

ISOLA course Brasilia 2013

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Event Information

eventinfo

Date Date (YYYYMMDD) 20100529	Location Lat (Deg,Min) 38.00 50.00 DDMM-> DDEG Lon (Deg,Min) 21.00 50.00	Lat (N) (Dec.Degrees) -35.454 Depth (km) 10 Lon (E) (Dec.Degrees) -70.256	Save
Origin Time Hour 17 Min 15 Seconds 11.00	Comments Magnitude 3.9 Location agency UNSJ		Exit
Time Window Length (sec) 16.384 40.96 81.92 163.84 245.76 327.68 409.6 819.2 1638.4 The chosen Time Window Length should be large enough to include the travel time from epicenter to stations plus the seismogram duration			
Automatic form fill e.g. 20100118 1556 8.38 38 25.19 21E55.44 8.29 5.23 Paste your EventInfo here Read			

Poles and Zeros

makepz

No of Zeroes		No of Poles	
New Zero (rad/sec)	2	New Pole (rad/sec)	5
0	0	-0.03701	0.03701
0	0	-0.03701	-0.03701
		-1131	0
		-1005	0
		-502.7	0

Station Name: **U45B**

AD normalization constant: **5.71402E+008**

Digitizer sensitivity (cnts/Volts): **629330**

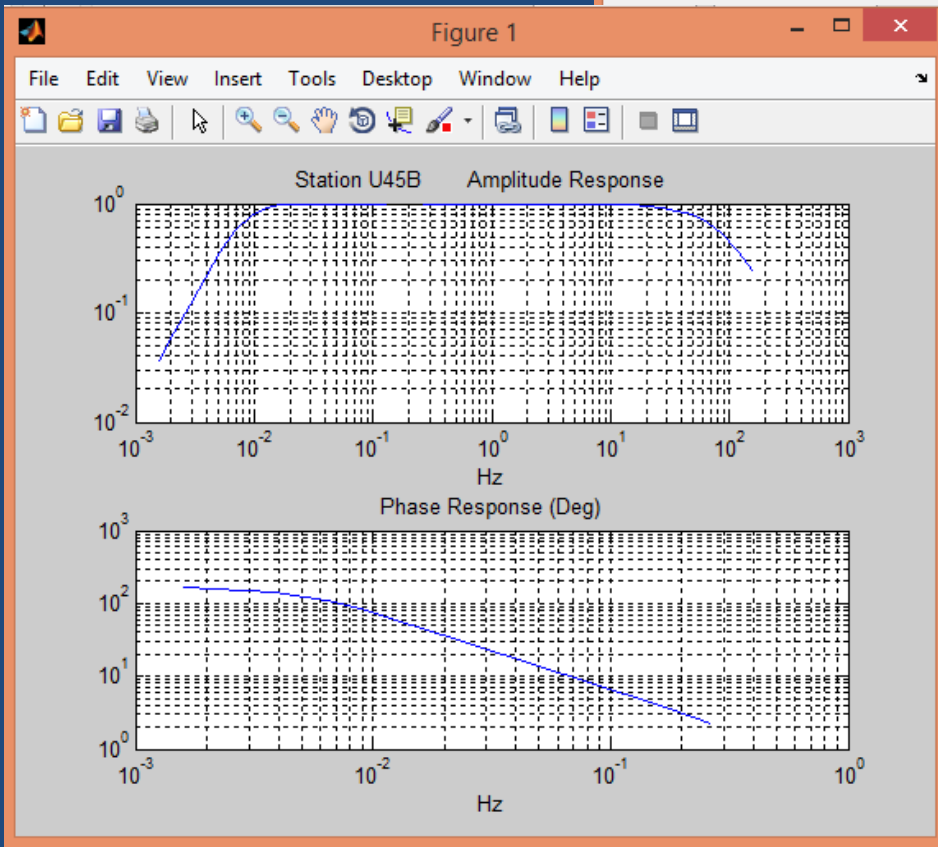
Seismometer sensitivity (V/m/sec): **1504.19**

