

Tables 1 and 2

Altiplano & Puna
Station information

Appendix A.1.

Table 1 – Altiplano Chile-Bolivia Stations Information

Name	Instrument Type	Seismometer Type	Latitude (°)	Longitude (°)	Elevation (m)
RF01	REF/7224	L4-3D/1359a	-21.17283	-70.08462	360
RF02	REF/7689	L4-3D/1330	-21.19267	-69.99057	786
RF03	REF/7687	L4-3D/1356a	-21.22222	-69.90070	840
RF04	REF/7681	L4-3D/1353	-21.18321	-69.80809	881
RF05	REF/7233	40T/T4283	-21.11898	-69.72015	968
RF06	REF/7686	L4-3D/1336	-21.09046	-69.61042	907
RF07	REF/7682	L4-3D/1347a	-21.06195	-69.48387	921
RF08	REF/7685	L4-3D/1348a	-21.03160	-69.36105	1154
RF09	REF/7678	L4-3D/1329	-20.98847	-69.23636	1569
RF10	REF/7204	40T/T4282	-20.93445	-69.13488	1925
RF11	REF/7677	L4-3D/1894	-20.93380	-69.01234	2552
RF12	REF/7693	L4-3D/1332	-20.89591	-68.82790	4317
RF13	REF/7680	L4-3D/1333	-20.92401	-68.72174	4714
RF14	REF/7688	L4-3D/1831	-20.95188	-68.56058	4400
RF15	REF/7225	40T/T4281	-21.00850	-68.46247	4400
RF16	SAM/0052	3ESP/T3696	-21.00915	-68.35221	3756
RF17	REF/7226	L4-3D/1178	-21.04238	-68.27659	3781
RF18	EDL/3033	L4-3D/1181	-21.05930	-68.20420	3731
RF19	REF/7226	L4-3D/1190	-21.07285	-68.12930	3847
RF20	EDL/3021	L4-3D/1010	-21.07750	-68.05470	3763
RF21	SAM/0036	3ESP/T3714	-21.05948	-67.97059	3729
RF22	REF/7245	L4-3D/1346	-20.97206	-67.85809	3743
RF23	EDL/3057	L4-3D/1351a	-21.05327	-67.76513	3674
RF24	REF/7228	L4-3D/1191	-20.88210	-67.66955	3728
RF25	EDL/3041	L4-3D/1346a	-20.91234	-67.56601	3690
RF26	EDL/3027	L4-3D/1173	-20.88650	-67.48610	3696
RF27	REF/7206	L4-3D/1012	-20.87315	-67.39110	3731
RF28	SAM/0046	3ESP/T3635	-20.82134	-67.29743	3710
RF29	REF/7209	L4-3D/1176	-20.85613	-67.22707	3700
RF30	EDL/3024	L4-3D/1016	-20.90250	-67.12390	3705
RF31	REF/7237	L4-3D/1192	-20.94274	-67.05694	3734
RF32	EDL/3069	L4-3D/1357a	-20.88470	-66.95910	3691
RF33	REF/7203	L4-3D/1168	-20.92544	-66.89500	3721
RF34	SAM/0049	3ESP/T3709	-20.99935	-66.82792	3705
RF35	EDL/3029	L4-3D/1174	-21.13612	-66.74168	3898
RF36	REF/7231	L4-3D/1340a	-21.16290	-66.63643	3924
RF37	SAM/0038	3ESP/T3735	-21.21918	-66.55107	4017
RF38	EDL/3068	L4-3D/1353a	-21.27210	-66.47090	4265
RF39	REF/7230	L4-3D/1134a	-21.24543	-66.38894	4302
RF40	EDL/3032	L4-3D/1180	-21.39621	-66.29284	4273
RF41	REF/7246	L4-3D/1338	-21.43848	-66.21472	4369
RF42	EDL/3072	L4-3D/1818	-21.42390	-66.15370	4061
RF43	SAM/0052	3ESP/T3696	-21.40724	-66.10284	4024
RF44	EDL/3041	L4-3D/1346a	-21.46727	-66.05178	4027
RF45	REF/7203	L4-3D/1020	-21.43244	-65.98230	3962
RF46	EDL/3025	L4-3D/1018	-21.43510	-65.90440	4141

Name	Instrument Type	Seismometer Type	Latitude (°)	Longitude (°)	Elevation (m)
RF47	REF/7235	L4-3D/1189	-21.45207	-65.82601	3989
RF48	SAM/0057	3ESP/T3695	-21.42440	-65.73810	3003
RF49	EDL/3027	L4-3D/1013	-21.34070	-65.61570	3490
RF50	REF/7244	L4-3D/1332	-21.36676	-65.53179	3681
RF51	SAM/0043	3ESP/T3718	-21.43266	-65.47300	3933
RF52	EDL/3034	L4-3D/1342a	-21.42280	-65.38950	4025
RF53	REF/7211	L4-3D/1182	-21.36119	-65.27616	2635
RF54	EDL/3026	L4-3D/1170	-21.27650	-65.21240	2367
RF55	REF/7214	L4-3D/1245a	-21.29925	-65.12134	2858
RF56	REF/7227	L4-3D/1017	-21.37146	-65.05614	2550
RF57	SAM/0042	3ESP/T3699	-21.42751	-64.97803	3000
RF58	REF/7248	L4-3D/1331	-21.45819	-64.88013	3324
RF59	REF/7215	L4-3D/1187	-21.46413	-64.75682	2008

Table 2 – Argentine Puna Stations Information

Name	Instrument Type	Seismometer Type	Latitude (°)	Longitude (°)	Elevation (m)
PC01	SAM/0050	3ESP/T3689	-25.53569	-68.23110	4339
PC02	EDL/3076	L4-3D/1337a	-25.52340	-68.14692	4209
PC03	SAM/0060	3ESP/T3689	-25.53184	-68.04665	4589
PC04	EDL/3074	L4-3D/1333	-25.46925	-67.96567	4753
PC05	SAM/0086	3ESP/T3713	-25.33550	-67.90624	4123
PC06	EDL/3078	L4-3D/1335	-25.30507	-67.81282	4368
PC07	SAM/0056	3ESP/T3715	-25.33876	-67.73137	4170
PC08	EDL/3079	L4-3D/1339a	-25.43083	-67.64494	4164
PC09	SAM/0059	3ESP/T3693	-25.51648	-67.61888	3400
PC10	EDL/3082	L4-3D/1341	-25.59201	-67.51111	3949
PC11	SAM/0048	3ESP/T3541	-25.58266	-67.40479	4495
PC12	EDL/3080	L4-3D/1340	-25.58238	-67.31203	4072
PC13	SAM/0054	3ESP/T3668	-25.53967	-67.21871	4184
PC14	EDL/3048	L4-3D/1019	-25.46375	-67.16014	4024
PC15	EDL/3077	L4-3D/1343a	-25.51142	-67.03025	3990
PC16	EDL/3073	L4-3D/1349	-25.56353	-66.91698	4104
PC17	EDL/3075	L4-3D/1336	-25.67546	-66.84844	4257
PC18	SAM/0047	3ESP/T3716	-25.74593	-66.75667	4182
PC19	SAM/0039	3ESP/T3697	-25.58170	-66.43080	2425

List of events
Altiplano & Puna
P- and S- waves

Events from PDE (*Preliminary Determination of
Epicenters*) catalogue from the
National Earthquake Information Center (NEIC)
<http://neic.usgs.gov/neis/epic/>

Altiplano profile along 21°S

Events used for P-wave tomography Altiplano 21° S

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
1	020602 0052 10.09	07.60	-37.38	10	5.1	42	47.1
2	020605 1245 17.32	35.47	-36.29	10	5.1	65	27.4
3	020611 0232 31.94	17.61	-94.52	154	5.2	48.5	324
4	020615 1323 08.24	-53.22	23.57	10	5.3	72.2	140.8
5	020616 0246 14.03	08.78	-83.99	35	6.2	35.7	330.3
6	020619 2150 08.30	16.32	-97.94	33	5.2	49.4	319.5
7	020624 0120 36.67	35.85	09.88	10	5.3	93.2	52.4
8	020625 0406 46.10	04.20	-82.49	10	5.1	31	328.8
9	020625 0815 45.41	14.11	-91.25	70	5.1	43.9	324.9
10	020702 1015 59.24	-29.85	-112.39	10	5.5	41	250.5
11	020709 1840 35.63	43.51	-127.16	10	5.5	86.2	320.8
12	020730 0655 07.78	-57.88	-23.24	33	5.8	46.8	149.6
13	020731 0016 44.61	07.92	-82.79	10	6.4	34.4	331.5
14	020731 0445 14.27	07.90	-82.78	10	5.5	34.4	331.5
15	020731 0912 44.73	07.52	-36.31	10	5.2	42.7	48.3
16	020802 1613 19.17	12.13	-86.68	69	5.2	39.9	329.1
17	020803 0239 01.84	08.26	-82.82	10	5.5	34.7	331.7
18	020803 1418 13.45	-01.50	-14.37	10	5.1	55.3	75.1
19	020804 0021 42.88	11.37	-87.31	33	5.1	39.5	327.7
20	020807 2359 14.54	07.85	-82.89	10	5.6	34.4	331.3
21	020823 1816 01.29	-55.50	-26.17	33	5.1	44.3	147.8
22	020827 0648 13.82	-55.70	-25.93	33	5.0	44.5	147.9
23	020831 0527 18.24	02.70	-84.37	23	5.1	30.7	324.2
24	020908 2303 45.29	-01.22	-14.63	10	5.0	55.2	74.6
25	020916 0749 02.34	-55.13	-129.43	10	5.0	55.7	218
26	020921 0212 50.79	18.52	-101.25	60	5.2	53.1	318.1
27	020926 1255 29.78	-19.64	-12.01	10	5.4	51.1	97.2
28	020927 0704 58.10	17.16	-100.59	36	5.5	51.7	317.6
29	020929 1325 01.65	09.05	-84.13	23	5.1	36	330.3
30	021001 0700 58.99	18.81	-63.06	41	5.2	41.7	5.6
31	021003 1608 29.62	23.32	-108.53	10	6.2	61.2	315.9
32	021004 1237 16.35	-57.34	-26.29	150	5.1	45.2	150.1
33	021006 0118 35.80	58.47	-31.81	10	5.4	86.3	17.7
34	021007 2003 54.58	58.31	-31.94	10	5.5	86.1	17.7
35	021011 1441 25.33	15.67	-95.69	33	5.0	47.6	321.2
36	021012 2028 42.59	-59.53	-25.96	33	5.3	46.5	152.5
37	021022 0638 48.17	-43.97	39.01	10	5.0	85.1	135.8
38	021023 0737 30.88	-32.20	-109.51	10	5.1	38.6	246.8
39	021024 0608 37.98	-01.88	29.00	11	6.3	94.8	94.1
40	021105 1405 07.64	19.28	-104.78	10	5.0	55.9	315.7
41	021109 0014 18.08	13.74	-91.18	33	5.6	43.5	324.7
42	021112 0146 48.94	-56.55	-27.53	120	6.0	44.2	149.6
43	021114 1530 29.07	-55.65	-35.63	10	5.0	40	152.7
44	021114 1553 33.81	16.32	-91.15	32	5.0	45.7	326.7
45	021115 1305 36.96	-55.71	-35.78	10	5.5	40	152.8
46	021115 1958 31.78	-56.05	-36.40	10	6.6	40	153.6
47	021116 1016 26.55	-55.77	-35.19	10	5.1	40.3	152.6
48	021121 0253 14.97	12.37	-82.22	7	5.4	38.2	335.5
49	021201 0227 55.18	-35.14	179.98	33	5.7	94.2	229.1
50	021210 0128 33.67	-50.02	-114.12	10	5.7	45.5	221.5

