Supplementary materials

Mantle anisotropy in NW Namibia from XKS splitting: asthenospheric flow, magmatic underplating, and lithospheric shearing

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The Supplementary materials include three figures (S1-S3) and one table (S1).

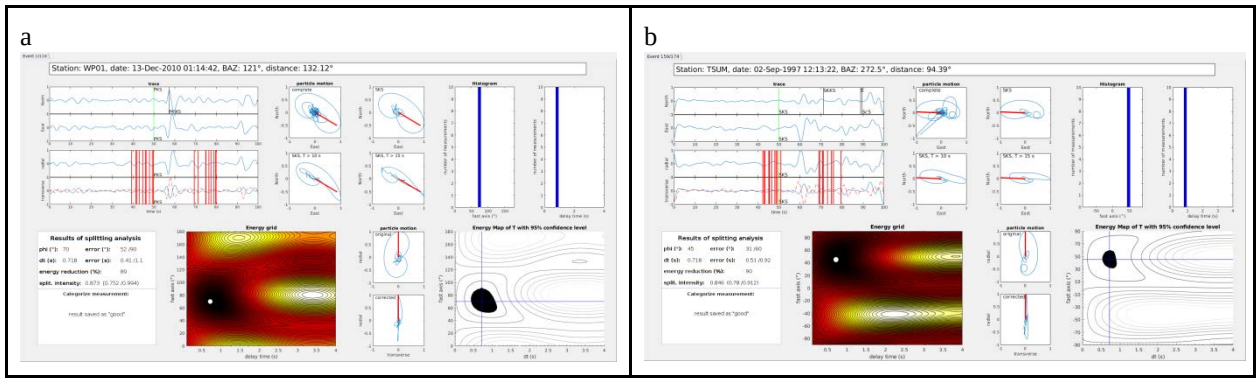

Figure S1. Examples of single measurements that are categorized as a) average and b) good.

