Subject: Simple seismic ray tracing code?
Posted by Richard French on Thu, 06 Nov 2003 12:31:27 GMT
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I'm looking for IDL code to simulate seismic ray paths. Here's the sad tale. Years ago, I wrote a Fortran program to compute ray paths for earthquakes in a spherically symmetric planet with a given radial velocity profile. Apparently, in an overly-ambitious episode of house-cleaning, I threw out all of my old program listings and derivations, and the computer on which I wrote the programs has long since disappeared. I can't find a backup tape with the program itself - just a tantalizing directory listing with the names of the subroutines.

I'm supervising a student term paper on Martian seismology - the original plan was to have her use my Fortran code as a basis for a nicer IDL implementation of the graphics, complete with movies of the propagation of a seismic wavefront.

I'm hoping that one of you in geophysics may already have such a code, or at least the bare bones of the ray tracing algorithm for spherical symmetry, so that we don't have to start from scratch again.

I've found some Fortran code on the web that does complex 3-d modeling, but I'm hoping to find something that is restricted to the radially symmetric case so that the student can actually see what the heck the code is doing.

Thanks for any leads on this.

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