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
51	021210 1351 26.70	36.19	-07.47	10	5.2	81.4	44.8
52	021215 0556 23.81	10.82	-43.24	10	5.2	40.9	37.2
53	021216 0946 32.18	-26.78	-107.20	10	5.1	36.6	255.6
54	021217 0432 53.07	-56.95	-24.82	10	6.3	45.6	149
55	021218 0147 07.03	-56.99	-25.20	10	5.2	45.5	149.2
56	021218 1412 21.75	-57.09	-24.98	10	6.0	45.6	149.3
57	021219 1417 37.59	-56.87	-24.99	10	5.0	45.5	149
58	030108 1429 10.31	06.03	-77.38	33	5.4	30.6	339.4
59	030109 1543 56.40	-60.01	-58.11	10	5.2	37.5	172.7
60	030110 0208 02.80	16.96	-100.30	29	5.1	51.4	317.7
61	030116 0106 30.63	44.17	-129.26	10	5.1	87.8	320.4
62	030116 0225 05.07	44.28	-129.35	10	5.3	87.9	320.5
63	030116 0503 29.39	44.14	-129.18	10	5.1	87.7	320.4
64	030116 0652 04.44	44.16	-128.93	10	5.2	87.6	320.5
65	030119 0625 51.64	-55.78	-27.05	33	5.0	44	148.5
66	030121 0246 47.74	13.62	-90.77	24	6.3	43.2	325.1
67	030121 0706 53.20	13.56	-90.85	33	5.4	43.2	324.9
68	030122 0206 34.61	18.77	-104.10	24	7.6	55.1	315.8
69	030122 1941 38.51	18.82	-104.37	10	5.6	55.3	315.6
70	030127 1756 25.83	-46.04	35.05	10	6.3	81.7	136.5
71	030131 2012 17.25	10.24	-85.33	27	5.3	37.6	329.5
72	030201 1347 46.82	07.46	-81.81	10	5.1	33.6	332.7
73	030201 1630 57.00	16.55	-92.88	211	5.5	46.8	324.9
74	030201 1847 52.15	57.44	-33.34	10	5.5	85	17.5
75	030207 0634 03.22	-56.28	-26.98	85	5.3	44.3	149.1
76	030208 0849 57.44	-39.78	45.10	10	5.3	91.1	134.4
77	030212 1033 13.19	13.02	-88.78	47	5.2	41.7	327
78	030212 1143 54.09	-37.84	178.84	58	5.6	93.5	226.4
79	030213 0559 10.58	-06.72	-11.80	10	5.1	55.4	82.1
80	030213 0823 47.24	-12.91	-14.54	10	5.1	50.7	88.1
81	030214 1903 21.48	-61.53	-54.03	10	5.0	39.5	170.3
82	030214 2317 52.22	-54.47	05.74	10	5.3	61.6	140.7
83	030218 1601 06.96	-34.42	-112.14	10	5.0	40.9	243.5
84	030220 0548 18.66	-62.46	-160.56	10	5.4	71.5	209.3
85	030302 1307 19.67	-35.08	-178.80	46	5.3	93.3	229.7
86	030302 1642 56.33	-36.95	-20.87	10	5.5	41.9	120.2
87	030303 1954 08.60	-55.23	-27.93	33	5.1	43.3	148.2
88	030312 2341 32.92	26.55	-110.58	10	6.5	64.8	317
89	030317 0410 06.45	-58.20	-11.20	10	5.2	52.9	146.7
90	030321 0109 55.19	18.06	-68.12	97	5.0	40.8	358.4
91	030321 0123 50.87	-57.92	-25.16	33	5.0	46	150.3
92	030327 0744 20.45	18.16	-101.76	33	5.0	53.2	317.4
93	030402 0804 02.54	25.02	-45.43	10	5.0	52.1	25
94	030411 0612 54.58	07.03	-82.35	10	5.6	33.4	331.5
95	030415 0252 15.47	-59.79	-26.21	50	5.1	46.5	152.9
96	030417 0346 42.97	-55.27	-128.91	10	5.0	55.5	217.8
97	030419 1143 51.13	-26.99	-113.15	10	5.0	41.8	254.7
98	030430 0047 08.81	-54.40	05.03	10	5.1	61.2	140.6
99	030507 1310 29.19	50.17	-30.06	10	5.2	79.9	23.1
100	030509 2026 15.98	-48.20	32.27	10	6.1	79.1	137.7
101	030516 0909 24.50	18.29	-101.26	68	5.0	53	317.9
102	030519 0021 36.43	-60.08	-26.90	33	5.5	46.4	153.5

	yymmdd:hhmm ssss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
103	030521 1851 10.30	36.97	03.81	10	5.6	89.4	49.2
104	030522 0314 03.85	37.08	03.63	10	5.4	89.4	49
105	030523 1105 11.92	05.67	-82.65	10	5.4	32.3	329.9
106	030527 1711 28.82	36.93	03.57	8	5.5	89.2	49.1
107	030612 0602 14.37	-22.72	-112.66	10	5.1	41.9	261.1
108	030613 1824 04.05	-04.58	-104.97	10	5.4	41	290.7
109	030621 0555 56.80	10.66	-59.36	10	5.0	34.3	13.4
110	030625 0138 42.17	28.82	-43.61	10	5.5	56.2	24.8
111	030625 0231 03.07	28.66	-43.63	10	5.0	56.1	24.8
112	030702 0511 34.83	22.90	-108.19	10	5.2	60.7	315.9
113	030719 1510 35.67	-41.96	-16.45	10	5.0	45.9	126.7
114	030721 2353 41.51	18.62	-101.03	61	5.0	53.1	318.4
115	030801 0137 13.79	-54.64	01.25	10	5.1	59	141
116	030804 0437 20.13	-60.53	-43.41	10	7.5	41	162.4
117	030804 0536 48.53	-60.57	-42.84	10	5.2	41.1	162.1
118	030804 0634 11.27	-60.54	-44.43	10	5.4	40.7	163.1
119	030804 0638 21.78	-60.64	-43.02	10	5.0	41.2	162.3
120	030804 1253 51.00	-60.51	-42.70	10	5.3	41.1	162
121	030813 0829 27.28	09.35	-79.94	54	5.0	34.6	337.1
122	030814 0841 31.68	-60.54	-43.89	10	5.3	40.8	162.7
123	030825 0628 35.18	14.03	-91.06	100	5.6	43.7	325.1
124	030825 2324 59.13	18.54	-106.69	10	5.3	56.6	313.5
125	030827 1440 42.15	43.74	-28.92	10	5.0	75	27.6
126	030828 0448 19.88	-49.81	-114.81	10	6.1	45.8	222
127	030904 2340 11.81	07.88	-82.20	10	5.3	34.1	332.4
128	030906 0208 13.81	-04.62	-106.04	10	5.8	41.9	289.9
129	030906 1546 59.92	-57.41	-25.63	33	5.3	45.5	149.9
130	030912 0817 37.57	-08.97	-108.77	10	5.1	42.3	282.3
131	030920 1738 34.10	-55.87	-27.90	116	5.5	43.6	149
132	030922 0445 36.24	19.77	-70.67	10	6.6	42.7	354.9
133	030923 1610 22.55	-22.96	-13.65	10	5.1	48.9	101
134	030930 0801 33.11	-60.31	-33.40	10	5.8	44	156.6
135	031005 0905 03.06	-19.93	-11.78	10	5.1	51.2	97.6
136	031009 2213 12.50	57.27	-33.45	10	5.2	84.8	17.5
137	031015 1148 49.33	19.52	-70.86	10	5.0	42.4	354.6
138	031020 1650 18.42	-58.09	-26.24	156	5.5	45.6	151
139	031022 0230 37.20	08.19	-102.94	10	5.2	46.9	307.2
140	031029 1954 19.30	-60.57	-25.29	33	5.4	47.3	153.5
141	031030 0600 45.07	-60.71	-25.15	10	5.5	47.5	153.6
142	031105 0057 24.90	11.19	-86.75	61	5.0	39.1	328.3
143	031109 1348 01.96	-59.51	-25.89	65	5.0	46.5	152.5
144	031112 0454 56.42	28.96	-113.21	10	5.4	68.2	317
145	031122 0229 05.83	19.60	-78.15	10	5.0	43.7	344.7
146	031219 2257 51.35	-03.77	-102.63	10	5.2	39.4	293.7
147	031222 1915 56.00	35.70	-121.10	7	6.4	77.6	317.5
148	031223 0558 37.19	-00.69	-20.33	10	5.3	50.4	70.6
149	031225 0711 11.59	08.41	-82.82	33	6.4	34.8	331.8
150	040101 2331 50.05	17.48	-101.30	29	5.7	52.4	317.2
151	040101 2358 01.55	17.42	-101.31	28	5.8	52.3	317.2
152	040107 1042 38.69	08.38	-82.69	36	5.1	34.8	332
153	040112 1414 30.13	05.61	-79.08	21	5.2	30.8	336
154	040117 2113 09.53	17.74	-95.50	110	5.1	49.1	323