Plot

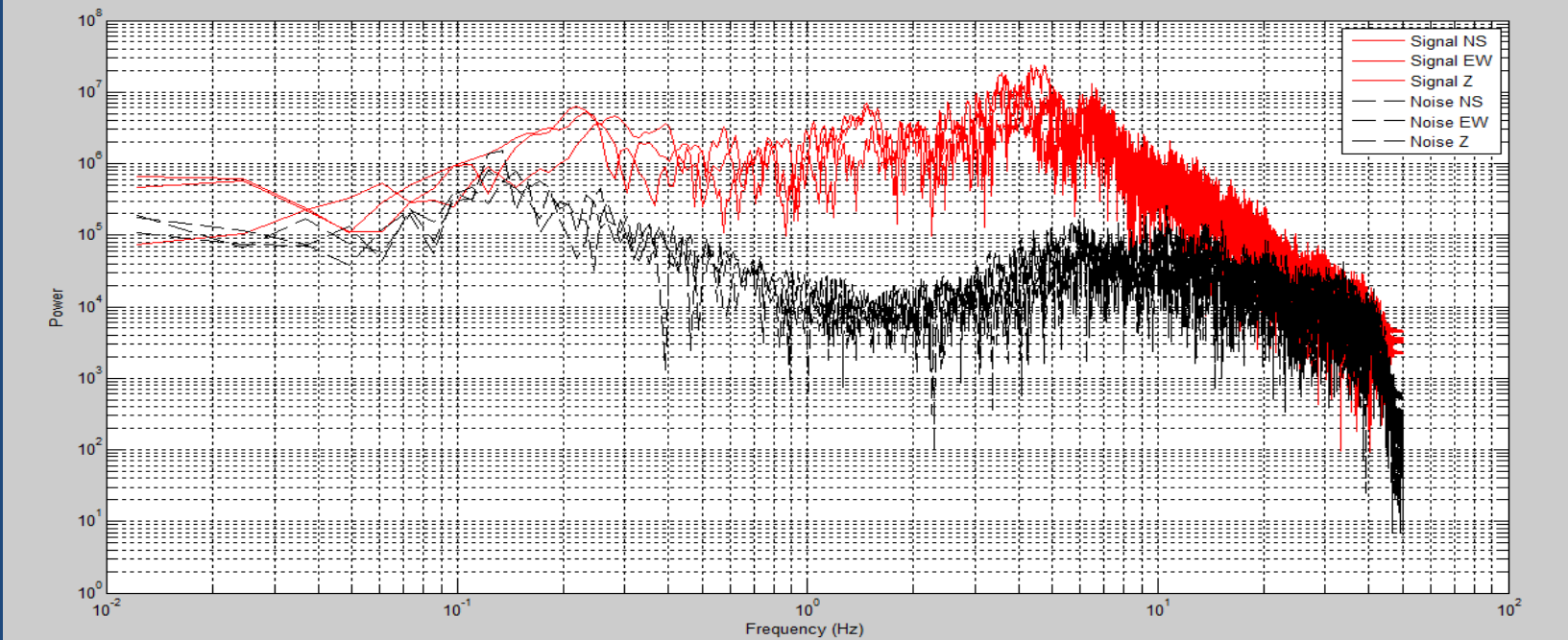
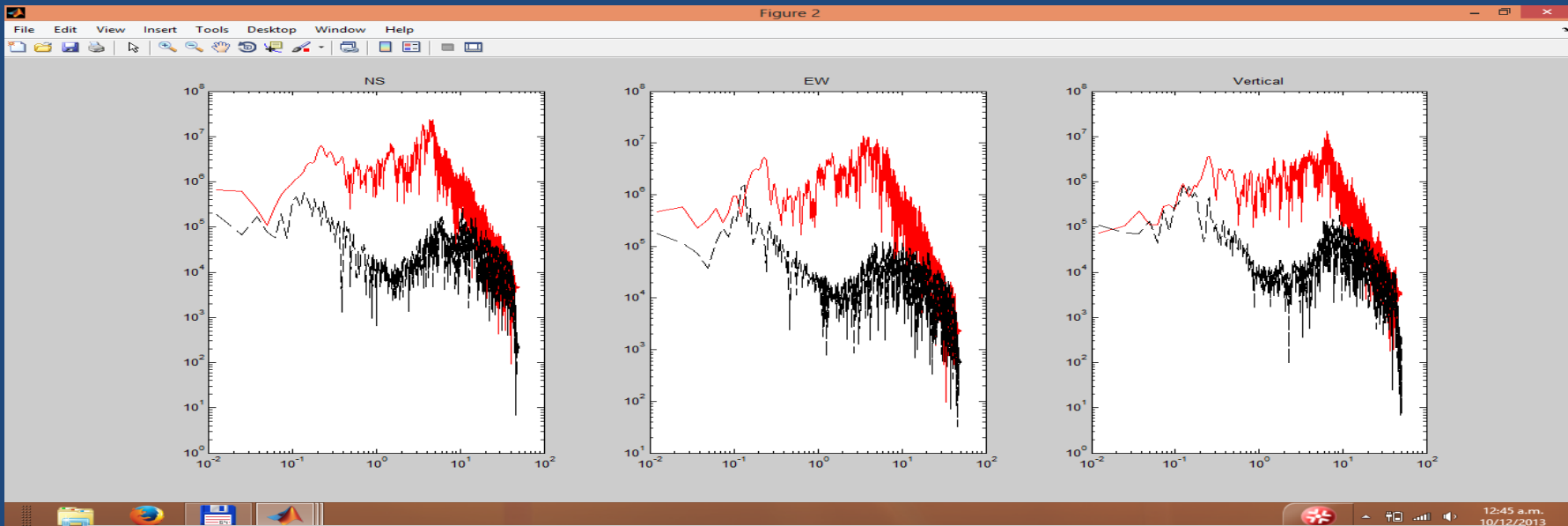
Load PZ file

