

# CS1 data analysis

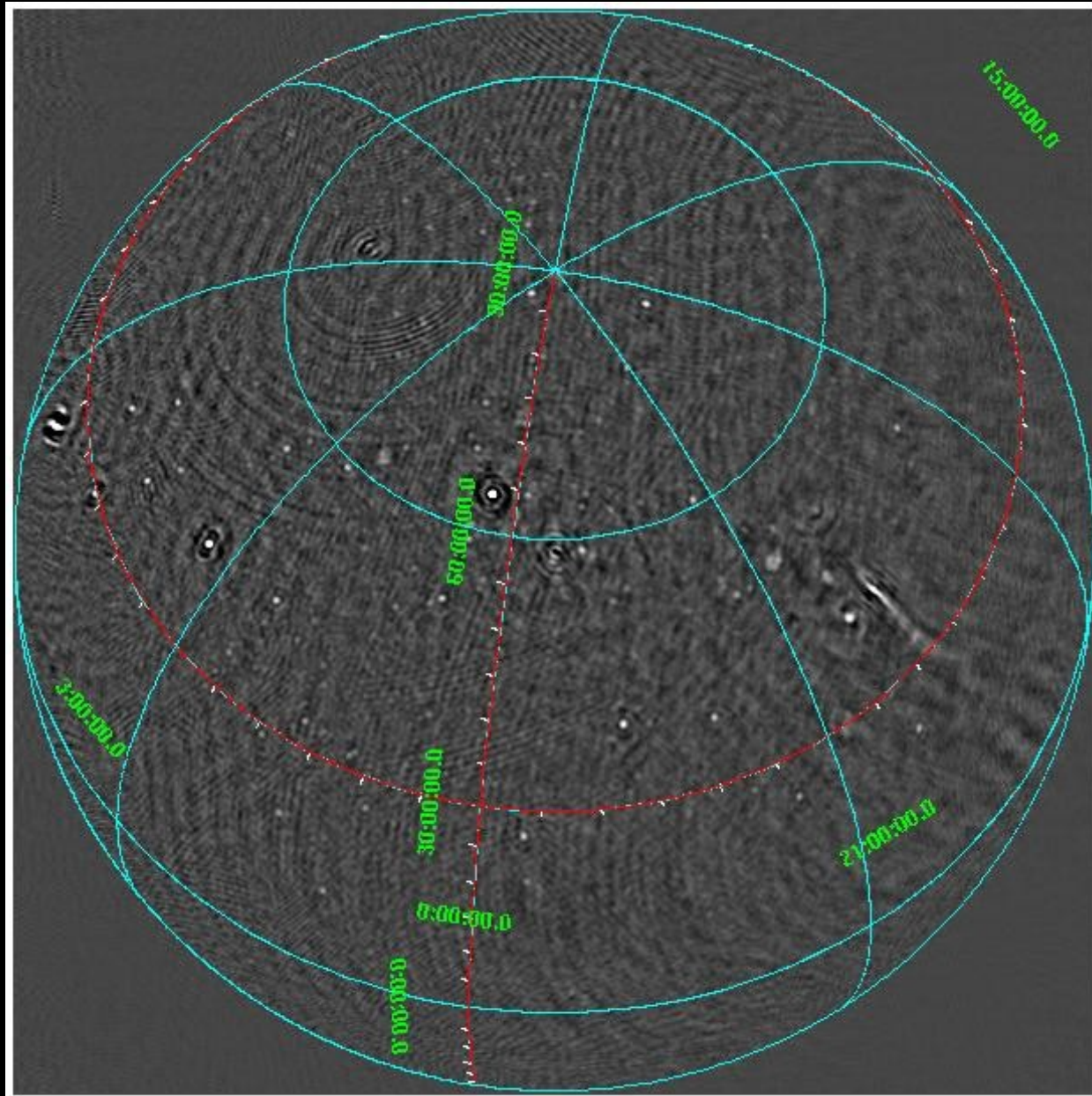
M. PANDEY-POMMIER & C. LAW

CSI meeting

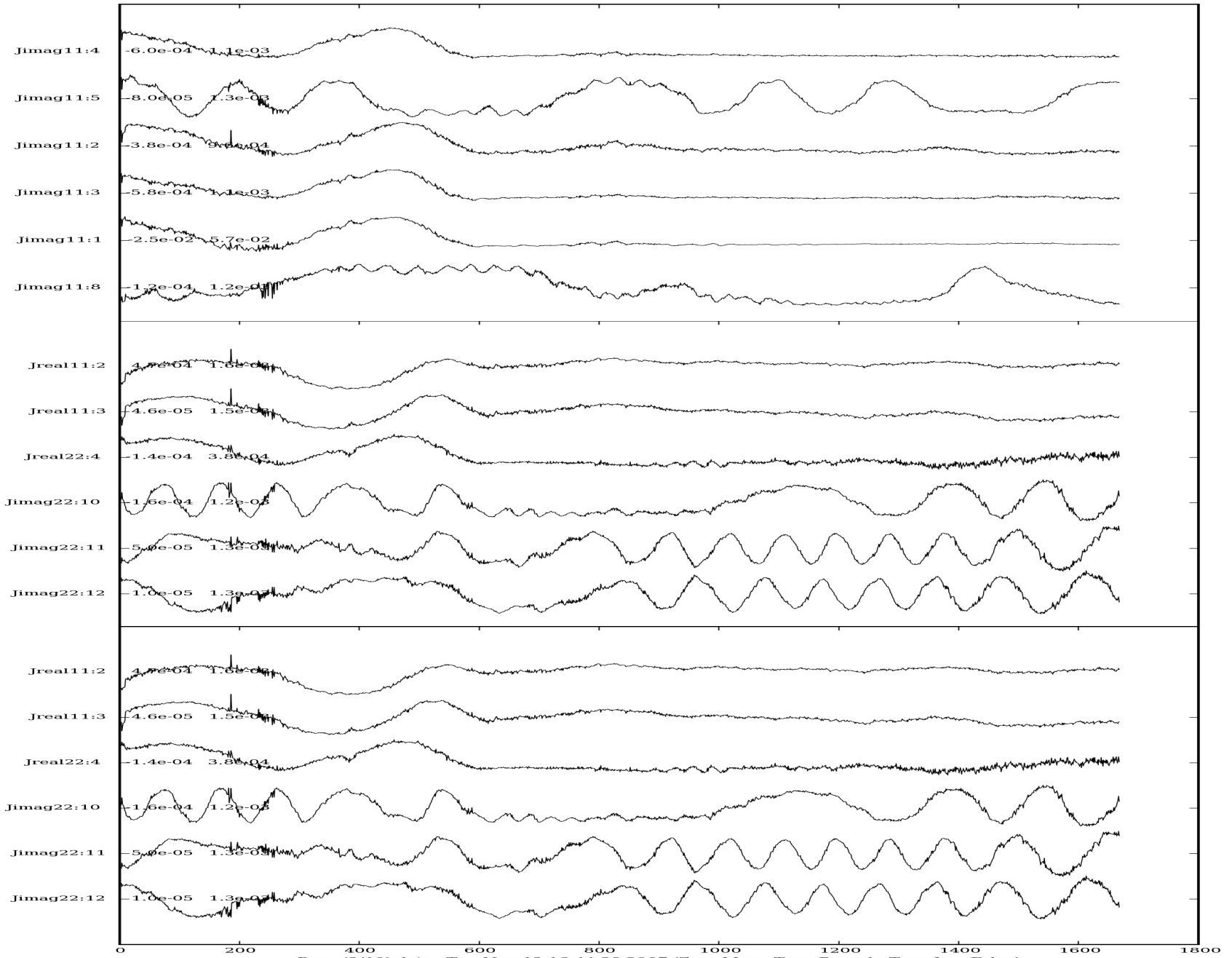
ASTRON, Dwingeloo, 21st Nov, 2007

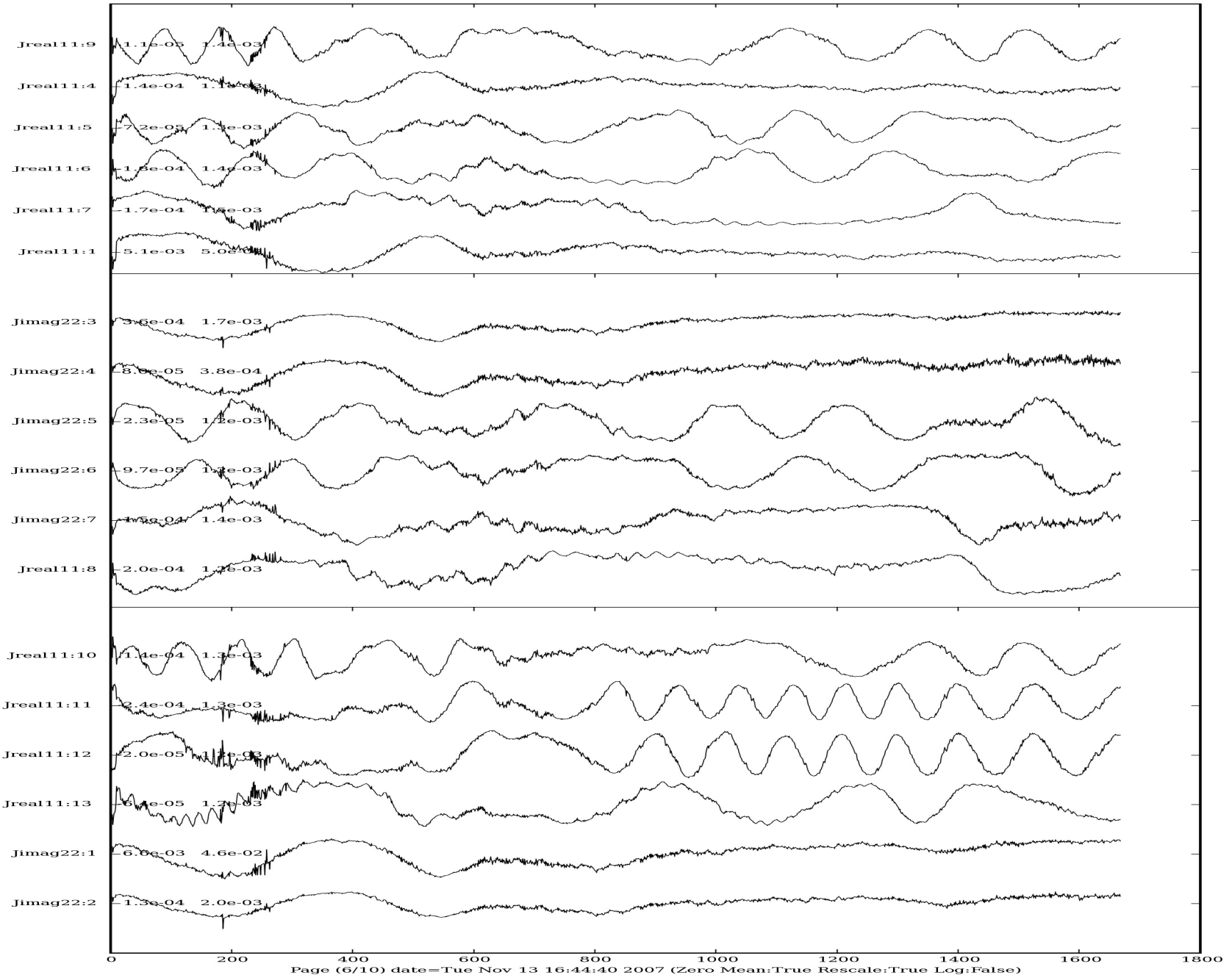
Data:	L2007_03917
Observation date:	9 <sup>th</sup> Oct, 2007
Observation time:	16h
Phase tracking center:	Cas A
Frequency of observation:	55 MHz
rms sensitivity achieved:	0.45 Jy
Largest detected source size:	4 degrees
Number of sources detected:	more than 100 above 3 sigma