Events used for S-wave tomography Altiplano 21 ° S

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
1	020616 0246 14.03	08.78	-83.99	35	6.2	35.7	330.3
2	020731 0016 44.61	07.92	-82.79	10	6.4	34.4	331.5
3	020804 1516 26.99	-35.45	-16.23	10	5.3	45.6	117.7
4	020807 2359 14.54	07.85	-82.89	10	5.6	34.4	331.3
5	021003 1608 29.62	23.32	-108.53	10	6.2	61.2	315.9
6	021109 0014 18.08	13.74	-91.18	33	5.6	43.5	324.7
7	021112 0146 48.94	-56.55	-27.53	120	6.2	44.2	149.6
8	021115 1958 31.78	-56.05	-36.40	10	6.6	40	153.6
9	021210 0128 33.67	-50.02	-114.12	10	5.7	45.5	221.5
10	021217 0432 53.07	-56.95	-24.82	10	6.3	45.6	149
11	021218 1412 21.75	-57.09	-24.98	10	6.0	45.6	149.3
12	030116 0053 15.72	44.28	-129.02	10	6.0	87.7	320.6
13	030121 0246 47.74	13.62	-90.77	24	6.3	43.2	325.1
14	030122 0206 34.61	18.77	-104.10	24	7.6	55.1	315.8
15	030312 2341 32.92	26.55	-110.58	10	6.5	64.8	317
16	030411 0612 54.58	07.03	-82.35	10	5.6	33.4	331.5
17	030417 1450 48.58	-54.62	01.43	10	6.0	59.1	140.9
18	030514 0603 35.86	18.26	-58.63	41	6.5	41.8	12
19	030519 1627 10.20	17.54	-105.47	10	5.8	55.1	313.6
20	030521 1844 20.10	36.96	03.63	12	6.9	89.3	49.1
21	030804 0437 20.13	-60.53	-43.41	10	7.5	41	162.4
22	030828 0448 19.88	-49.81	-114.81	10	6.1	45.8	222
23	030906 0208 13.81	-04.62	-106.04	10	5.8	41.9	289.9
24	030922 0445 36.24	19.77	-70.67	10	6.6	42.7	354.9
25	030930 0801 33.11	-60.31	-33.40	10	5.8	44	156.6
26	031109 1952 36.82	-00.67	-19.68	10	6.0	51	71
27	031221 0740 45.83	-00.76	-20.60	10	5.8	50.2	70.5
28	031222 1915 56.00	35.70	-121.10	7	6.4	77.6	317.5
29	031225 0711 11.59	08.41	-82.82	33	6.4	34.8	331.8
30	040101 2331 50.05	17.48	-101.30	29	5.7	52.4	317.2
31	040116 1807 55.66	07.64	-37.70	10	6.0	41.8	46.7

Puna profile along 25.5°S

Events used for P-wave tomography Puna 25.5° S

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
1	020831 0527 18.24	02.70	-84.37	23	5.7	30.7	324.2
2	020908 2303 45.29	-01.22	-14.63	10	5.3	55.2	74.6
3	020916 0749 02.34	-55.13	-129.43	10	5.0	55.7	218
4	020921 0212 50.79	18.52	-101.25	60	5.0	53.1	318.1
5	020921 0503 21.60	-55.58	-124.96	10	5.0	53.3	216.9
6	020925 1814 48.50	16.87	-100.11	5	5.2	51.2	317.8
7	020926 1255 29.78	-19.64	-12.01	10	5.3	51.1	97.2
8	020927 0704 58.10	17.16	-100.59	36	5.2	51.7	317.6
9	020928 0353 56.68	-53.26	-117.50	10	5.1	48.5	218.2
10	020929 0944 28.22	-33.40	-109.45	10	5.1	38.6	244.9
11	020929 1325 01.65	09.05	-84.13	23	5.1	36	330.3
12	021001 0700 58.99	18.81	-63.06	41	5.3	41.7	5.6
13	021003 1608 29.62	23.32	-108.53	10	5.4	61.2	315.9
14	021004 1237 16.35	-57.34	-26.29	150	5.1	45.2	150.1
15	021006 0118 35.80	58.47	-31.81	10	5.2	86.3	17.7
16	021007 0007 01.23	-59.25	-26.32	33	5.0	46.2	152.3
17	021011 1441 25.33	15.67	-95.69	33	5.2	47.6	321.2
18	021012 1448 36.14	-58.85	-14.19	33	5.0	51.6	148.1
19	021012 2028 42.59	-59.53	-25.96	33	5.3	46.5	152.5
20	021024 0608 37.98	-01.88	29.00	11	5.9	94.8	94.1
21	021028 0238 32.59	-33.90	-178.78	33	5.0	93.9	230.7
22	021103 0149 25.00	51.31	-131.12	10	5.6	92.9	325.6
23	021104 1000 47.15	17.49	-101.43	33	5.2	52.5	317.1
24	021105 1405 07.64	19.28	-104.78	10	5.1	55.9	315.7
25	021108 2320 41.77	16.33	-97.99	25	5.1	49.5	319.4
26	021109 0014 18.08	13.74	-91.18	33	5.4	43.5	324.7
27	021112 0146 48.94	-56.55	-27.53	120	6.0	44.2	149.6
28	021114 1530 29.07	-55.65	-35.63	10	5.1	40	152.7
29	021114 1553 33.81	16.32	-91.15	32	5.1	45.7	326.7
30	021115 1305 36.96	-55.71	-35.78	10	5.8	40	152.8
31	021115 1958 31.78	-56.05	-36.40	10	6.1	40	153.6
32	021116 1016 26.55	-55.77	-35.19	10	5.4	40.3	152.6
33	021117 0924 31.88	-55.66	-35.41	10	5.2	40.1	152.6
34	021120 1819 37.15	12.66	-88.19	51	5.1	41.1	327.5
35	021121 0253 14.97	12.37	-82.22	7	5.4	38.2	335.5
36	021127 1550 04.40	-55.83	-27.40	33	5.0	43.8	148.7
37	021130 0850 55.02	-32.85	-179.26	161	5.1	94.8	231.4
38	021201 0227 55.18	-35.14	179.98	33	5.6	94.2	229.1
39	021207 0824 14.55	-55.71	-35.44	10	5.0	40.1	152.6
40	021210 0309 40.11	17.88	-100.90	85	5.1	52.4	317.9
41	021210 1351 26.70	36.19	-07.47	10	5.0	81.4	44.8
42	021212 0416 02.19	-57.97	-25.18	33	5.0	46	150.4
43	021216 0946 32.18	-26.78	-107.20	10	5.0	36.6	255.6
44	021217 0432 53.07	-56.95	-24.82	10	5.4	45.6	149
45	021218 0147 07.03	-56.99	-25.20	10	5.1	45.5	149.2
46	021218 1412 21.75	-57.09	-24.98	10	5.5	45.6	149.3
47	021219 1417 37.59	-56.87	-24.99	10	5.0	45.5	149
48	021221 1850 54.76	18.35	-62.38	52	5.4	41.3	6.7
49	021226 0819 27.80	-58.23	-139.56	10	5.0	61.6	215
50	030104 1026 23.07	-35.51	179.95	157	5.0	94	228.8
51	030108 1429 10.31	06.03	-77.38	33	5.5	30.6	339.4