Save file

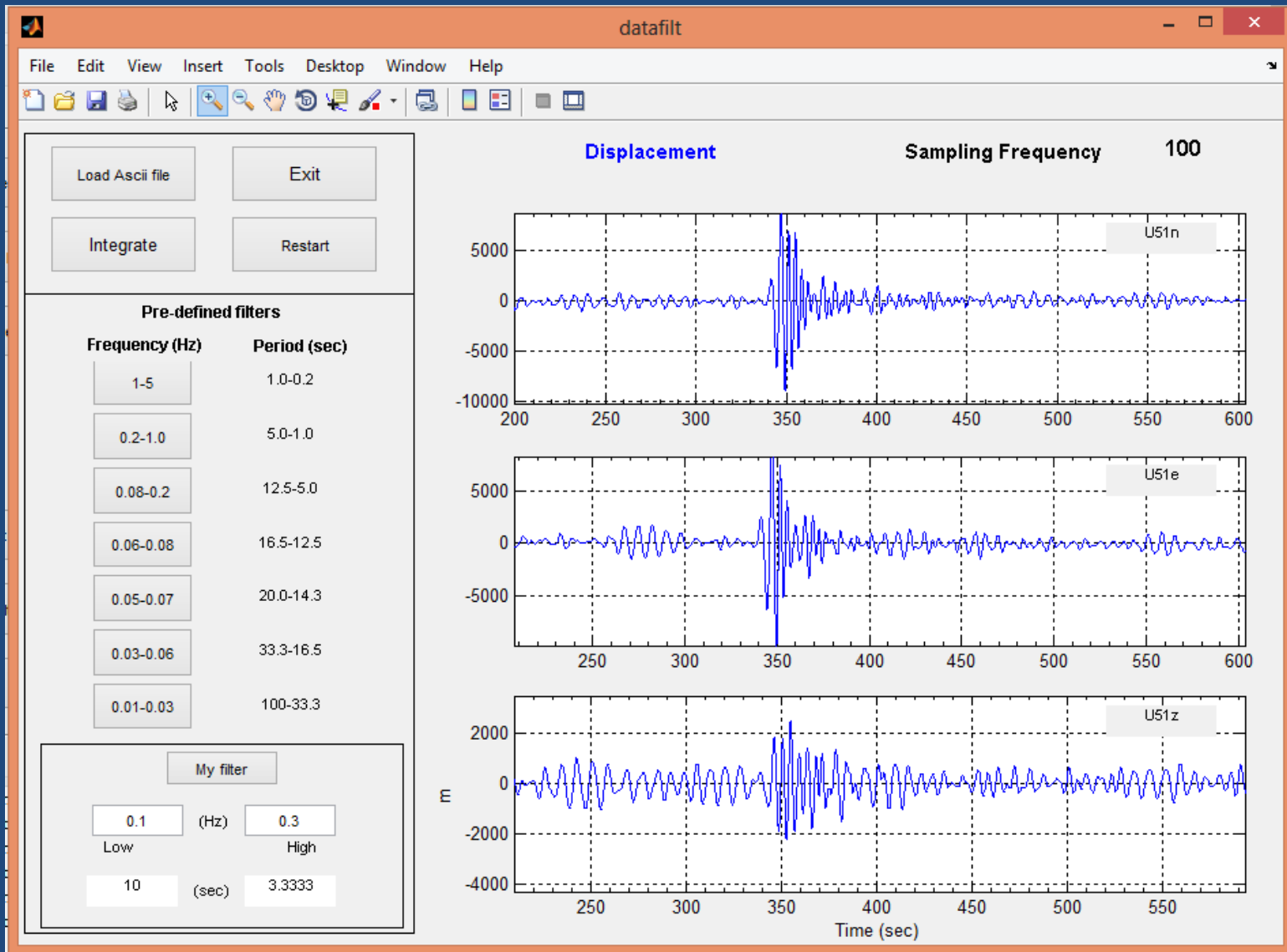
Exit



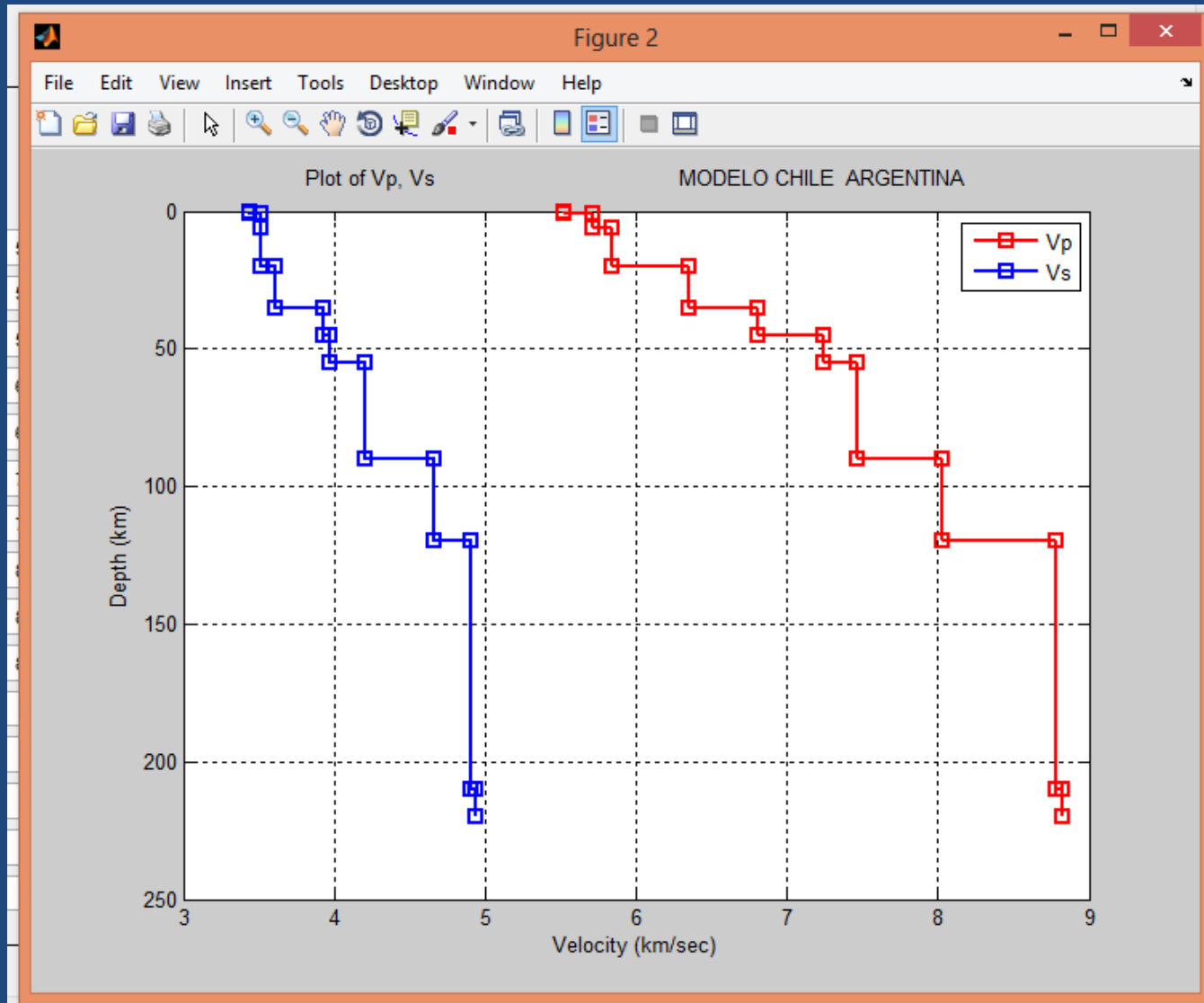
Signal Noise Rate



Try filters... for all the stations I have used 0.1 – 0.3 Hz

