

## Amoco TTI

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### ABSTRACT

Three versions of the University of Calgary's (FRP and CREWES jointly) overthrust physical model.

**physical\_model** the physical-model data This is the data we got from (University of Calgary - FRP and CREWES jointly) We got permission from them to include it in this distribution. If you use this data in a publication you should let them know about it beforehand and properly acknowledge them. This is the data used in the abstract: Prestack depth migration in TI media: examples with numerical and physical modeling data, Dai, Cheadle, and Isaac, GeoTriad convention 1998 abstracts, pages 83-84.

**elastic** Amoco's synthetic elastic finite-difference version of their model. Mike O'brien calculated this model using a fully elastic 2D finite-difference modeling program of John Etgen's. Sam Gray and Bertrand Duquet provided the model dimensions and parameters. This data was used in the abstracts: Anisotropic true-amplitude migration, by Fei, Dellinger, Murphy, Hensley, and Gray. GeoTriad convention 1998 abstracts, pages 85-86, and SEG abstracts 1998 pages 1677-1679.

**acoustic** Amoco's synthetic ISOTROPIC acoustic finite-difference version of their model. Mike O'brien calculated this model using an acoustic finite-difference modeling code of John Etgen's, using the P-wave velocities of the corresponding elastic model. (It uses the velocity normal to the layering in the anisotropic parts.) This version of the model, calculated using a single velocity and an acoustic code, is of course isotropic. For some unknown reason in this version of the model the reflector at the base was left out.

### GEOMETRY OF DATA

**Raw Data** /data/2d\_synthetic/amoco-tti/acoustic.HH, /data/2d\_synthetic/amoco-tti/physical.HH, /data/2d\_synthetic/amoco-tti/elastic.HH

**Modeling parameters** /data/2d\_synthetic/amoco-tti/vel.HH

**Usage** Anisotropic processing

**Geometry**

physical.H:

