

Description of Column Headers of Data Files

1.0 Event input file (*event.dat*)

One event per line:

DATE, TIME, LAT, LON, DEP, MAG, EH, EV, RMS, ID, TYPE

The only difference between **tomoDD** and **hypoDD** is that *event.dat* in the former algorithm contains additional event type information for each event.

TYPE--- 0=earthquake data; 1=shot data; 2=blast data.

2.0 Starting velocity model (*MOD*).

The file name **MUST** be *MOD*. It has the following formats (simul2000):

bld, nx, ny, nz

xn(1),xn(2), ..., xn(nx)

yn(1),yn(2), ..., yn(ny)

zn(1),zn(2), ..., zn(nz)

Vp(1,1,1), Vp(2,1,1),... ..., Vp(nx,1,1)

Vp(1,2,1), Vp(2,2,1),... ..., Vp(nx,2,1)

... ..

Vp(1,ny,1),Vp(2,ny,1),... ..., Vp(nx,ny,1)

... ..

Vp(1,ny,nz), Vp(2,ny,nz),... ..., Vp(nx,ny,nz)

Vp/Vs(1,1,1),Vp/Vs(2,1,1),... ...,Vp/Vs(nx,1,1)

Vp/Vs(1,2,1),Vp/Vs(2,2,1),... ...,Vp/Vs(nx,2,1)

... ..

Vp/Vs(1,ny,1), Vp/Vs(2,ny,1),... ..., Vp/Vs(nx,ny,1)

... ..

Vp/Vs(1,ny,nz), Vp/Vs(2,ny,nz),... ...,Vp/Vs(nx,ny,nz)

Parameters

BLD--- Must be 1 or 0.1. Increment size for *ixkms*, *iykms*, and *izkms*.

NX, NY, and NZ---number of grid nodes in X, Y and Z directions.

XN--- grid node positions in X direction.

YN--- grid node positions in Y direction.

ZN--- grid node positions in Z direction.

Note that xn(1), xn(nx), yn(1), yn(ny), zn(1) and zn(nz) are boundary nodes that must be large enough to hold all the events and stations.

3.0 Velocity model output (*tomoDD.vel*, *Vpmodel.dat* and *Vsmodel.dat*)

In the first part of this file, it contains the starting velocity model information. Then it contains P-wave and S-wave DWS and velocity structure after each iteration (the same format as *MOD*). The final velocity models are stored in *Vp_model.dat* and *Vs_model.dat* for P and S waves, respectively.

4.0 Relocated hypocenter output (*tomoDD.reloc*)

It has exactly the same format as *hypoDD.reloc* in **hypoDD**.

One event per line

ID, LAT, LON, DEPTH, X, Y, Z, EX, EY, EZ, YR, MO, DY, HR, MI, SC, MAG, NCCP, NCTP, NCTS, RCC, RCT,
CID

5.0 Basement Structure Data Files(*contourVelocity.txt*)

Vp @ 6.5 for all profiles.

Column Header: X, Depth or Y, Depth