# L2007\_03917- 29 sub bands added image

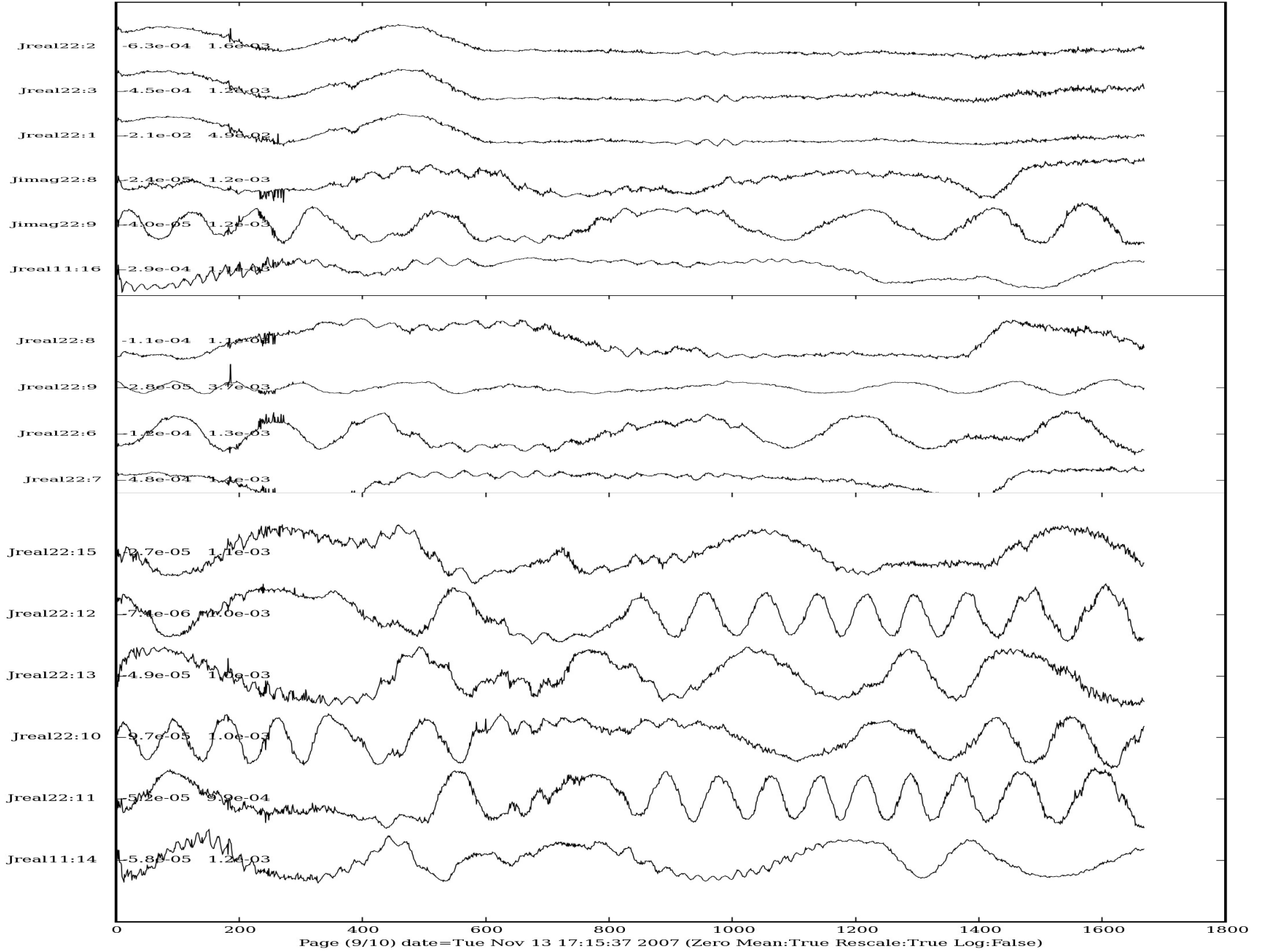


SB2\_M.MS\_1\_0.mep



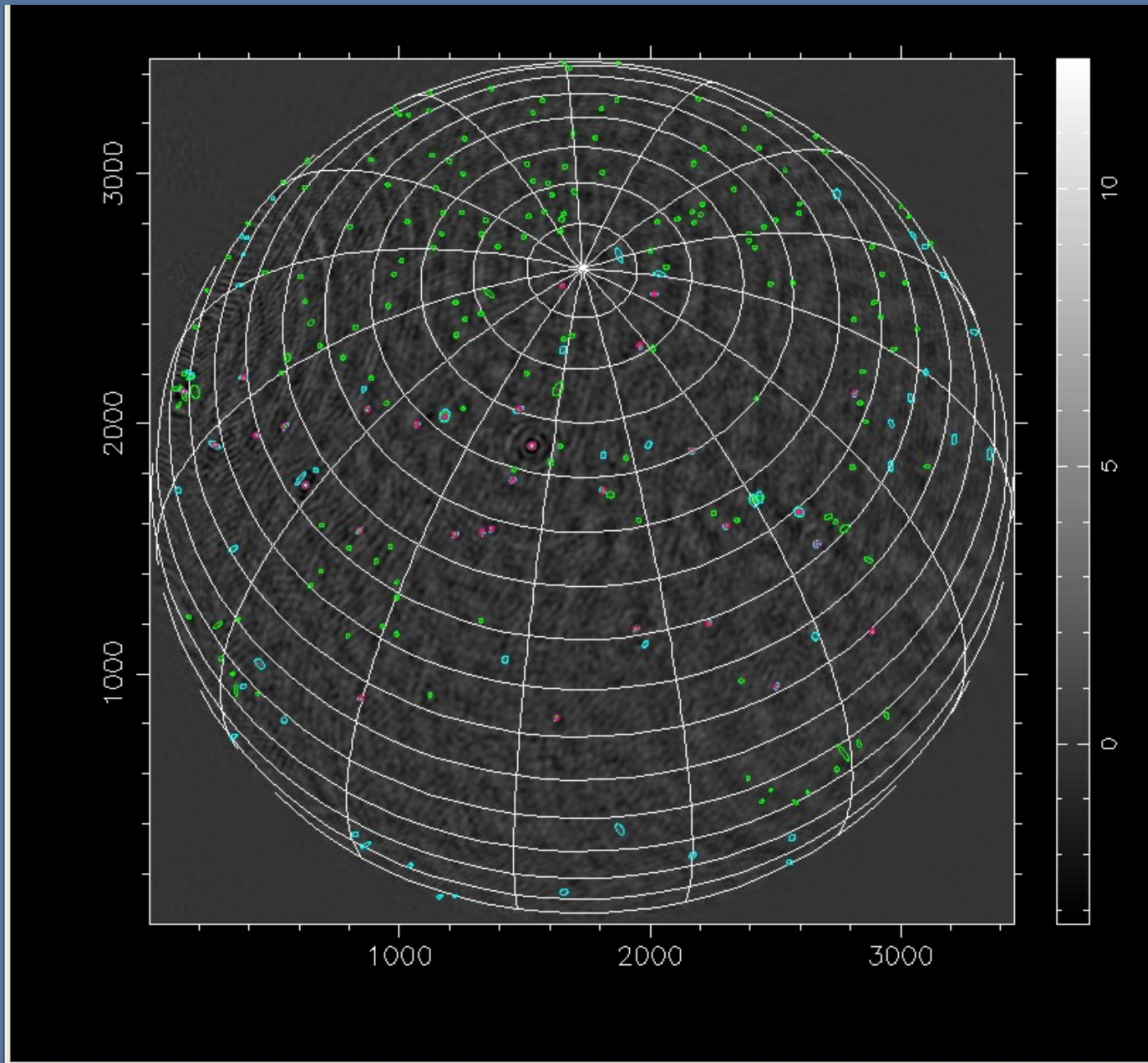


SB2\_M.MS\_1\_0.mep



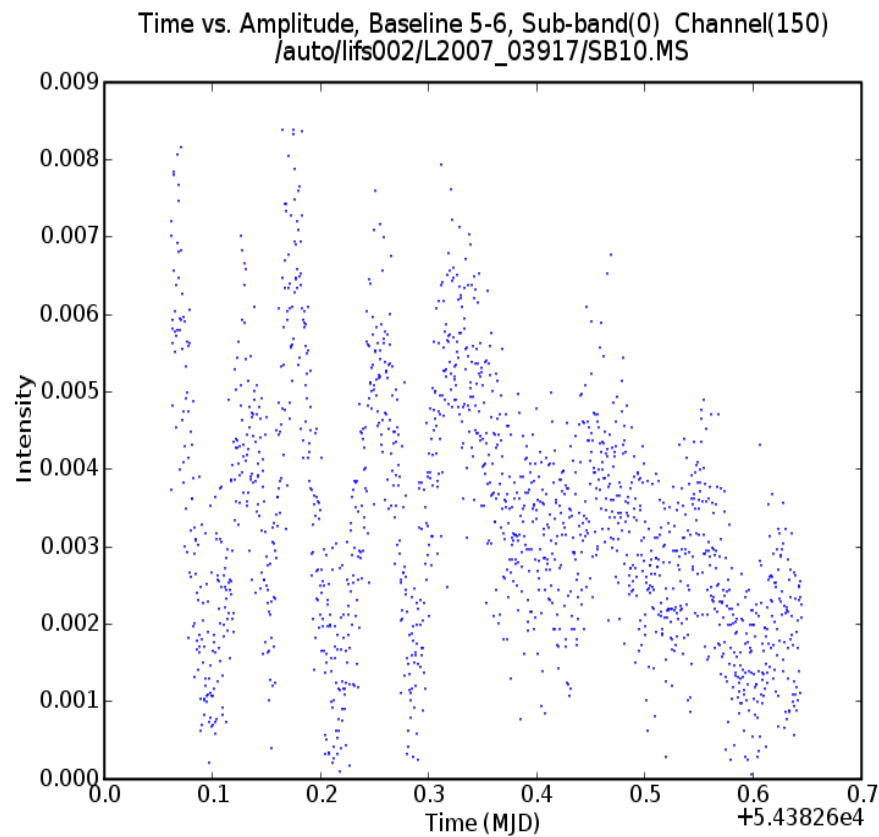
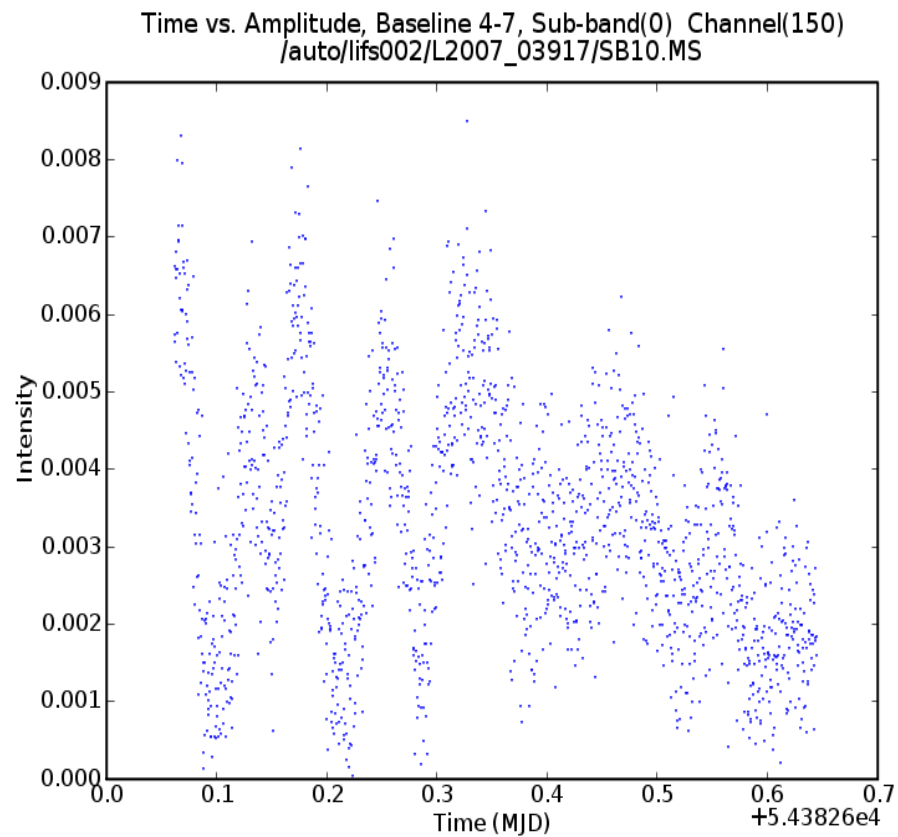


Comparison with one of Sarod's recent image:



# Redundant baselines:

Correlated power in baseline pair 5-8(left) and 6-7(right)

