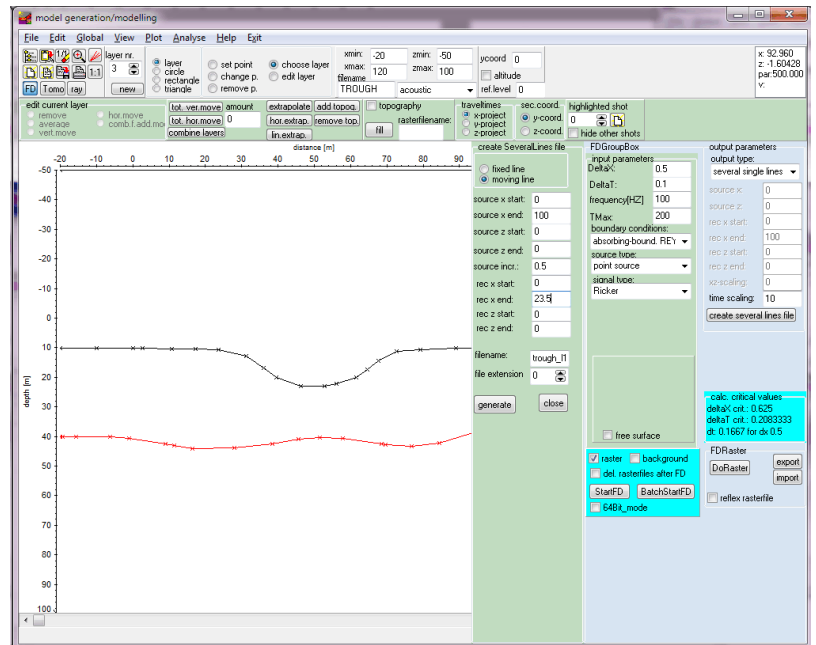


FD-modelling of multiple shot gathers and subsequent CMP-processing

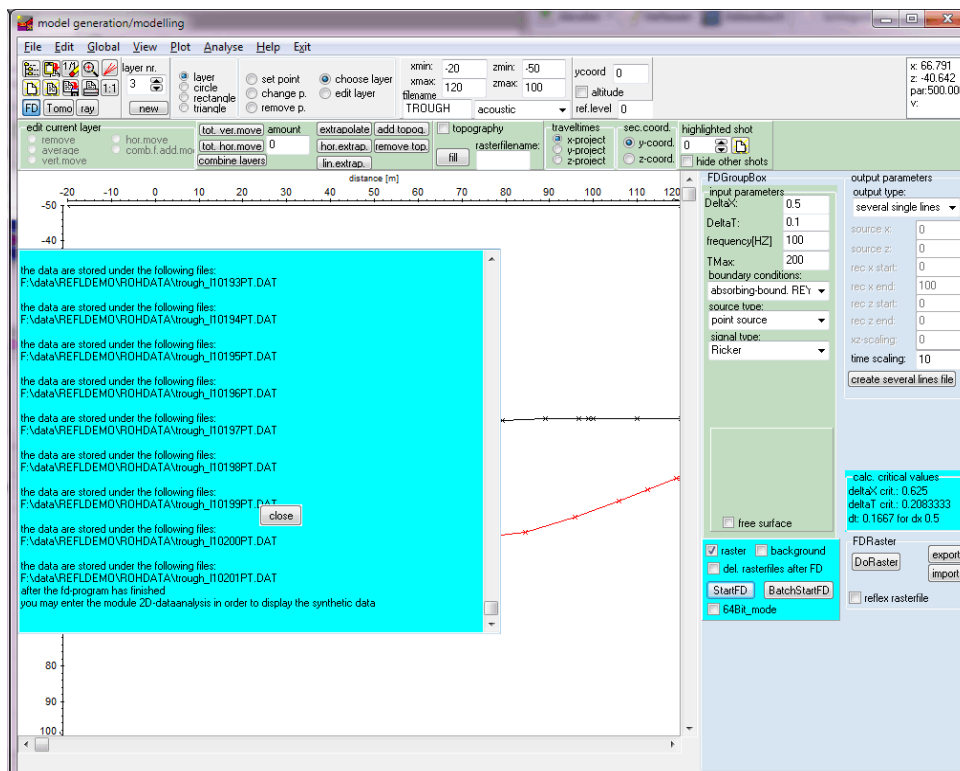
The following chapter describes the Finite Difference modelling of multiple shot gathers and a subsequent CMP-processing.