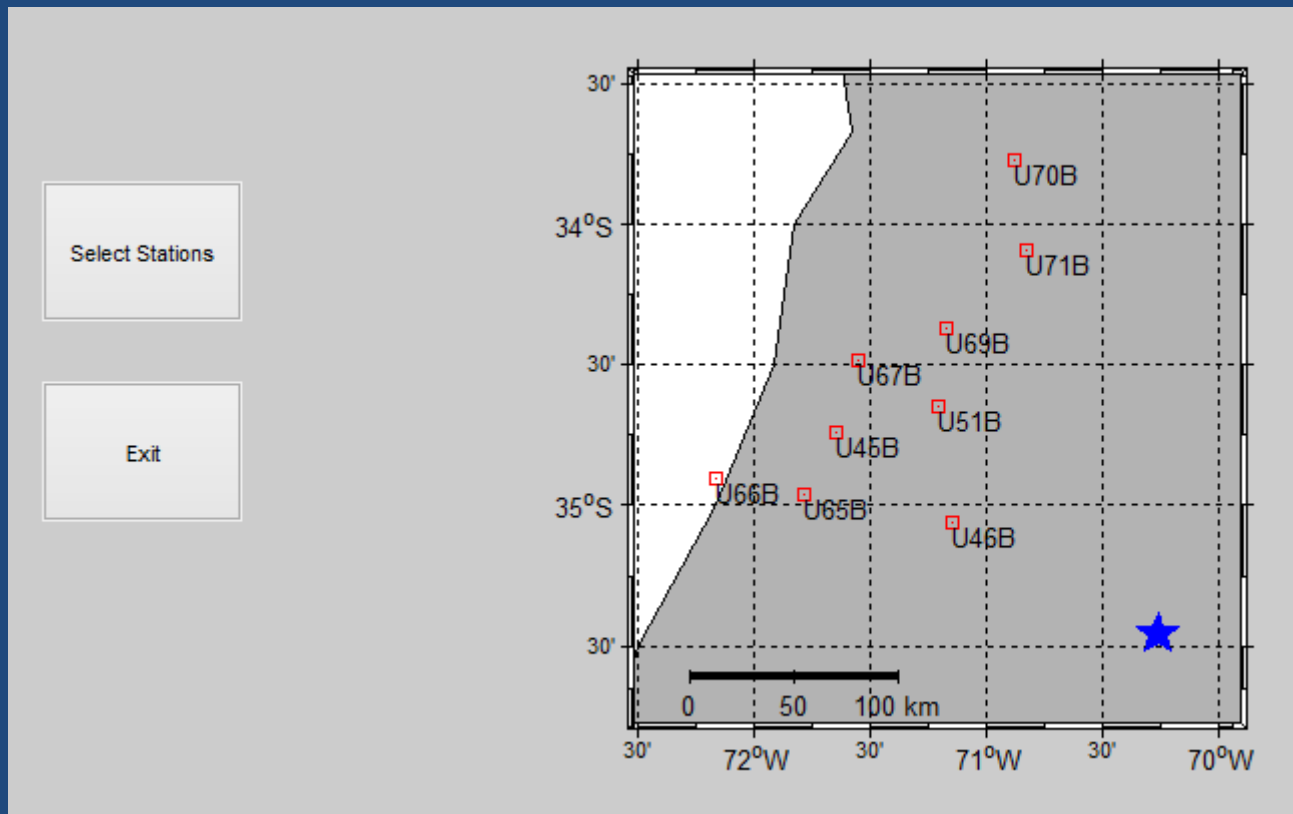


Crustal Model (UNSJ)

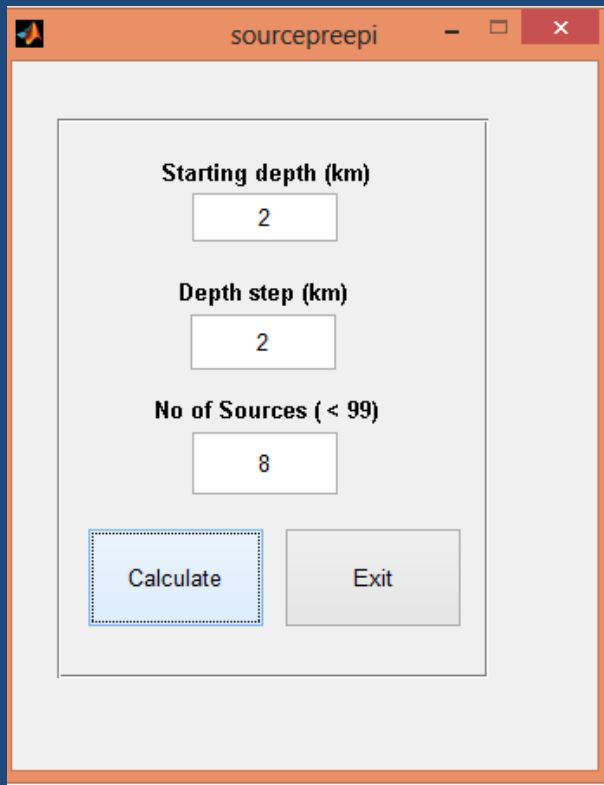


Station Selection

Station U70B was removed (bad SNR)



