

Curso ISOLA , Brasilia 2013

Marianela Nadia Lupari

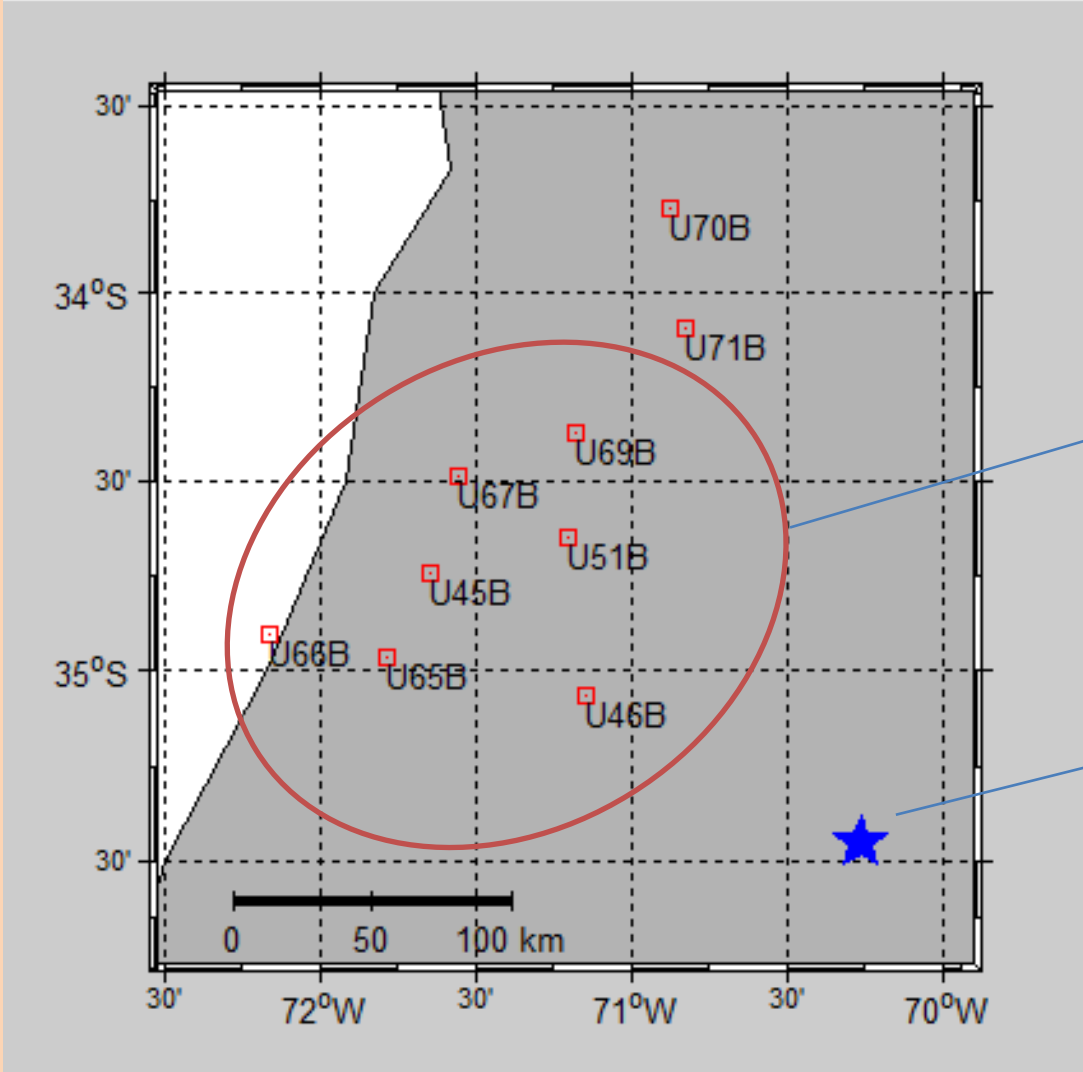
**Instituto Geofísico Sismológico Volponi, (IGSV)
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Facultad de Ciencias Exactas Físicas y
Naturales.**