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
52	030109 1543 56.40	-60.01	-58.11	10	5.1	37.5	172.7
53	030110 0129 17.98	-33.24	-178.77	33	5.1	94.3	231.3
54	030110 0208 02.80	16.96	-100.30	29	5.1	51.4	317.7
55	030116 0053 15.72	44.28	-129.02	10	5.4	87.7	320.6
56	030116 0106 30.63	44.17	-129.26	10	5.1	87.8	320.4
57	030116 0225 05.07	44.28	-129.35	10	5.2	87.9	320.5
58	030116 0503 29.39	44.14	-129.18	10	5.1	87.7	320.4
59	030116 0652 04.44	44.16	-128.93	10	5.2	87.6	320.5
60	030118 0210 13.11	-35.84	179.26	114	5.0	94.3	228.2
61	030118 2037 41.37	35.08	-34.93	10	5.2	65.3	28.6
62	030119 0625 51.64	-55.78	-27.05	33	5.0	44	148.5
63	030121 0246 47.74	13.62	-90.77	24	5.5	43.2	325.1
64	030121 0706 53.20	13.56	-90.85	33	5.4	43.2	324.9
65	030122 0206 34.61	18.77	-104.10	24	6.5	55.1	315.8
66	030122 1941 38.51	18.82	-104.37	10	5.6	55.3	315.6
67	030127 1756 25.83	-46.04	35.05	10	5.6	81.7	136.5
68	030131 1832 28.58	10.30	-85.38	25	5.0	37.7	329.5
69	030201 1347 46.82	07.46	-81.81	10	5.1	33.6	332.7
70	030201 1630 57.00	16.55	-92.88	211	5.3	46.8	324.9
71	030201 1847 52.15	57.44	-33.34	10	5.3	85	17.5
72	030205 1901 11.09	13.77	-90.88	56	5.3	43.4	325.1
73	030207 0634 03.22	-56.28	-26.98	85	5.4	44.3	149.1
74	030208 0849 57.44	-39.78	45.10	10	5.5	91.1	134.4
75	030212 1143 54.09	-37.84	178.84	58	5.6	93.5	226.4
76	030213 0559 10.58	-06.72	-11.80	10	5.3	55.4	82.1
77	030213 0823 47.24	-12.91	-14.54	10	5.0	50.7	88.1
78	030214 1903 21.48	-61.53	-54.03	10	5.0	39.5	170.3
79	030214 2317 52.22	-54.47	05.74	10	5.4	61.6	140.7
80	030220 0548 18.66	-62.46	-160.56	10	5.0	71.5	209.3
81	030222 1137 45.91	-46.10	34.67	10	5.1	81.4	136.4
82	030222 1219 10.58	34.31	-116.84	1	5.0	74.1	318.9
83	030302 1307 19.67	-35.08	-178.80	46	5.3	93.3	229.7
84	030302 1642 56.33	-36.95	-20.87	10	5.6	41.9	120.2
85	030302 1758 03.33	-55.25	-28.00	33	5.3	43.2	148.3
86	030303 1954 08.60	-55.23	-27.93	33	5.0	43.3	148.2
87	030307 1223 10.27	00.85	-26.90	10	5.0	45.7	64.2
88	030309 1654 58.03	-33.35	-179.24	33	5.2	94.6	231
89	030312 2341 32.92	26.55	-110.58	10	5.5	64.8	317
90	030314 0255 45.33	-62.09	161.72	10	5.2	86.7	200.7
91	030317 0410 06.45	-58.20	-11.20	10	5.3	52.9	146.7
92	030321 0109 55.19	18.06	-68.12	97	5.1	40.8	358.4
93	030321 0123 50.87	-57.92	-25.16	33	5.0	46	150.3
94	030327 0744 20.45	18.16	-101.76	33	5.0	53.2	317.4
95	030402 0057 27.44	-14.63	-109.39	10	5.0	40.9	274.1
96	030402 0343 11.58	35.28	-35.72	10	5.5	65.1	27.9
97	030402 0804 02.54	25.02	-45.43	10	5.0	52.1	25
98	030411 0612 54.58	07.03	-82.35	10	5.6	33.4	331.5
99	030415 0252 15.47	-59.79	-26.21	50	5.1	46.5	152.9
100	030417 0346 42.97	-55.27	-128.91	10	5.0	55.5	217.8
101	030418 0835 53.66	-55.03	-128.69	10	5.0	55.3	218.1
102	030419 1143 51.13	-26.99	-113.15	10	5.0	41.8	254.7
103	030430 0047 08.81	-54.40	05.03	10	5.1	61.2	140.6
104	030507 1310 29.19	50.17	-30.06	10	5.2	79.9	23.1
105	030509 1424 26.24	-55.86	-27.43	33	5.0	43.8	148.8

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
106	030509 2026 15.98	-48.20	32.27	10	5.5	79.1	137.7
107	030512 0417 38.48	-56.98	-26.39	70	5.0	44.9	149.7
108	030514 0603 35.86	18.26	-58.63	41	6.5	41.8	12
109	030516 0909 24.50	18.29	-101.26	68	5.0	53	317.9
110	030519 0021 36.43	-60.08	-26.90	33	5.5	46.4	153.5
111	030519 1627 10.20	17.54	-105.47	10	5.6	55.1	313.6
112	030521 1844 20.10	36.96	03.63	12	6.5	89.3	49.1
113	030521 1851 10.30	36.97	03.81	10	5.7	89.4	49.2
114	030523 1105 11.92	05.67	-82.65	10	5.1	32.3	329.9
115	030527 1711 28.82	36.93	03.57	8	5.5	89.2	49.1
116	030604 1628 15.05	08.37	-103.06	10	5.0	47.1	307.3
117	030613 1824 04.05	-04.58	-104.97	10	5.2	41	290.7
118	030619 2058 07.64	-31.26	-178.33	52	5.3	95	233.2
119	030621 0555 56.80	10.66	-59.36	10	5.0	34.3	13.4
120	030702 0511 34.83	22.90	-108.19	10	5.1	60.7	315.9
121	030719 1313 48.27	61.96	-26.74	10	5.0	90.6	17.8
122	030721 2353 41.51	18.62	-101.03	61	5.0	53.1	318.4
123	030801 0137 13.79	-54.64	01.25	10	5.1	59	141
124	030804 0437 20.13	-60.53	-43.41	10	6.2	41	162.4
125	030804 0536 48.53	-60.57	-42.84	10	5.2	41.1	162.1
126	030804 0634 11.27	-60.54	-44.43	10	5.4	40.7	163.1
127	030804 0638 21.78	-60.64	-43.02	10	5.0	41.2	162.3
128	030804 1253 51.00	-60.51	-42.70	10	5.6	41.1	162
129	030811 0117 53.60	18.34	-106.03	10	5.1	56.1	313.9
130	030813 0829 27.28	09.35	-79.94	54	5.0	34.6	337.1
131	030819 0113 28.31	-32.93	-179.20	33	5.2	94.7	231.4
132	030825 0628 35.18	14.03	-91.06	100	5.4	43.7	325.1
133	030825 2324 59.13	18.54	-106.69	10	5.5	56.6	313.5
134	030827 1440 42.15	43.74	-28.92	10	5.1	75	27.6
135	030828 0448 19.88	-49.81	-114.81	10	5.4	45.8	222
136	030829 0941 37.23	-59.28	-24.87	10	5.2	46.8	151.8
137	030904 2340 11.81	07.88	-82.20	10	5.4	34.1	332.4
138	030906 0208 13.81	-04.62	-106.04	10	5.4	41.9	289.9
139	030906 1546 59.92	-57.41	-25.63	33	5.6	45.5	149.9
140	030912 0817 37.57	-08.97	-108.77	10	5.1	42.3	282.3
141	030920 1738 34.10	-55.87	-27.90	116	5.5	43.6	149
142	030922 0445 36.24	19.77	-70.67	10	6.2	42.7	354.9
143	030922 0530 17.80	19.91	-70.50	10	5.1	42.8	355.1
144	030923 1610 22.55	-22.96	-13.65	10	5.1	48.9	101
145	030930 0801 33.11	-60.31	-33.40	10	5.6	44	156.6
146	030930 1408 37.74	-30.43	-177.39	10	5.8	94.7	234.3
147	030930 1522 31.70	-30.49	-177.18	33	5.4	94.5	234.4
148	031005 0905 03.06	-19.93	-11.78	10	5.1	51.2	97.6
149	031015 1148 49.33	19.52	-70.86	10	5.0	42.4	354.6
150	031020 1650 18.42	-58.09	-26.24	156	5.4	45.6	151
151	031022 0230 37.20	08.19	-102.94	10	5.2	46.9	307.2
152	031029 1954 19.30	-60.57	-25.29	33	5.4	47.3	153.5
153	031030 0600 45.07	-60.71	-25.15	10	5.6	47.5	153.6
154	031105 0057 24.90	11.19	-86.75	61	5.0	39.1	328.3
155	031107 1819 07.49	-57.30	-25.01	33	5.0	45.7	149.5
156	031109 1348 01.96	-59.51	-25.89	65	5.0	46.5	152.5
157	031112 0454 56.42	28.96	-113.21	10	5.5	68.2	317
158	031122 0229 05.83	19.60	-78.15	10	5.0	43.7	344.7
159	031210 0942 25.41	-50.03	-114.88	10	5.1	45.9	221.7

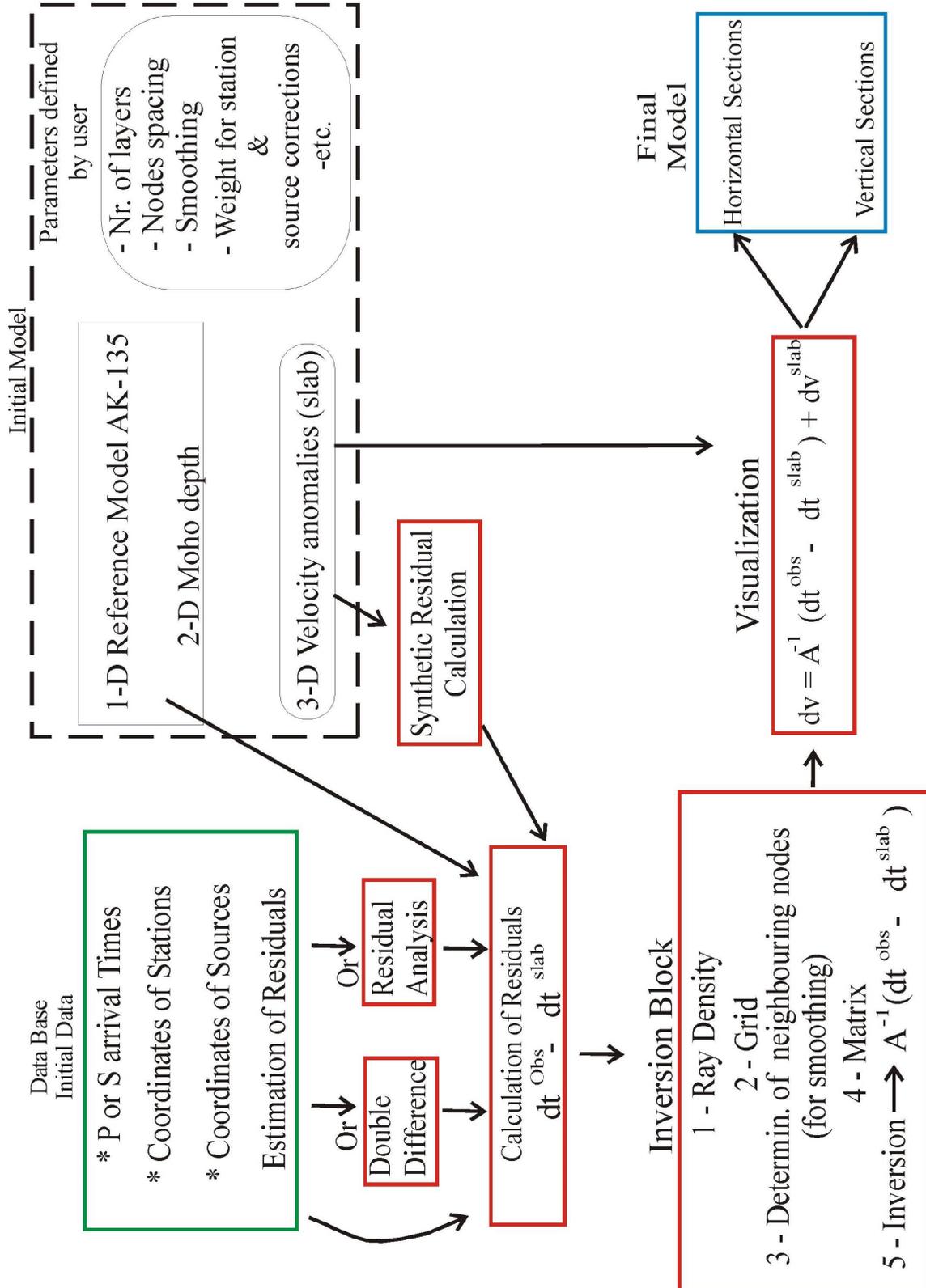
	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
160	031214 1437 37.99	-55.44	-01.83	10	5.3	57.3	142.1
161	031217 0421 05.26	-58.30	-139.75	10	5.0	61.7	214.9
162	031219 2257 51.35	-03.77	-102.63	10	5.2	39.4	293.7
163	031222 1915 56.00	35.70	-121.10	7	6.1	77.6	317.5
164	031223 0558 37.19	-00.69	-20.33	10	5.6	50.4	70.6
165	031223 1537 27.02	12.96	-88.28	86	5.1	41.4	327.6
166	031225 0711 11.59	08.41	-82.82	33	6.0	34.8	331.8
167	031225 1421 14.94	-34.95	-178.24	34	5.7	93	230.1
168	040101 2331 50.05	17.48	-101.30	29	5.6	52.4	317.2
169	040101 2358 01.55	17.42	-101.31	28	5.2	52.3	317.2
170	040107 0751 37.32	43.57	-110.38	3	5.0	77.3	329.2
171	040107 1042 38.69	08.38	-82.69	36	5.1	34.8	332
172	040112 1414 30.13	05.61	-79.08	21	5.2	30.8	336
173	040113 1950 19.15	16.06	-96.94	28	5.1	48.6	320.3
174	040113 2128 57.76	16.10	-96.93	28	5.5	48.7	320.3
175	040114 1838 54.18	-19.84	-125.24	10	5.2	54	261.6
176	040116 1807 55.66	07.64	-37.70	10	5.9	41.8	46.7
177	040117 2113 09.53	17.74	-95.50	110	5.1	49.1	323

