Playing with PLOTMS

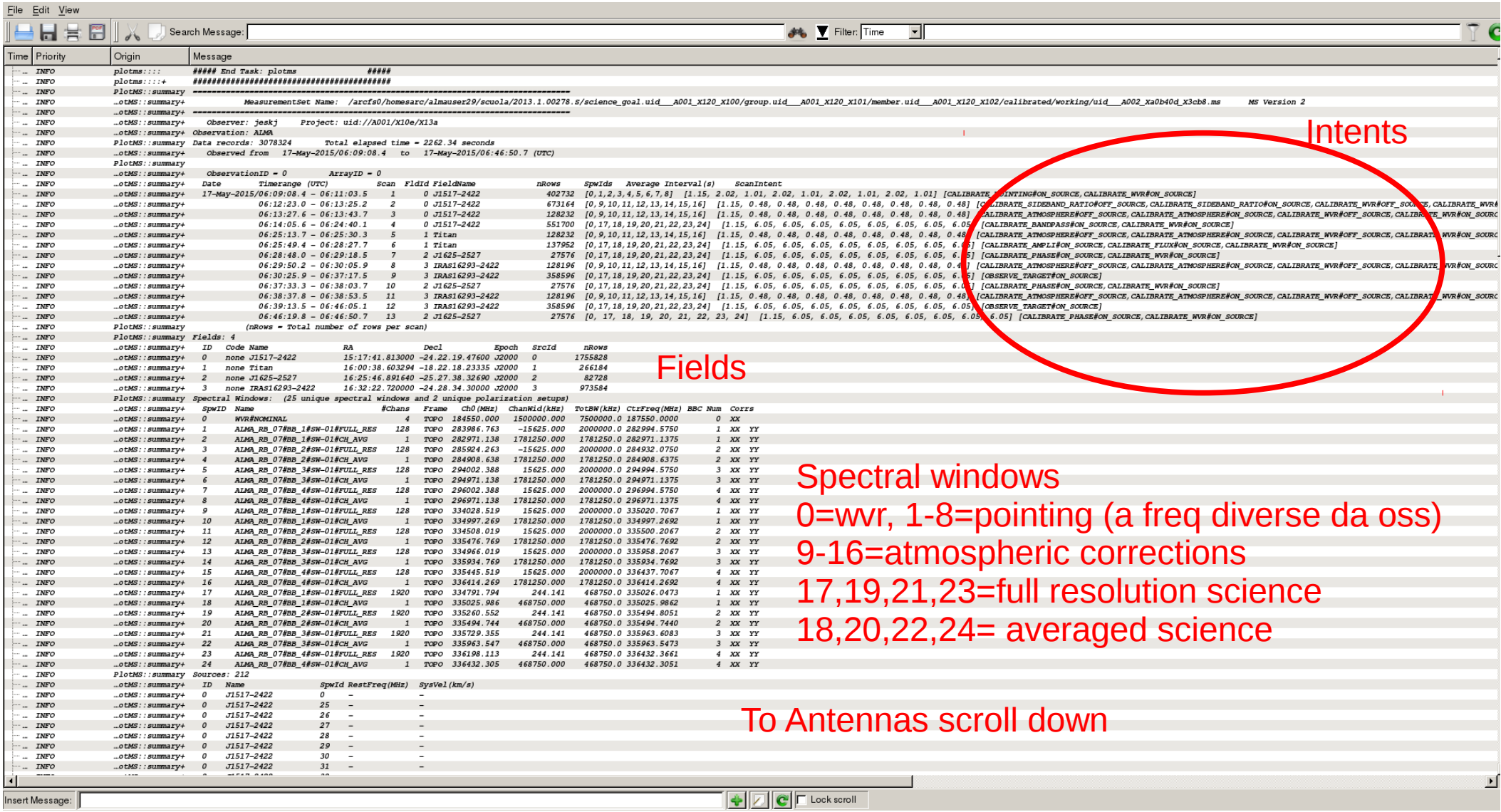
Data and inizialization

- Folder project2013_278/2013.1.00278.S/science_goal.uid___A001_X120_X100/group.uid___A001_X120_X101/member.uid___A001_X120_X102/calibrated'

- >casapy-setup
- >casapy
- CASA>: plotms()

- Browse file uid___A002_Xa0b40d_X3cb8.ms

Summary

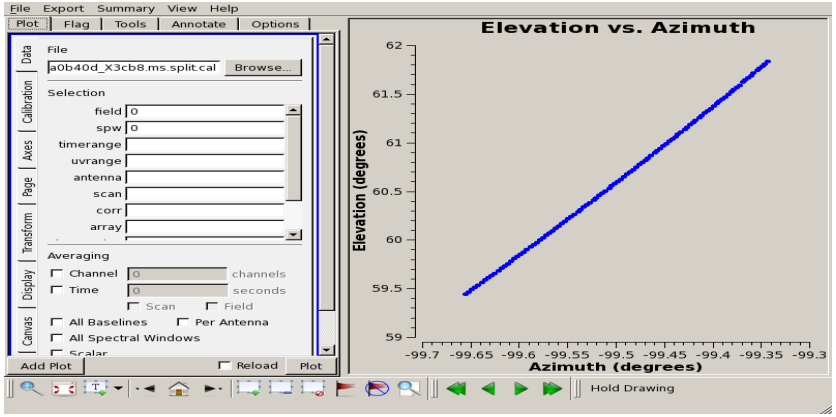


Intents

Fields

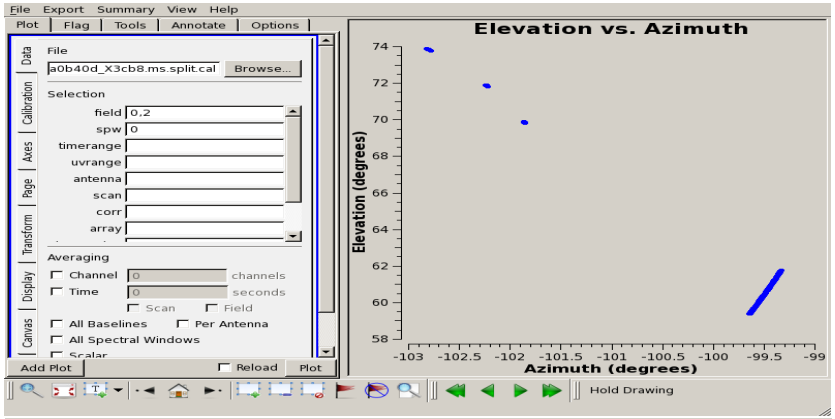
Spectral windows
0=wvr, 1-8=pointing (a freq diverse da oss)
9-16=atmospheric corrections
17,19,21,23=full resolution science
18,20,22,24= averaged science

To Antennas scroll down

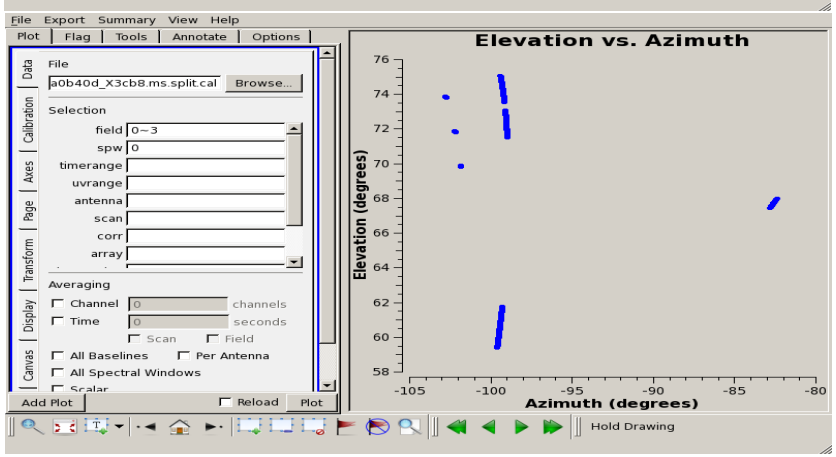


(Az, el)