Source Definition and Green Function



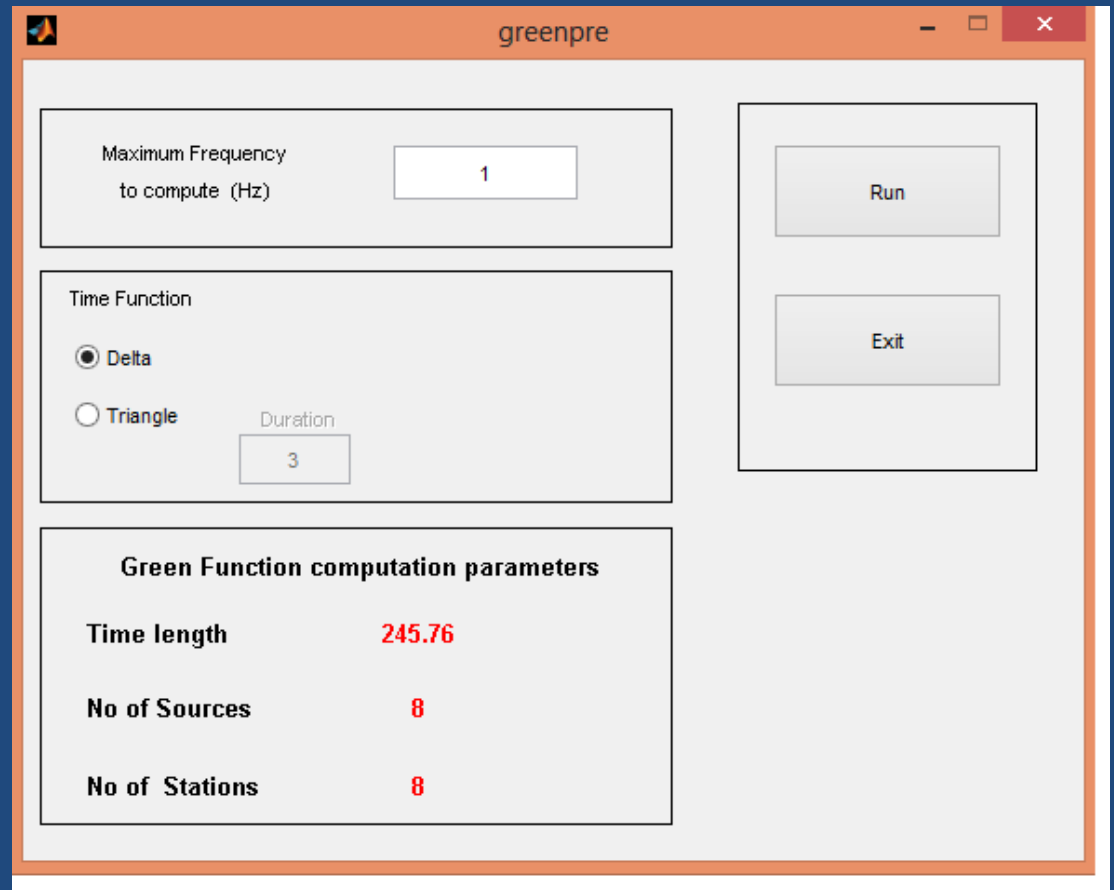
sourceprepi

Starting depth (km)
2

Depth step (km)
2

No of Sources (< 99)
8

Calculate Exit



greenpre

Maximum Frequency to compute (Hz)
1

Time Function
 Delta
 Triangle

Duration
3

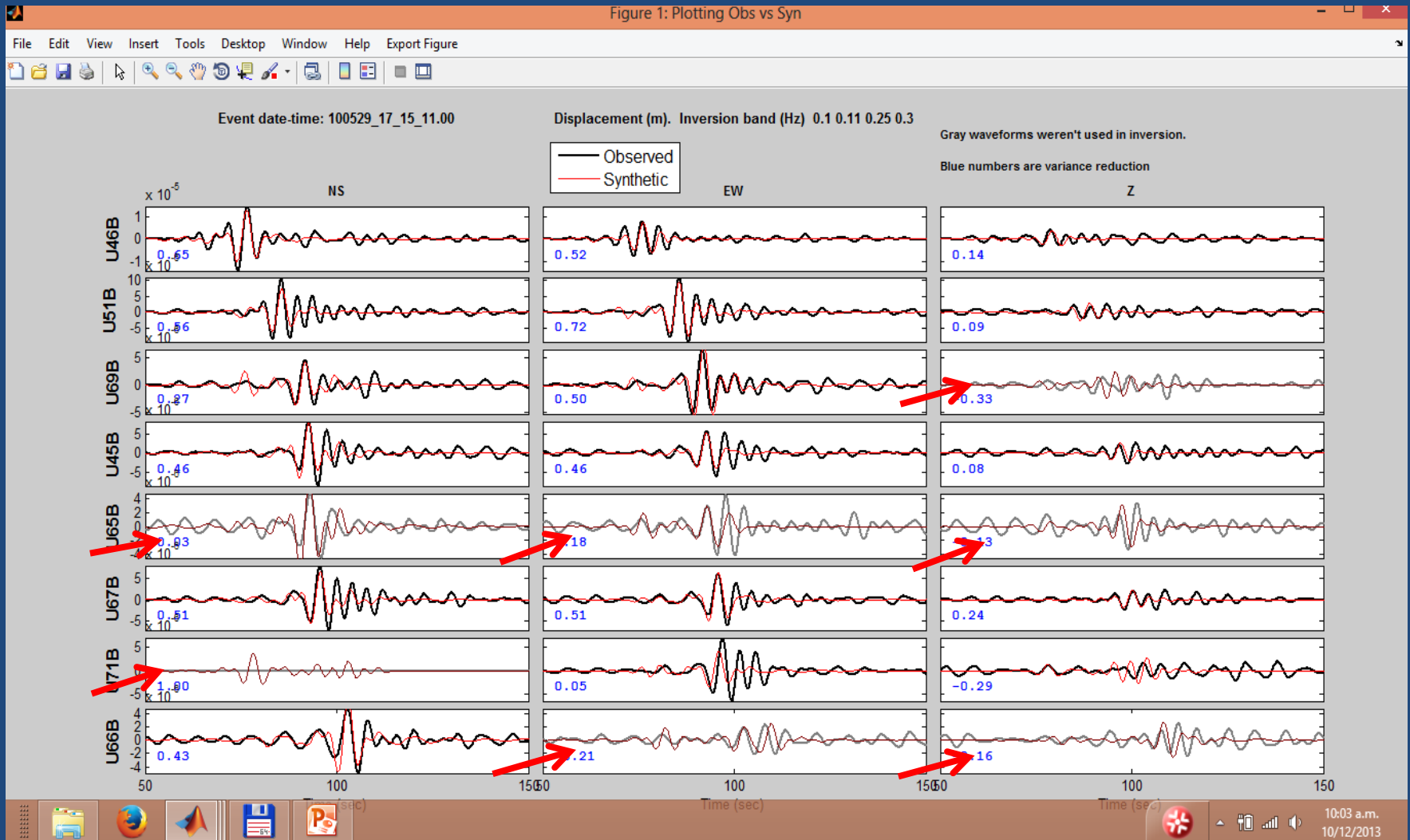
Run
Exit

Green Function computation parameters

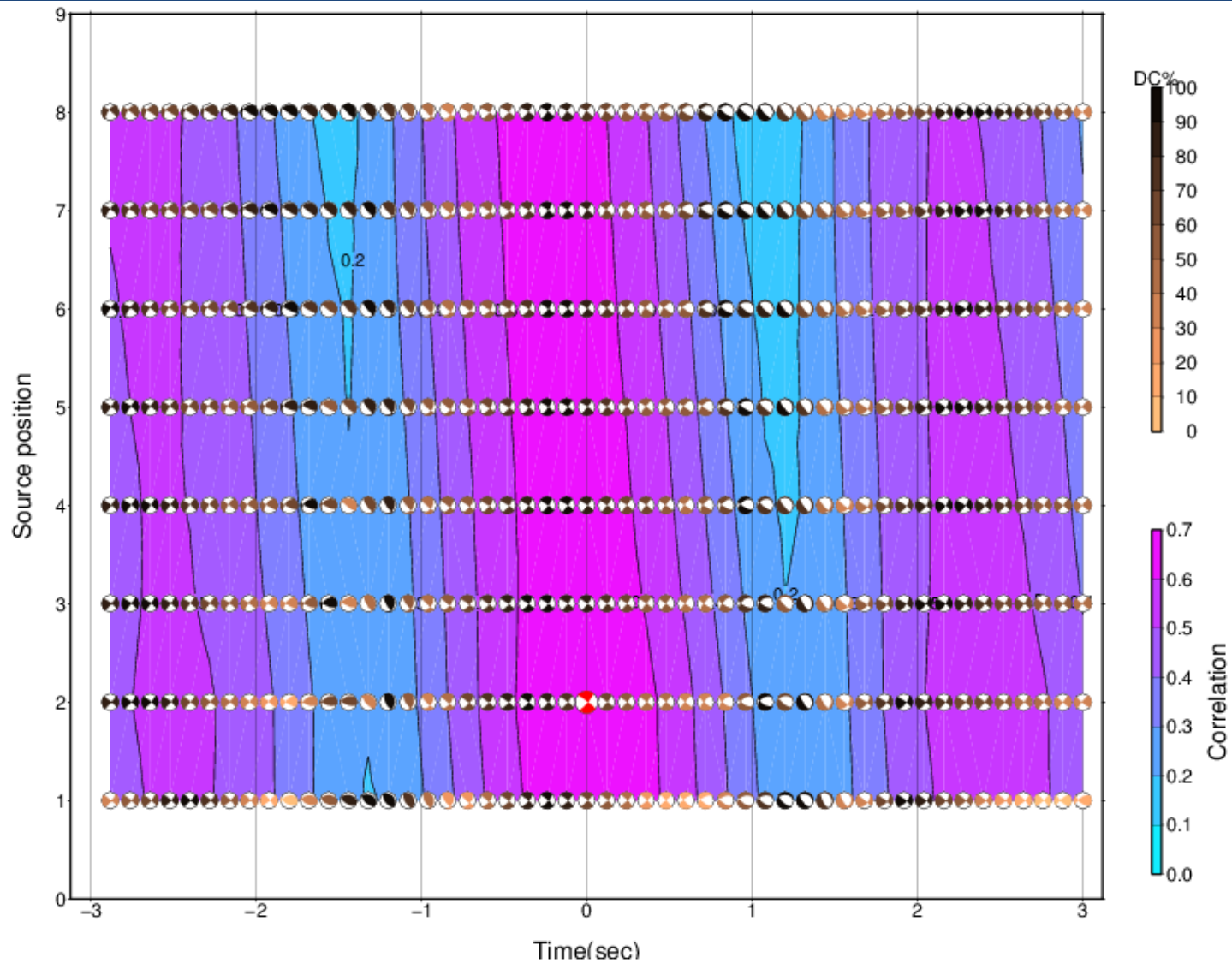
Time length	245.76
No of Sources	8
No of Stations	8

