Project 9

Imaging the Moho with Refraction Interferometric Migration

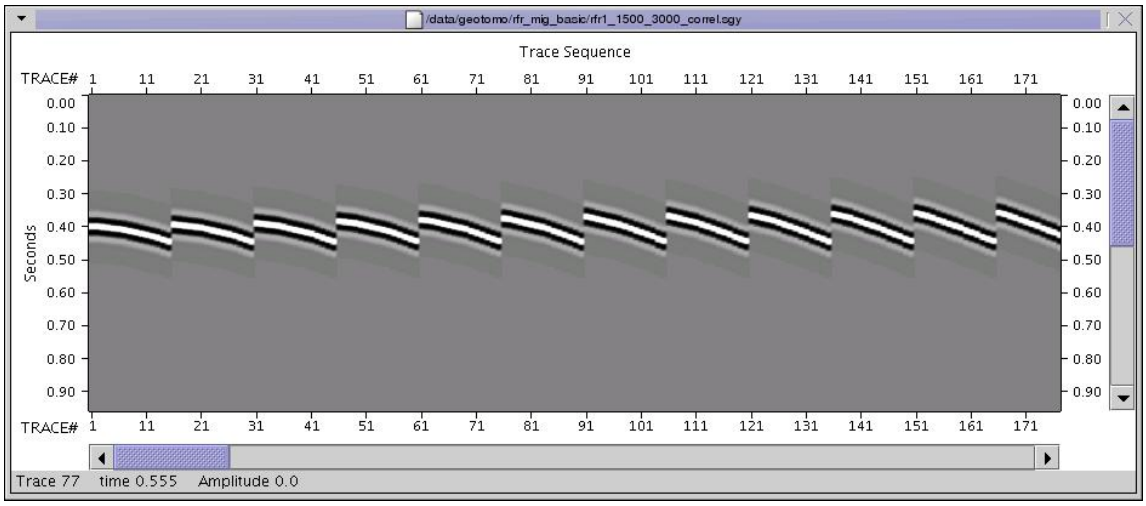
This project is going to work on synthetic data that simulates a crustal structure imaging experiment, preparing for the next phase of processing real data. The approach is fairly new, and this project ensures that idea works for the scale of crustal structure imaging. The significant impact of the approach is that it can convert any Moho refractions into reflections through interferometry and then subsequent migration could lead to a clear image of the Moho.

1) We shall design a crustal P-wave velocity structure and compute synthetic seismograms using the velocity model and a fixed recording array. 2) We then process the data with a sequence that includes both trace balancing and muting (only keeps refractions). 3) Apply interferometric conversion (correlation program) and produce interferometric gathers. 4) Apply PSDM in ThrustLine to perform migration.

Program Offered:
correlation.java

Software Offered:
ThrustLine (PSDM)
TomoPlus (model design and FD modeling functions)

Refraction interferometric gathers:



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