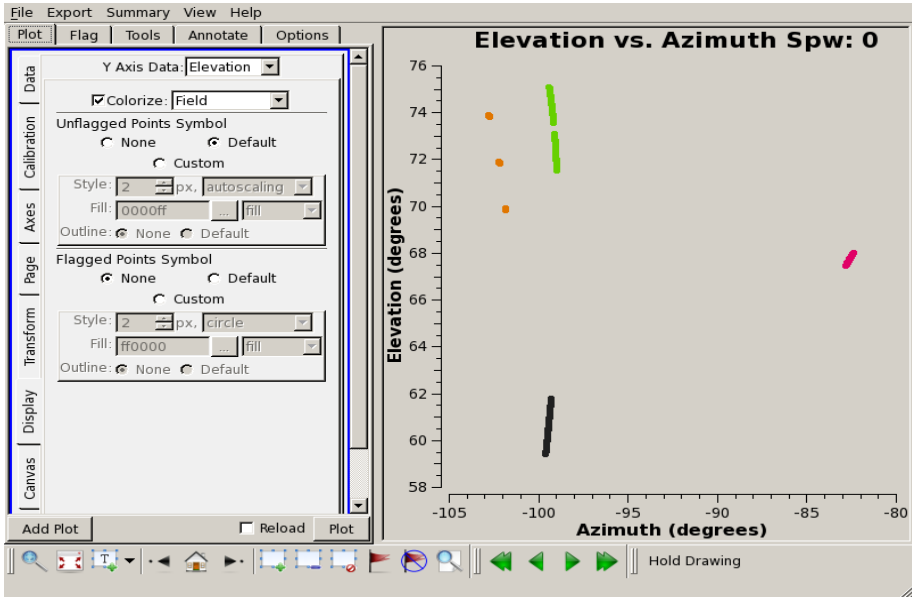
Axes= azimuth, elevation
Field=0
Spw=17



Field=(0,2)



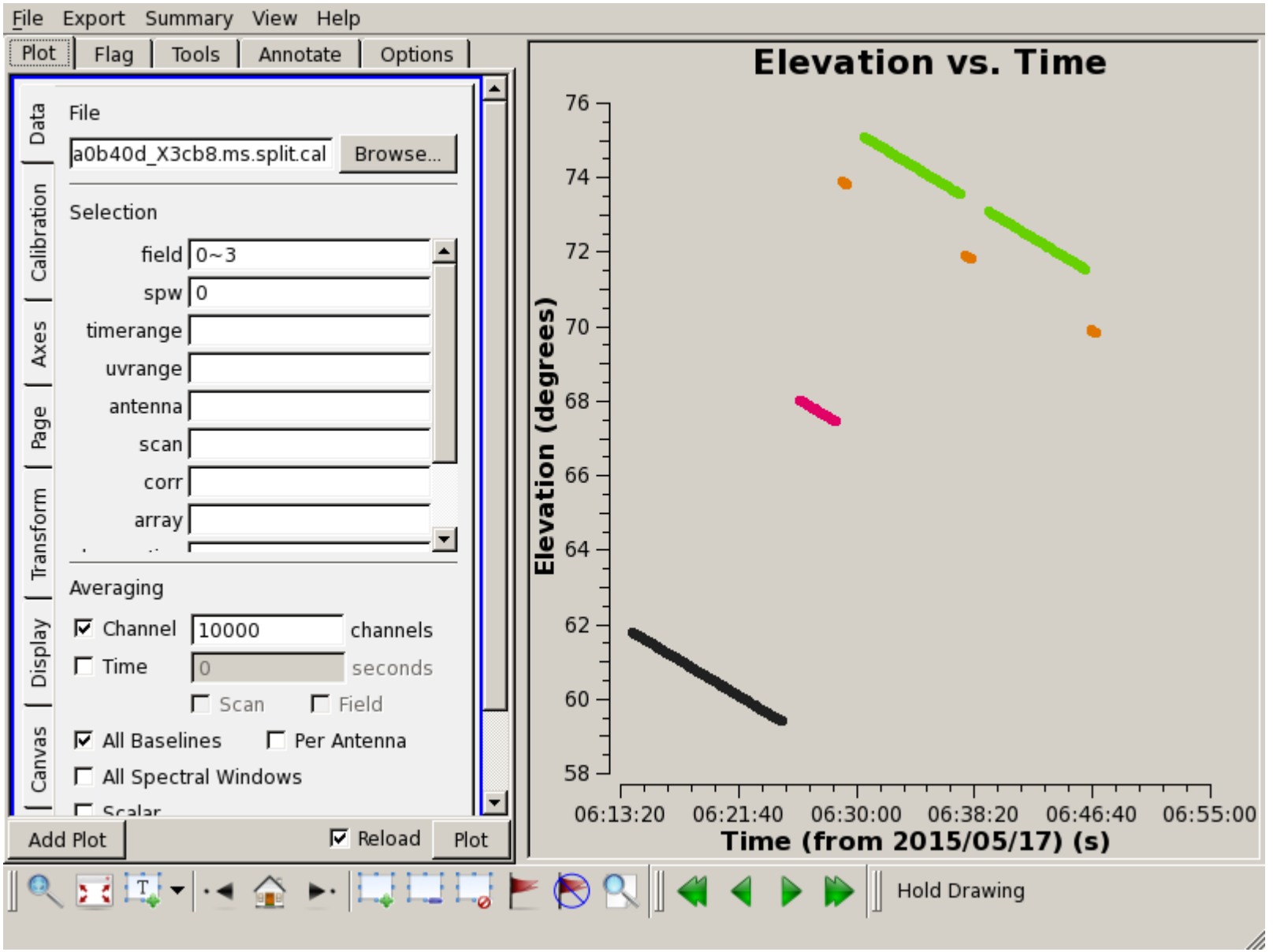
Field=(0~3)



