

Data Repository Item

Mapping Stress and Structurally-Controlled Crustal Shear Velocity Anisotropy in California

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TABLE DR1: RESULTS OF SHEAR WAVE SPLITTING ANALYSIS

Station Location		Mean fast azimuth	Azimuth S. D.	Mean delay (ms/km)	Total num. earthquakes	Num. quality measurements
Lon	Lat	(deg)	(deg)			
-122.81	38.82	24	13	4.86	37	42
-122.76	38.77	41	16	3.72	18	21
-122.24	37.40	141	4	14.38	24	24
-122.18	37.40	37	5	5.15	23	23
-121.45	36.76	148	9	13.01	63	68
-121.29	37.01	25	6	4.12	15	17
-120.55	35.96	42	13	6.63	57	374
-120.53	35.92	5	3	4.15	439	622
-120.50	35.96	147	6	12.01	241	373
-120.49	35.91	139	8	10.96	38	132
-120.48	36.00	22	3	3.46	54	96
-120.43	35.94	40	7	2.71	111	165
-120.42	35.90	173	18	5.82	146	257
-119.42	35.15	23	9	4.84	3	3
-119.27	34.51	50	18	7.85	2	6
-119.14	34.44	51	9	7.54	16	22
-119.10	35.34	179	11	4.08	85	116
-119.03	35.06	10	15	3.01	49	65
-119.02	36.68	41	17	4.75	3	4
-118.87	34.81	137	3	3.06	15	16
-118.72	34.61	165	17	6.30	376	511
-118.57	34.68	98	19	24.30	31	77
-118.49	34.31	65	20	5.34	18	89
-118.46	34.11	36	14	5.84	38	103
-118.45	34.42	49	16	6.51	146	204
-118.44	33.96	29	8	5.79	10	24
-118.38	34.00	11	12	3.96	122	438
-118.34	34.99	46	17	3.12	2	2
-118.33	34.25	96	6	8.35	38	47
-118.22	33.90	37	16	3.97	15	19
-118.18	33.88	35	5	4.93	9	23
	34.15	19	20	4.30	154	209

— Table DR1 cont.

Table DR1 cont.		41	18	6.03	14	40
-118.12	34.10	25	7	7.16	2	13
-117.98	34.69	29	2	1.48	3	5
-117.82	34.06	6	8	6.19	9	36
-117.81	34.38	118	5	10.84	39	71
-117.68	34.24	35	11	7.80	10	12
-117.66	34.12	11	15	6.61	11	27
-117.64	35.82	36	7	4.17	67	82
-117.60	33.99	10	4	5.82	103	148
-117.38	34.37	26	20	1.56	2	2
-117.37	34.56	25	19	3.62	4	48
-117.33	33.58	12	8	1.40	17	19
-117.26	34.11	102	20	7.63	49	76
-117.10	33.92	169	15	4.70	376	511
-116.98	34.26	178	15	6.60	308	466
-116.92	33.35	17	8	5.96	361	515
-116.86	33.83	39	6	3.26	122	438
-116.80	33.71	177	15	6.18	74	100
-116.71	33.57	170	7	3.03	101	271
-116.67	33.49	34	11	2.50	40	147
-116.60	33.09	22	17	5.90	181	302
-116.60	33.94	10	17	1.83	93	122
-116.58	33.35	47	12	6.19	5	14
-116.56	34.07	27	15	5.38	54	117
-116.39	33.66	39	15	4.68	2	12
-115.99	33.28	24	12	2.79	302	391
-115.99	33.12	11	17	6.19	3	6
-115.82	32.76	133	13	14.96	138	224
-115.73	33.18	121	18	5.52	321	400
-115.62	32.80	39	10	3.26	40	83
-115.45						