Events for S-wave tomography Puna 25.5° S

	yymmdd:hhmm ss.ss	Lat. (°)	Lon. (°)	Depth(km)	mb	Δ(°)	BAZ (°)
1	021003 1608 29.62	23.32	-108.53	10	6.2	61.2	315.9
2	021109 0014 18.08	13.74	-91.18	33	5.6	43.5	324.7
3	021112 0146 48.94	-56.55	-27.53	120	6.2	44.2	149.6
4	021115 1958 31.78	-56.05	-36.40	10	6.6	40	153.6
5	021210 0128 33.67	-50.02	-114.12	10	5.7	45.5	221.5
6	021217 0432 53.07	-56.95	-24.82	10	6.3	45.6	149
7	021218 1412 21.75	-57.09	-24.98	10	6.0	45.6	149.3
8	030116 0053 15.72	44.28	-129.02	10	6.0	87.7	320.6
9	030121 0246 47.74	13.62	-90.77	24	5.5	43.2	325.1
10	030122 0206 34.61	18.77	-104.10	24	6.5	55.1	315.8
11	030127 1756 25.83	-46.04	35.05	10	5.6	81.7	136.5
12	030312 2341 32.92	26.55	-110.58	10	5.5	64.8	317
13	030411 0612 54.58	07.03	-82.35	10	5.6	33.4	331.5
14	030417 1450 48.58	-54.62	01.43	10	5.5	59.1	140.9
15	030514 0603 35.86	18.26	-58.63	41	6.5	41.8	12
16	030519 1627 10.20	17.54	-105.47	10	5.6	55.1	313.6
17	030521 1844 20.10	36.96	03.63	12	6.5	89.3	49.1
18	030804 0437 20.13	-60.53	-43.41	10	6.2	41	162.4
19	030828 0448 19.88	-49.81	-114.81	10	5.4	45.8	222
20	030906 0208 13.81	-04.62	-106.04	10	5.4	41.9	289.9
21	030922 0445 36.24	19.77	-70.67	10	6.2	42.7	354.9
22	030930 0801 33.11	-60.31	-33.40	10	5.6	44	156.6
23	030930 1408 37.74	-30.43	-177.39	10	5.8	94.7	234.3
24	031109 1952 36.82	-00.67	-19.68	10	5.5	51	71
25	031221 0740 45.83	-00.76	-20.60	10	5.5	50.2	70.5
26	031222 1915 56.00	35.70	-121.10	7	6.1	77.6	317.5
27	031225 0711 11.59	08.41	-82.82	33	6.0	34.8	331.8
28	040101 2331 50.05	17.48	-101.30	29	5.6	52.4	317.2
29	040116 1807 55.66	07.64	-37.70	10	5.9	41.8	46.7

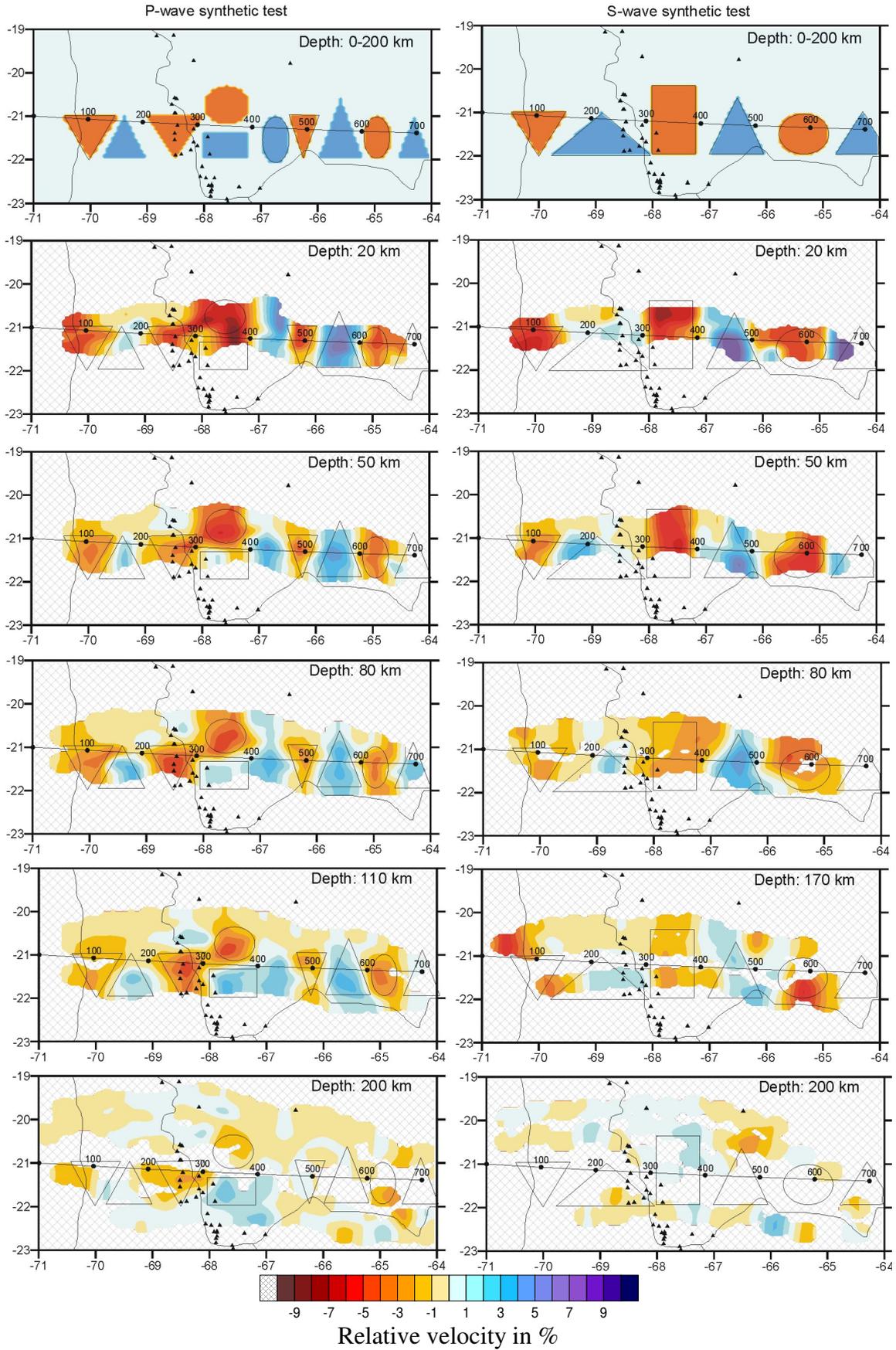
Flow Chart

(Green: data base; Red: Inversion algorithm; Blue: final model)



