

Imaging with Multiply-scattered Waves

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Standard one-way approximations to the wave equation do not allow waves to propagate perpendicular to the designated preferred direction. In seismic experiments, where these approximations are commonly used, data are collected only along the top of the region of interest. This, along with a single scattering assumption, limits the illuminated region. Using a series approach, we show that including multiply scattered waves illuminates additional structure, with particular improvement in imaging the underside of structures.