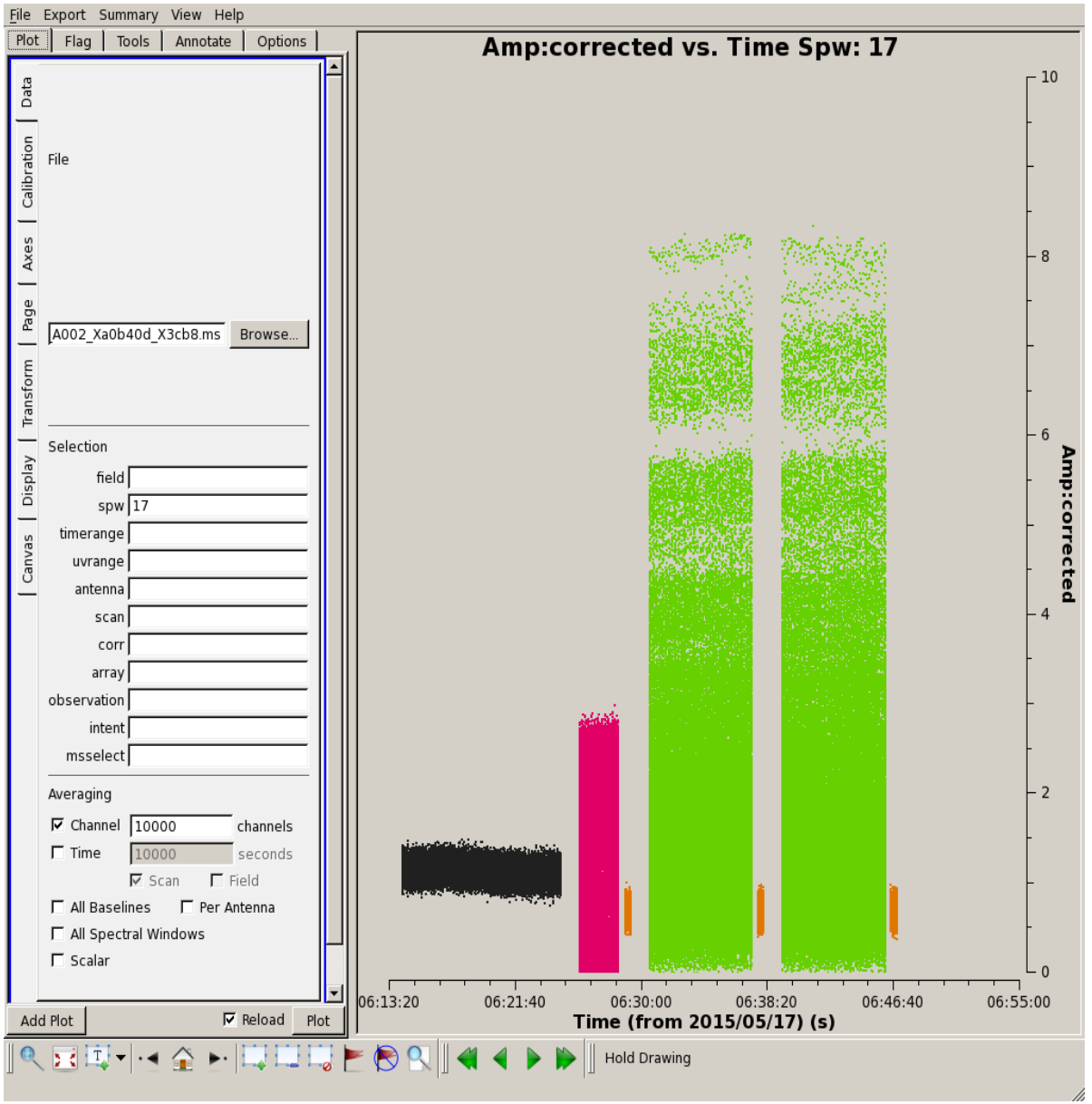
Display-> Colorize = Field

NB phase cal vicino al target
Bp e flux calibrators dove capitano

(el, time)



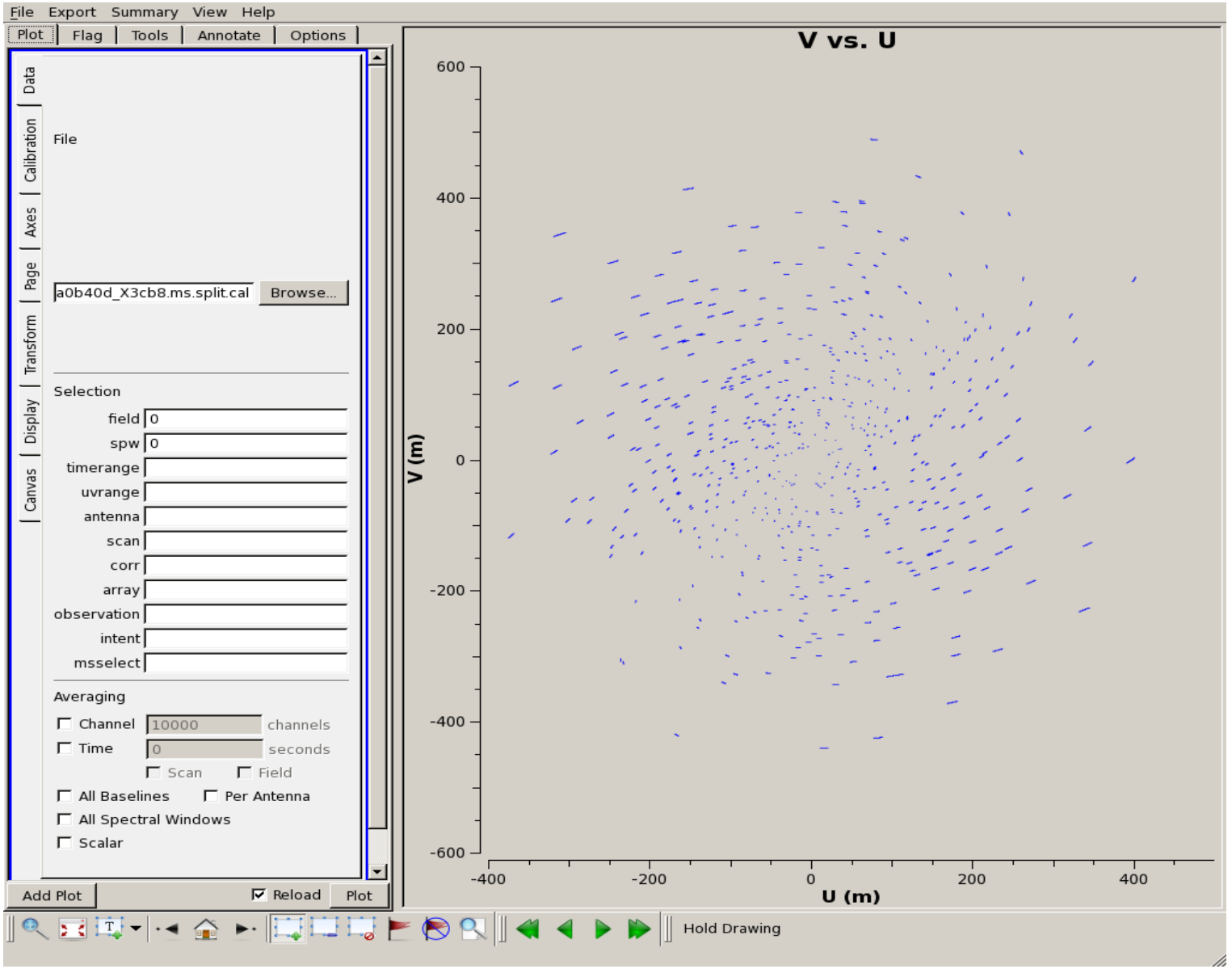
NB Bp e flux cal una volta sola, Phase cal sempre prima e dopo di uno scan sul target
Usare tool locate per individuare nomi delle sorgenti e annotations per generare labels



(time, amp)