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```
in="stdin"
esize=4
n1=500  n2=201  n3=86           8643000 elem           34572000 bytes
d1=0.004      d2=20   d3=60
o1=0    o2=-2000    o3=2000
label1=time
label2=offset
```

**Problem** Migration test, statics???

**History of Data** Gift from BP Amoco (2000)

**Proprietary Considerations**

## REFERENCES

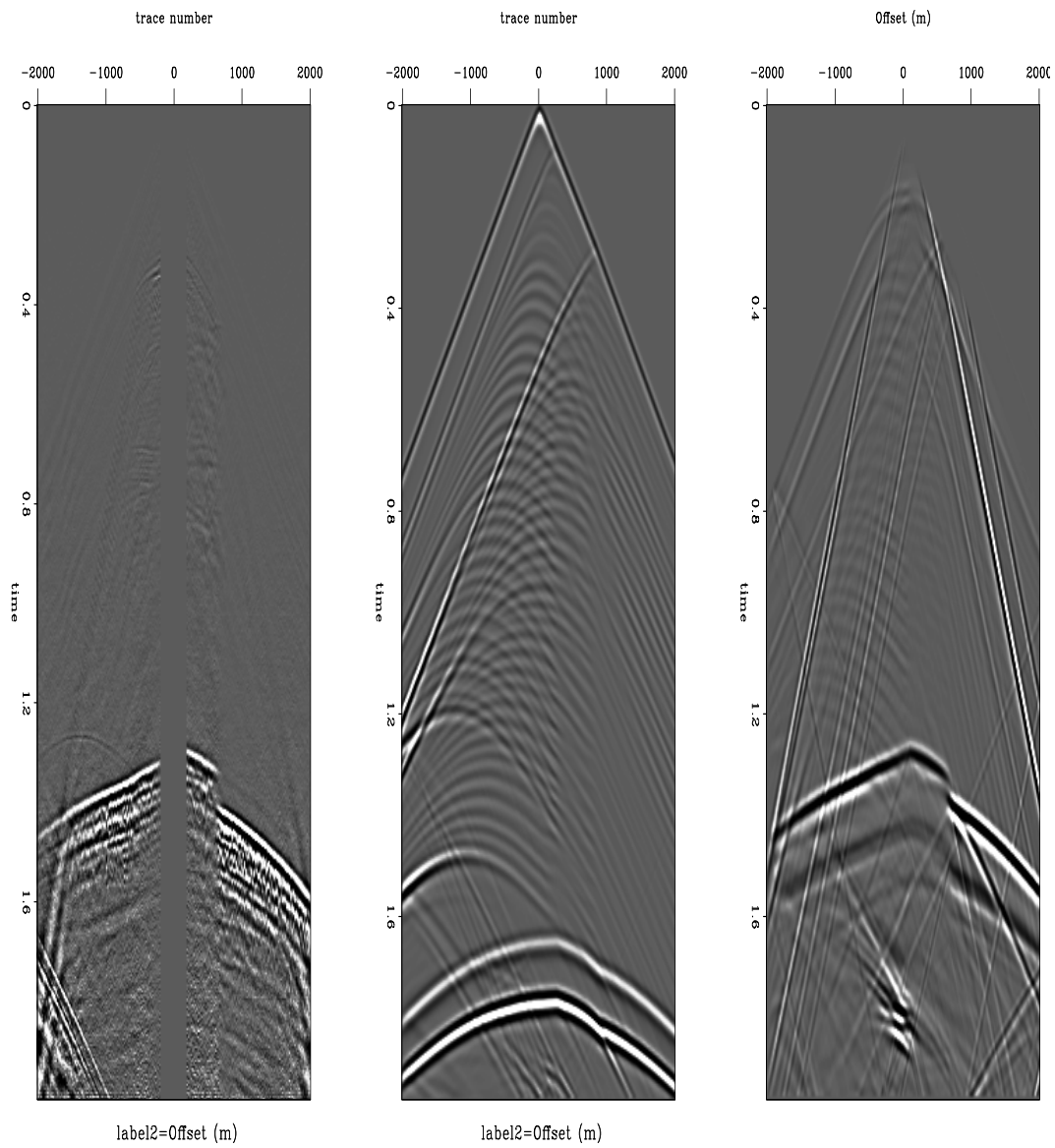


Figure 1: Raw Shot gathers. Left is physical model, middle is acoustic model, right is elastic model. `amoco-tti-gather` [ER]