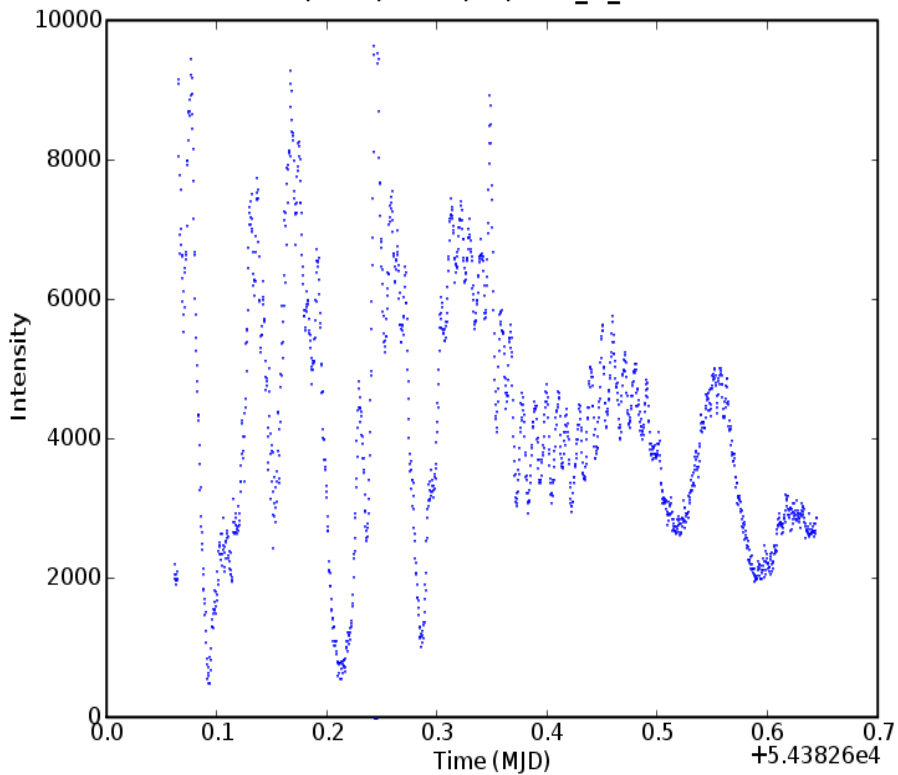


Uncalibrated data

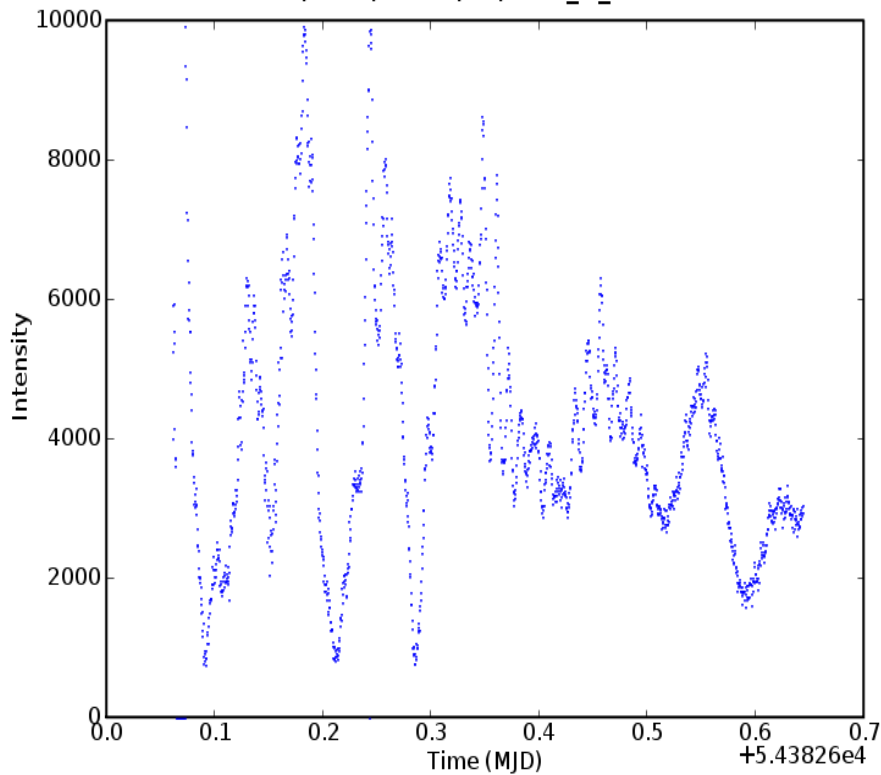


# Correlated power in baseline pair 5-8(left) and 6-7(right)

Time vs. Amplitude, Baseline 4-7, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS



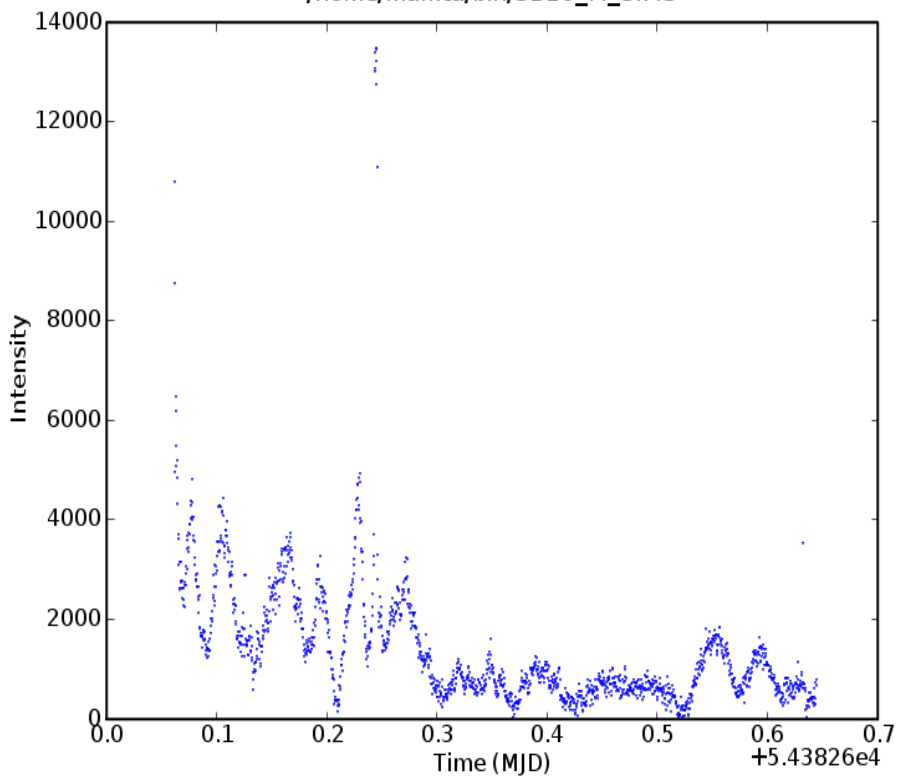
Time vs. Amplitude, Baseline 5-6, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS



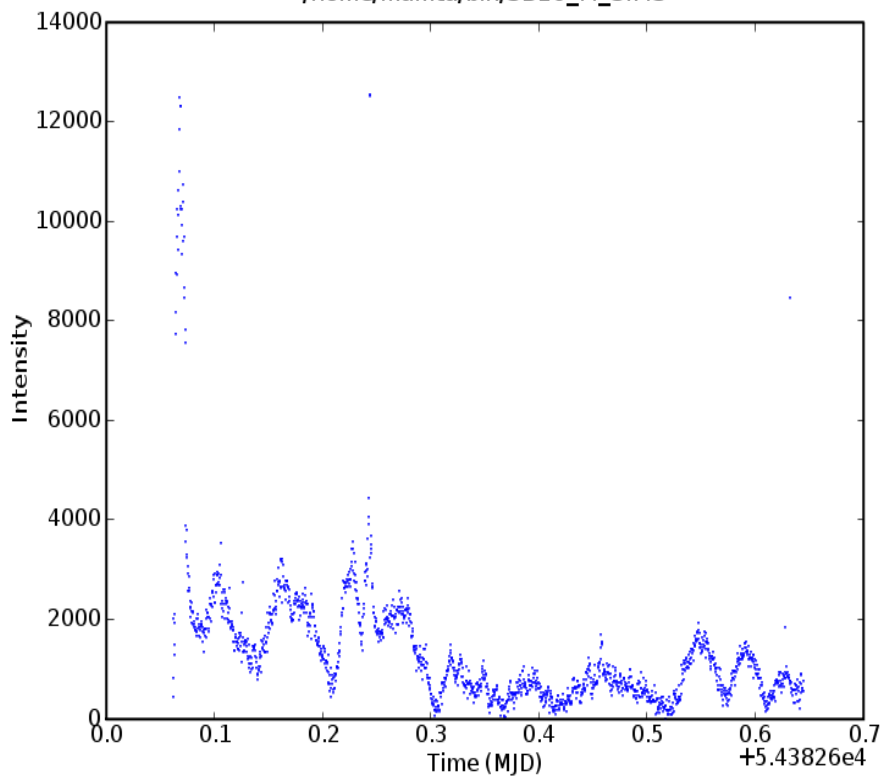
Calibrated data-before peeling bright sources

# Correlated power in baseline pair 5-8(left) and 6-7(right)

Time vs. Amplitude, Baseline 4-7, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS



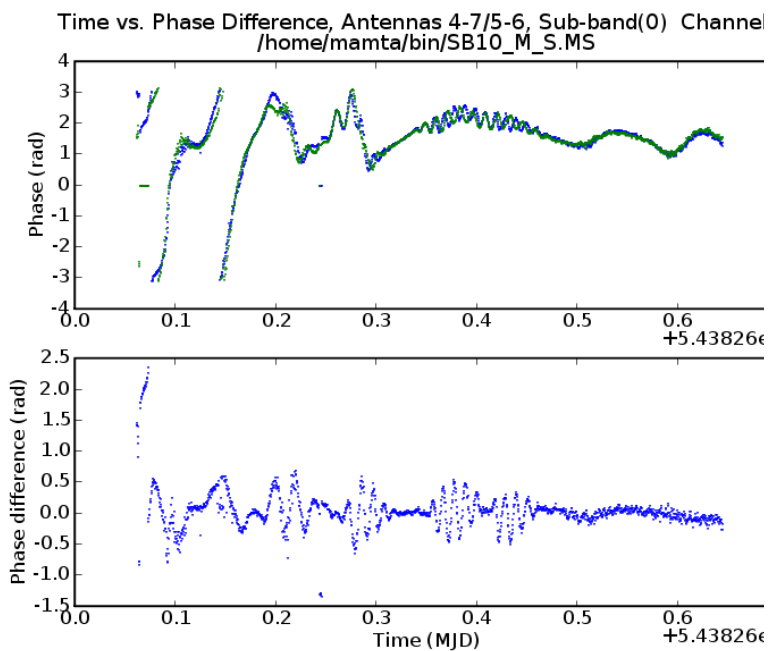
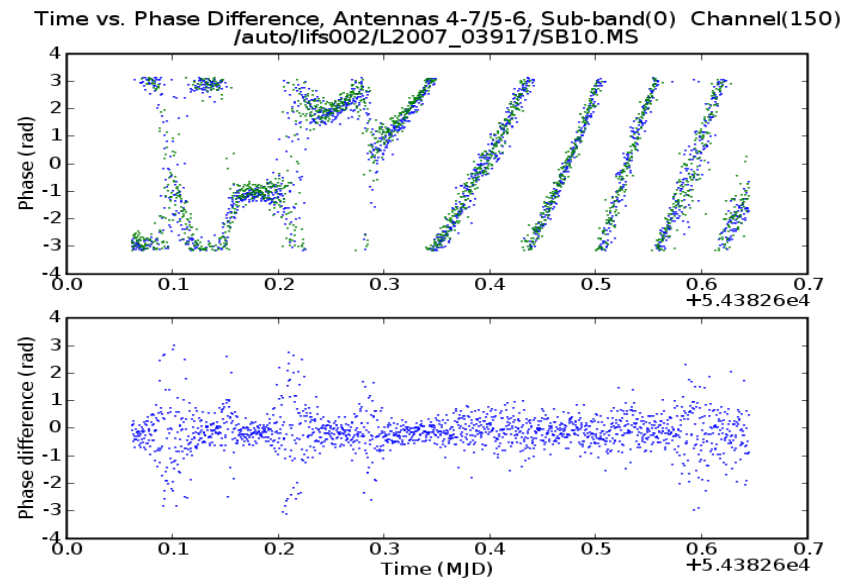
Time vs. Amplitude, Baseline 5-6, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS



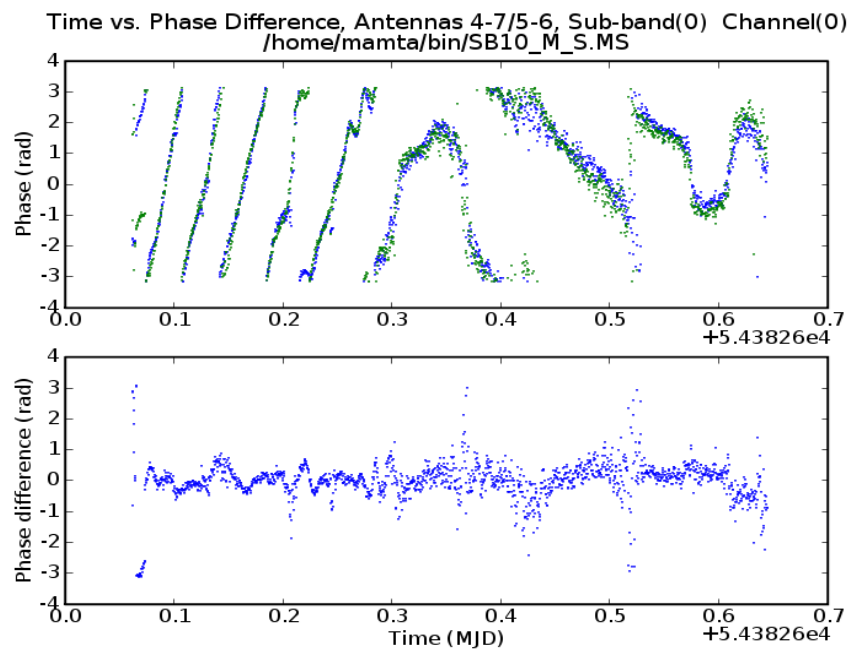
Calibrated data- bright sources peeled

# Phase difference in baseline pair 5-8/6-7

## Uncalibrated data

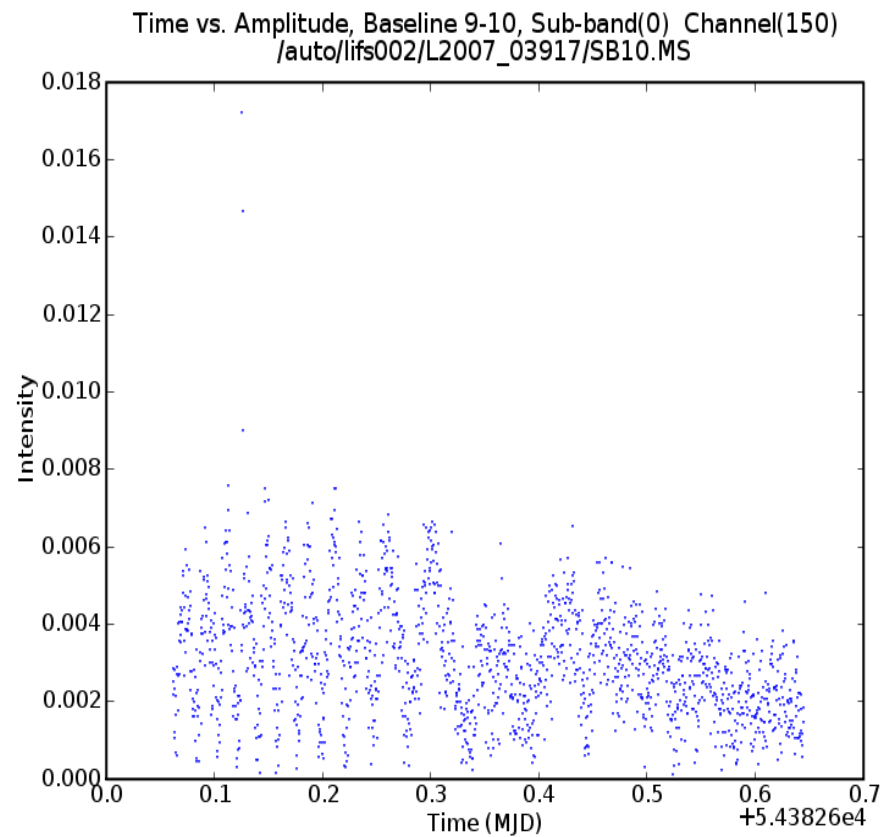
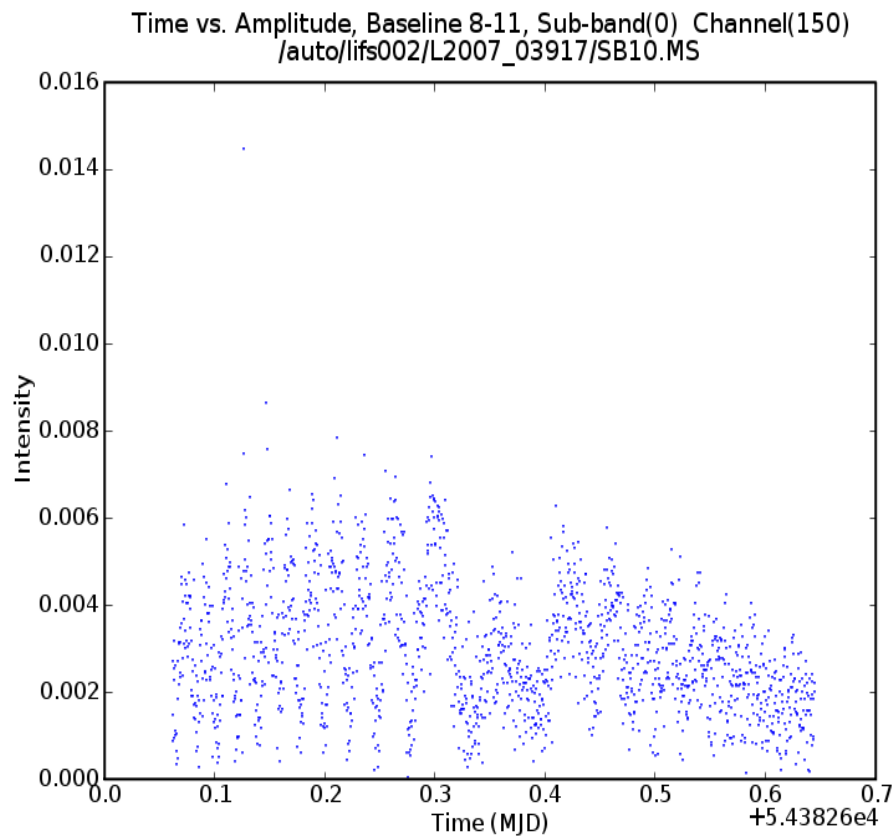


calibrated data



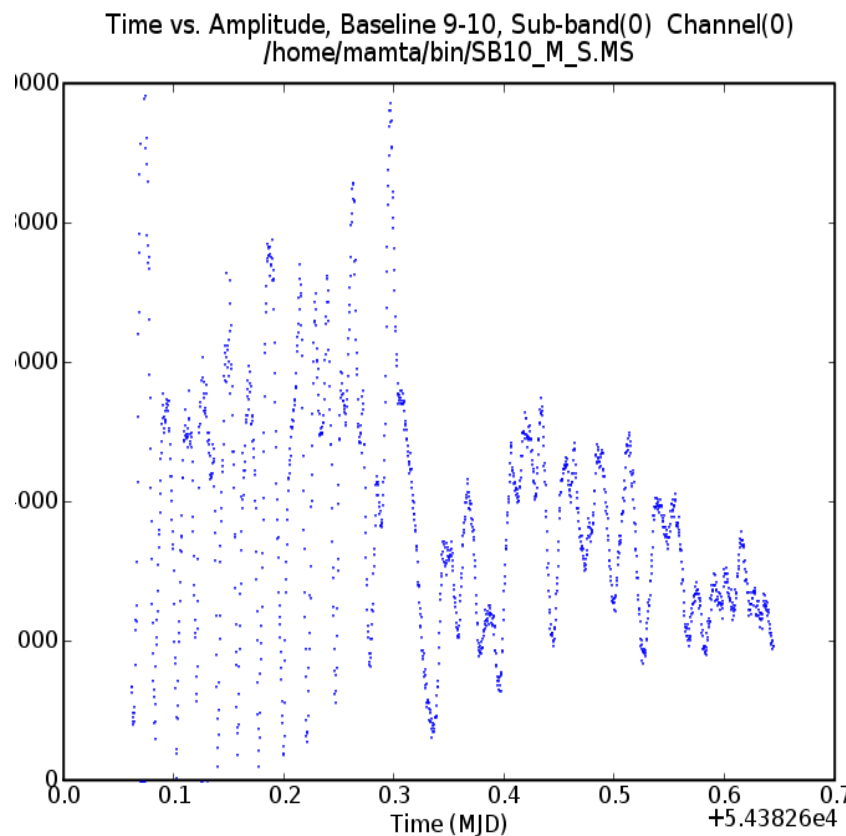
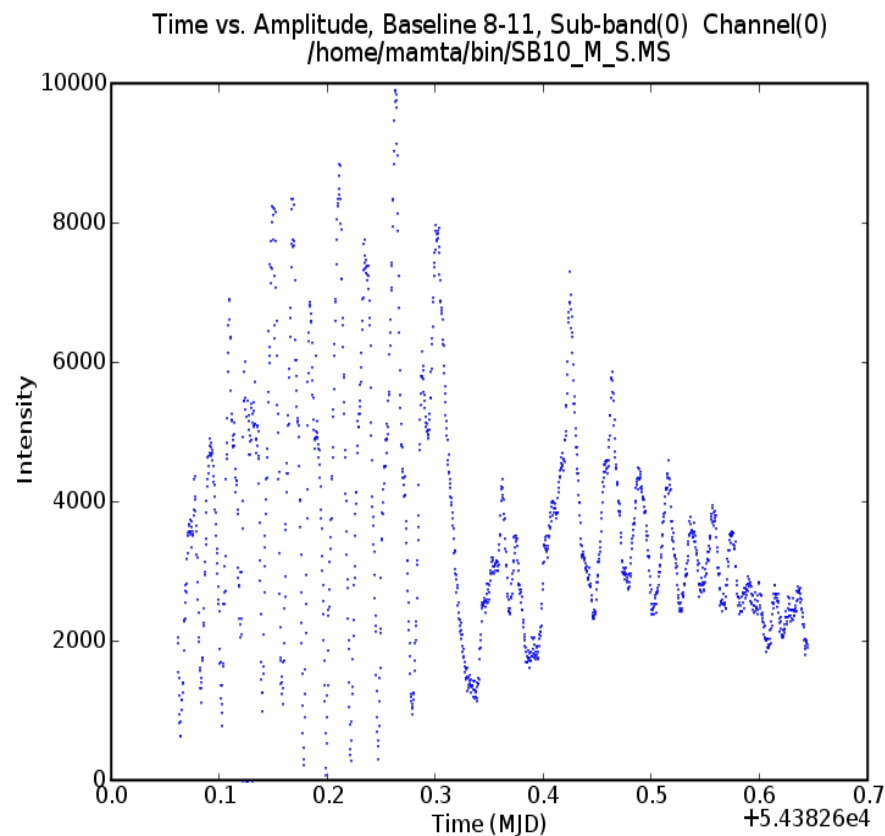
calibrated data with bright sources peeled

# Correlated power in baseline pair 9-12(left) and 10-11(right)



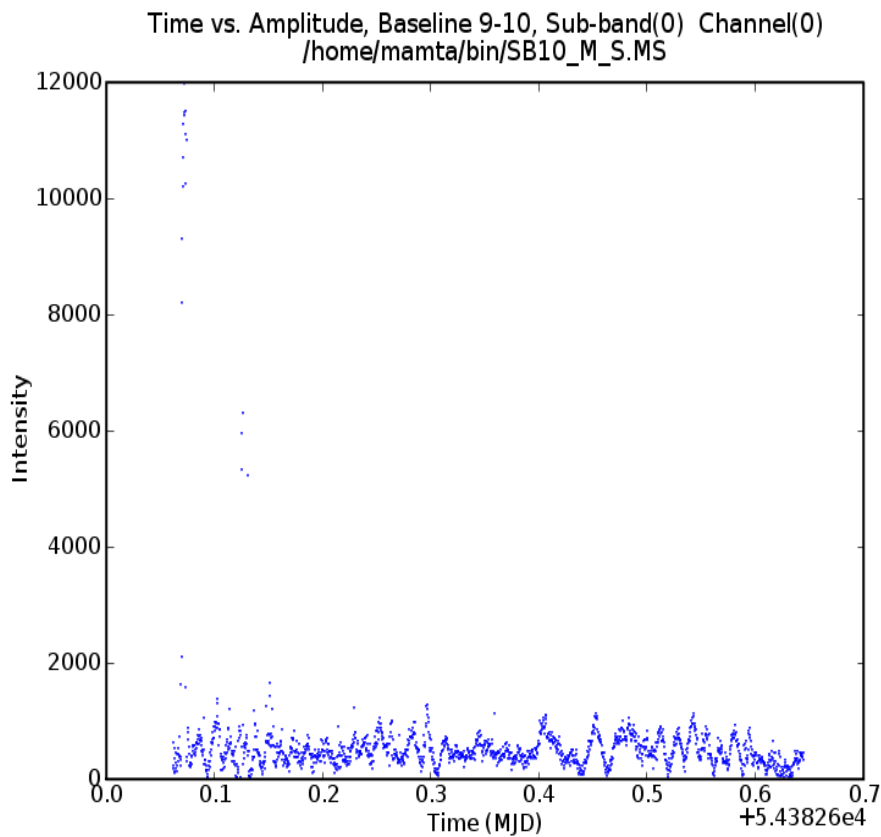
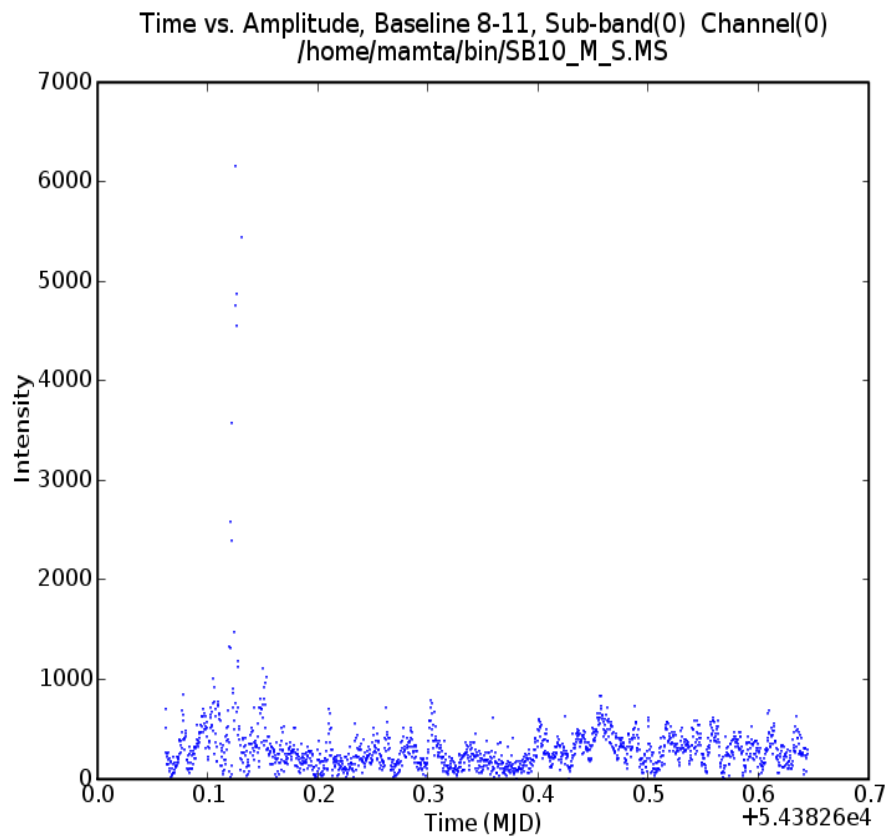
Uncalibrated data