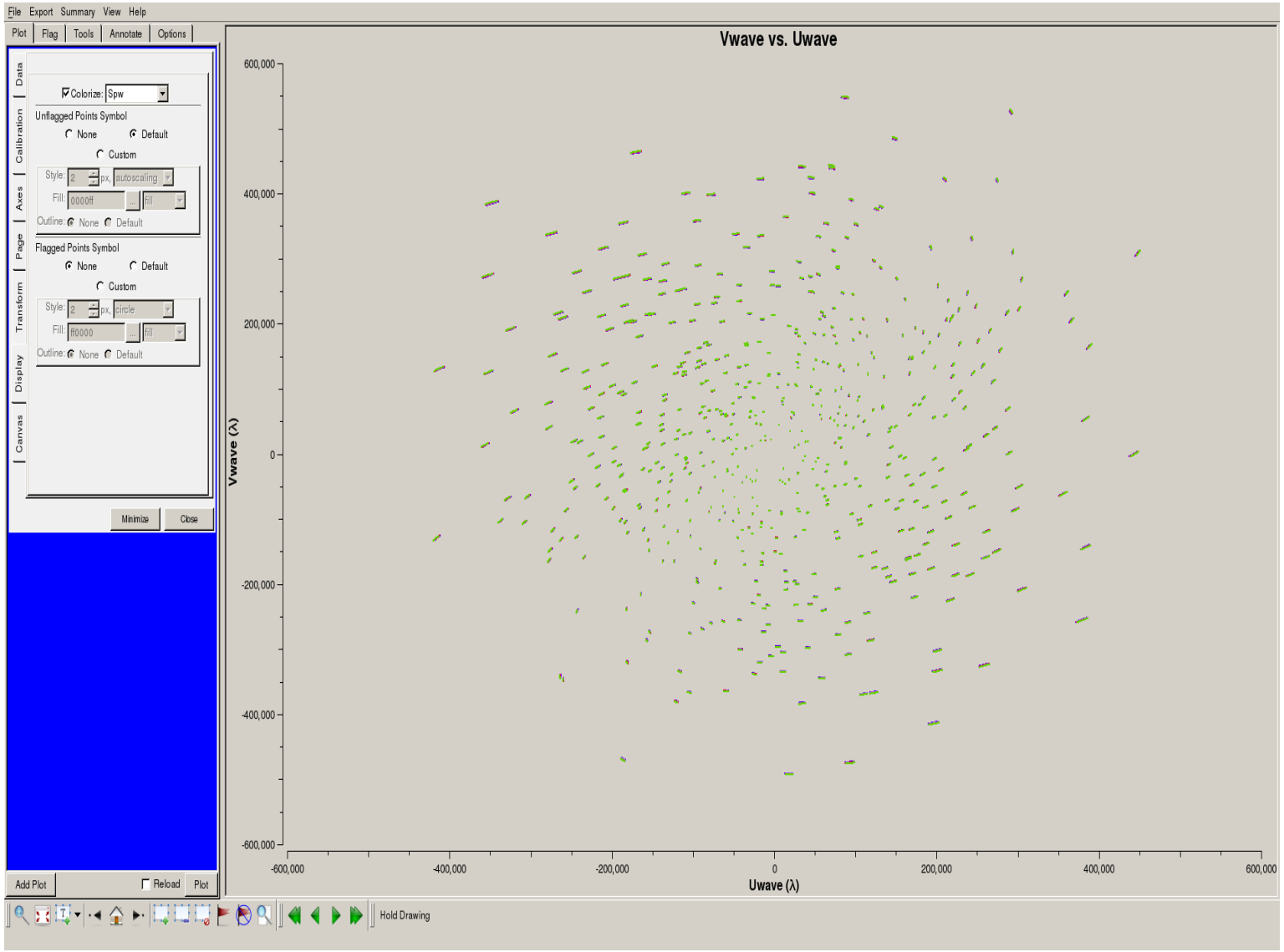
*.ms
Corrected
Averaging channel=10000
Colorize per field

(u,v)



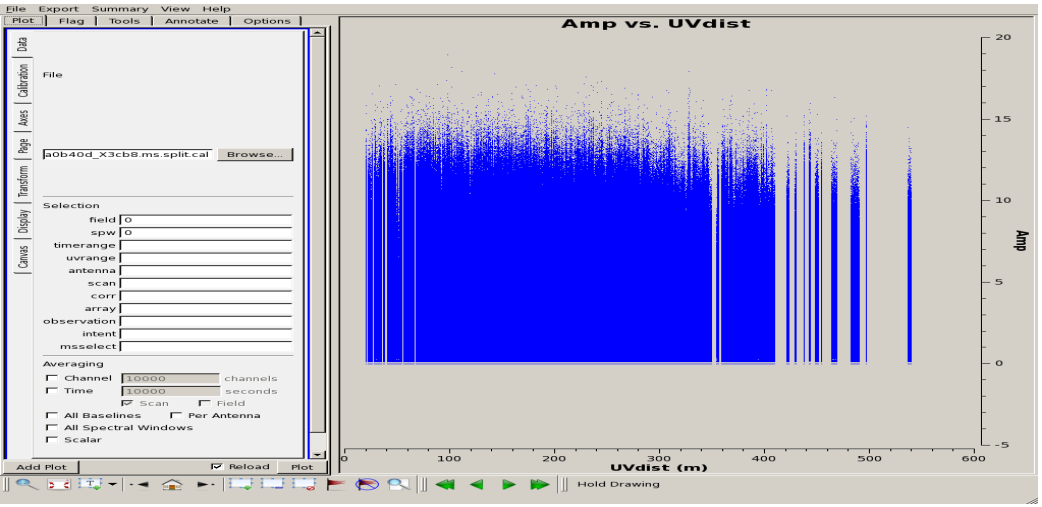
Axes=(u, v)
Iterate per Field (diversi field hanno diversa distribuzione in cielo)

(uwave,vwave)



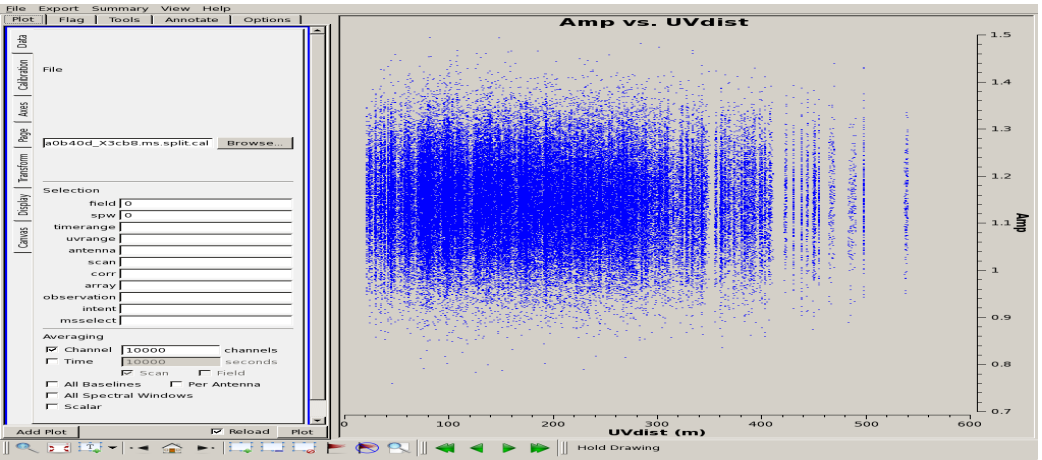
Axes=(uwave, vwave)
Field=0
Spw=17,19,21,23
Averaging
Channel=1000
Time=60
Colorize per spw

(le spectral windows allargano la copertura del piano uv)



(uvdist, amp)