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Date Date (YYYYMMDD) <input type="text" value="20100529"/>		Location Lat (Deg,Min) <input type="text" value="38.00"/> <input type="text" value="50.00"/> <input type="button" value="DDMM-> DDEG"/> Lon (Deg,Min) <input type="text" value="21.00"/> <input type="text" value="50.00"/>		Lat (N) (Dec.Degrees) <input type="text" value="-35.454"/> Depth (km) <input type="text" value="10"/> Lon (E) (Dec.Degrees) <input type="text" value="-70.256"/>		<input type="button" value="Save"/> <input type="button" value="Exit"/>			
Origin Time Hour <input type="text" value="17"/> Min <input type="text" value="15"/> Seconds <input type="text" value="11.00"/>		Comments <table border="1"> <thead> <tr> <th>Magnitude</th> <th>Location agency</th> </tr> </thead> <tbody> <tr> <td><input type="text" value="3.9"/></td> <td><input type="text"/></td> </tr> </tbody> </table>				Magnitude	Location agency	<input type="text" value="3.9"/>	<input type="text"/>
Magnitude	Location agency								
<input type="text" value="3.9"/>	<input type="text"/>								
Time Window Length (sec) <input type="list" value="16.384"/> <input type="list" value="40.96"/> <input type="list" value="81.92"/> <input type="list" value="163.84"/> <input type="list" value="245.76"/> <input type="list" value="327.68"/> <input type="list" value="409.6"/> <input type="list" value="819.2"/> <input type="list" value="1638.4"/> <p>The chosen Time Window Length should be large enough to include the travel time from epicenter to stations plus the seismogram duration</p>									
Automatic form fill e.g. 20100118 1556 8.38 38 25.19 21E55.44 8.29 5.23 <input type="text" value="Paste your EventInfo here"/> <input type="button" value="Read"/>									