# Correlated power in baseline pair 9-12(left) and 10-11(right)



calibrated data-bright sources unpeeled

# Correlated power in baseline pair 9-12(left) and 10-11(right)

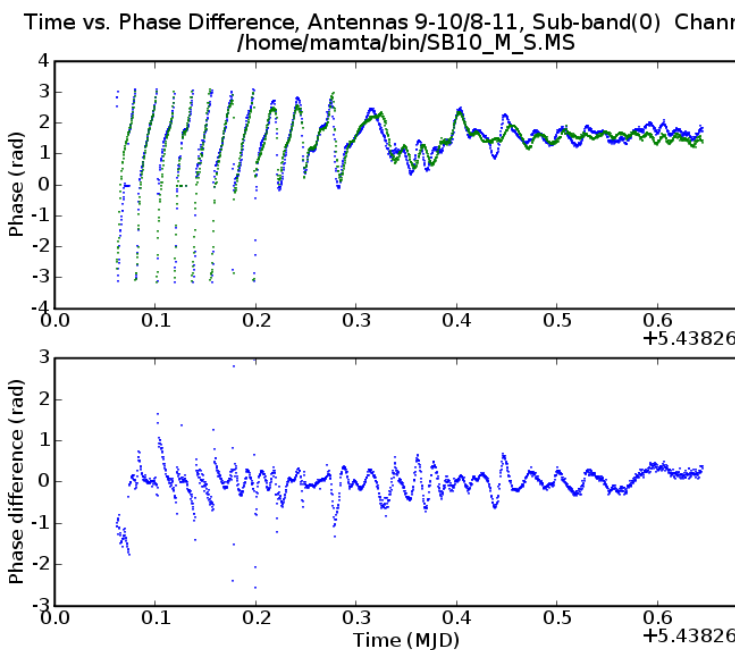
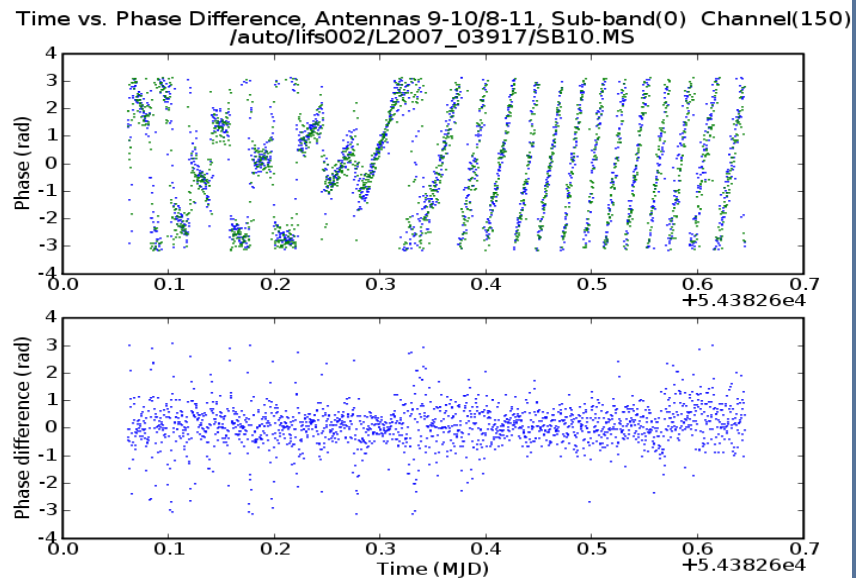


calibrated data-bright sources peeled

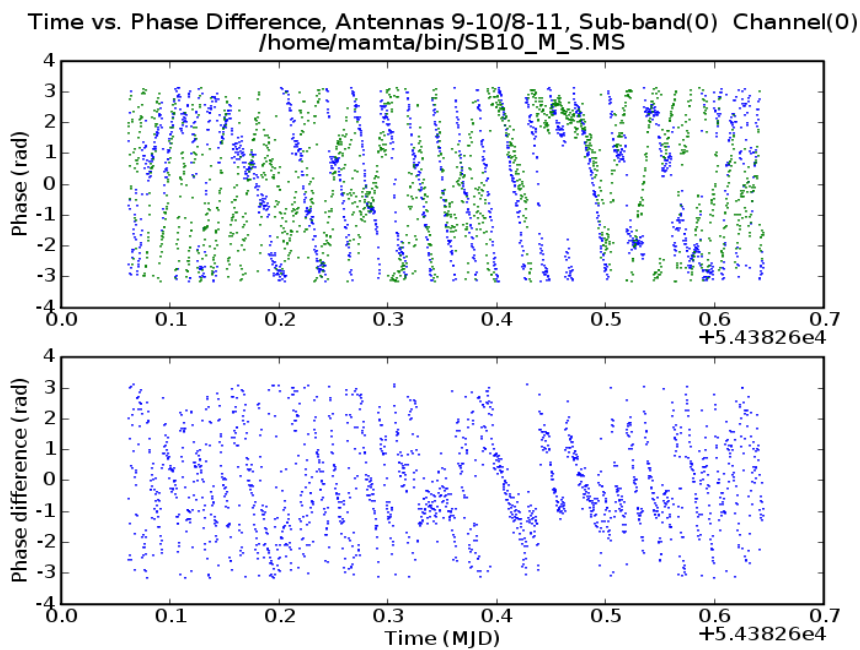


# Phase difference in baseline pair 9-12/10-11

## Uncalibrated data

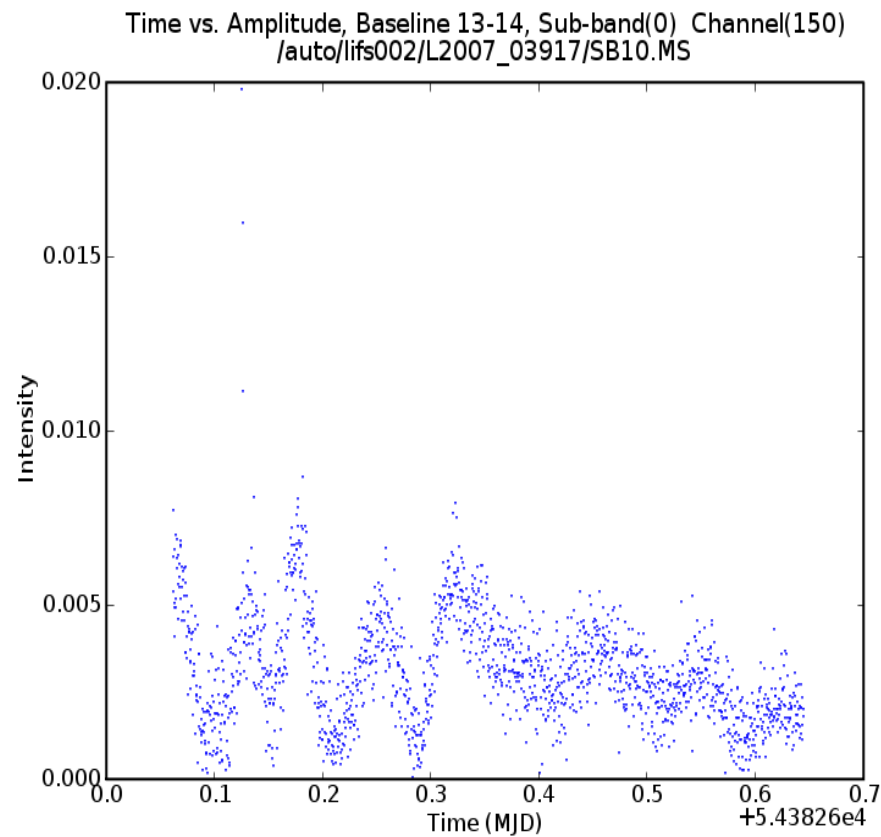
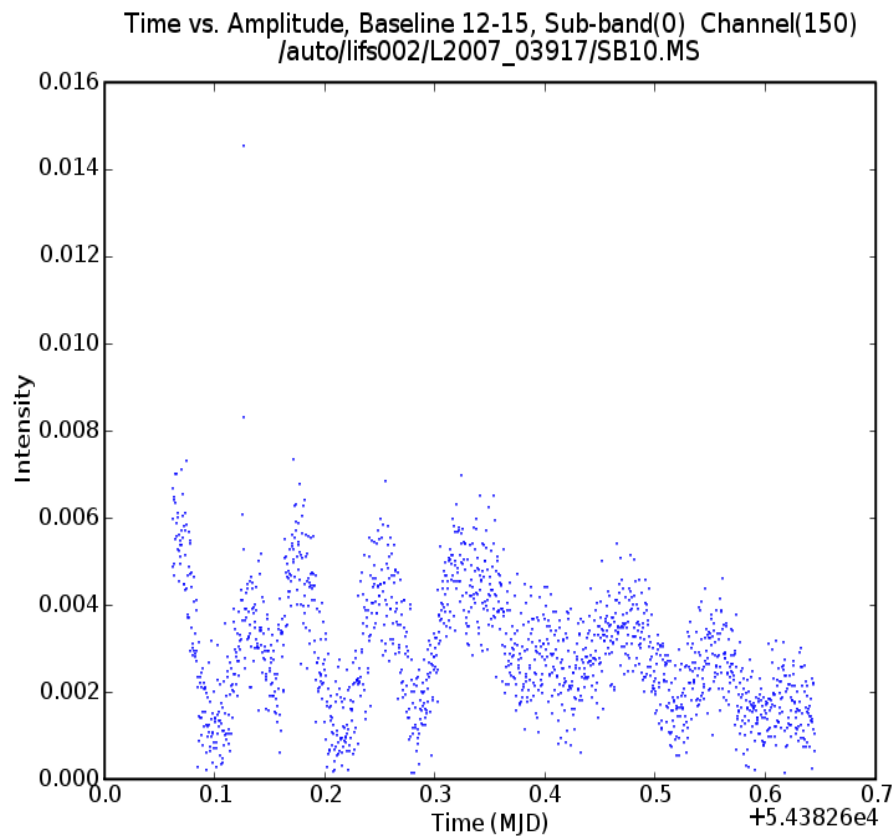