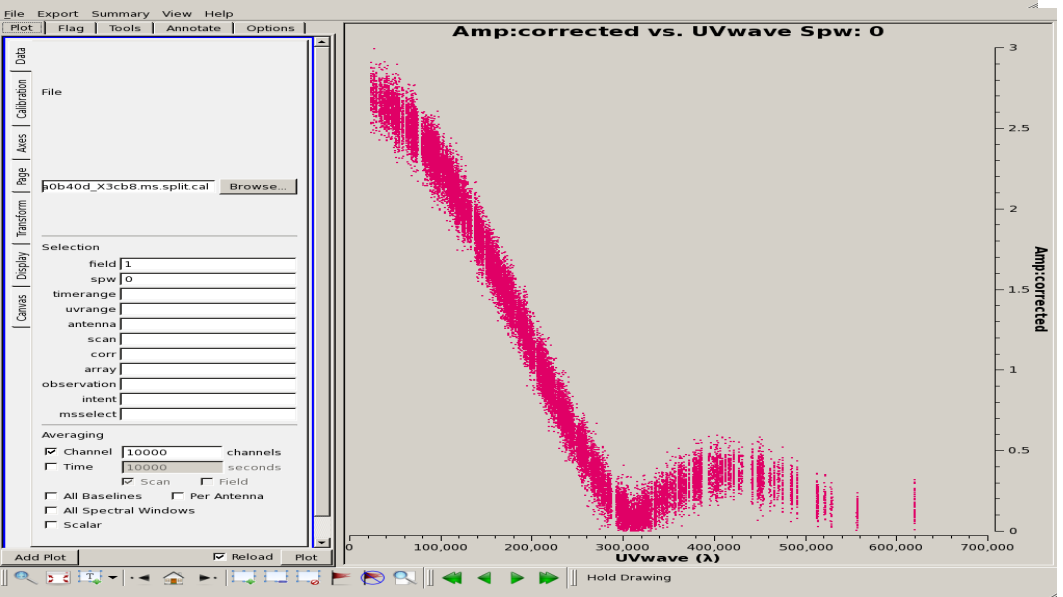
Axes= (uvdist, amp)
Field=0
Spw=17



+Average->channel=10000

+Axes=(uvwave, amp)
Con hover o locate individuare il valore della xmin e xmax

1/Xmin **180/!pi***3600=maximum rec scale
1/Xmax **180/!pi***3600=resolution



+field=1 (diversa estensione)

+field=3 (diversa struttura)

Confronti di calibrazione

File Edit View

Search Message: Filter: Time

Message

```
   ObservationID = 0         ArrayID = 0
  Date        Timerange (UTC)          Scan  FldId FieldName             nRows     SpwIds   Average Interval(s)     ScanIntent
  17-May-2015/06:09:08.4 - 06:11:03.5     1      0 J1517-2422              402732  [0,1,2,3,4,5,6,7,8]  [1.15, 2.02, 1.01, 2.02, 1.01, 2.02, 1.01, 2.02, 1.01] [CALIBRATE_POINTING#ON_SOURCE,C
              06:12:23.0 - 06:13:25.2     2      0 J1517-2422              673164  [0,9,10,11,12,13,14,15,16]  [1.15, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48] [CALIBRATE_SIDEBAND_RATI
              06:13:27.6 - 06:13:43.7     3      0 J1517-2422              128232  [0,9,10,11,12,13,14,15,16]  [1.15, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48] [CALIBRATE_ATMOSPHERE#OF
              06:14:05.6 - 06:24:40.1     4      0 J1517-2422              551700  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [CALIBRATE_BANDPASS#ON_
              06:25:13.7 - 06:25:30.3     5      1 Titan                   128232  [0,9,10,11,12,13,14,15,16]  [1.15, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48] [CALIBRATE_ATMOSPHERE#OF
              06:25:49.4 - 06:28:27.7     6      1 Titan                   137952  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [CALIBRATE_AMPLI#ON_SOU
              06:28:48.0 - 06:29:18.5     7      2 J1625-2527               27576  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [CALIBRATE_PHASE#ON_SOU
              06:29:50.2 - 06:30:05.9     8      3 IRAS16293-2422          128196  [0,9,10,11,12,13,14,15,16]  [1.15, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48] [CALIBRATE_ATMOSPHERE#OF
              06:30:25.9 - 06:37:17.5     9      3 IRAS16293-2422          358596  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [OBSERVE_TARGET#ON_SOUR
              06:37:33.3 - 06:38:03.7    10      2 J1625-2527               27576  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [CALIBRATE_PHASE#ON_SOU
              06:38:37.8 - 06:38:53.5    11      3 IRAS16293-2422          128196  [0,9,10,11,12,13,14,15,16]  [1.15, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48, 0.48] [CALIBRATE_ATMOSPHERE#OF
              06:39:13.5 - 06:46:05.1    12      3 IRAS16293-2422          358596  [0,17,18,19,20,21,22,23,24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [OBSERVE_TARGET#ON_SOUR
              06:46:19.8 - 06:46:50.7    13      2 J1625-2527               27576  [0, 17, 18, 19, 20, 21, 22, 23, 24]  [1.15, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05, 6.05] [CALIBRATE_PHAS
           (nRows = Total number of rows per scan)
Fields: 4
  ID   Code Name                RA               Decl           Epoch   SrcId      nRows
  0    none J1517-2422          15:17:41.813000 -24.22.19.47600 J2000   0        1755828
  1    none Titan               16:00:38.603294 -18.22.18.23335 J2000   1         266184
  2    none J1625-2527          16:25:46.891640 -25.27.38.32690 J2000   2          82728
  3    none IRAS16293-2422      16:32:22.720000 -24.28.34.30000 J2000   3         973584
Spectral Windows:  (25 unique spectral windows and 2 unique polarization setups)
  SpwID  Name                           #Chans   Frame   Ch0(MHz)  ChanWid(kHz)  TotBW(kHz) CtrFreq(MHz) BBC Num  Corrs
  0      WVR#NOMINAL                        4   TOPO  184550.000   1500000.000   7500000.0 187550.0000        0  XX
  1      ALMA_RB_07#BB_1#SW-01#FULL_RES   128   TOPO  283986.763    -15625.000   2000000.0 282994.5750        1  XX  YY
  2      ALMA_RB_07#BB_1#SW-01#CH_AVG       1   TOPO  282971.138   1781250.000   1781250.0 282971.1375        1  XX  YY
  3      ALMA_RB_07#BB_2#SW-01#FULL_RES   128   TOPO  285924.263    -15625.000   2000000.0 284932.0750        2  XX  YY
  4      ALMA_RB_07#BB_2#SW-01#CH_AVG       1   TOPO  284908.638   1781250.000   1781250.0 284908.6375        2  XX  YY
  5      ALMA_RB_07#BB_3#SW-01#FULL_RES   128   TOPO  294002.388     15625.000   2000000.0 294994.5750        3  XX  YY
  6      ALMA_RB_07#BB_3#SW-01#CH_AVG       1   TOPO  294971.138   1781250.000   1781250.0 294971.1375        3  XX  YY
  7      ALMA_RB_07#BB_4#SW-01#FULL_RES   128   TOPO  296002.388     15625.000   2000000.0 296994.5750        4  XX  YY
  8      ALMA_RB_07#BB_4#SW-01#CH_AVG       1   TOPO  296971.138   1781250.000   1781250.0 296971.1375        4  XX  YY
  9      ALMA_RB_07#BB_1#SW-01#FULL_RES   128   TOPO  334028.519     15625.000   2000000.0 335020.7067        1  XX  YY
  10     ALMA_RB_07#BB_1#SW-01#CH_AVG       1   TOPO  334997.269   1781250.000   1781250.0 334997.2692        1  XX  YY
  11     ALMA_RB_07#BB_2#SW-01#FULL_RES   128   TOPO  334508.019     15625.000   2000000.0 335500.2067        2  XX  YY
  12     ALMA_RB_07#BB_2#SW-01#CH_AVG       1   TOPO  335476.769   1781250.000   1781250.0 335476.7692        2  XX  YY
  13     ALMA_RB_07#BB_3#SW-01#FULL_RES   128   TOPO  334966.019     15625.000   2000000.0 335958.2067        3  XX  YY
  14     ALMA_RB_07#BB_3#SW-01#CH_AVG       1   TOPO  335934.769   1781250.000   1781250.0 335934.7692        3  XX  YY
  15     ALMA_RB_07#BB_4#SW-01#FULL_RES   128   TOPO  335445.519     15625.000   2000000.0 336437.7067        4  XX  YY
  16     ALMA_RB_07#BB_4#SW-01#CH_AVG       1   TOPO  336414.269   1781250.000   1781250.0 336414.2692        4  XX  YY
  17     ALMA_RB_07#BB_1#SW-01#FULL_RES  1920   TOPO  334791.794       244.141    468750.0 335026.0473        1  XX  YY
  18     ALMA_RB_07#BB_1#SW-01#CH_AVG       1   TOPO  335025.986    468750.000    468750.0 335025.9862        1  XX  YY
  19     ALMA_RB_07#BB_2#SW-01#FULL_RES  1920   TOPO  335260.552       244.141    468750.0 335494.8051        2  XX  YY
  20     ALMA_RB_07#BB_2#SW-01#CH_AVG       1   TOPO  335494.744    468750.000    468750.0 335494.7440        2  XX  YY
  21     ALMA_RB_07#BB_3#SW-01#FULL_RES  1920   TOPO  335729.355       244.141    468750.0 335963.6083        3  XX  YY
  22     ALMA_RB_07#BB_3#SW-01#CH_AVG       1   TOPO  335963.547    468750.000    468750.0 335963.5473        3  XX  YY
```

