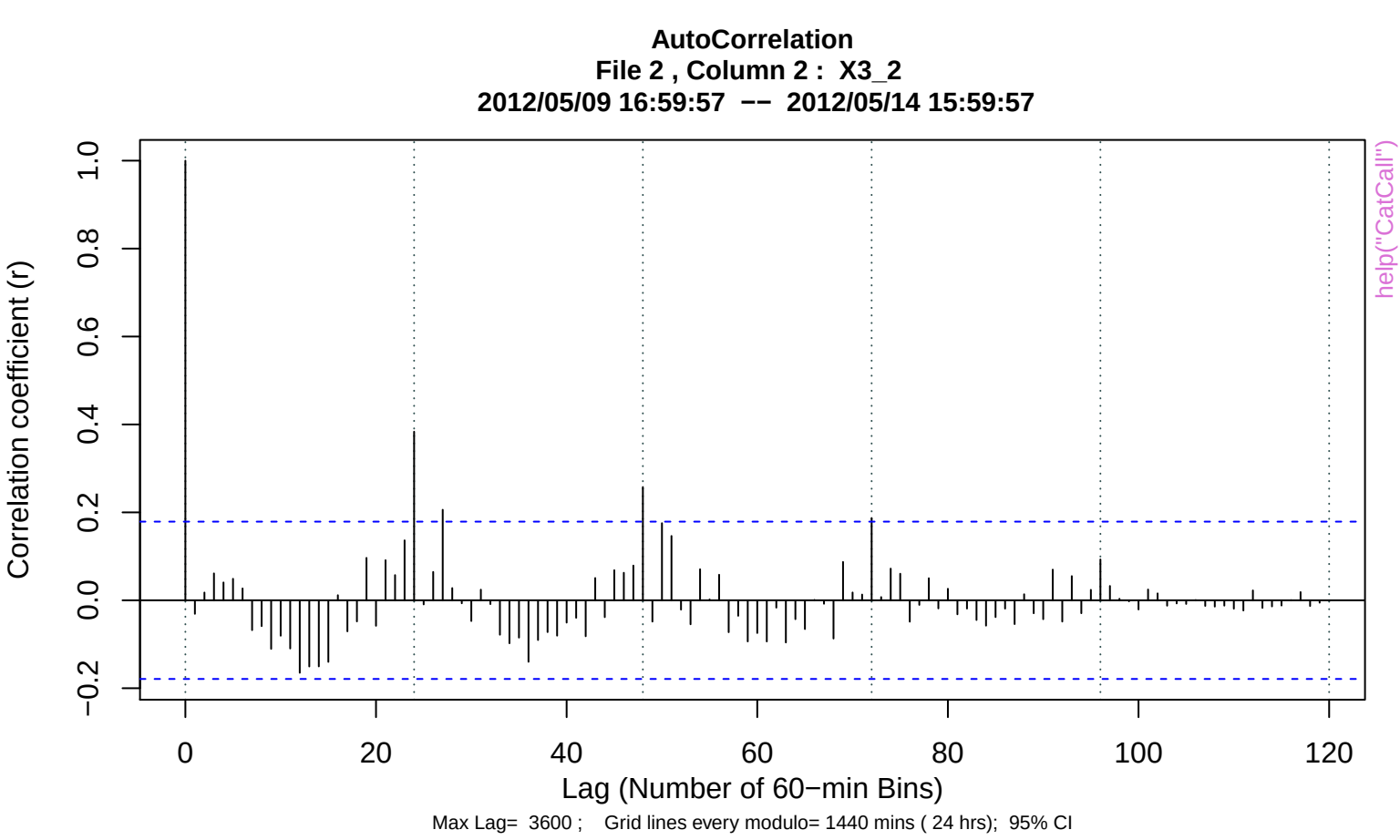

Smoothing (k= 5)
File 2 , Column 2 : X3_2
2012/05/09 16:59:57 to 2012/05/14 15:59:57
help("CatCall")
X3_2
0
500
1000
1500
2000
2500
3000
0
24
48
72
96
120
Time (#60−min Bins from 2012/05/09 16:59:57)
2 mins/point; 30 points/bin; 60 mins/bin; 24 bins/day
Starting with first data point.
good−6d−2m−part.txt Apr 05, 2017 − 19:28:05

