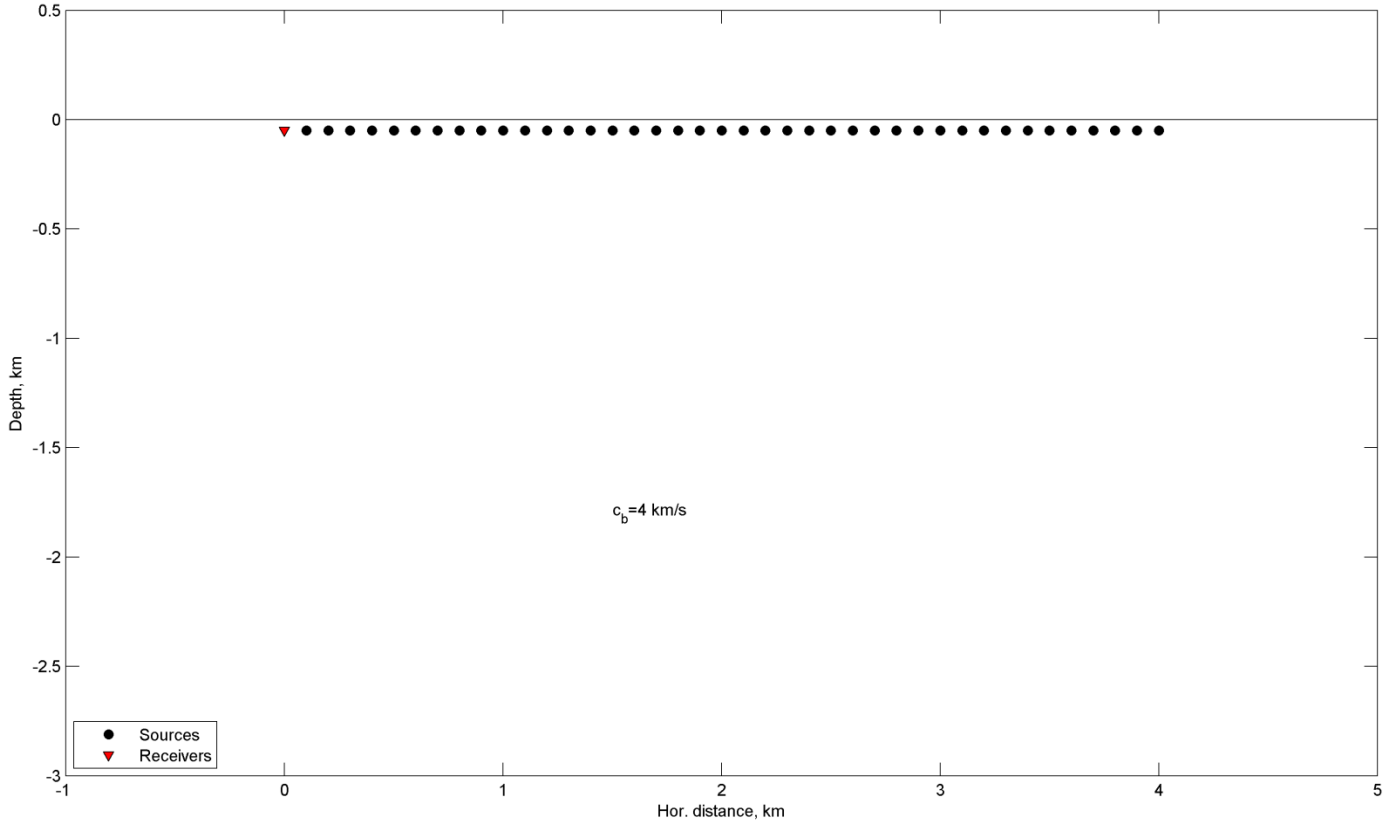
Acoustic simulation

Model (homog. half space)



Host medium: homog. half space,
$c_b = 4000\ m/\mathrm{s}$
Density 2500 kg/m3

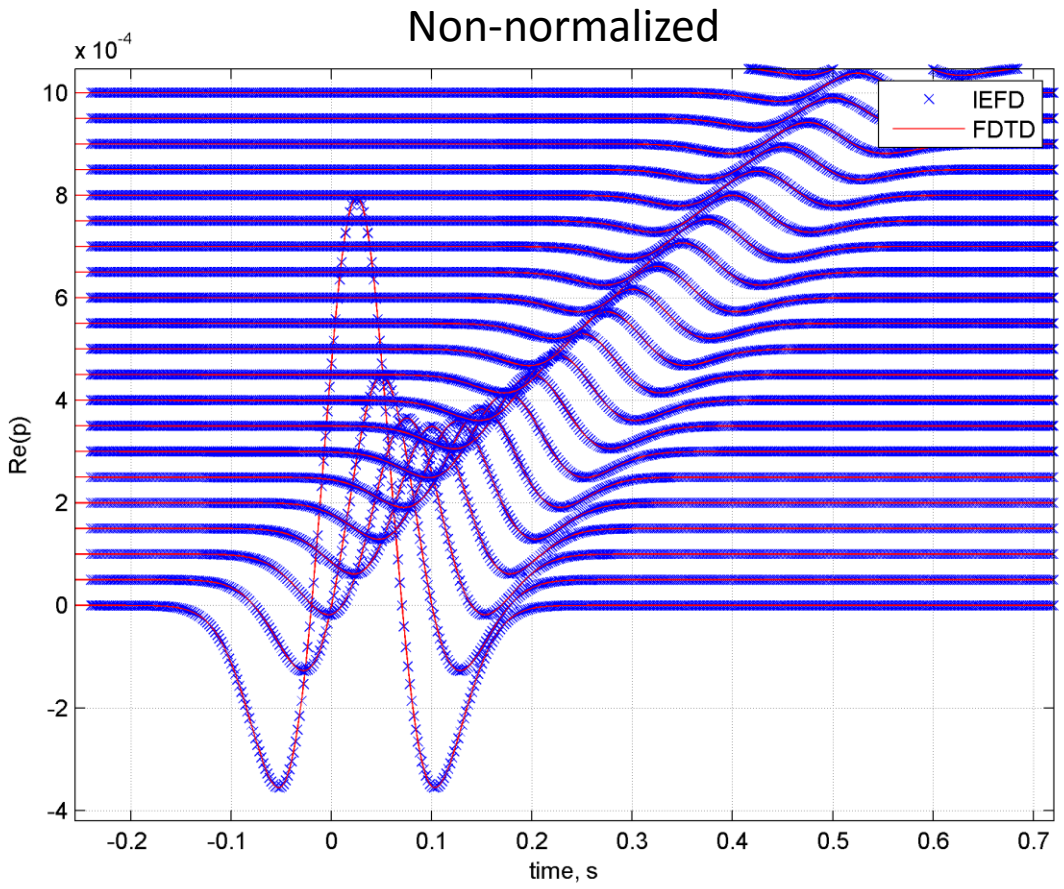
Survey geometry: observation line goes at Y=0, Z=50 m; single source at (0,0,50), i.e. 50 m below surface; 40 receivers in X-range 100m to 4000 m with step 100 m at depth 50 m below surface.