Insert Message: Lock scroll

Bandpass correction

(freq, amp)
Field=0
Iterate baseline
Spw=17
colorize=corr
Averaging
Time=10000
Channels=10

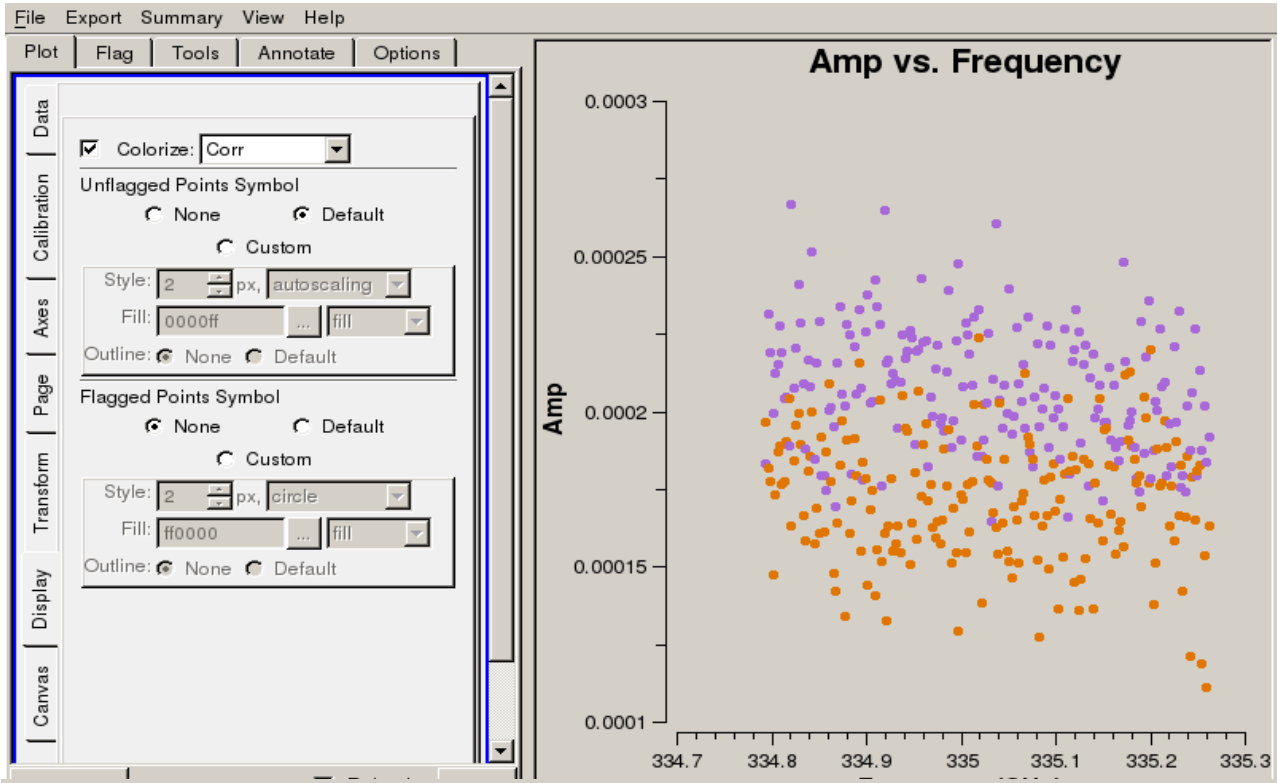
+ select Antenna= 0&6
(check nel summary)
oppure'DA41'&'DA49'