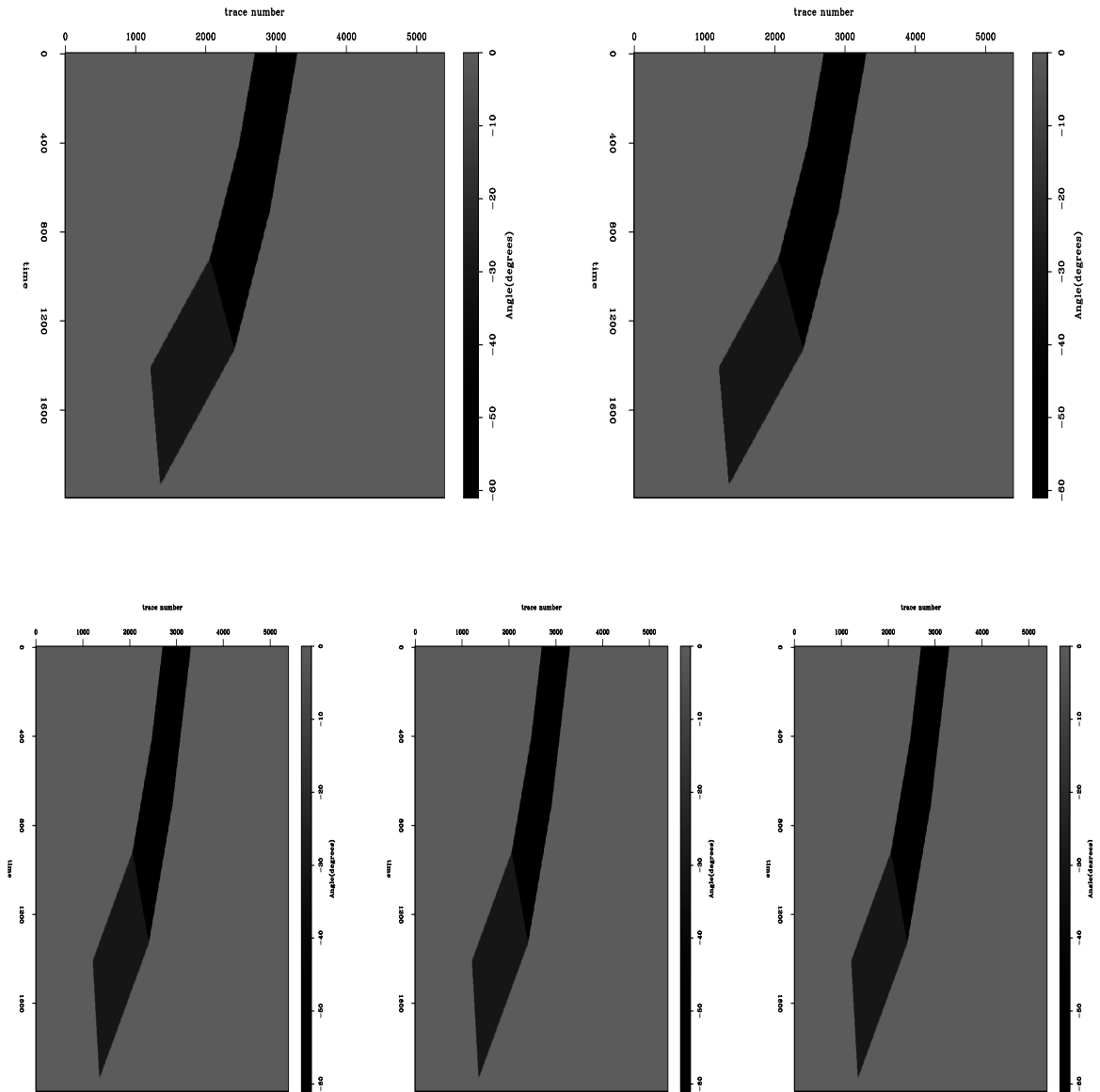


Figure 2: Modeling parameters for acoustic and elastic datasets. Top left is  $v_p$ ; top-right  $v_s/v_p$ ; bottom left is  $\epsilon$ ; bottom-center is  $\delta$ ; bottom-right is the angle of the T1 axis. `amoco-tti-velmod` [ER]

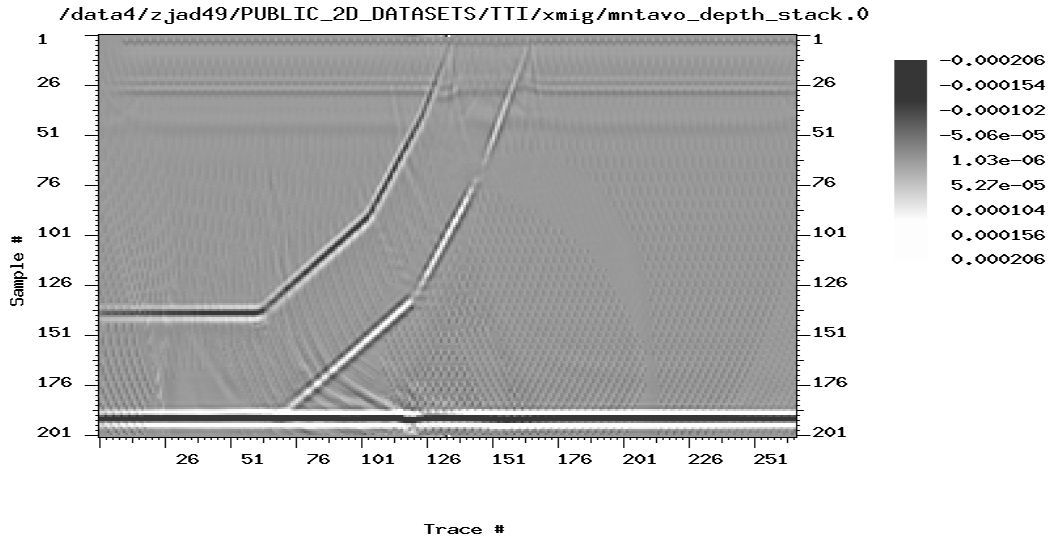


Figure 3: Elastic migration result. amoco-tti-mig-elastic [NR]

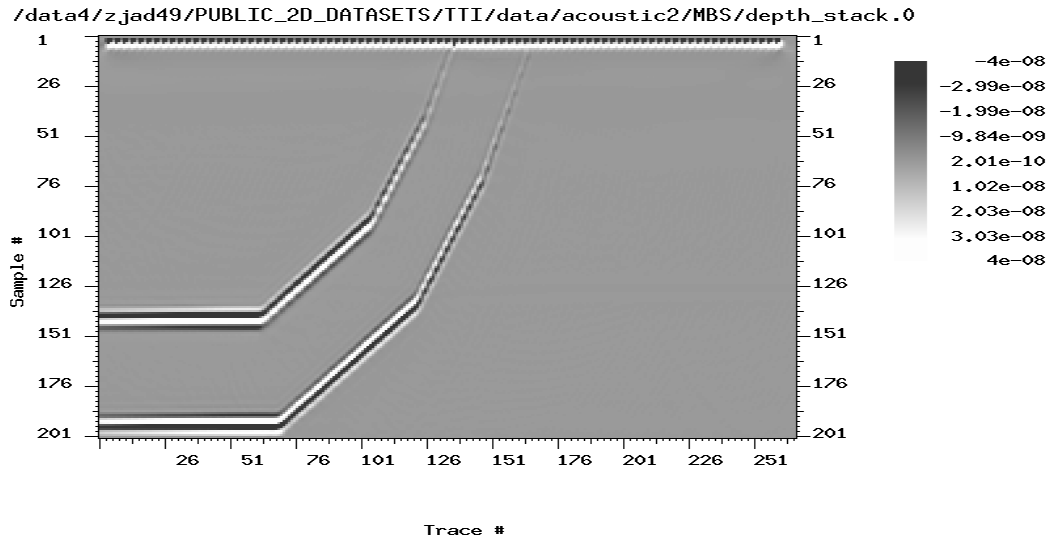


Figure 4: Acoustic migration result. amoco-tti-mig-acoustic [NR]

