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Wavefield separation in three dimensions

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ABSTRACT

In two-dimensional isotropic media the divergence and the curl operators pass only P and S waves, respectively. Mode separation in two-dimensional anisotropic media is only slightly harder. In three dimensions, however, things get complicated. The P wave can still be separated from the two shear waves, but the two shear waves form a continuous single two-sheeted surface and cannot be separated from each other. We will show several finite-difference examples of wavetype separation in transverse isotropic and orthorhombic anisotropic media.

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