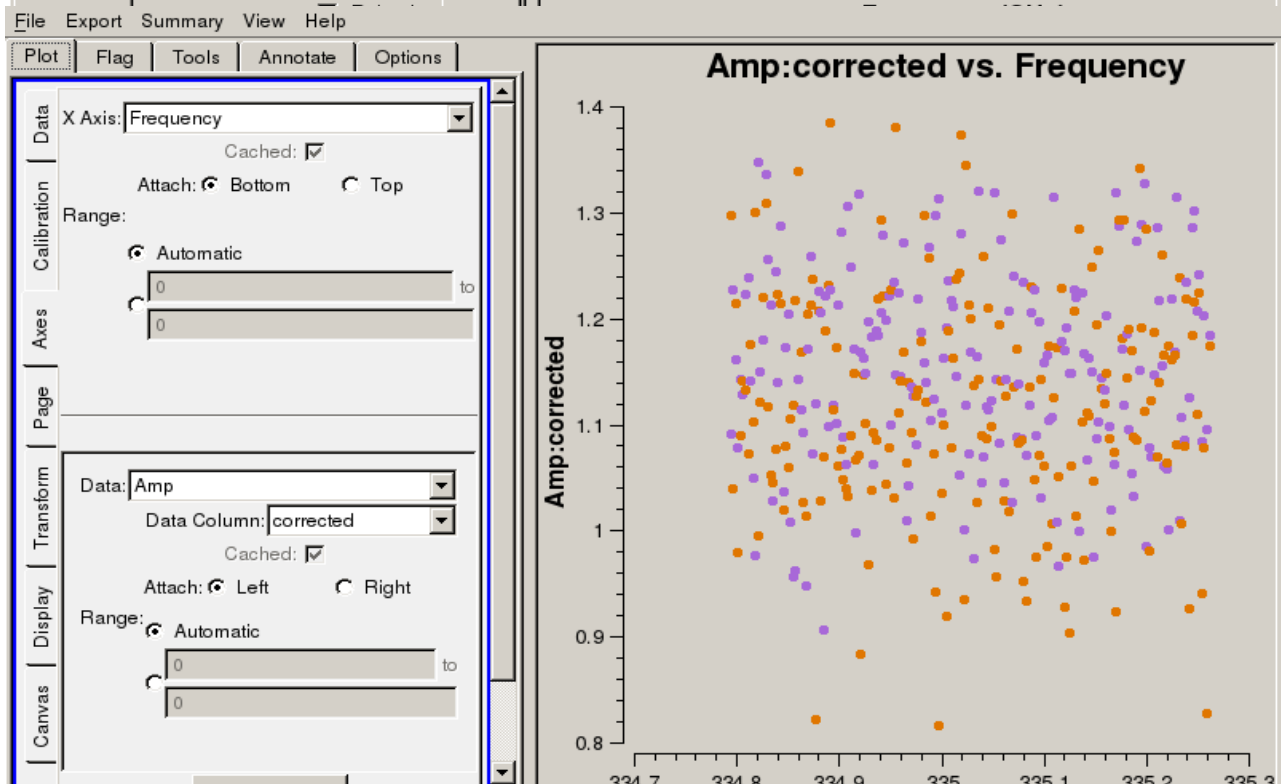
+ Column X=Data
le corr sono separate, c'e' slope e flussi errati

+ Column X=Corrected

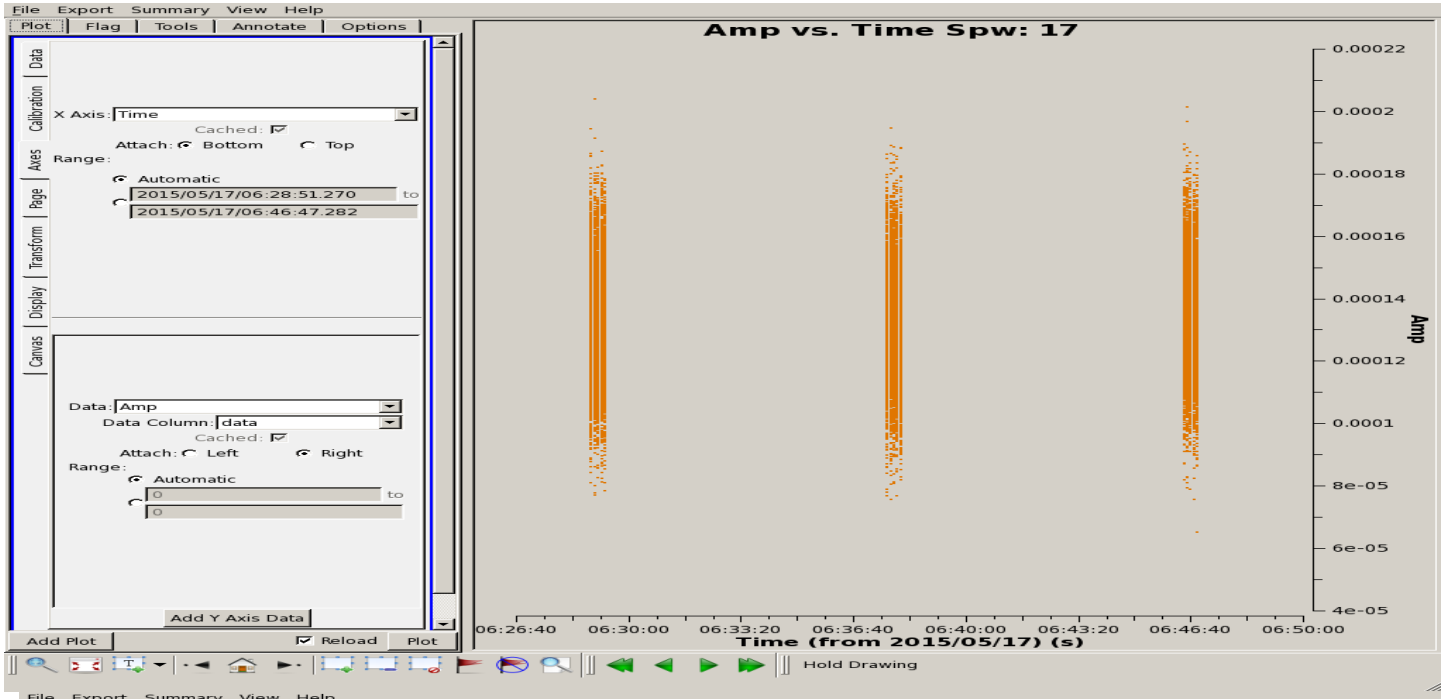
Spettro del target

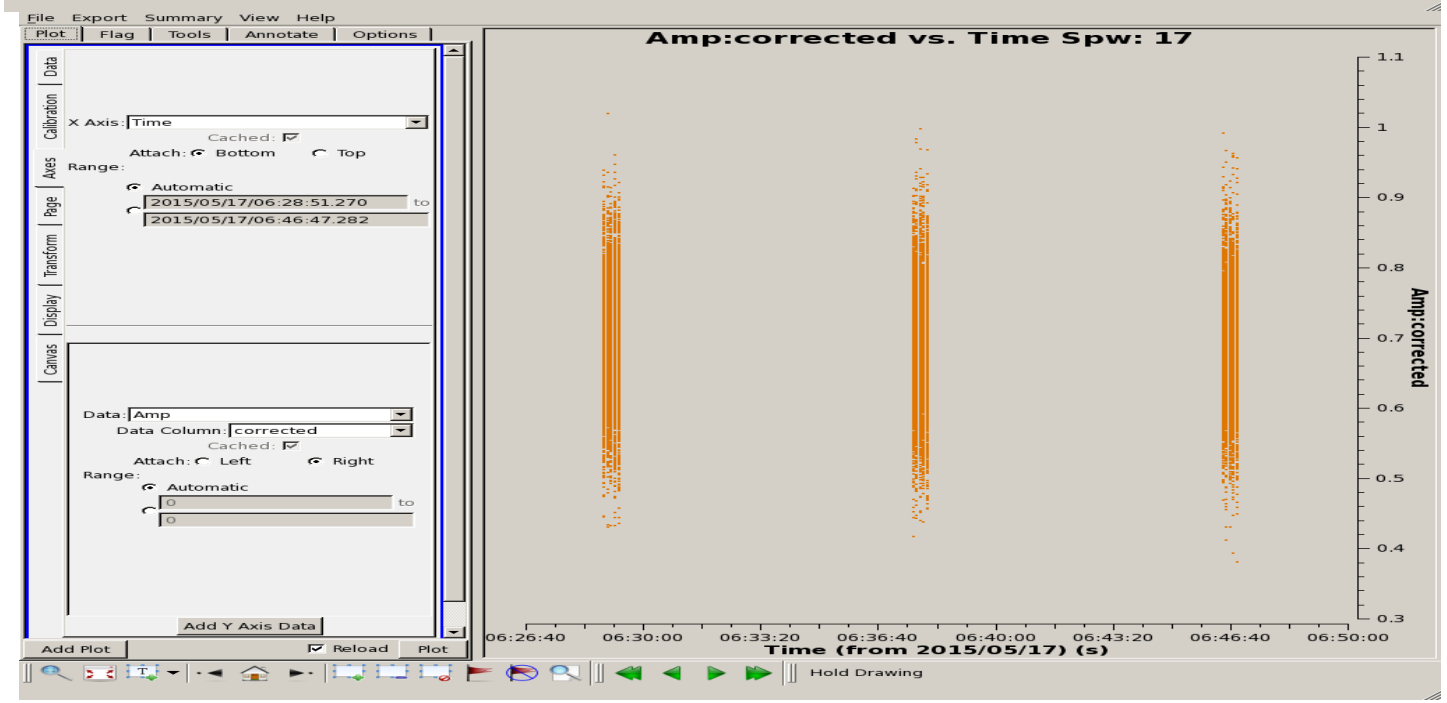
+field=3
spw=17,19,21,23
Colorize per spw
Averaging Time=10000