calibrated data



calibrated data with bright sources peeled

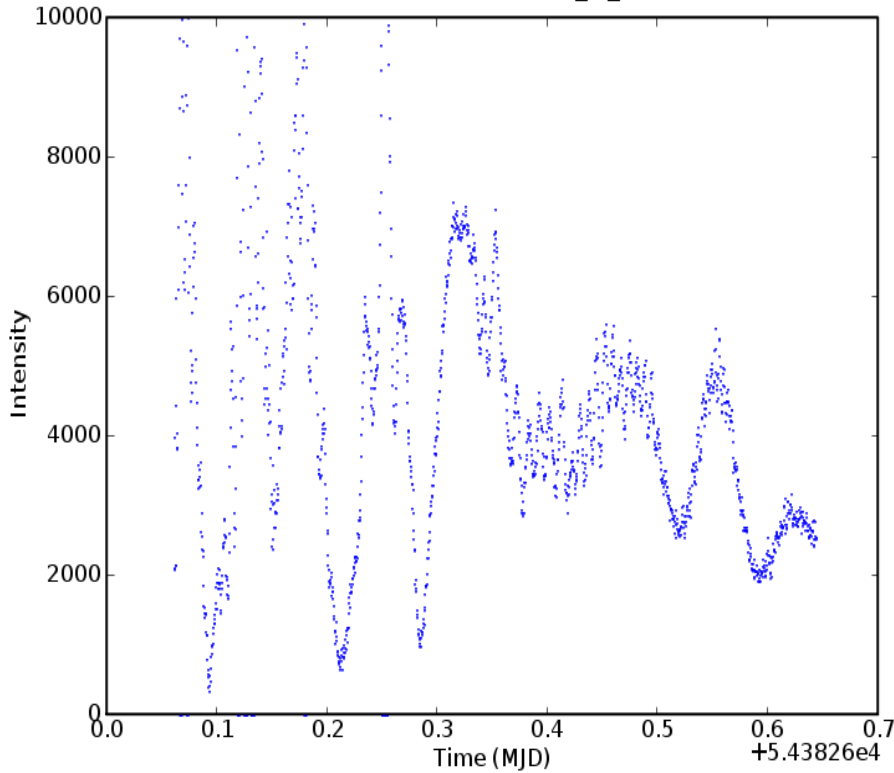
# Correlated power in baseline pair 13-16(left) and 14-15(right)



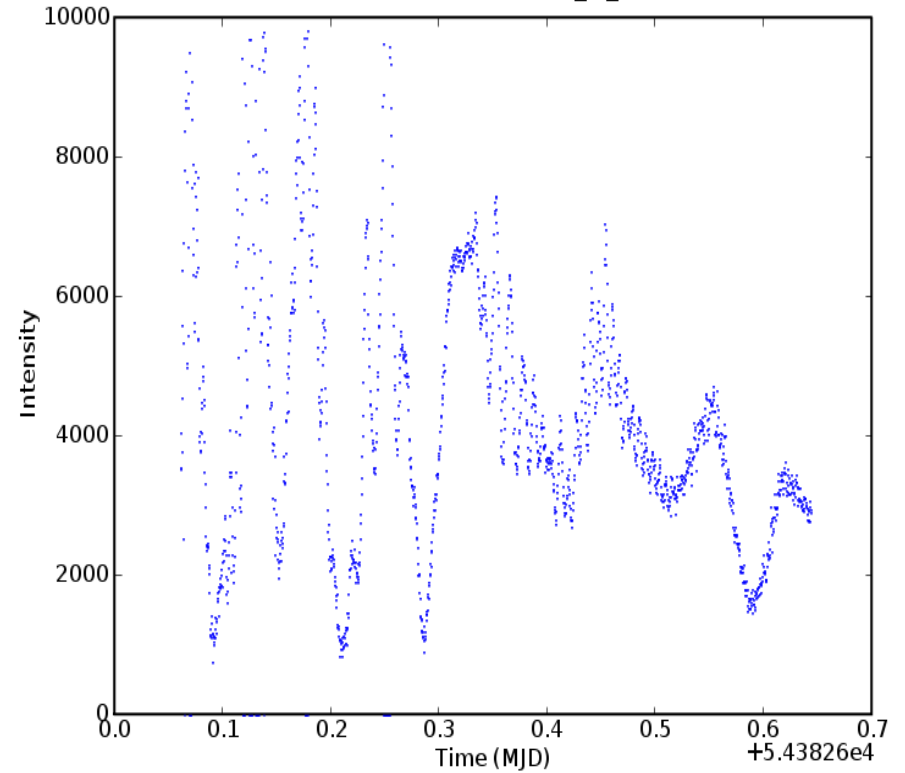
Uncalibrated data

# Correlated power in baseline pair 13-16(left) and 14-15(right)

Time vs. Amplitude, Baseline 12-15, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS

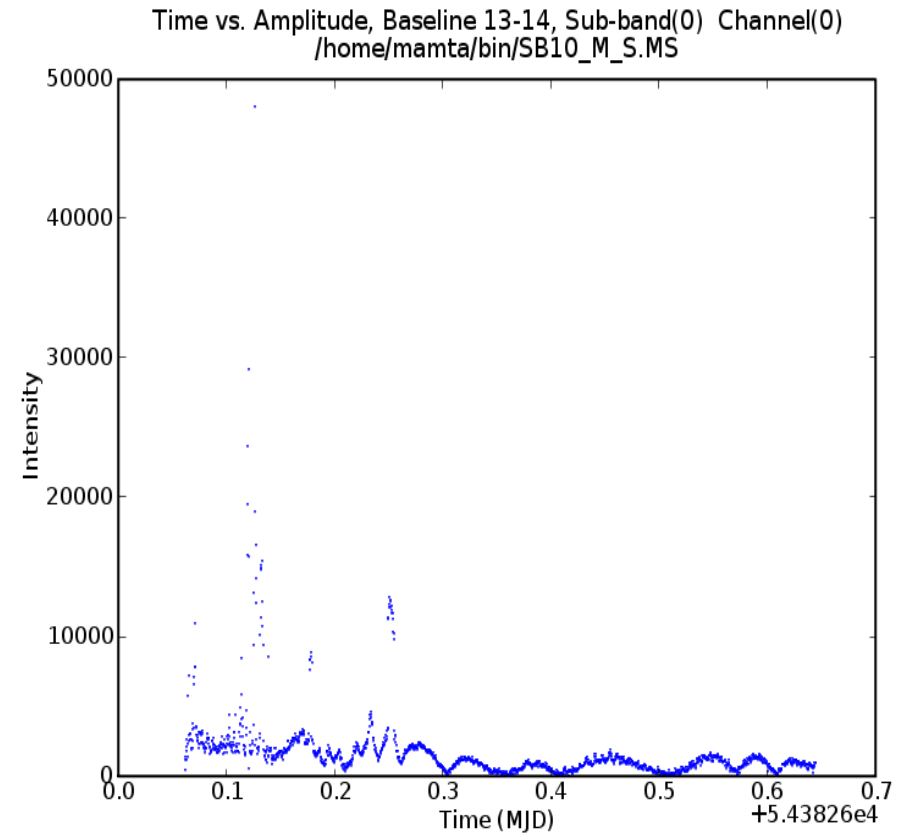
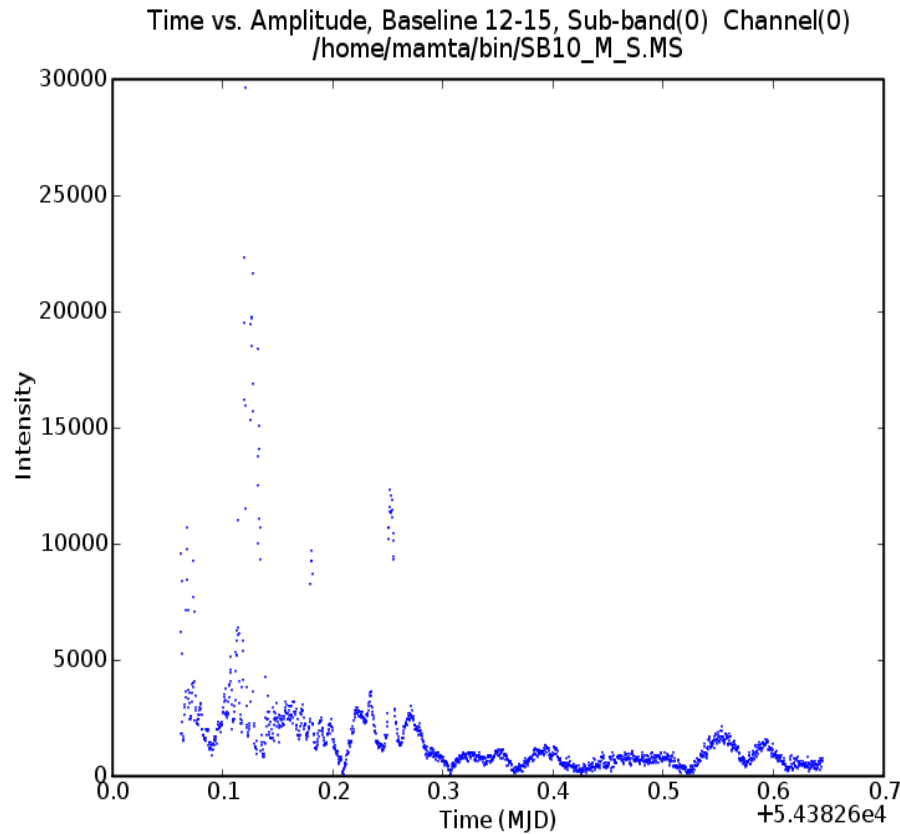