Finite Difference modelling

- enter the modelling menu
- create your model
- set source type to point source and enter the other necessary FD-parameters
- activate create several lines file
- enter the wanted geometry. In this case a moving one-sided line has been chosen with 48 channels with a receiver increment of 0.5 m and 200 shots again with an increment of 0.5 m. Click on generate.
- choose several single lines as output type and click on StartFD. Choose the fdshots-file which contains your geometry.

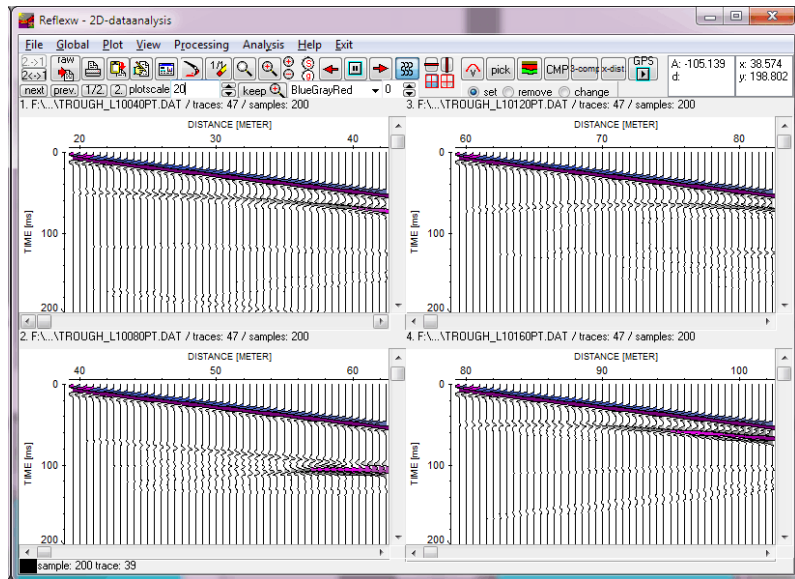


In total 201 different shot files have been created.