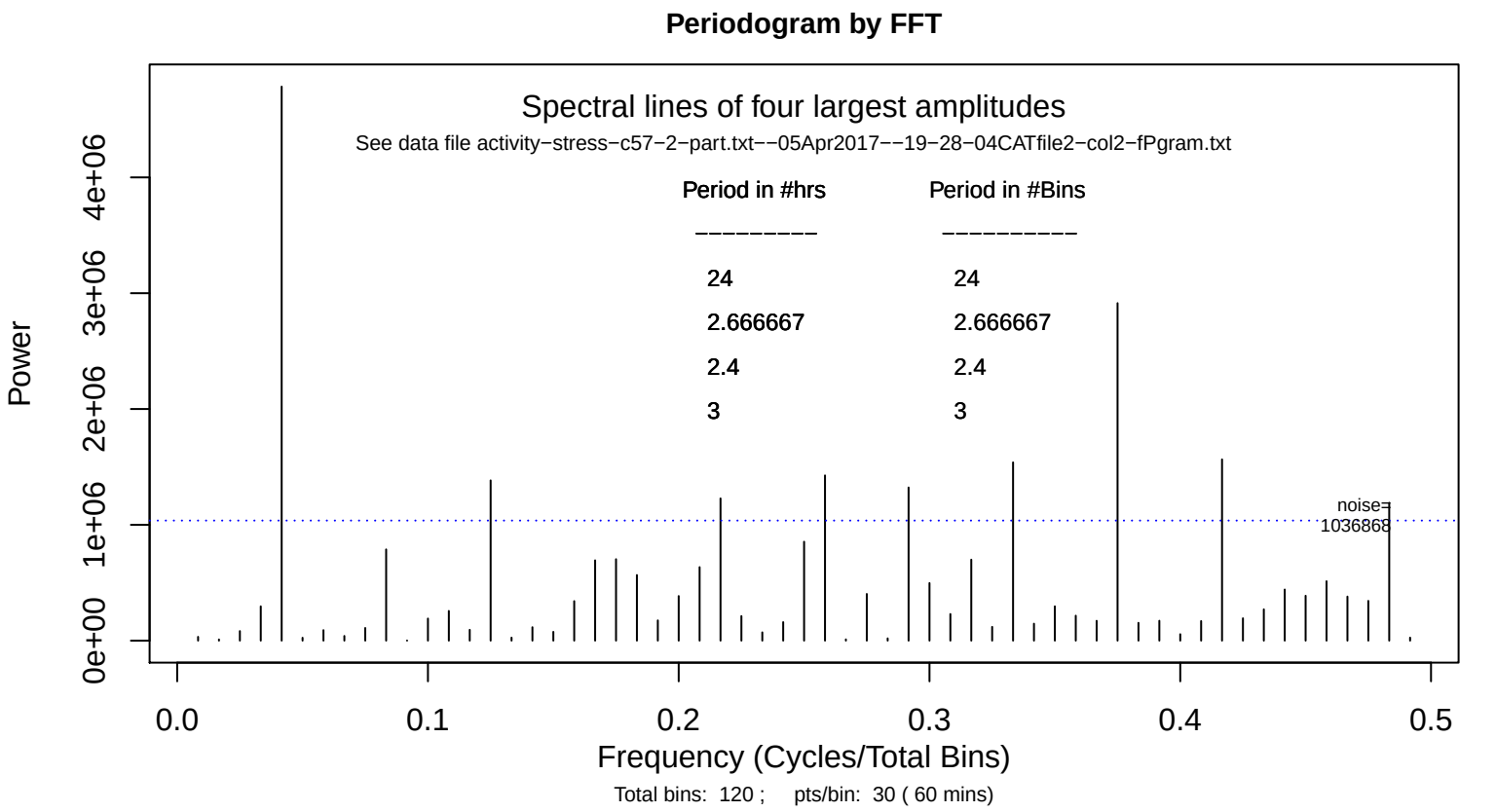

Actogram
File 1 , Column 2 : X1
2007/10/22 18:59:43 to 2007/10/29 17:59:43
Date
22
24
26
28
X1
Sum
18:59
20:59
22:59
00:59
02:59
04:59
06:59
08:59
10:59
12:59
14:59
16:59
Time (hh:mm)
2 mins/point; 30 points/bin; 60 mins/bin; 24 bins/day
Starting with first data point.
activity−stress−c57−2−part.txt Apr 05, 2017 − 19:28:05


Actogram
File 2 , Column 2 : X3_2
2012/05/09 16:59:57 to 2012/05/14 15:59:57
Date
09
11
13
X3_2
Sum
16:59
18:59
20:59
22:59
00:59
02:59
04:59
06:59
08:59
10:59
12:59
14:59
Time (hh:mm)
2 mins/point; 30 points/bin; 60 mins/bin; 24 bins/day
Starting with first data point.
good−6d−2m−part.txt Apr 05, 2017 − 19:28:05


AutoCorrelation
File 1 , Column 2 : X1
2007/10/22 18:59:43 -- 2007/10/29 17:59:43
Correlation coefficient (r)
1.0
0.8
0.6
0.4
0.2
0.0
−0.4
0
50
100
150
Lag (Number of 60−min Bins)
Max Lag= 5040 ; Grid lines every modulo= 1440 mins (24 hrs); 95% CI
help("CatCall")

