



**Figure 3:** Vertical-component elastic synthetics for a two-layer model showing the early P-wave coda for variations in Lamé parameters ( $\lambda$  and  $\mu$ ) during back- and forward-scattering. A point scatterer on the interface (left white dot) that is an asymptotic variation only in  $\lambda$  ( , corresponding to a P-velocity but not an S-velocity difference) will act as a point explosion when hit by a vertically incident wave, and radiate scattered waves of equal amplitude and sign in all directions (Wu and Aki, 1985). This isotropic scattering radiation is represented by the circular polar plot of constant reflection coefficient. A scatterer that is a variation in rigidity  $\mu$  (right white dot) but not in  $\lambda$  ( , which produces both P- and S-velocity differences) will act as a point couple, radiating as the cosine squared of the incidence angle, and represented by the sigmoid polar plot of reflection coefficient. Note the absence of a forward-scattered S wave for the  $\lambda$  scattering component.