Solid Earth Discuss.,
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Solid Earth
Discussions

Interactive comment on "Permian plume beneath Tarim from receiver functions" *by* Lev Vinnik et al.

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Your response to "Expand on evidence used for "partial melt" and alternatives. Not all low velocity mantle anomalies are partial melt." was not satisfactory in my opinion. Melt may be the explanation often adopted by authors, but other explanations have been discussed in the literature (e.g. Jasbinsek et al 2010; Tauzin et al, 2010). It would be good to discuss these other options and why you dismiss them. For instance, could seismic anisotropy provide an explanation? accumulated oceanic crust? CO2? etc... References to Jasbinsek et al. 2010 and Tauzin et al. 2010 are wrong. These papers do not suggest any plausible alternative to melting atop the 410-km discontinuity. Jasbinsek et al proposed anisotropy and oceanic crust but dismissed them in the same paper after a short discussion. Why should we dismiss these strange ideas if they are already dismissed by their authors? This is beyond understanding. Moreover this is beyond the scope of our paper.

The reviewer suggested you add an event coverage figure. You added Table 1 instead, but I believe a figure displaying the numbers of Table 1 would be beneficial. This was also suggested by Reviewer 2. We have removed the Table and replaced it by a new Figure 3.

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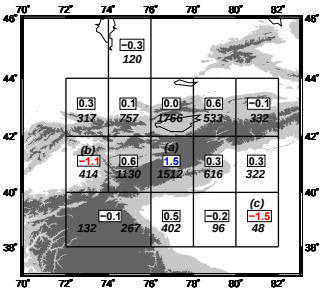
70°
72°
74°
76°
78°
80°
82°
46°
44°
42°
40°
38°
−0.3
120
0.3
317
0.1
757
0.0
1766
0.6
533
−0.1
332
(b)
−1.1
414
0.6
1130
(a)
1.5
1512
0.3
616
0.3
322
−0.1
132
267
0.5
402
−0.2
96
(c)
−1.5
48

Fig. 1.