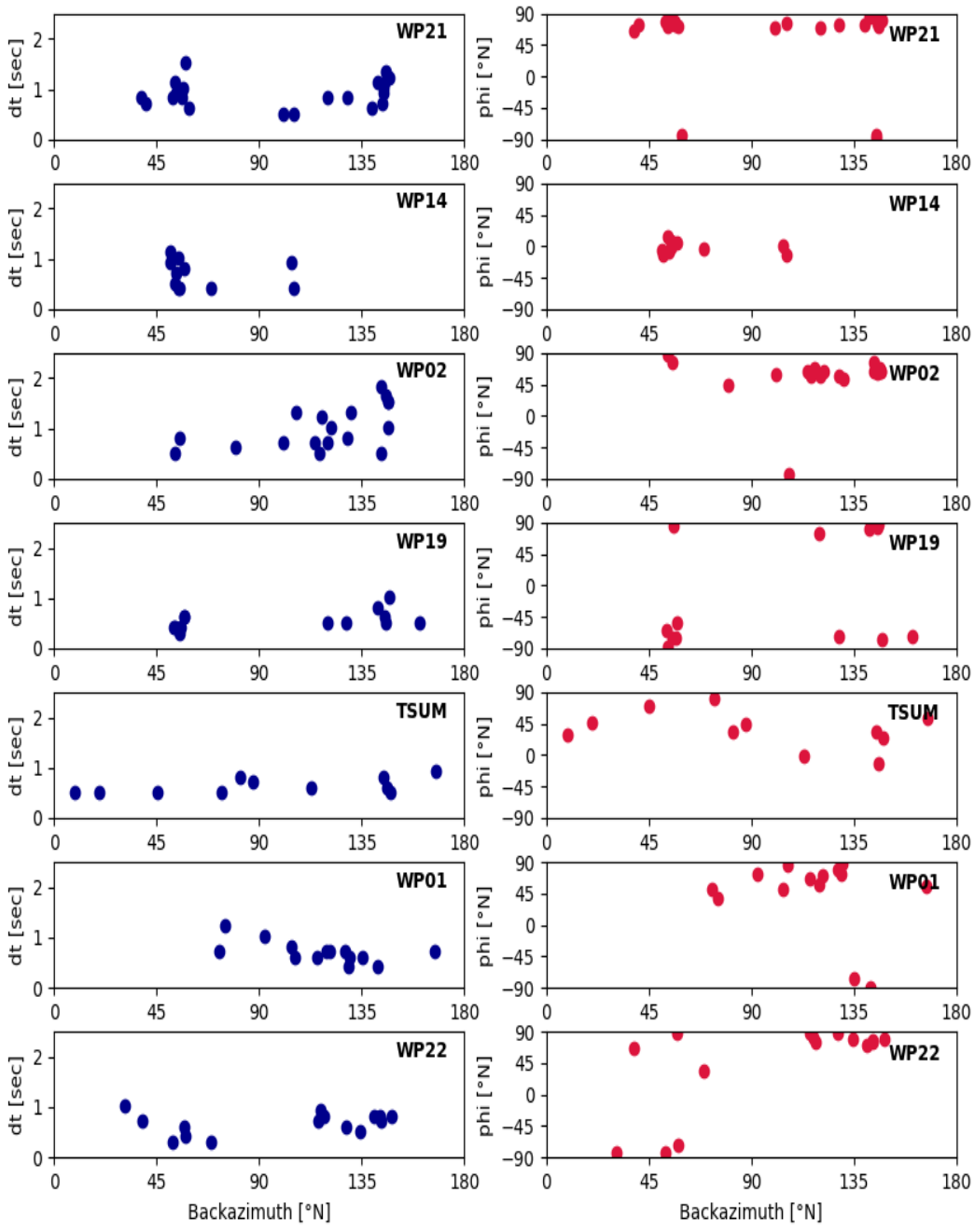

Figure S2. Anisotropy parameters (delay time, dt and fast polarization direction, phi) as a function of the event backazimuths at stations with at least 10 good and average measurements.