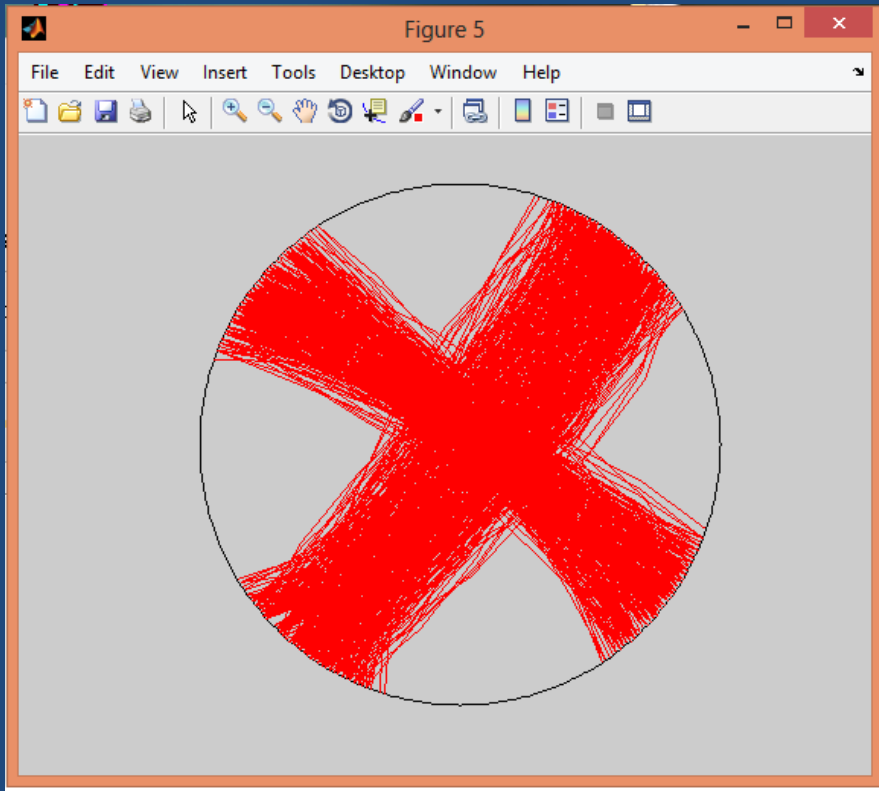
Inversion

Some stations and components were removed

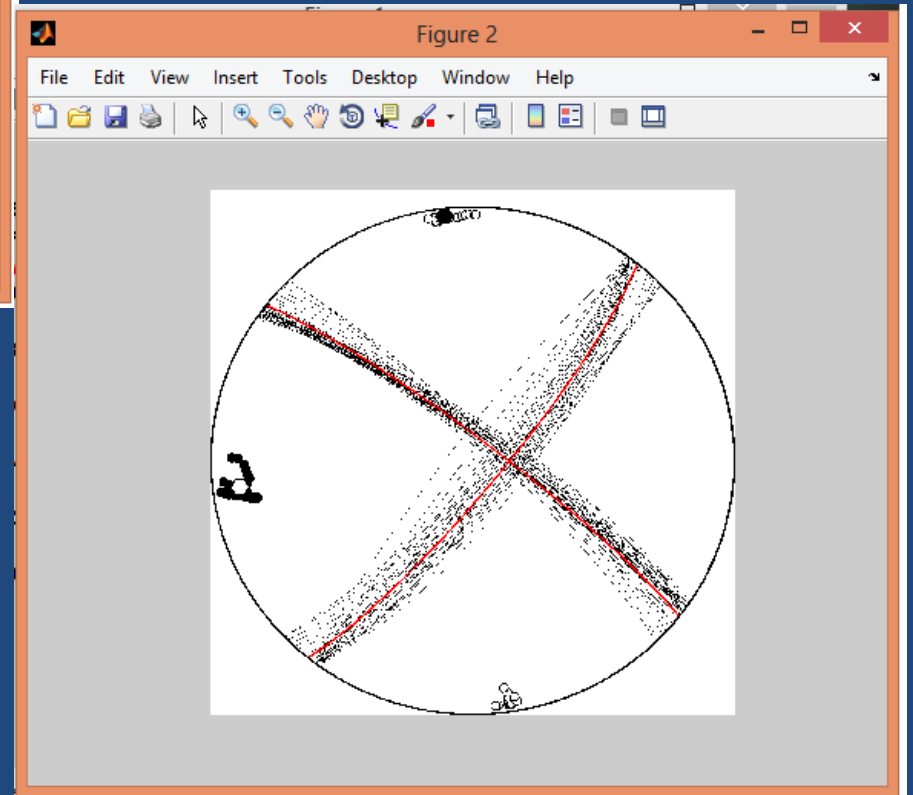


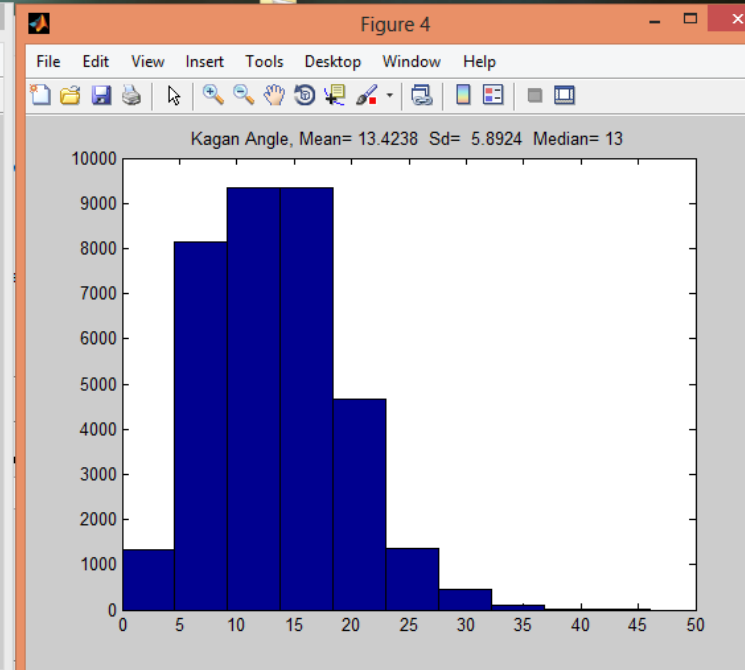