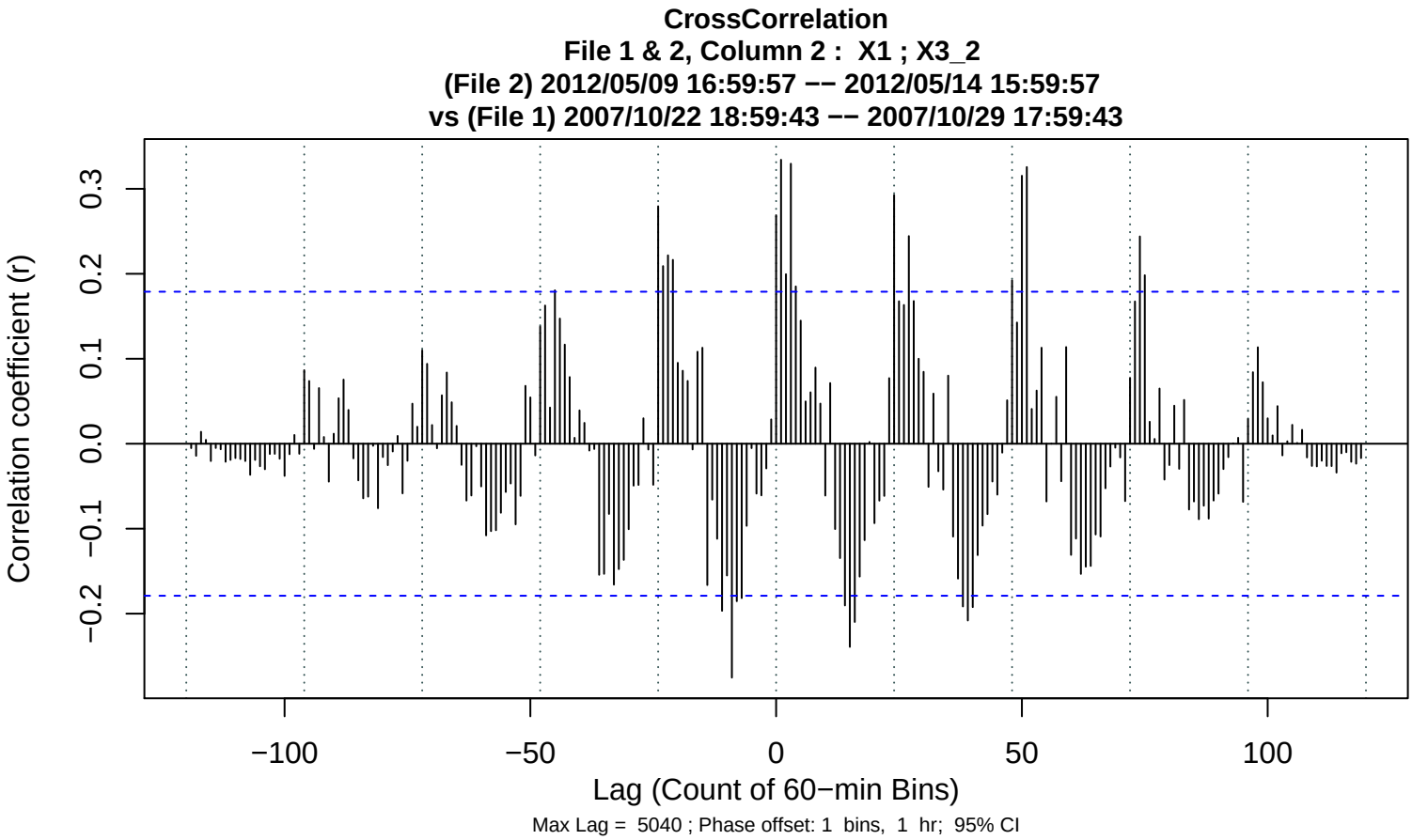

Periodogram by FFT
Power
6e+07
4e+07
2e+07
0e+00
Spectral lines of four largest amplitudes
See data file activity−stress−c57−2−part.txt−−05Apr2017−−19−28−04CATfile1−col2−fPgram.txt
Period in #hrs
Period in #Bins
24
24
8
8
7.636364
7.636364
12
12
noise=
4340389
0.0
0.1
0.2
0.3
0.4
0.5
Frequency (Cycles/Total Bins)
Total bins: 168 ; pts/bin: 30 (60 mins)