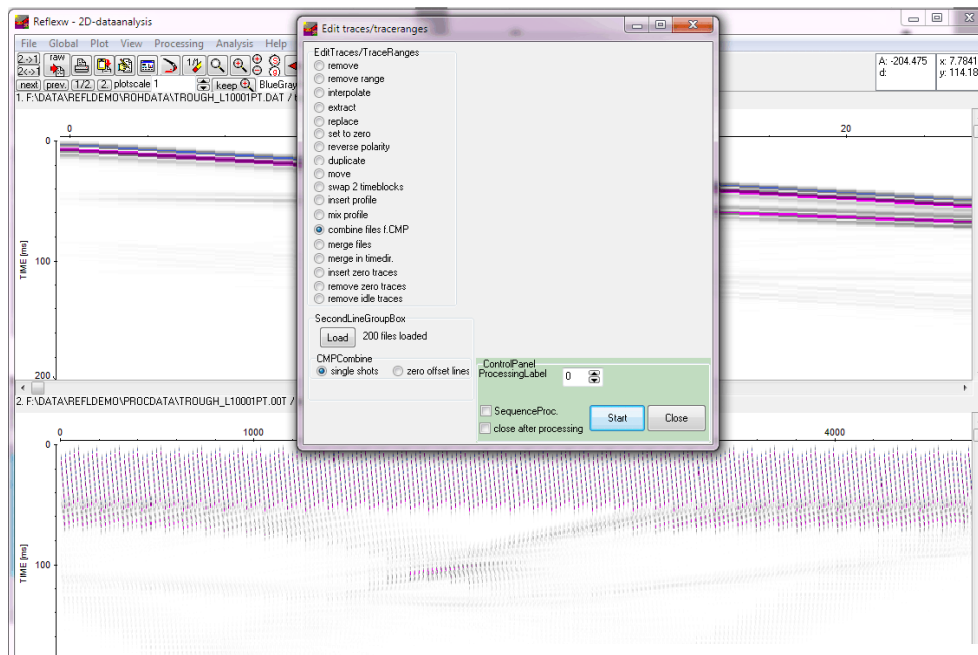


prestack processing

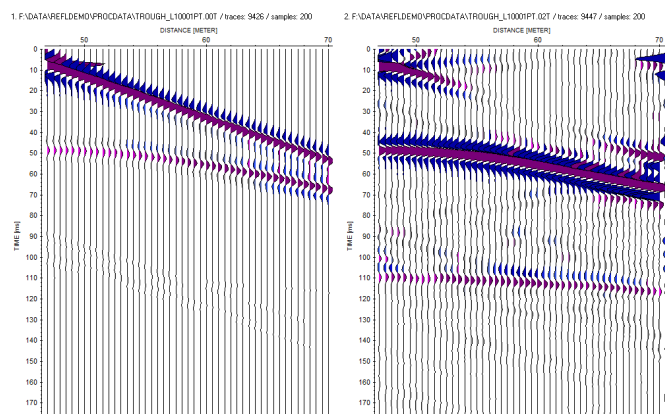
- enter the 2D-dataanalysis module where you can check the different shot files



- load the first shot file
- enter the processing option combine files f.CMP to be found under processing/edit traces
- click on Load and choose all other shot files, enter a ProcessingLabel and start
- The resulting processed file contains all wanted shots

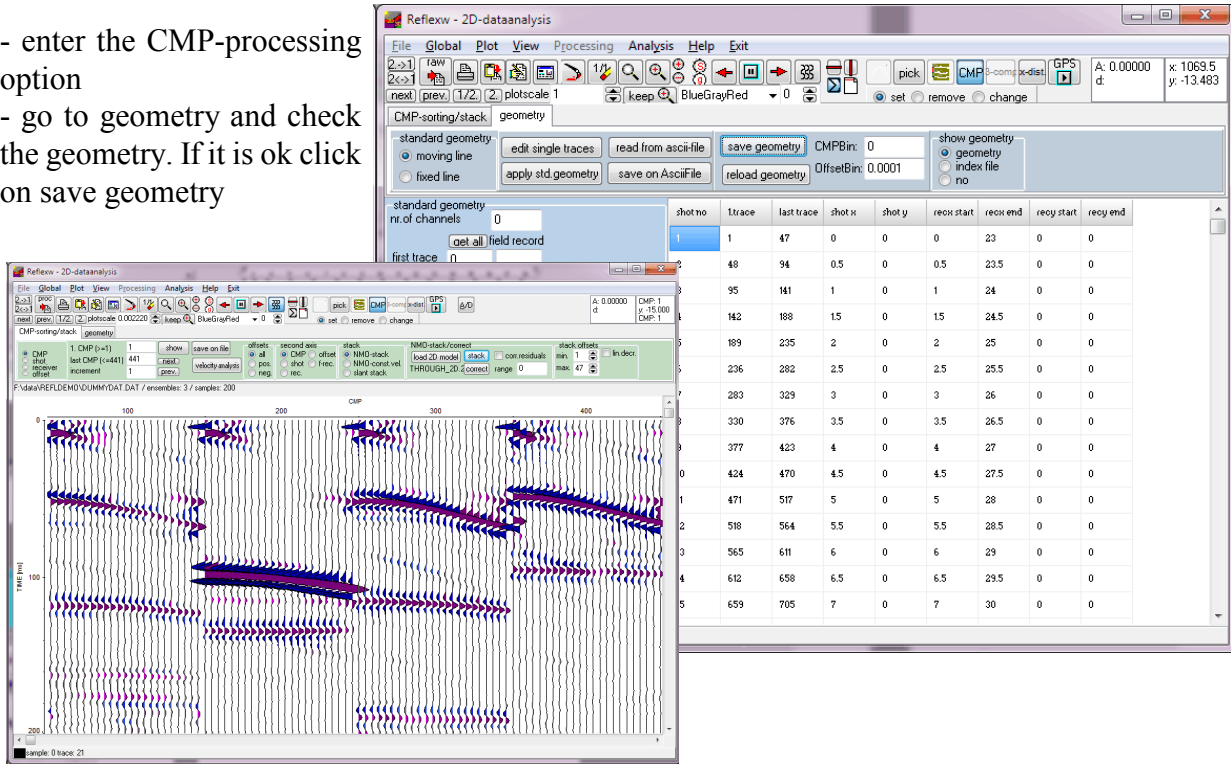


- perform any other processing like filtering, gain,...