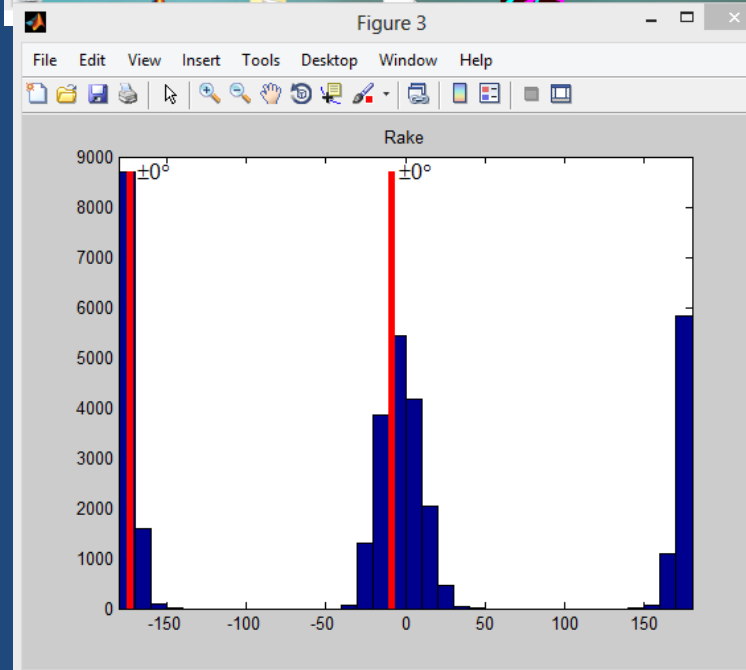
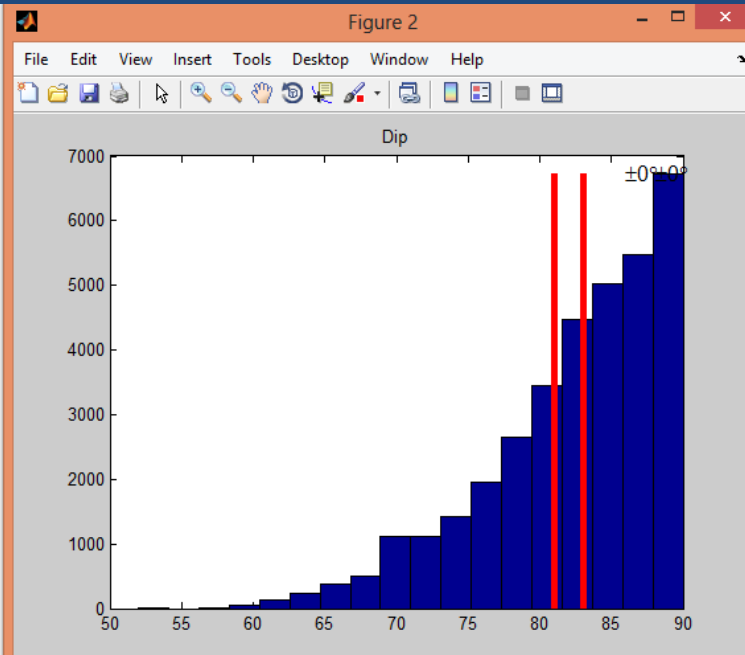
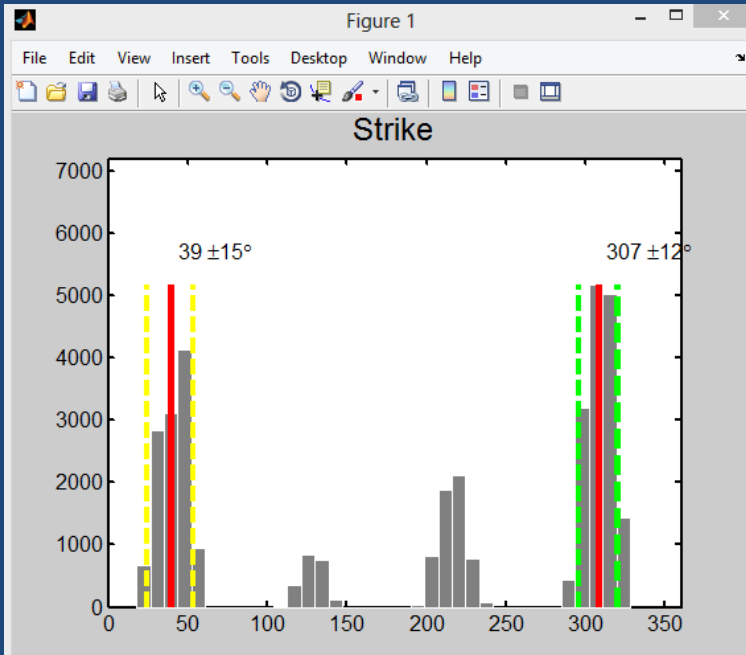
Correlation plot