Event Info

Station and Epicenter Map



Station Selection

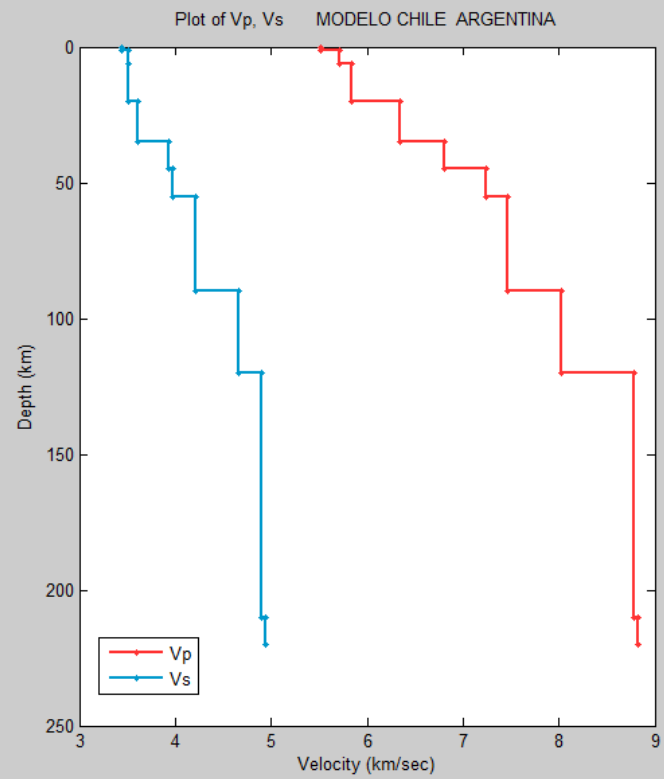
**Epicenter
(Mendoza – Argentina)**

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

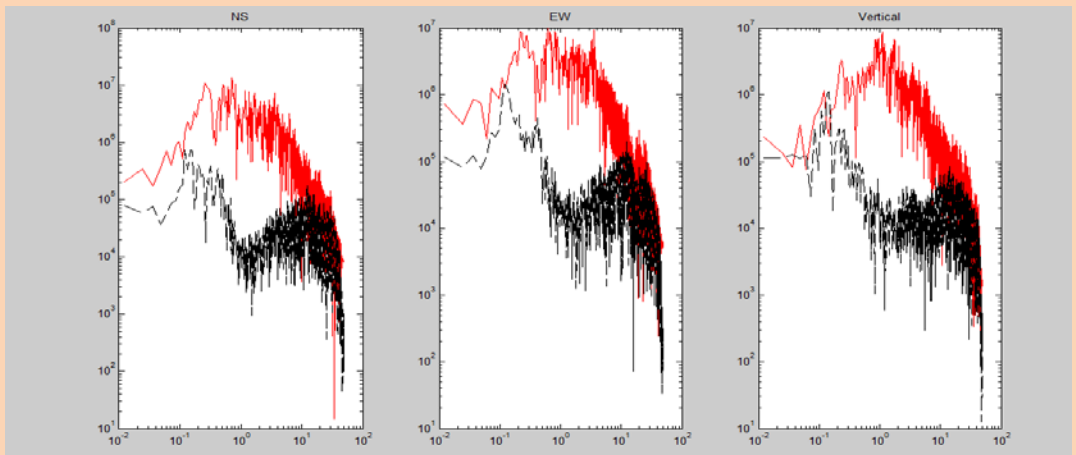
Station Name
U45B
AD normalization constant
5.71402E+008
Digitizer sensitivity (cnts/Volts)
629330
Seismometer sensitivity (V/m/sec)
1504.19

PZ - Files

Crustal Model



U51B



Seismic Source

Starting depth (km)

1

Depth step (km)

3

No of Sources (< 99)

8

Calculate

Exit

Green Function

Maximum Frequency
to compute (Hz)

