



Figure 5. Synthetic receiver functions computed in a hypothetical velocity structure to illustrate features we may expect in the data from the OBS deployment. Vertical profile of SV velocity (right panel, bold line) is modified from the Pacific lithosphere model of Gaherty et al., (1996) by an introduction of a sharp velocity increase at 166 km. This feature is meant to be similar to the bottom of the low-velocity zone identified by Li et al. (2002) beneath the coastal region of the North American continent. The converted wave from this feature (marked by a vertical arrow) will arrive 18-20 sec behind the parent P wave. Another feature of the hypothetical model is the 5% anisotropy in the lid (right panel, thin line), with a horizontal axis of symmetry aligned at N135W (normal to the lines of equal age on the seafloor, see Figure 1). A prominent transversely-polarized phase (marked by a horizontal arrow) will be associated with the anisotropic lid. This phase will change its polarity depending on the direction of the incoming P wave. Computations are shown for backazimuths 180 and 300 , which are illuminated well by earthquakes in South America and the Pacific, respectively. Spectral content of the synthetics is limited to below 0.25Hz.