Nodal planes





MOMENT TENSOR SOLUTION

HYPOCENTER LOCATION (UNSJ)

Origin time 20100529 17:15:11.00
 Lat -35.454 Lon -70.256 Depth 10

CENTROID

Trial source number : 2 (Fixed Epicenter inversion)
 Centroid Lat (N) -35.454 Lon (E) -70.256
 Centroid Depth (km) : 4
 Centroid time : +0 (sec) relative to origin time

Moment (Nm) : 3.445e+015

Mw : 4.3

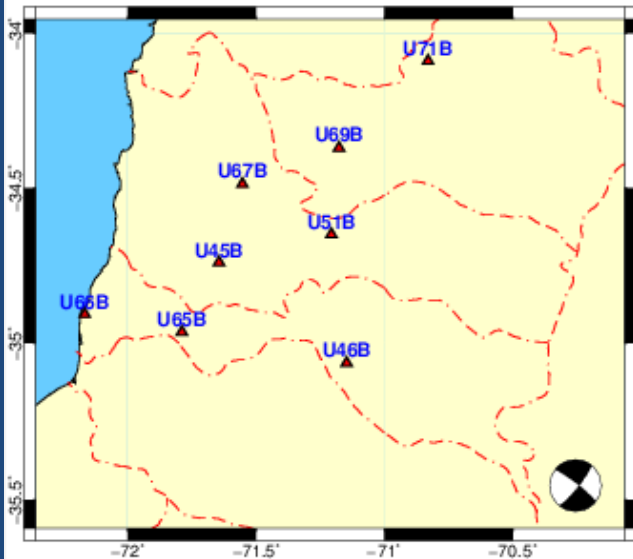
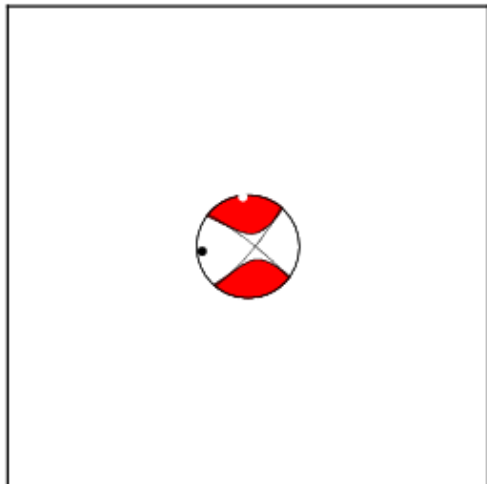
VOL% : 0

DC% : 71.5

CLVD% : 28.5

Var.red. (for stations used in inversion): 0.42 SNR CN FMVAR STVAR

Var.red. (for all stations) : 0.39



Strike	Dip	Rake		Frequency band used in inversion (Hz)
39	81	-173		0.1 - 0.11 -- 0.25 - 0.3

Strike	Dip	Rake	
308	83	-9	

P-axis Azimuth Plunge		Stations-Components Used-Distance
264 11		NS EW Z D(km)

U46B	+	+	+	92
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U51B	+	+	+	124
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U69B	+	+	-	147
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U45B	+	+	+	149
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U65B	-	-	-	150
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U67B	+	+	+	160
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U71B	-	+	+	160
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U66B	+	-	-	184
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Mrr Mtt Mpp

-0.617 3.600 -2.984

Mrt Mrp Mtp

0.162 -0.477 0.701

Exponent (Nm) : 15