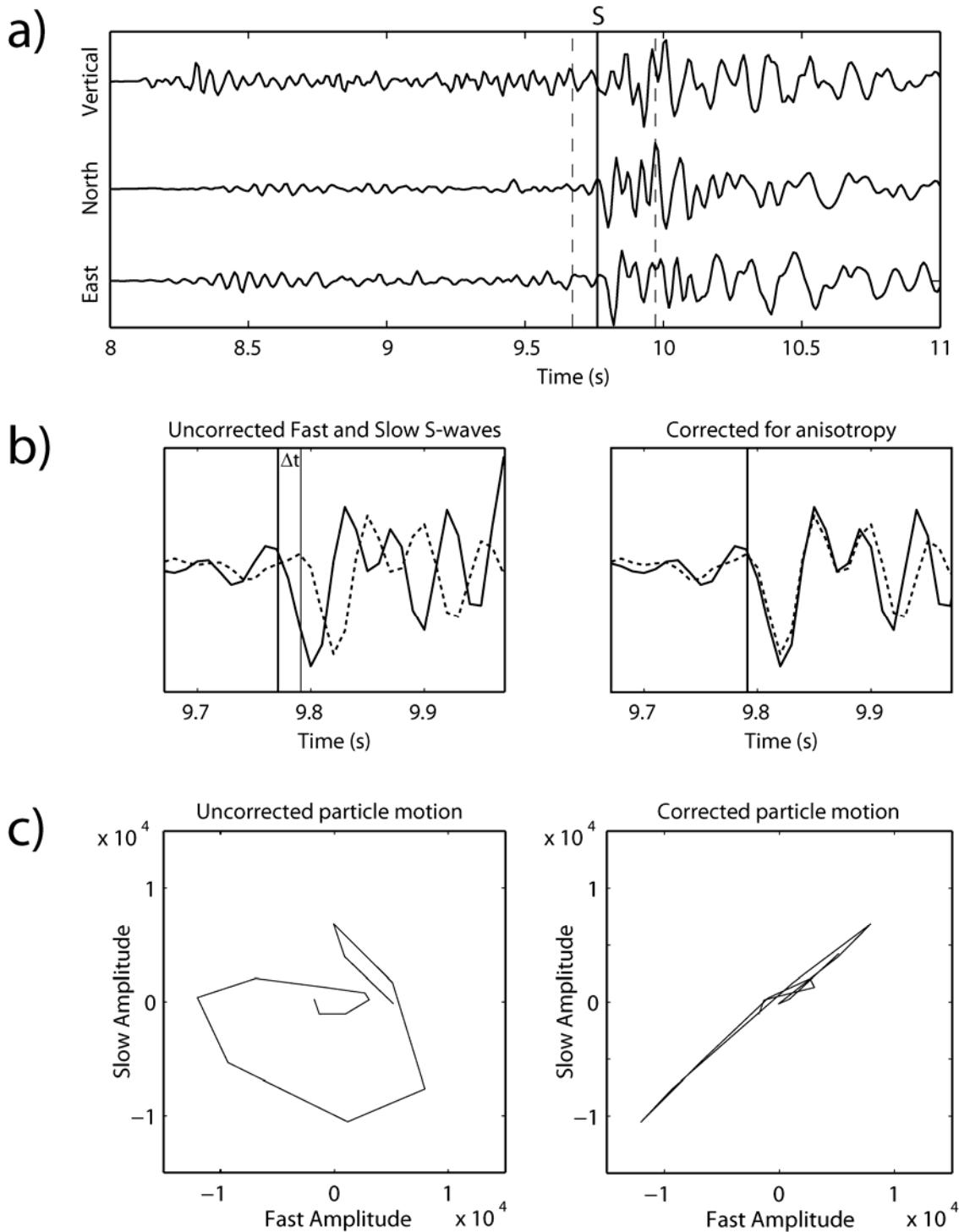


Figure DR1. Illustration of shear wave splitting procedure and data for the station showing stress-induced anisotropy in Figure 3a and depicted by a white circle on Figure 2. a) Filtered three component seismogram showing S arrival and the 0.3s time window used in this analysis. b) Windowed horizontal seismograms rotated into the fast and slow polarization azimuths before and after correcting for the anisotropy shown as Δt . c) Particle motion plots for the windowed fast and slow horizontal components before and after correcting for the anisotropy.