Time vs. Amplitude, Baseline 13-14, Sub-band(0) Channel(0)  
/home/mamta/bin/SB10\_M\_S.MS



calibrated data- with bright sources unpeeled

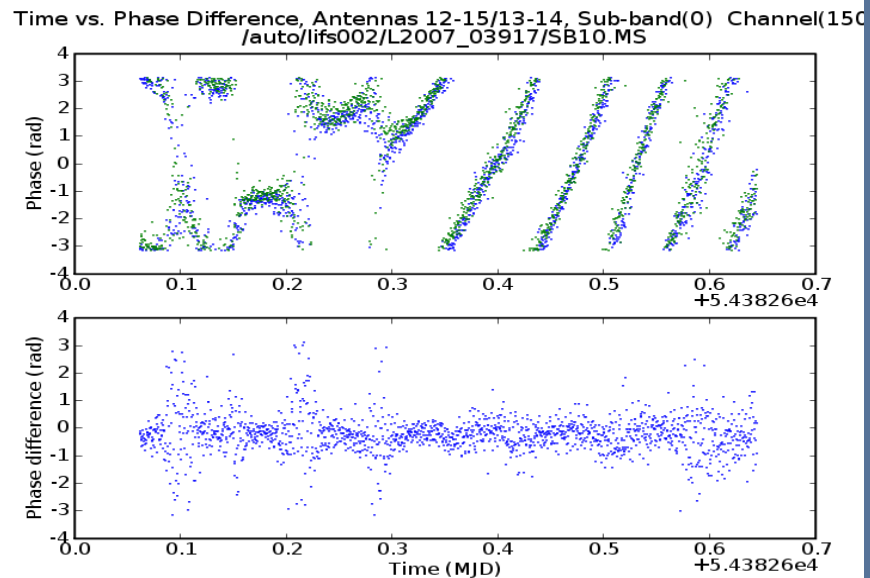
# Correlated power in baseline pair 13-16(left) and 14-15(right)



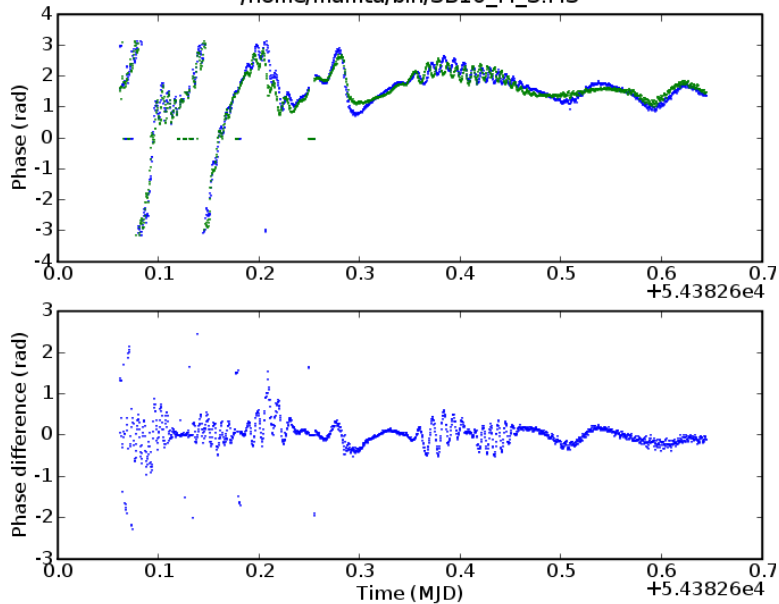
calibrated data- with bright sources peeled

# Phase difference in baseline pair 13-16/14-15

## Uncalibrated data

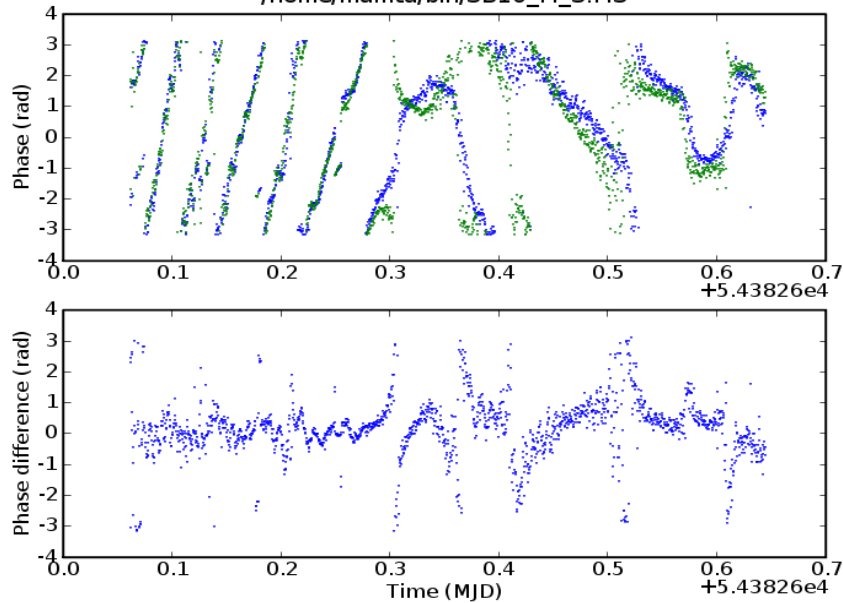


Time vs. Phase Difference, Antennas 12-15/13-14, Sub-band(0) Channel /home/mamta/bin/SB10\_M\_S.MS



calibrated data

Time vs. Phase Difference, Antennas 12-15/13-14, Sub-band(0) Channel(0) /home/mamta/bin/SB10\_M\_S.MS



calibrated data with bright sources peeled

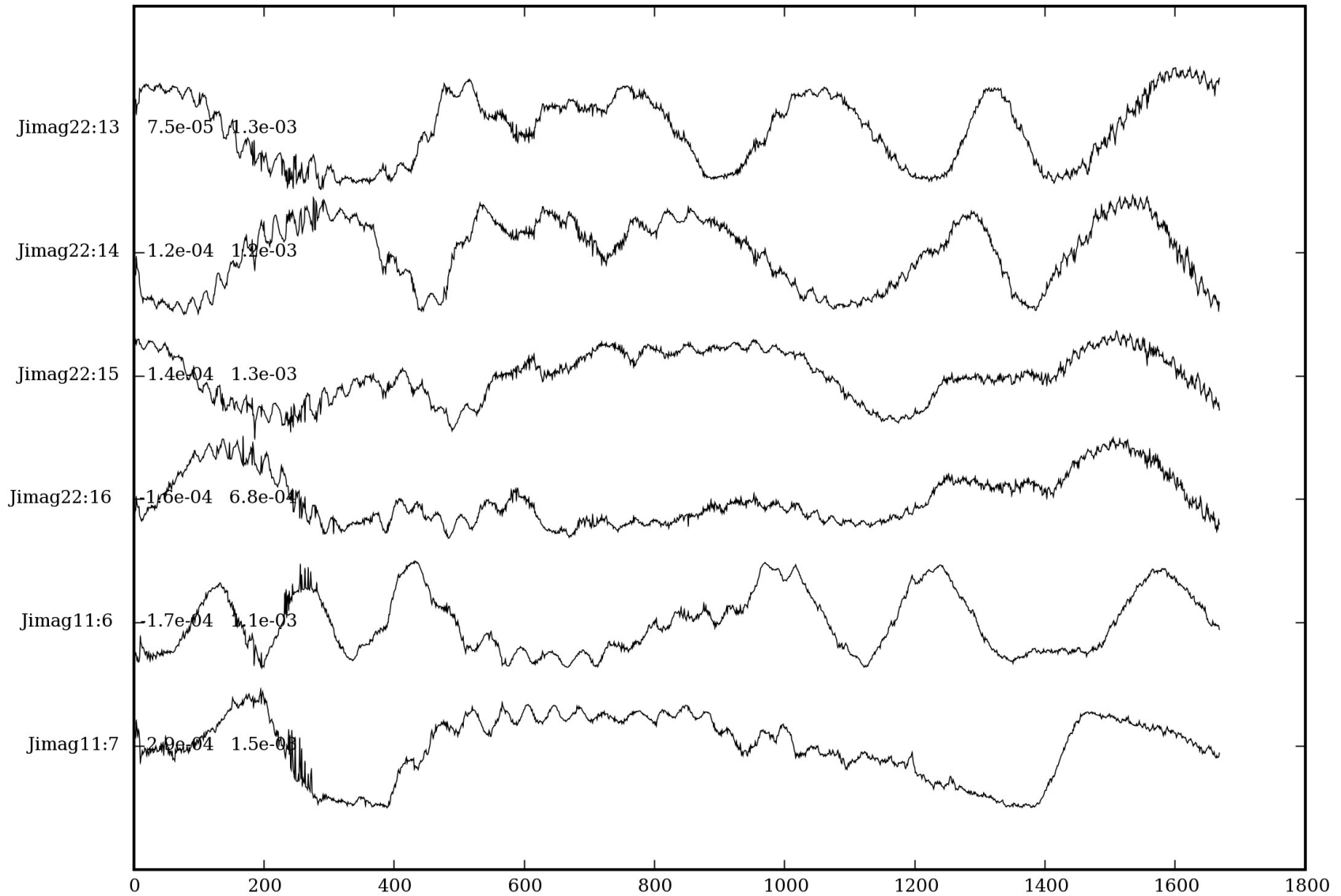
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- Redundant baselines show a phase difference of  $\pm 0.6$  rad in the calibrated data before peeling bright sources.
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- The phase difference increases when the strong sources are peeled-off from the calibrated data in the longer redundant baseline as compared to the shorter ones.
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- The total power in the calibrated data when the strong sources are peeled off is significantly reduced, as expected.
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# SB2\_M.MS\_1\_0.mep



# SB2\_M.MS\_1\_0.mep