0.2

Time Function

Delta

Triangle

Duration

3

Run

Exit

Green Function computation parameters

Time length **245.76**

No of Sources **8**

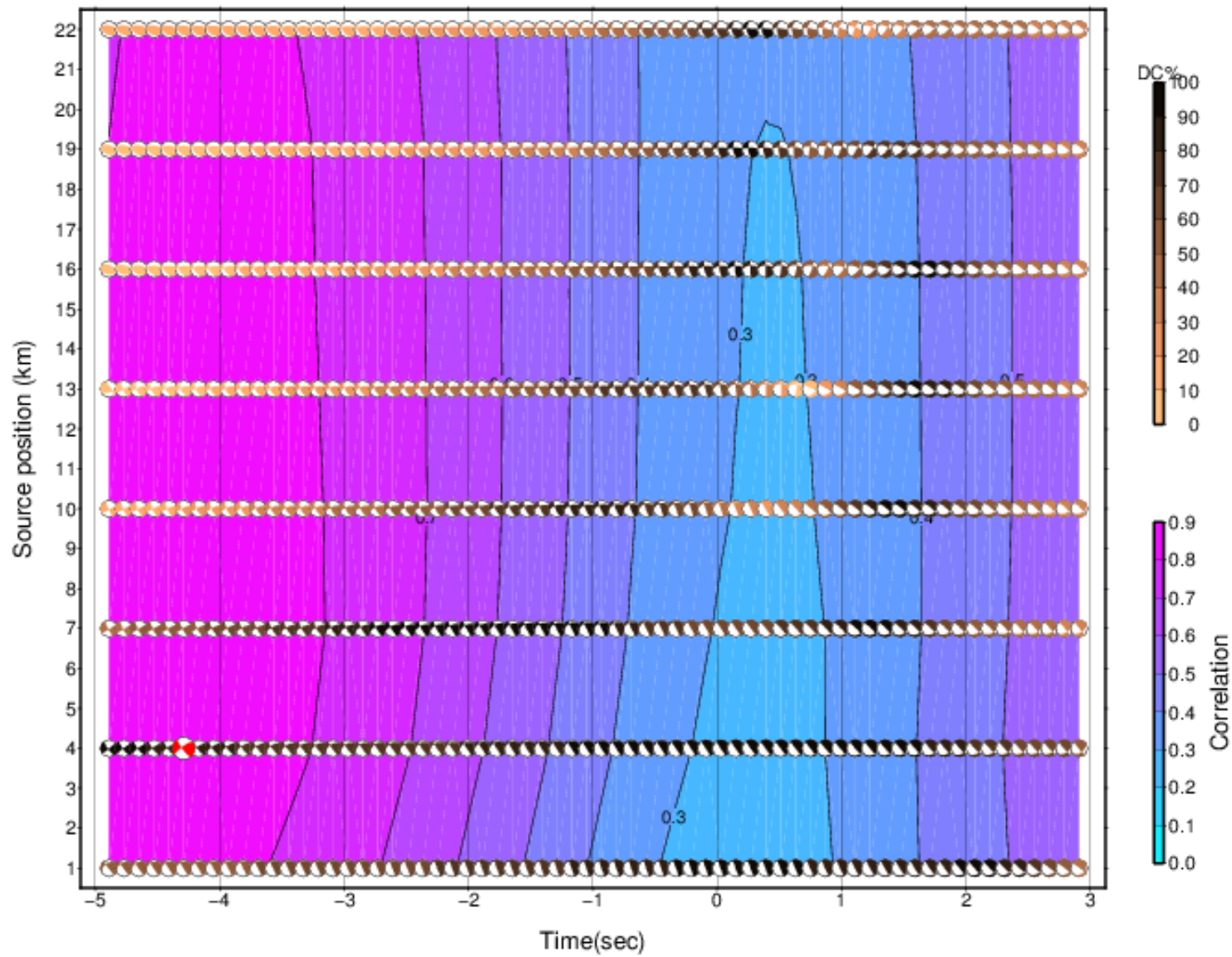
No of Stations **7**

INVERSION

Stations	Components				f1	f2	f3	f4
U46B	<input checked="" type="checkbox"/> Use Station	<input type="checkbox"/> Use NS	<input type="checkbox"/> Use EW	<input checked="" type="checkbox"/> Use Z	0.03	0.04	0.08	0.09
U51B	<input checked="" type="checkbox"/> Use Station	<input checked="" type="checkbox"/> Use NS	<input checked="" type="checkbox"/> Use EW	<input type="checkbox"/> Use Z	0.03	0.04	0.08	0.09
U69B	<input checked="" type="checkbox"/> Use Station	<input checked="" type="checkbox"/> Use NS	<input type="checkbox"/> Use EW	<input type="checkbox"/> Use Z	0.03	0.04	0.08	0.09
U45B	<input checked="" type="checkbox"/> Use Station	<input checked="" type="checkbox"/> Use NS	<input checked="" type="checkbox"/> Use EW	<input type="checkbox"/> Use Z	0.03	0.04	0.08	0.09
U65B	<input type="checkbox"/> Use Station	<input checked="" type="checkbox"/> Use NS	<input checked="" type="checkbox"/> Use EW	<input checked="" type="checkbox"/> Use Z	0.03	0.04	0.08	0.09
U67B	<input checked="" type="checkbox"/> Use Station	<input checked="" type="checkbox"/> Use NS	<input checked="" type="checkbox"/> Use EW	<input type="checkbox"/> Use Z	0.02	0.03	0.06	0.07
U66B	<input checked="" type="checkbox"/> Use Station	<input type="checkbox"/> Use NS	<input type="checkbox"/> Use EW	<input checked="" type="checkbox"/> Use Z	0.02	0.03	0.06	0.07