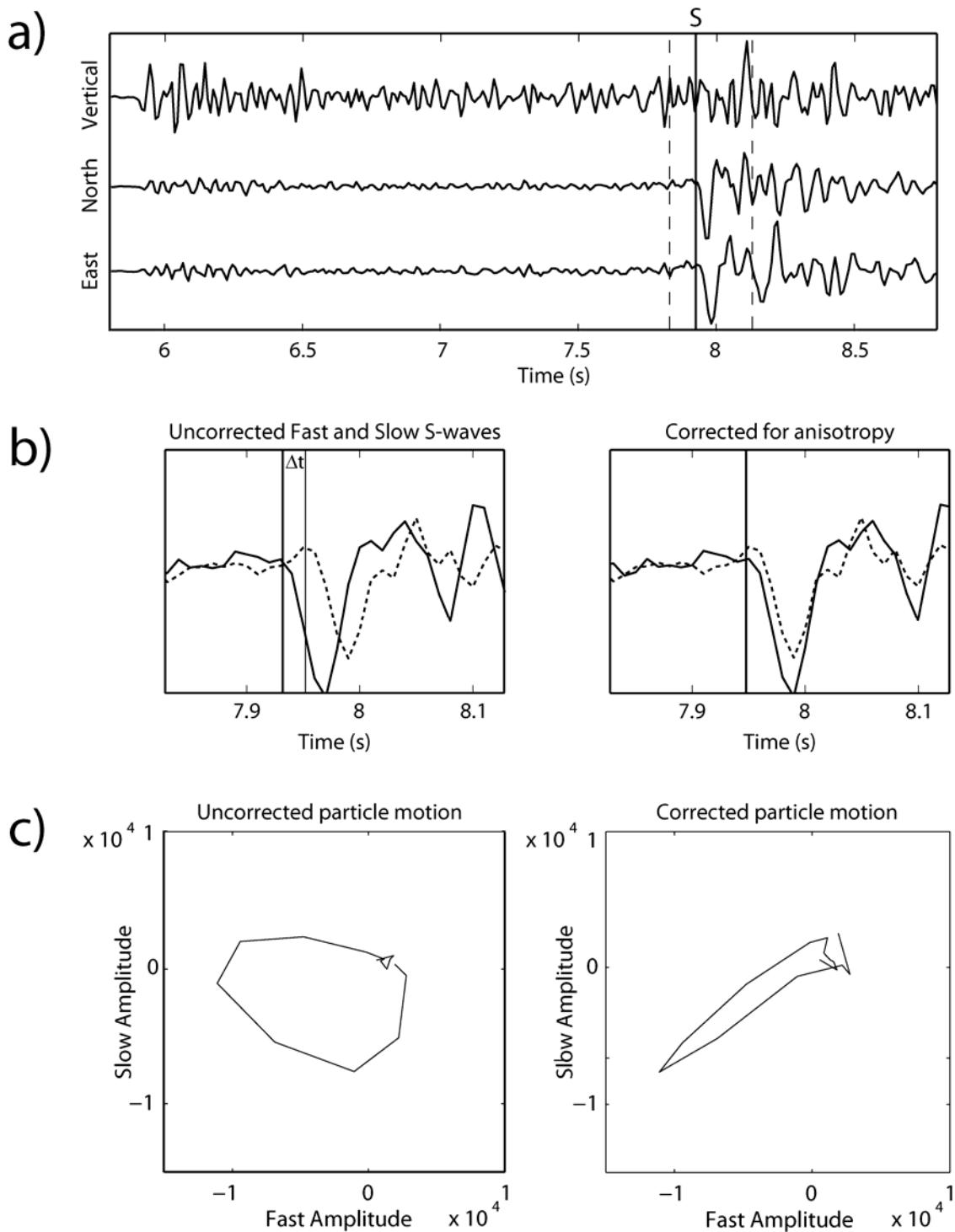


Figure DR2. Illustration of shear wave splitting procedure and data for the station showing structural anisotropy in Figure 3b and depicted by a white circle on Figure 2. a) Filtered three component seismogram showing S arrival and the 0.3s time window used in this analysis. b) Windowed horizontal seismograms rotated into the fast and slow polarization azimuths before and after correcting for the anisotropy shown as Δt . c) Particle motion plots for the windowed fast and slow horizontal components before and after correcting for the anisotropy.