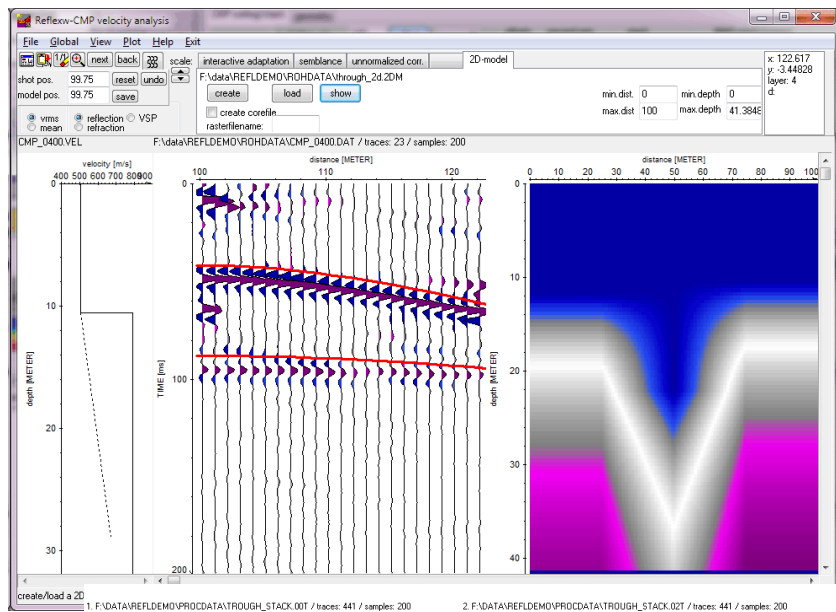


CMP and poststack processing

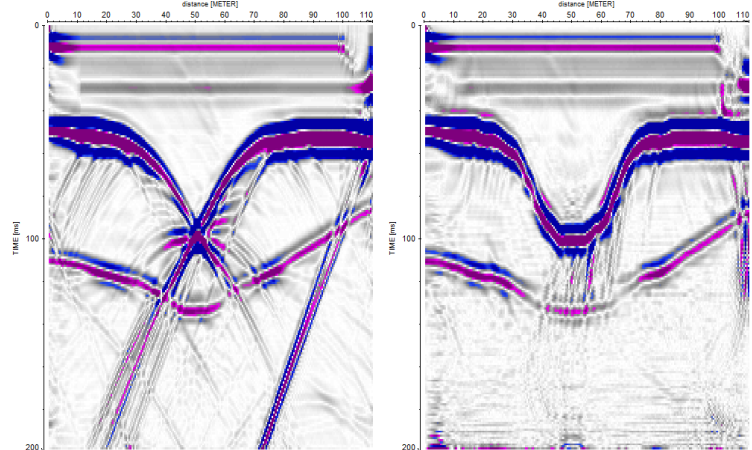
- enter the CMP-processing option
- go to geometry and check the geometry. If it is ok click on save geometry



- perform any velocity analysis in order to create a 2D-velocity distribution for the subsequent stacking
- perform the stacking, e.g. based on CMP and the derived 2D-velocity distribution