(time, amp)





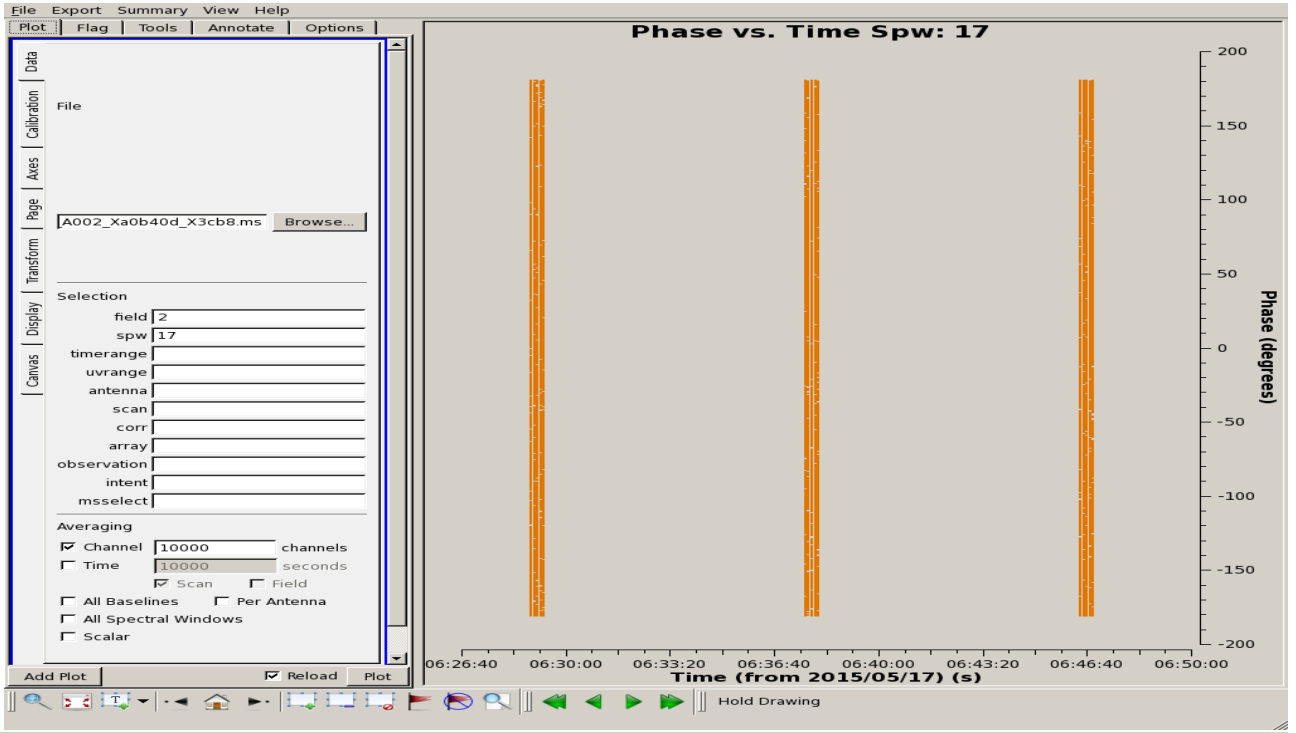
Field=2 (phase cal)
Spw=17
Averaging
Channel=10000

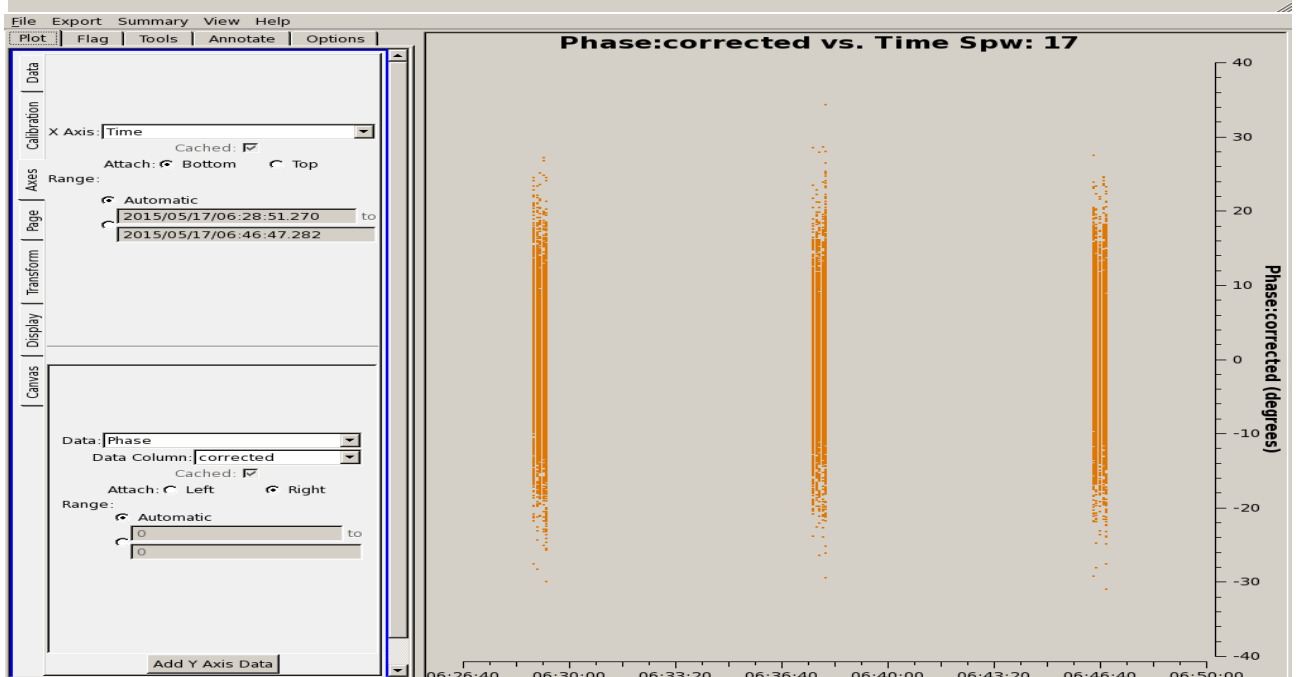
Data

\+ add plot
(set 2 rows o columns
in Options)

Corrected
(compare the scale)

(time, phase)





Field=2 (phase cal)
Spw=17
Averaging
Channel=10000

Data

+ add plot
(set 2 plot in options)

Corrected