Appendix A.4. Altiplano

Altiplano 21°S - Horizontal Synthetic Tests

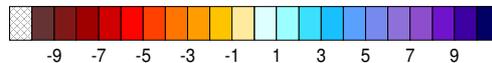
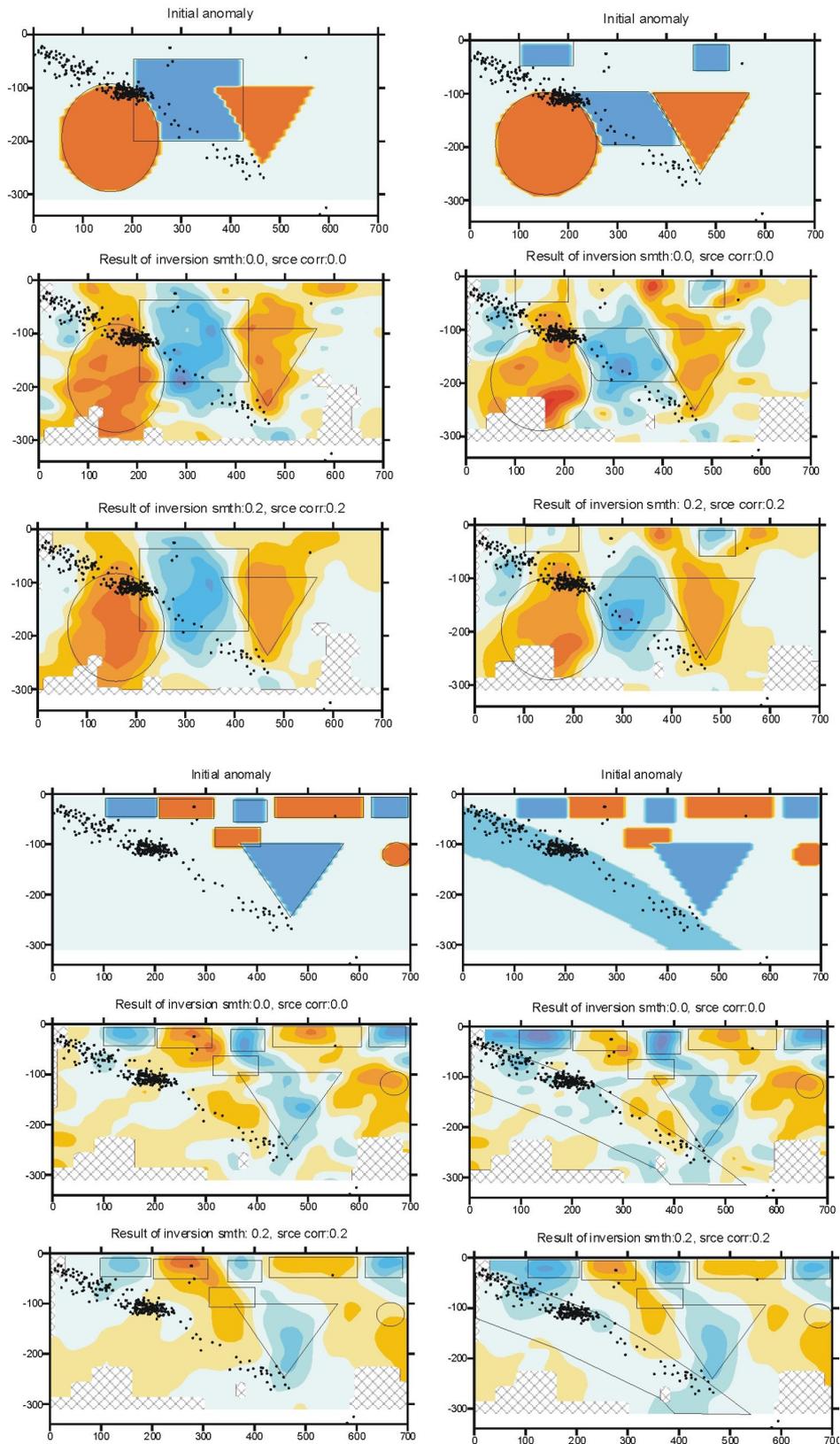