Source pulse - Ricker wavelet with central frequency 5 (five) Hz.
Simulation time: 4 s, dt=2 ms.

No shear waves.

Output of **sfawefd3d** is multiplied by c^2/h^3, where c is the speed of sound, h is the grid step size.

IE vs FDTD, **free-space**

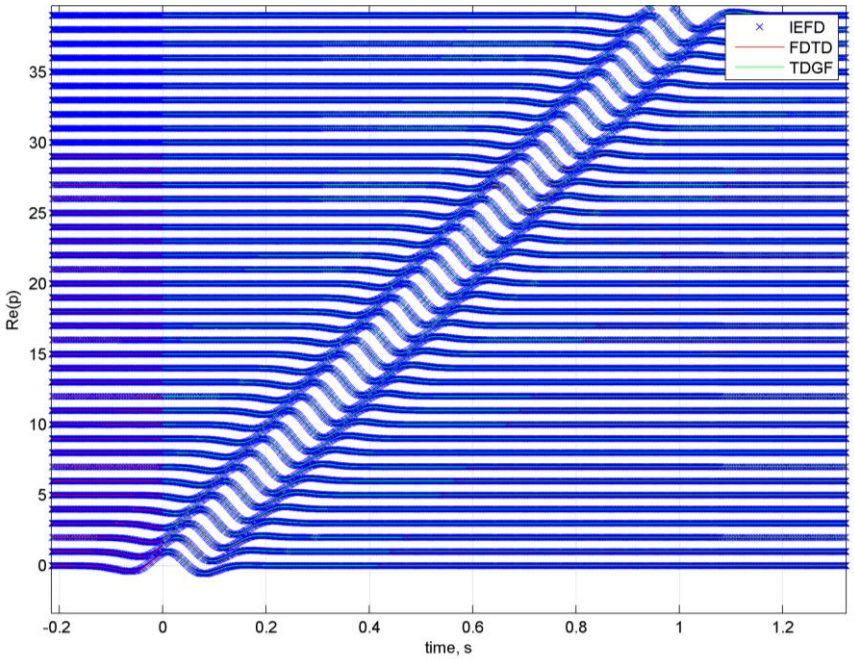


IEFD = FFT of analytical f.-domain Green's function

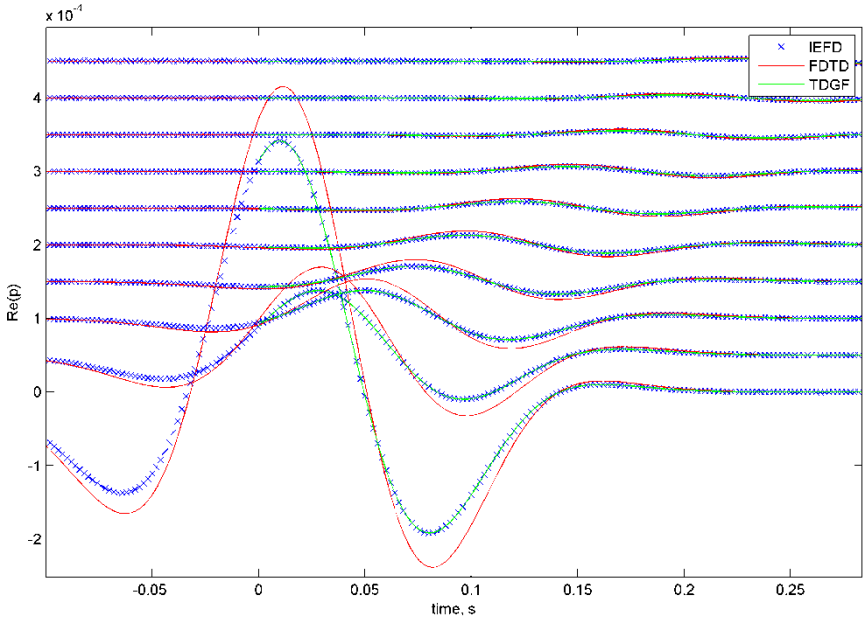
FDTD = sfawefd3d

IE vs FDTD, **half space**

Normalized



Non-normalized



IEFD = FFT of analytical f.-domain Green's function
FDTD = sfawefd3d
TDGF = analytical Green's function in the t.-domain