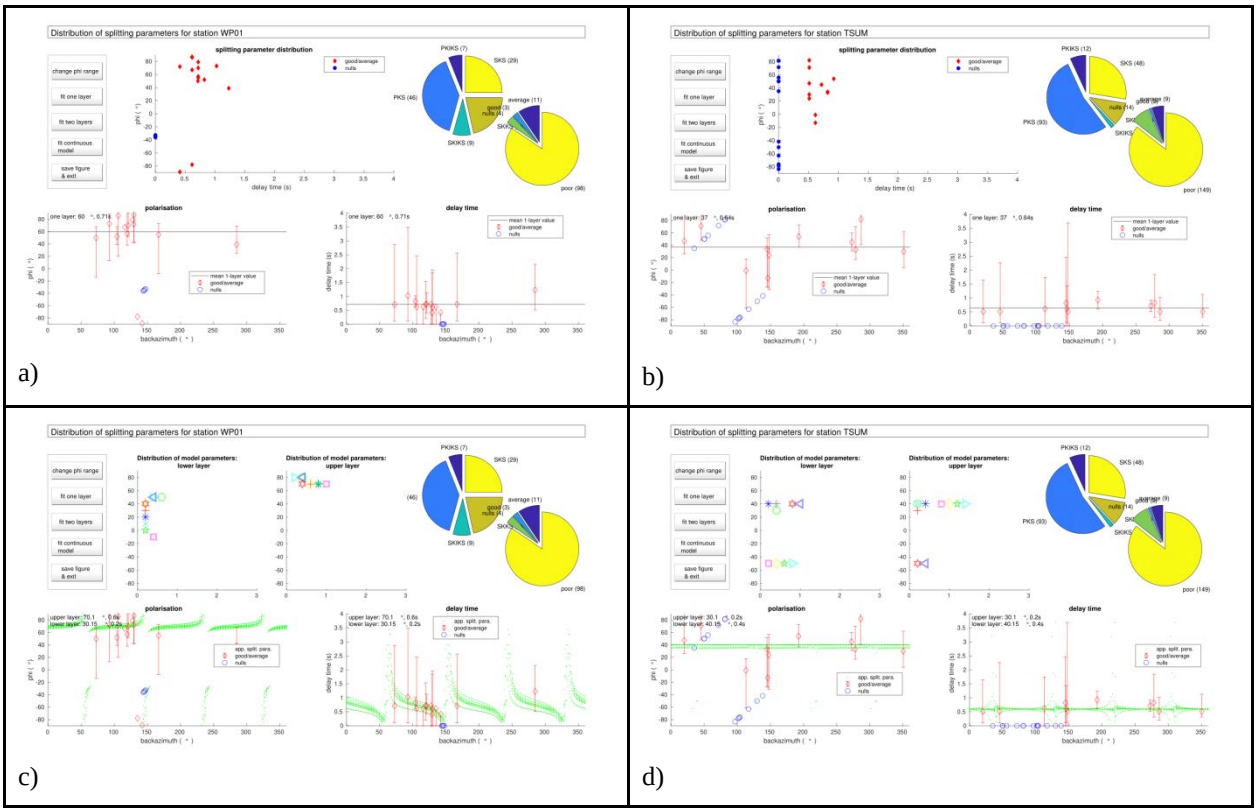

Figure S3. Examples of the inversion of single splitting parameters for 1-layer (a and b) and 2-layer (c and d) models at stations WP01 and TSUM. As can be seen from these examples, there is not sufficient azimuthal coverage to fit the data to a 2-layer model. At station TSUM, with relatively sufficient azimuthal coverage, the data does not fit to the 2-layer model. Figures were created using the SplitRacer program.

Station	Lat	Lon	phi	dt	N good or average	N nulls	N poors
WPO09	-21.8	9	68	3.6	0	2	18
WPO10	-21.31	10.23	-	-	0	0	19
WPO12	-19	8	19	0.6	4	0	22
WPO11	-18.78	9.39	4	0.7	1	0	23
WPO01	-21.6	11.66	65	4	2	1	50
WPO05	-17.75	9.9	-82	0.4	1	2	20
WPO02	-20.73	11.21	-45	0.9	2	1	14
WPO06	-18.1	11	37	0.6	5	0	29
WPO03	-19.89	10.79	-	-	0	0	18
WPO07	-19.92	9.77	-55	1.2	2	0	7
WPO04	-18.88	10.3	64	0.8	2	0	17
WPO08	-20.39	8.56	-56	1.7	1	1	13
WP08	-19.87	12.98	56	0.3	2	5	48
WP09	-19.11	12.59	74	0.1	2	6	57
WP20	-18.69	14.95	-85	0.3	4	7	80
WP18	-19.18	15.88	49	0.2	1	9	62
WP04	-21.23	14.9	53	0.5	11	4	103
WP19	-19.04	14.48	-82	0.5	13	0	52
WP05	-20.54	14.46	63	0.6	11	7	149
WP06	-20.21	15.01	69	0.8	8	1	60
WP07	-20.36	13.52	41	0.5	8	4	82
WP14	-17.22	12.43	-3	0.7	11	4	75
WP15	-17	13.24	-30	0.4	3	1	87
WP01	-21.35	15.44	62	0.7	16	4	96
WP16	-17.33	13.84	57	0.5	2	2	41
WP02	-21.3	14.48	67	0.7	18	3	95
WP17	-18.78	12.93	-40	0.2	0	4	26
WP03	-21.02	14.68	58	0.6	7	3	72
WP10	-18.75	12.37	-65	0.5	7	2	68
WP25	-18.56	13.68	52	1.4	1	0	37
WP11	-18.08	13.88	43	1	5	1	83
WP26	-18.23	13.27	78	0.5	3	4	33
WP12	-17.87	13.03	64	0.3	2	5	57
WP27	-17.43	13.27	-54	0.2	0	0	1
WP13	-18.16	12.56	-1	0.2	1	4	63
WP28	-17.81	12.33	6	0.8	3	1	29
WP21	-19.62	14.85	82	0.8	21	1	59
WP22	-19.88	13.95	80	0.7	15	1	55
WP23	-19.12	13.61	38	0.1	2	5	58
WP24	-19.33	13.16	-83	1.1	1	1	37

Table S1. Splitting Parameters obtained by joint analysis at each station.