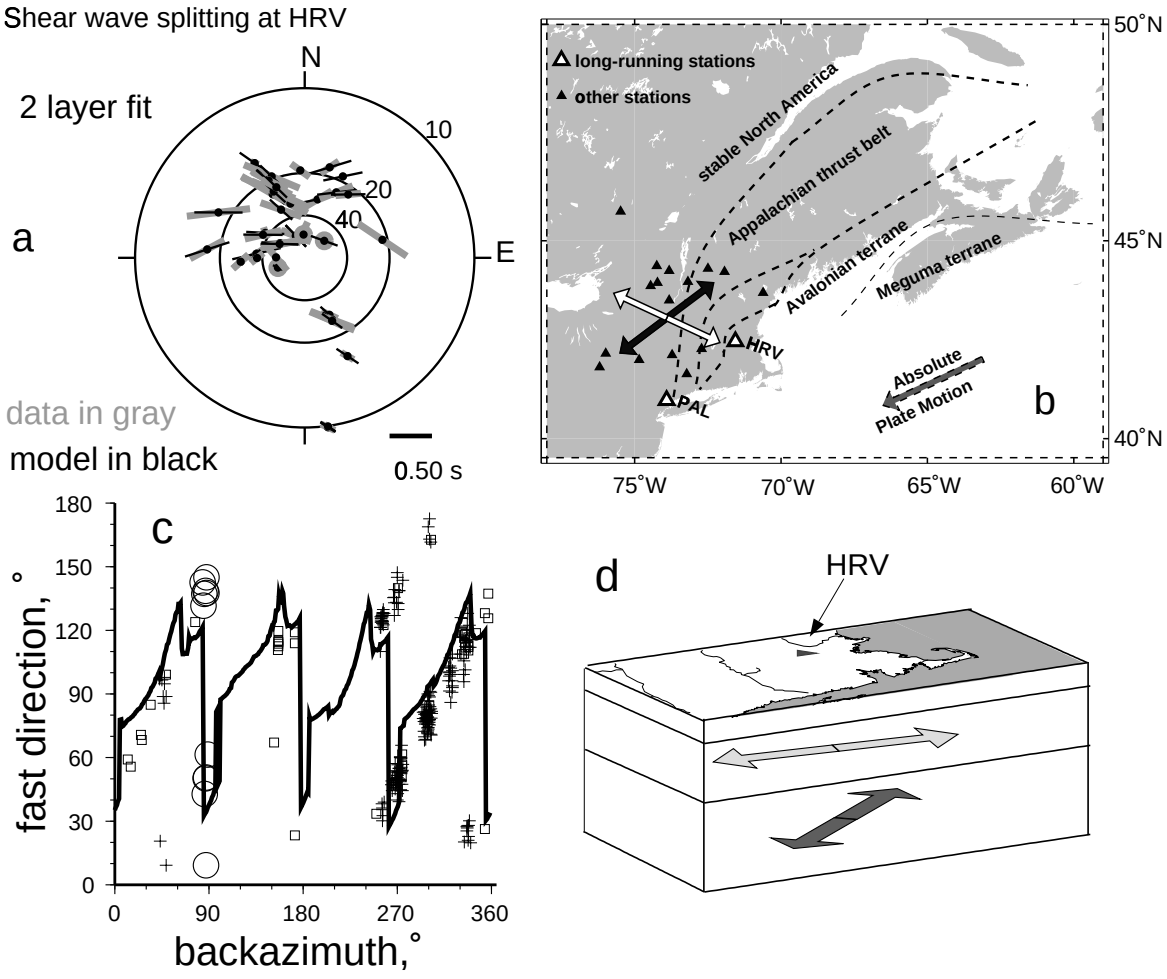

Figure 4 a) Observed (solid) and predicted (shaded) shear wave splitting data for HRV (Harvard, MA). Splitting values are shown as bars centered on the nominal back azimuth and apparent velocity (from IASPEI91 velocity model). The bar orientation parallels the azimuth φ of the fast direction. Bar length is proportional to the time delay τ. Near-zero splitting delays are plotted with open circles. b) Map of station network. Major tectonic boundaries for the Northern Appalachian orogen are indicated. Horizontal projections of our best-fit anisotropic fast-axis directions are indicated with double-headed arrows within the cluster of station locations (triangles). The light arrow represents the top layer. The shaded arrow represents the bottom layer. c) Observed and predicted variation of the apparent fast direction of the shear wave speed. Data for all stations shown in b) observed during the spring and summer of 1995 are shown by crosses. Solid line shows a pattern of fast direction values predicted by the two-layer model for HRV built using a different data set (squares). Splitting values measured from October, 2000 event near lake Tanganyika (backazimuth right on the node of the pattern) are shown by large circles. d) Schematic diagram showing orientation of anisotropic axes in the two-layer model.