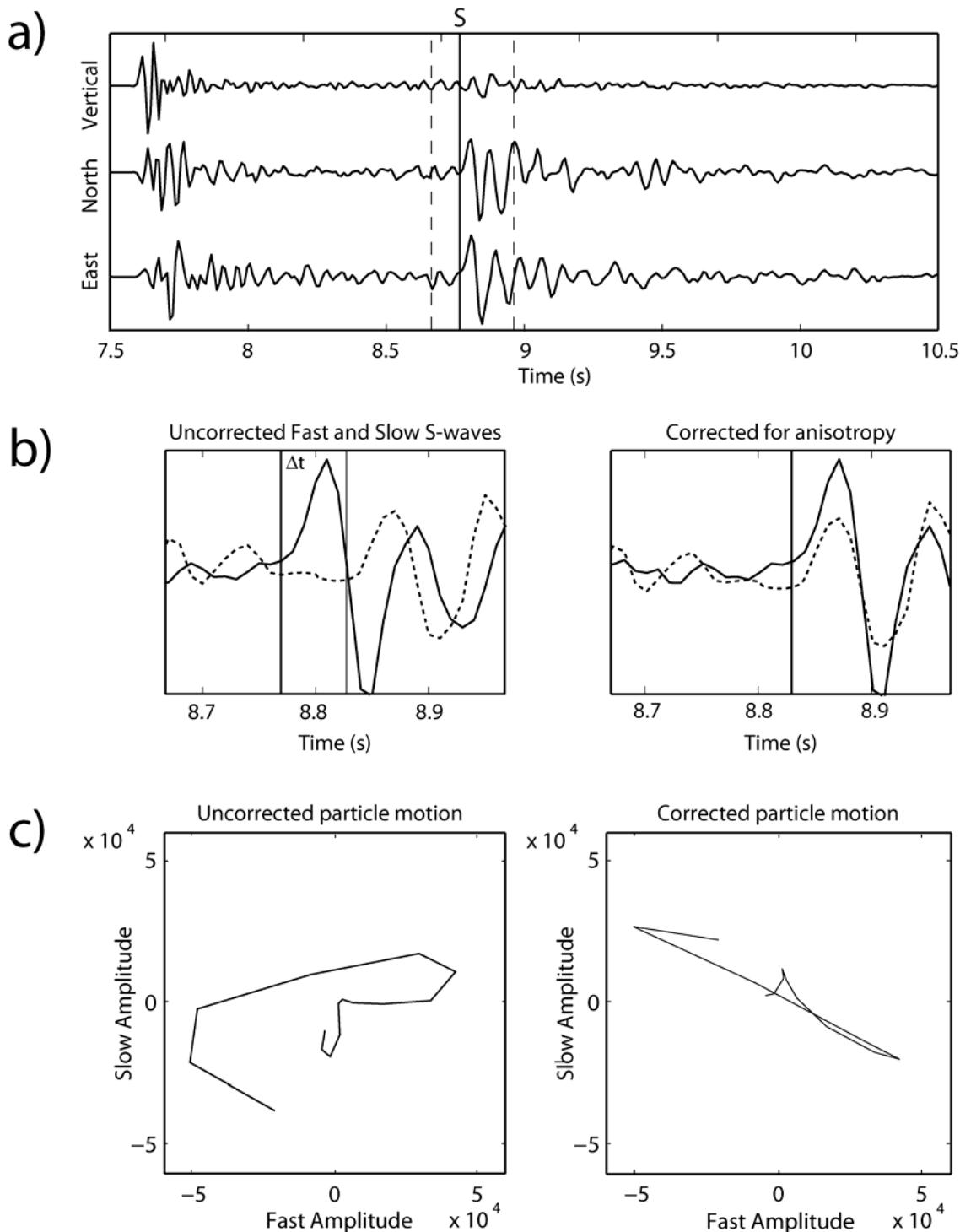


Figure DR3. Illustration of shear wave splitting procedure and data for the station showing a range of fast azimuths indicating a mix of stress and structural anisotropy in Figure 3c and depicted by a white diamond on Figure 2. a) Filtered three component seismogram showing S arrival and the 0.3s time window used in this analysis. b) Windowed horizontal seismograms rotated into the fast and slow polarization azimuths before and after correcting for the anisotropy shown as Δt . c) Particle motion plots for the windowed fast and slow horizontal components before and after correcting for the anisotropy.