Exit

Update and Exit



Plot Real - Synthetics

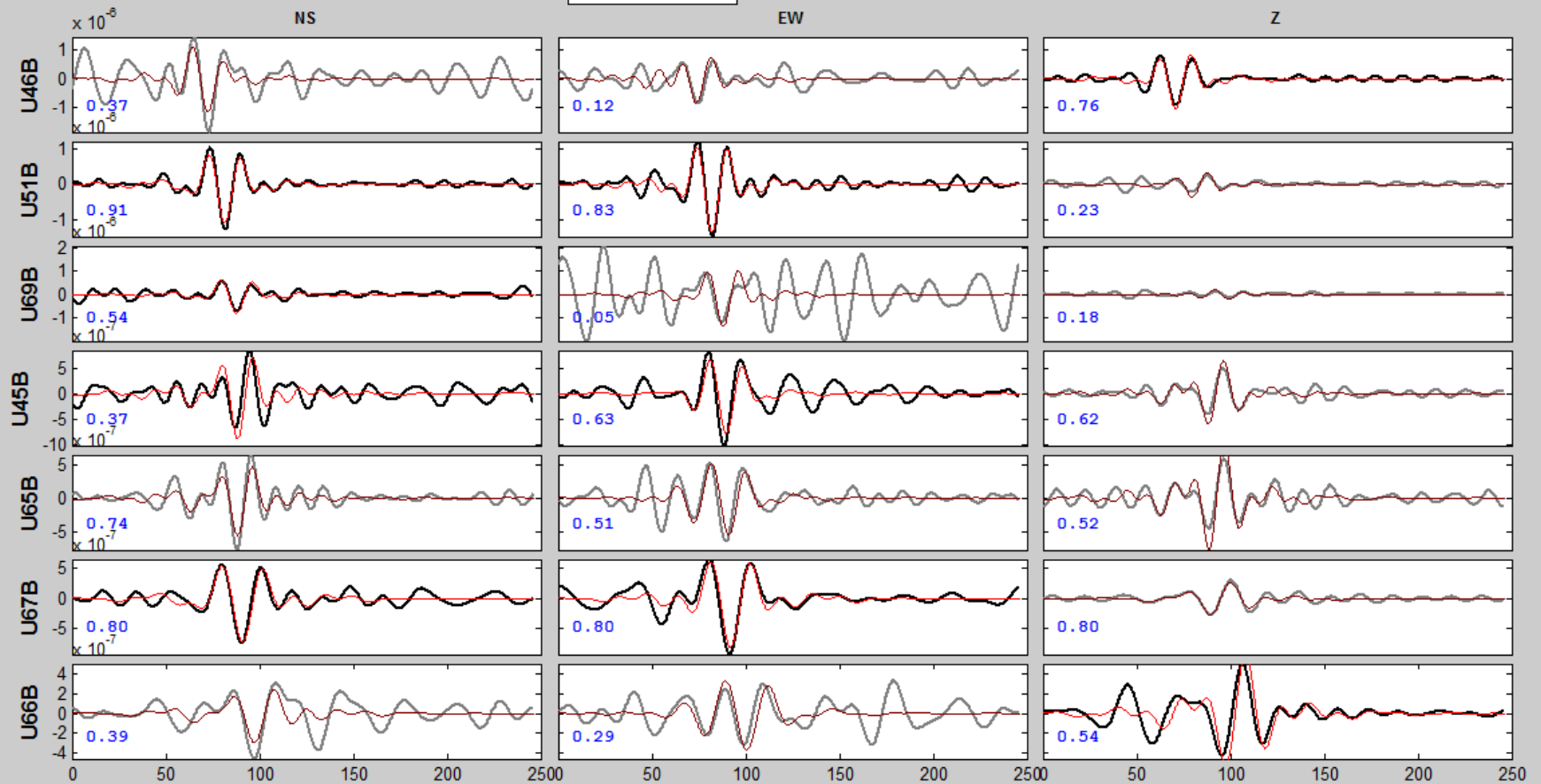
Event date-time: 100529_17_15_11.00

Displacement (m). Inversion band (Hz) 0.03 0.04 0.08 0.09

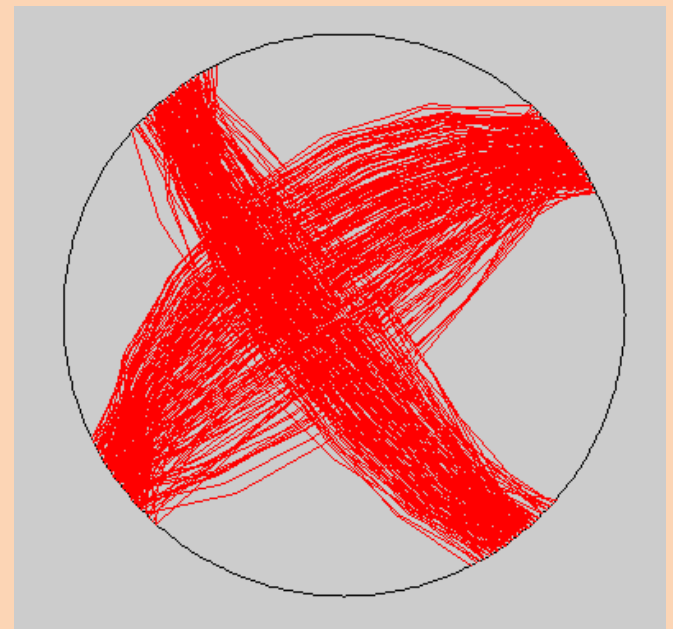
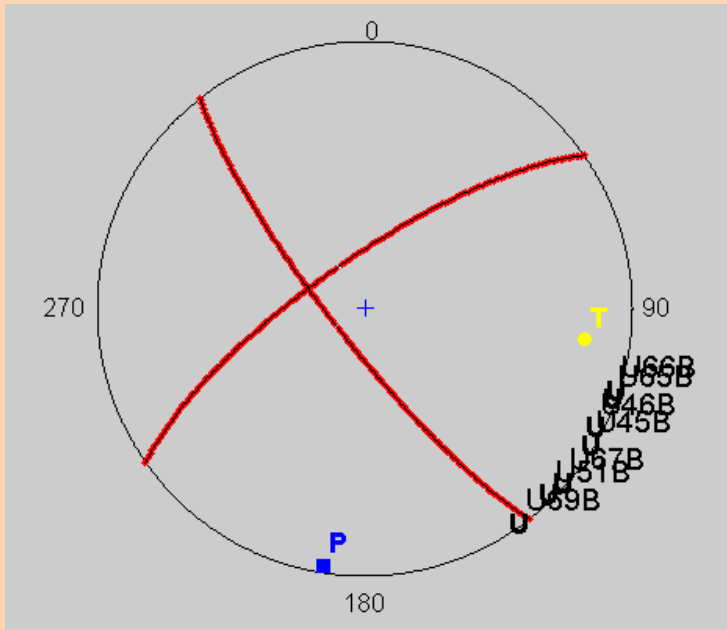
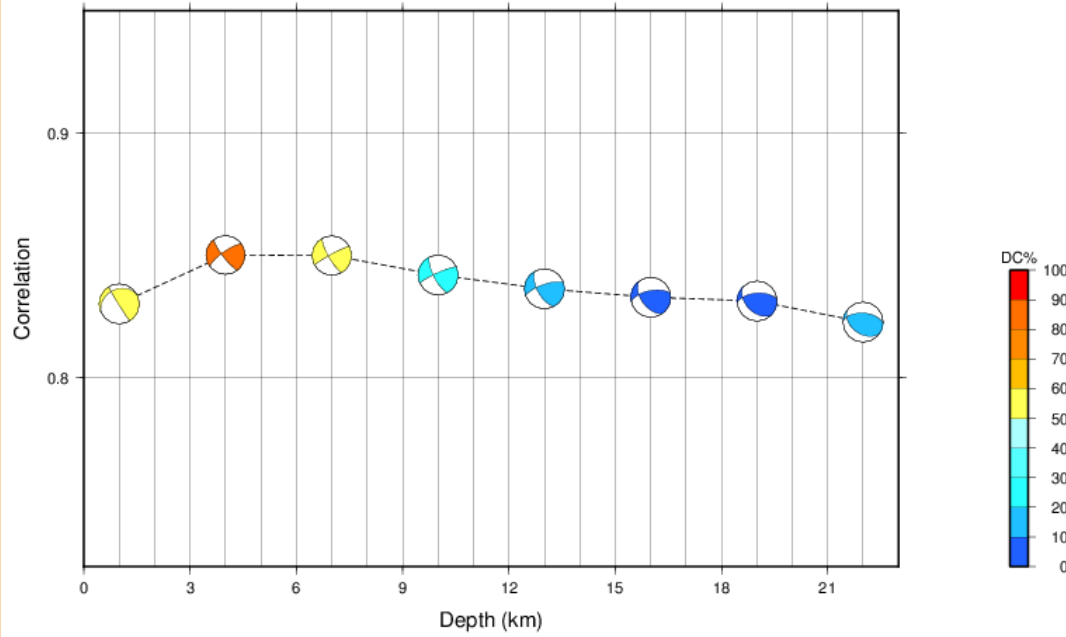
Gray waveforms weren't used in inversion.

— Observed
— Synthetic

Blue numbers are variance reduction



Correlation vs Depth Plot



MOMENT TENSOR SOLUTION

HYPOCENTER LOCATION ()

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 : -4.29 (sec) relative to origin time

Moment (Nm) : 1.375e+015

Mw : 4

VOL% : 0

DC% : 85.6

CLVD% : 14.4

Var.red. : (for stations used in inversion): 0.3 SNR CN FMVAR STVAR NaN 7.2 32±20 0.25

Var.red. (for all stations) : 0.32

Strike	Dip	Rake	Frequency band used in inversion (Hz)
142	80	165	0.03 - 0.04 -- 0.08 - 0.09

