Date of Issue: 28.April 2011

Can0

Purpose

Assess accuracy of modeling in an unbounded homogeneous elastic medium with respect to the Vp/Vs ratio.

Coordinate System

Right-handed Cartesian, *x* positive North, *y* positive East, *z* positive downward, all coordinates in meters.

Grid

Cyclic boundaries, the dimensions of the model are 320 x 320 x 320 m.

Grid spacing ID	1/*s*	*h* [m]
1	6	8
2	12	4
3	24	2

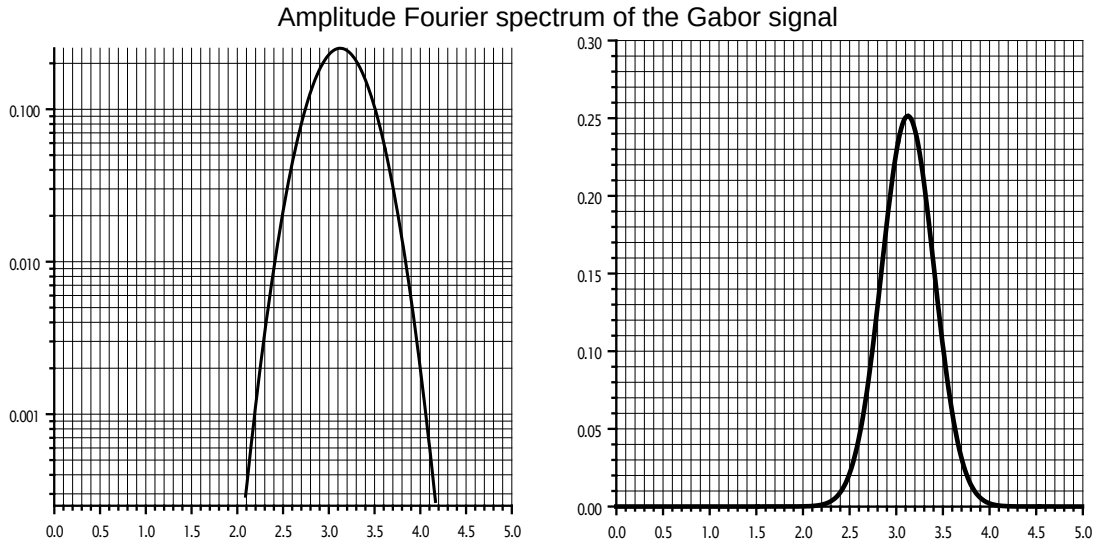
Material Properties

unbounded homogeneous elastic space

Model ID	v_p / v_s	v_p [m/s]	v_s [m/s]	density [kg/m^3]	Q_p	Q_s
A	1.41425	282.85	200	2100	Inf.	Inf.
B	3.25	650	200	2100	Inf.	Inf.
C	7.5	1500	200	2100	Inf.	Inf.

Source

Point double-couple.
Strike 22.5˚, Dip 90.0˚, Rake 0.0˚ ($\Phi_S = 22.5°, \quad \delta = 90°, \quad \lambda = 0°$)
$M_0 = 10^{18}$ Nm.
Moment time history is given by the Gabor signal with
$\omega = 2\pi f_P$, $f_P = 3.125$, $\gamma = 11.111111$, $\vartheta = \pi / 2$, $t_S = 1.6$
The source is at the origin of the coordinate system, i.e. at (0, 0, 0) m.



Receivers

Two receivers at positions: receiver 1 (0., 64., 0.) m and receiver 2 (45.25, 45.25, 0.) m.

Time Window

Time window for both receivers is 0 – 15 s.

Output Information

Time histories of particle velocities (in m/s).
Required time step is 0.01 s.
To ensure uniformity in any comparison, do not apply any additional filtering to the time series apart from the specified source function.