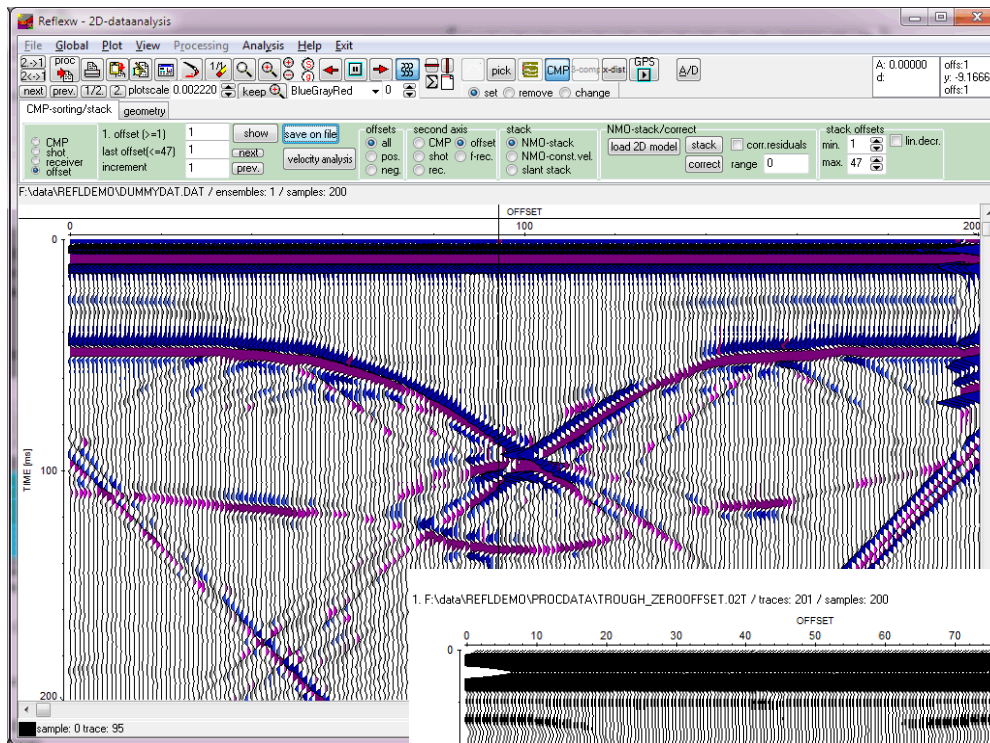


- perform any poststack processing like filtering and migration (example on the right FD-migration based on the 2D-velocity distribution)

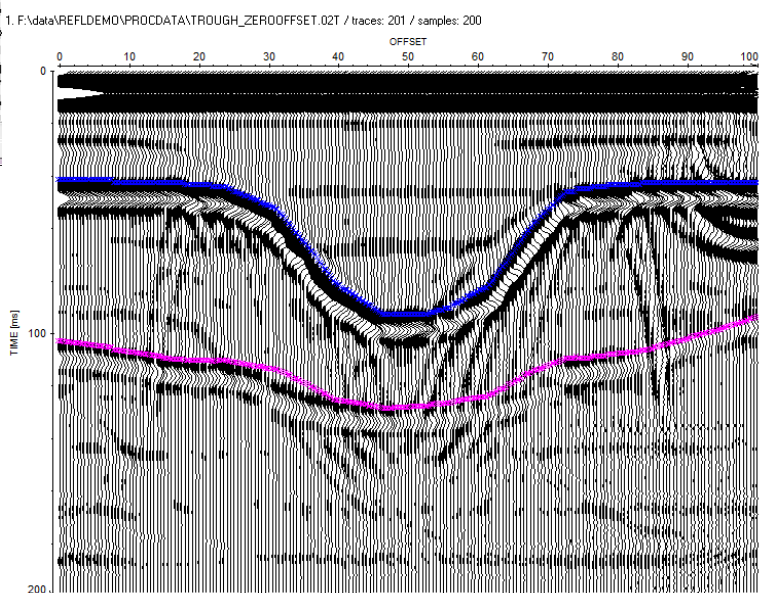


Create a Zero offset section without stacking

If no stacking is wanted, e.g. for GPR-data where the main energy mostly is focussed at the zero offset traces you simply may directly create a zero offset section from your combined shot gathers within the CMP-processing menu using the option offset and enter 1 for the first and 1 for last offset. Click on save on file.



The same poststack processing may be applied. On the figure on the right the picked interfaces from the original model (option generate pickfile (2 way traveltimes within the modelling menu) have been overlaid for comparison.



If only a zero offset section is wanted you can already restrict the data during the FD-modelling if you enter rec x start and rec x end to 0 for the moving line. Then each shot gather only contains 1 zero offset trace. Based on these data you may directly create your zero offset section as described before without the need of the CMP-processing.

create SeveralLines file

fixed line

moving line

source x start: 0

source x end: 100

source z start: 0

source z end: 0

source incr.: 0.5

rec x start: 0

rec x end: 0

rec z start: 0

rec z end: 0

filename: trough_11

file extension: 0