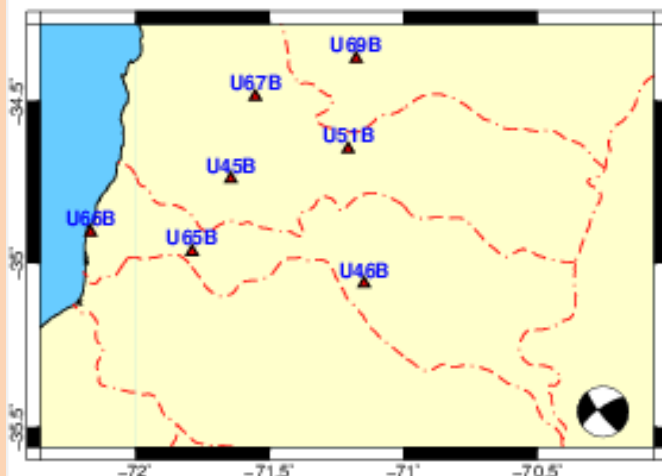
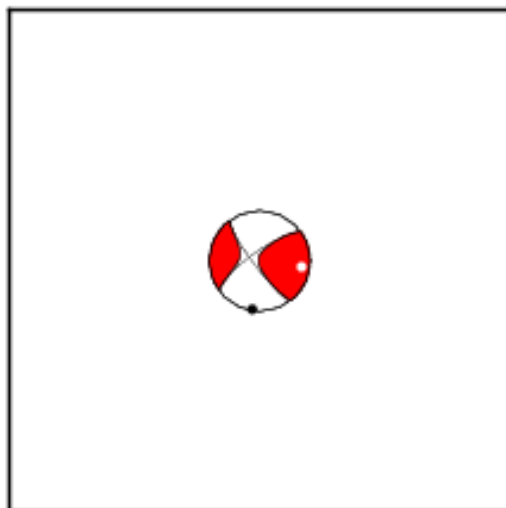
Strike	Dip	Rake	Stations-Components Used-Distance
235	75	11	NS EW Z D (km)

P-axis Azimuth Plunge	U46B	U51B	U69B	U45B	U65B	U67B	U66B
189 3	- - + 92	+ + - 124	+ - - 147	+ + - 149	- - - 150	+ + - 160	- - + 184

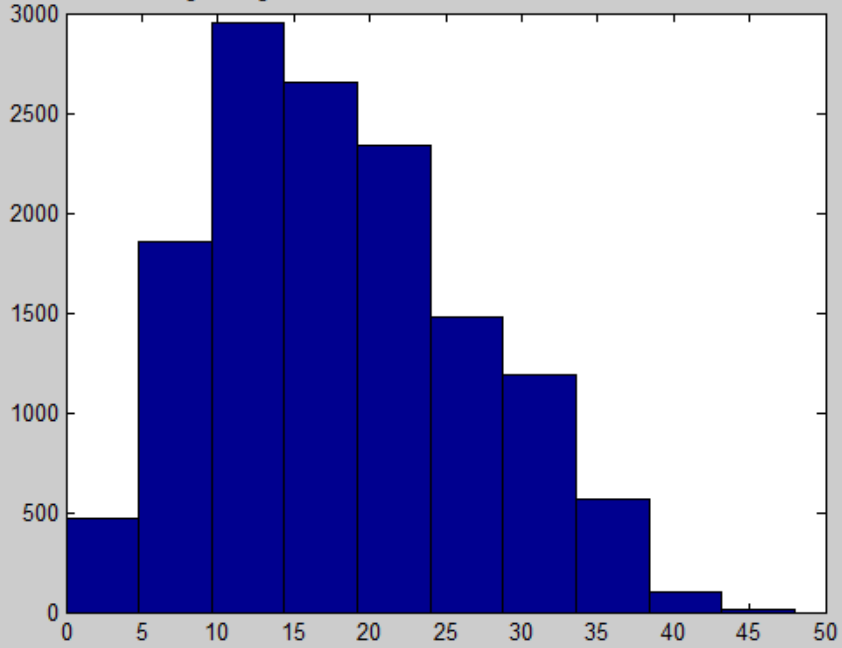
Mrr	Mtt	Mpp
0.035	-1.261	1.226

Mrt	Mrp	Mtp
0.002	-0.448	0.377

Exponent (Nm) : 15



Kagan Angle, Mean= 18.1545 Sd= 8.5857 Median= 17



Strike