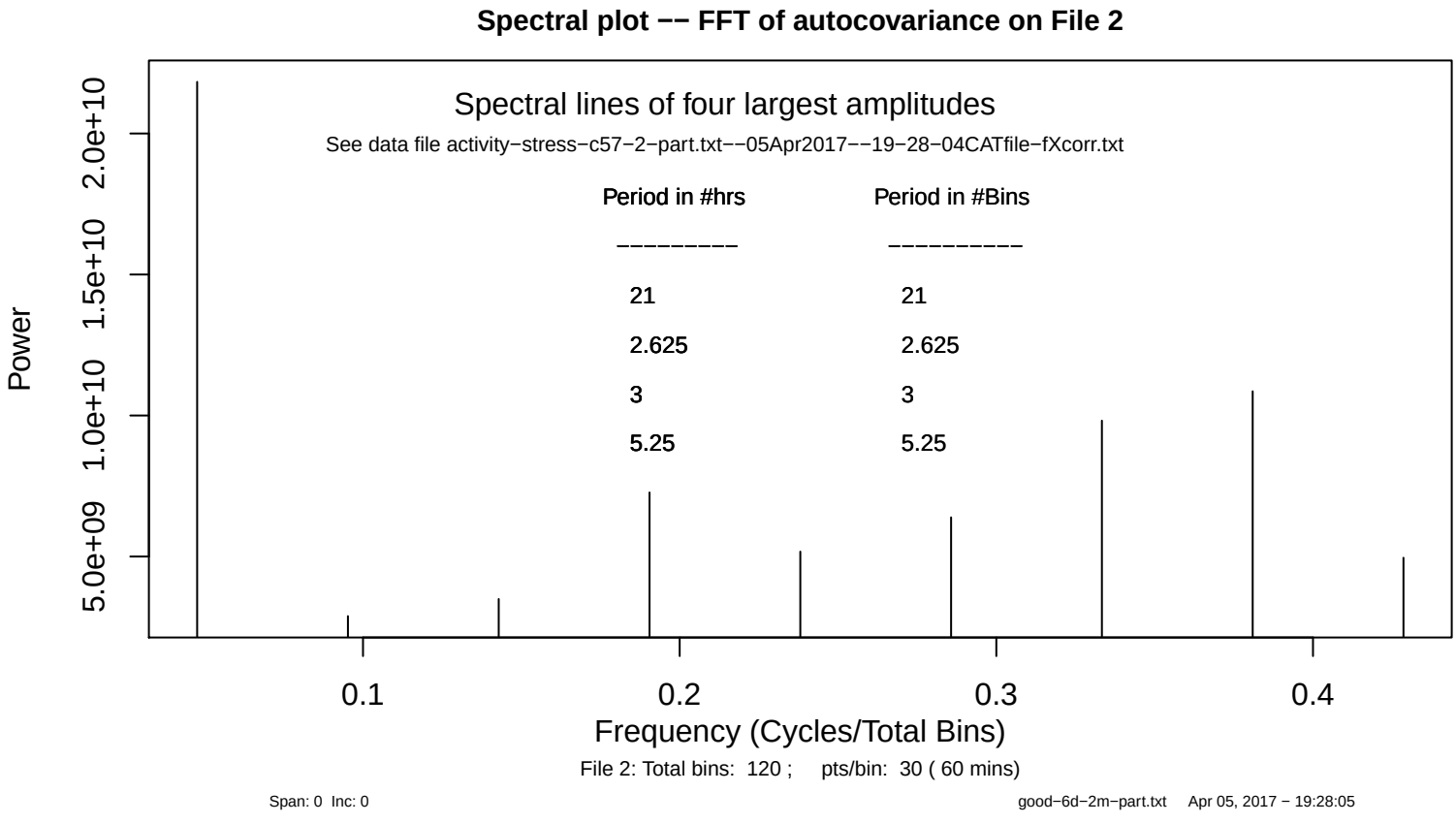




Span: 0 Inc: 0

good−6d−2m−part.txt Apr 05, 2017 − 19:28:05


CrossCorrelation
File 1 & 2, Column 2 : X1 ; X3_2
(File 2) 2012/05/09 16:59:57 −− 2012/05/14 15:59:57
vs (File 1) 2007/10/22 18:59:43 −− 2007/10/29 17:59:43
Correlation coefficient (r)
0.3
0.2
0.1
0.0
−0.1
−0.2
−100
−50
0
50
100
Lag (Count of 60−min Bins)
Max Lag = 5040 ; Phase offset: 1 bins, 1 hr; 95% CI


Spectral plot −− FFT of autocovariance on File 2
Spectral lines of four largest amplitudes
See data file activity−stress−c57−2−part.txt−−05Apr2017−−19−28−04CATfile−fXcorr.txt
Period in #hrs
Period in #Bins
21
21
2.625
2.625
3
3
5.25
5.25
Power
5.0e+09
1.0e+10
1.5e+10
2.0e+10
0.1
0.2
0.3
0.4
Frequency (Cycles/Total Bins)
File 2: Total bins: 120 ; pts/bin: 30 (60 mins)
Span: 0 Inc: 0
good−6d−2m−part.txt Apr 05, 2017 − 19:28:05