Appendix A.4. Altiplano

Altiplano ~21°S – Vertical tests

P- synthetic tests

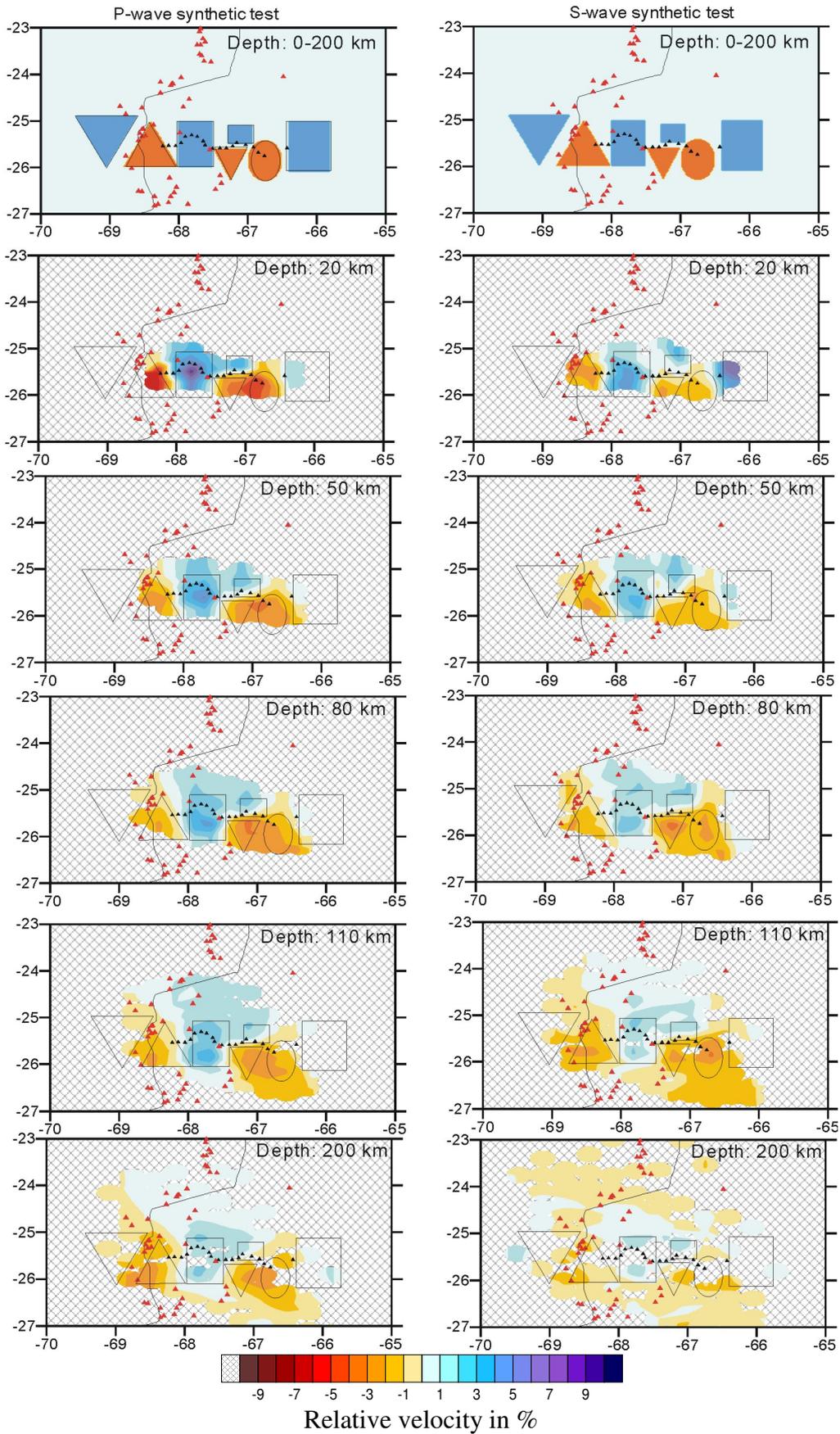
S- synthetic tests



Relative velocity in

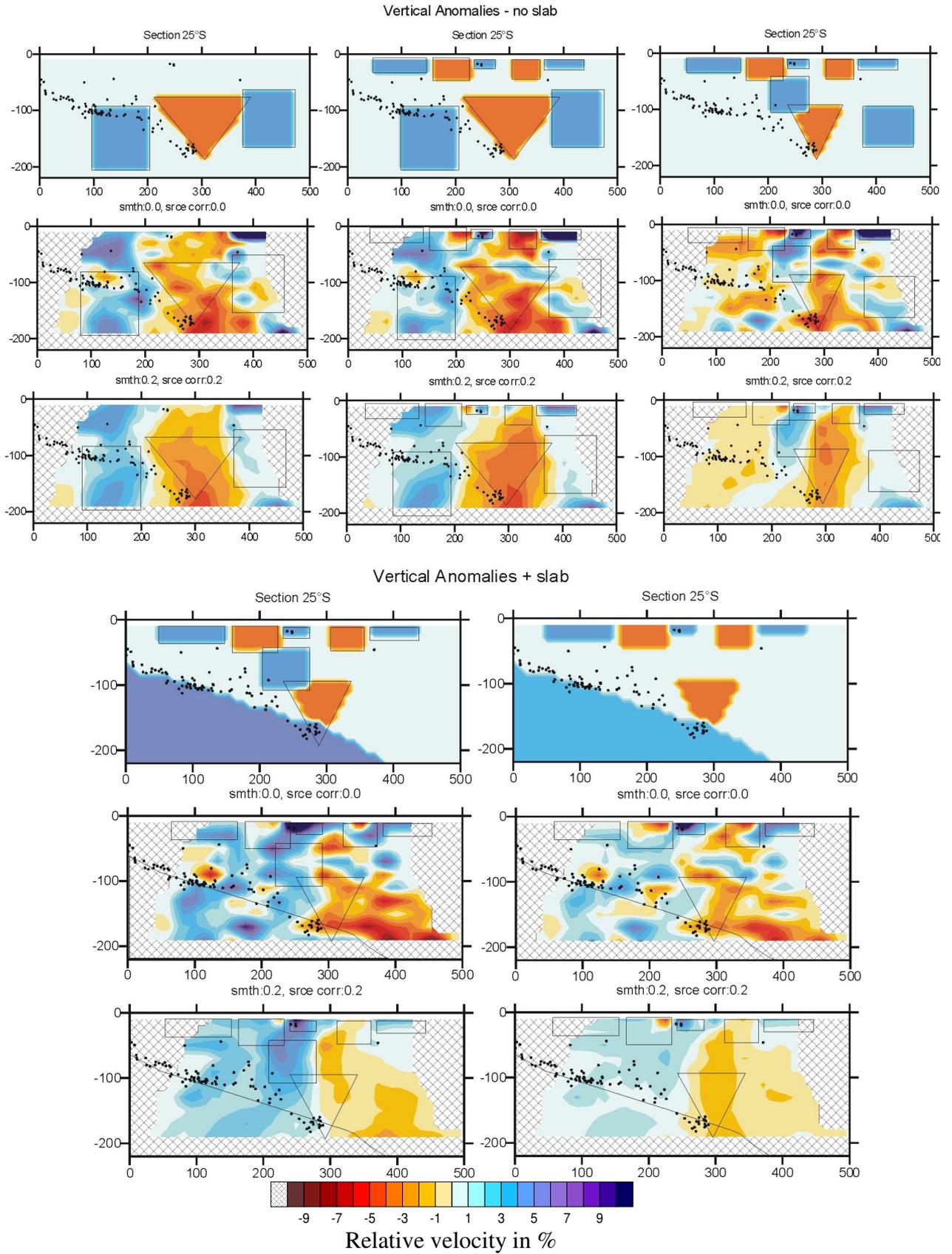
Appendix A.4. Puna

Puna ~25.5°S - Horizontal Synthetic Tests



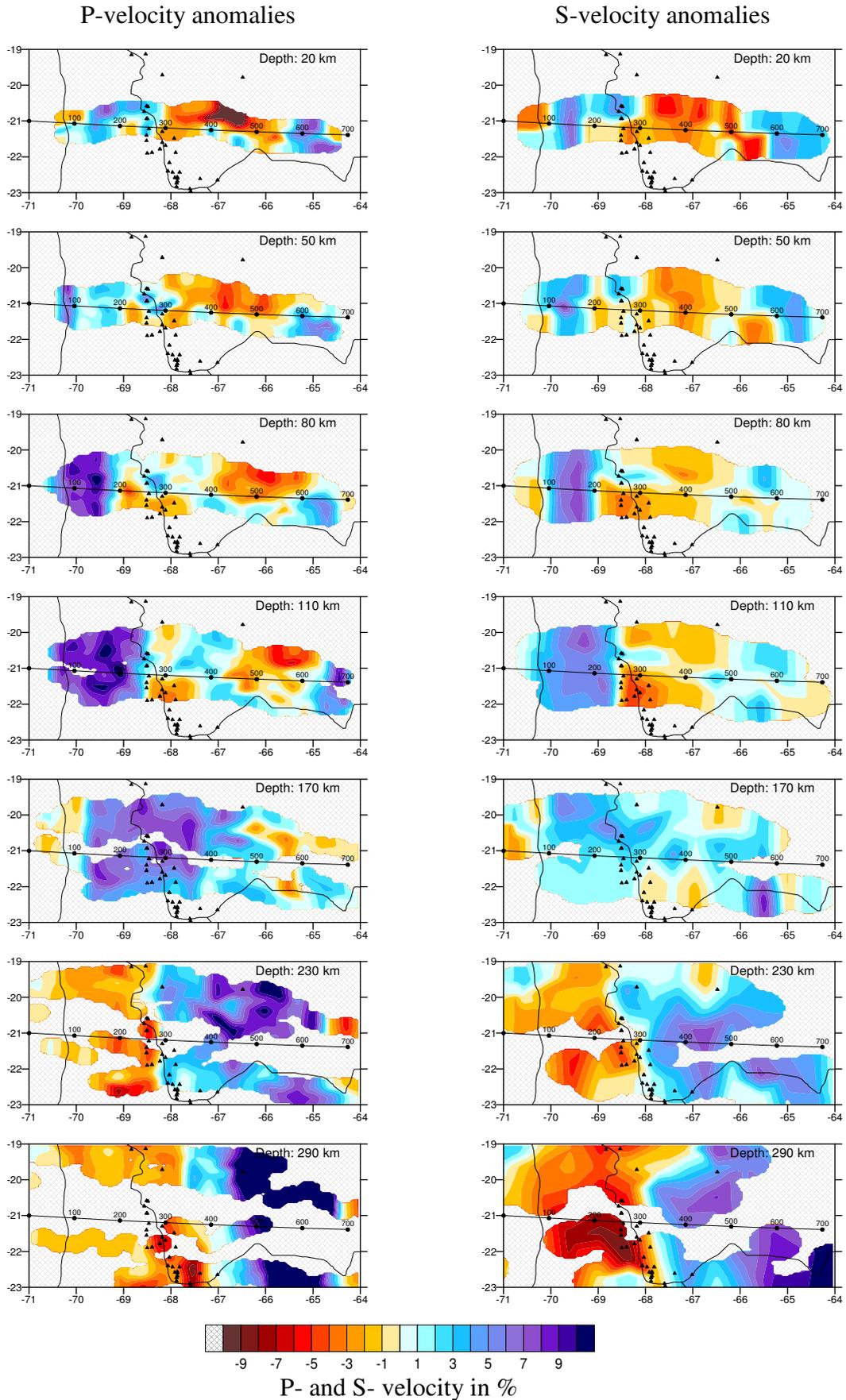
Appendix A.4. Puna

Puna ~25.5°S Vertical tests



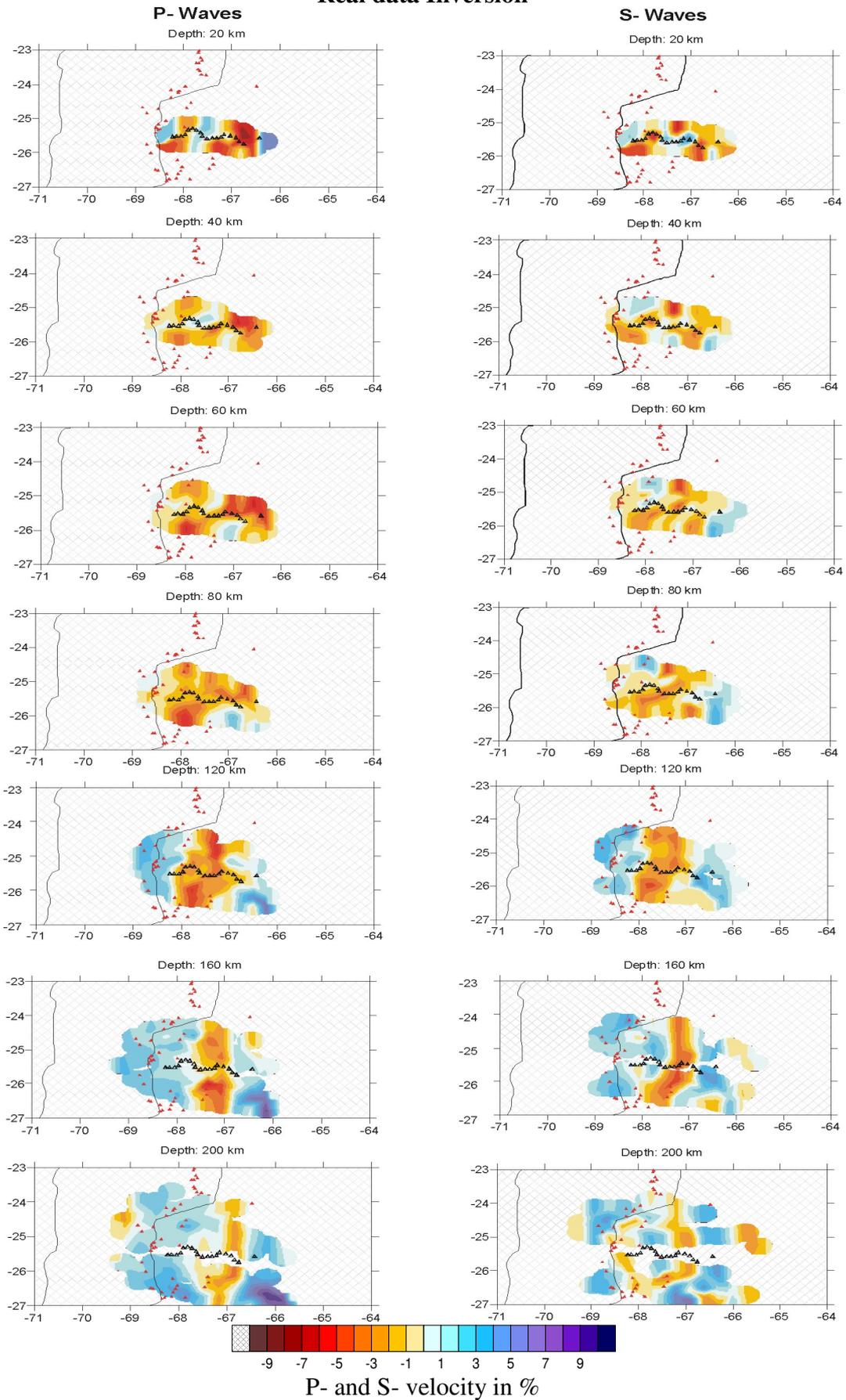
Appendix A.5. Altiplano

Horizontal Sections P- and S- waves Altiplano 21°S Real data Inversion



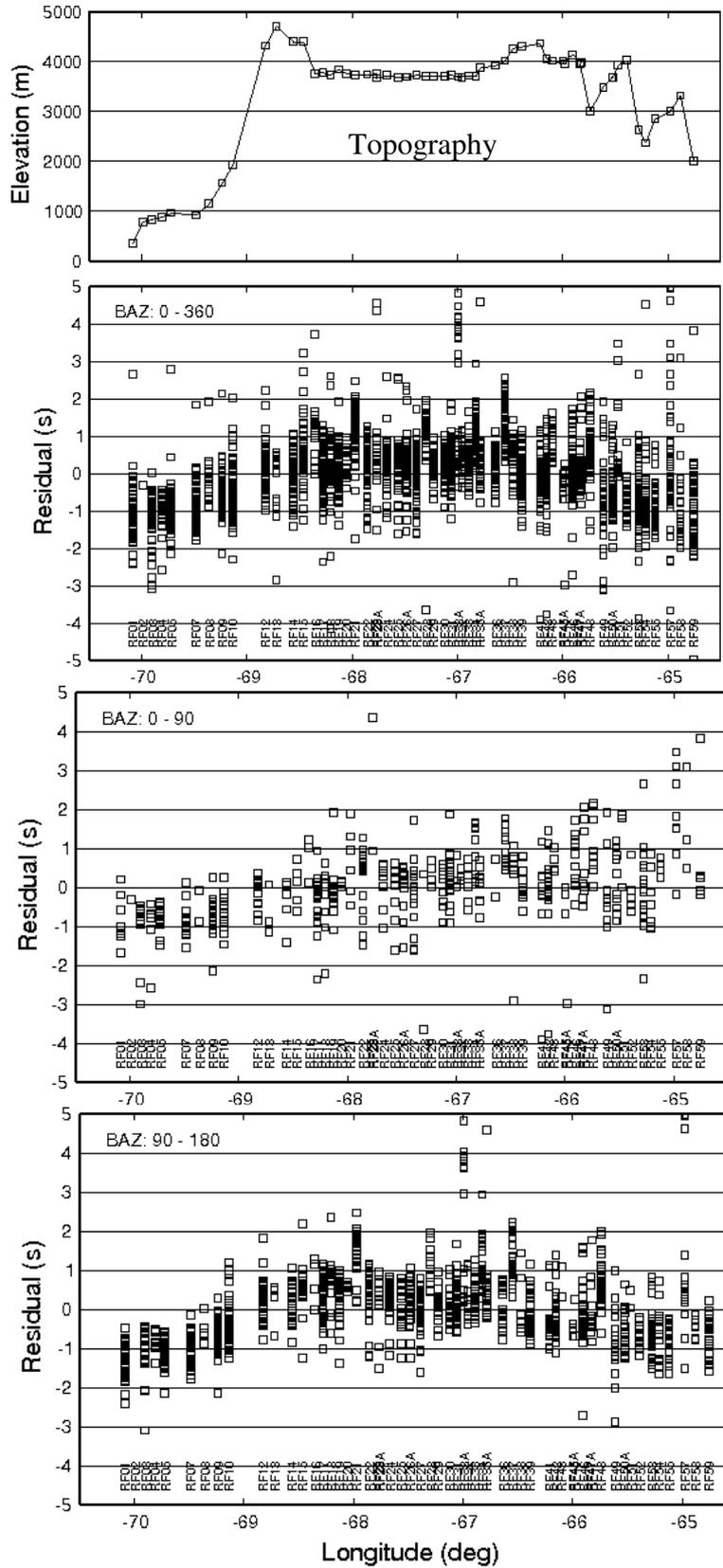
Appendix A.5. Puna

Horizontal Sections P- and S- waves Puna 25.5°S Real data Inversion



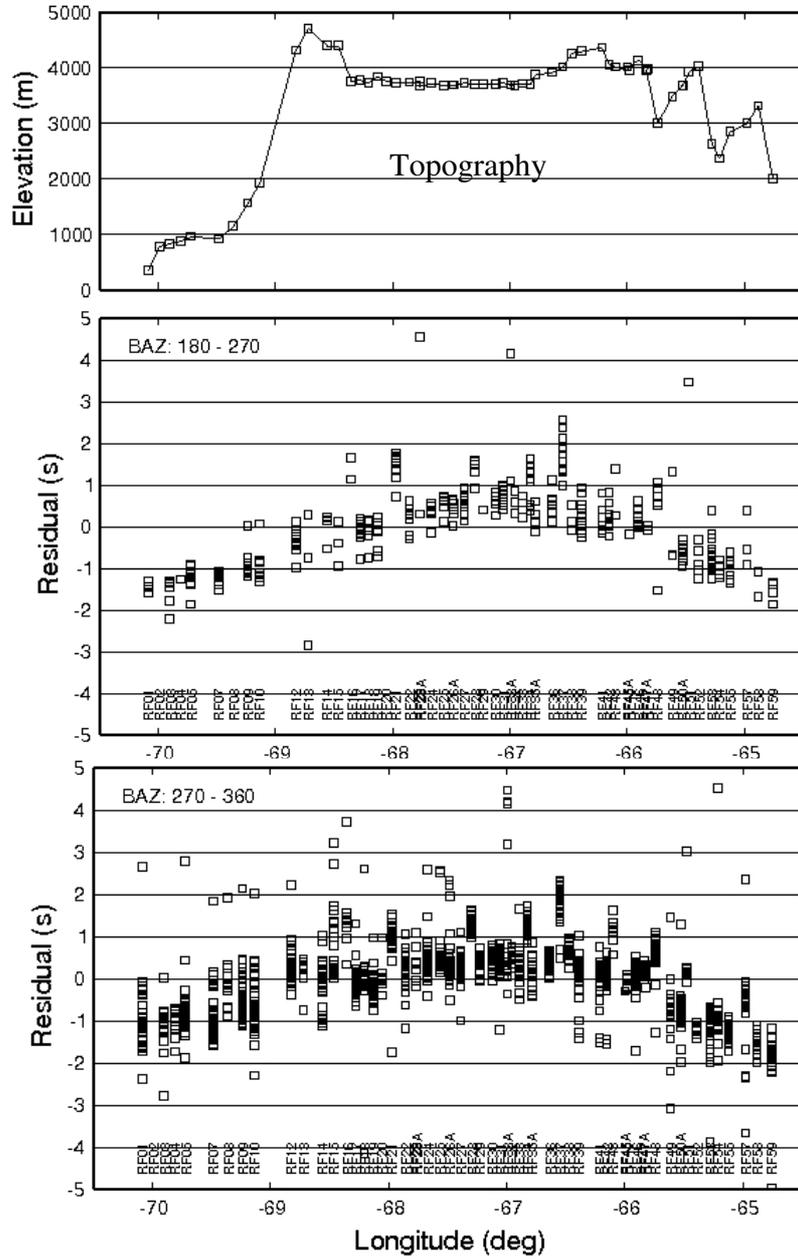
Appendix A.6. Altiplano

Distribution of P- wave residuals for different back azimuth (BAZ)
Altiplano (Chile – Bolivia) 21°S



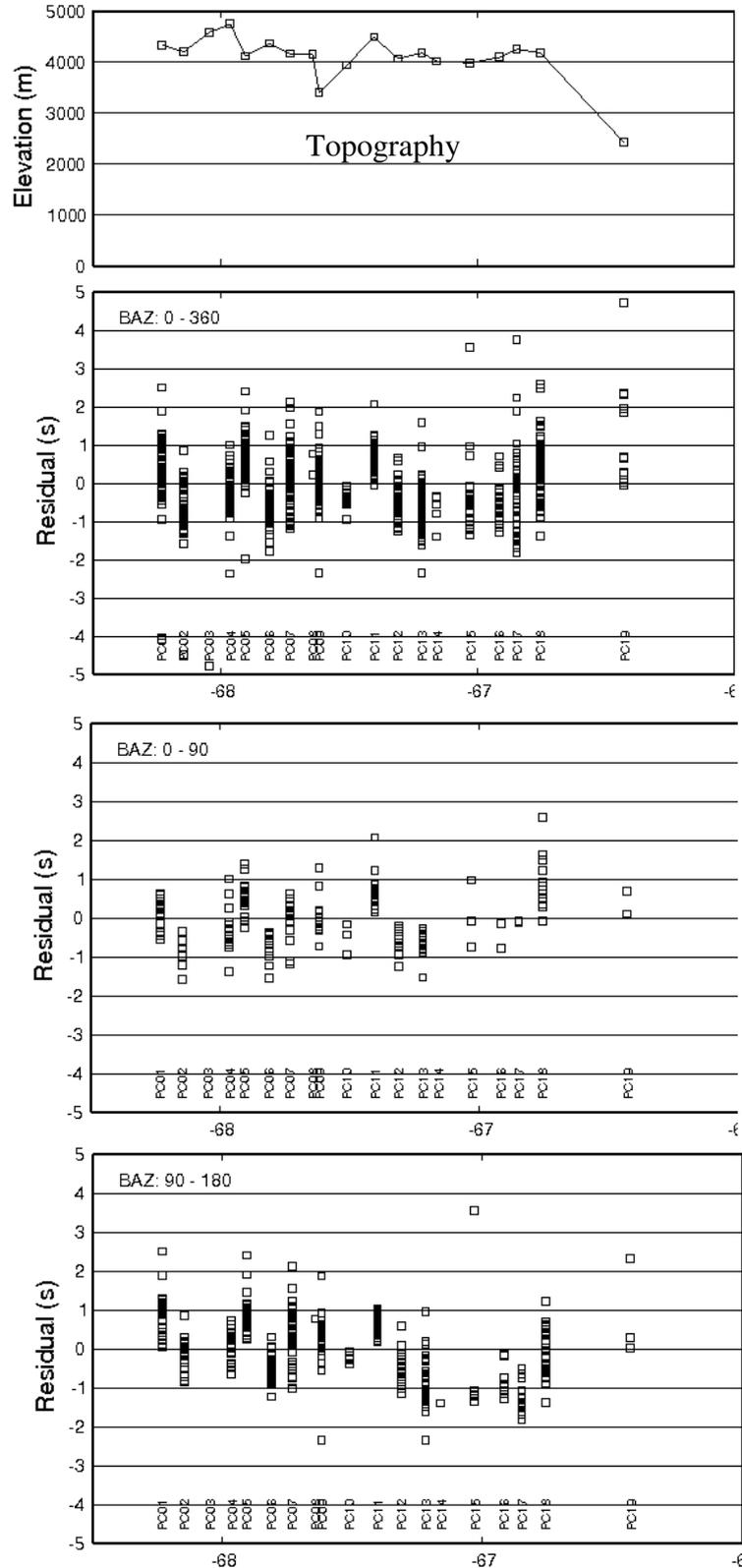
Appendix A.6. Altiplano

Distribution of P- wave residuals for different back azimuth (BAZ)
Altiplano (Chile – Bolivia) 21°S



Appendix A.6. Puna

Distribution of P- wave residuals for different back azimuth (BAZ) Argentine Puna 25.5°S



Appendix A.6. Puna

Distribution of P- wave residuals for different back azimuth (BAZ)
Argentine Puna 25.5°S

