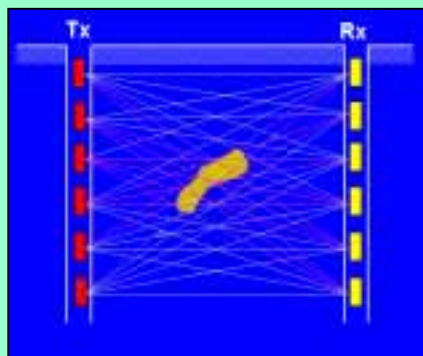


# CMTE Tomographic Software Package ImageWin



www.cmte.org.au

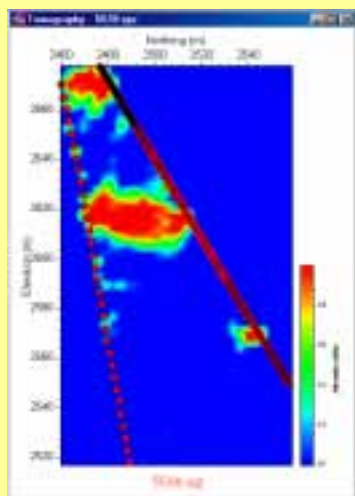
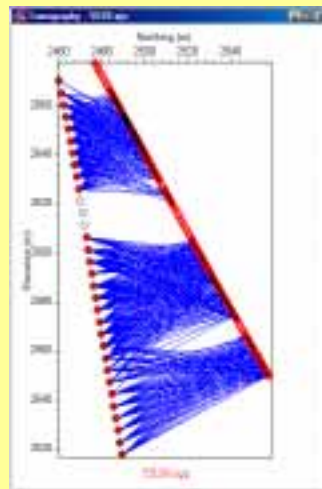
**ImageWin** is a general purpose geophysical imaging package for EM and seismic tomography developed by the Centre for Mining Technology & Equipment (CMTE), Brisbane, Australia. The philosophy underlying the software is to allow users to fully control tomography, both the data preparation and the image construction. The key characteristics of *ImageWin* are



- Flexible data input
- Customised tomogram display
- Ray masking, by angle, amplitude, travel time, or velocity
- Travelttime display and analysis, for individual source & receiver gathers or all rays
- Ray editing
- Data reduction for both amplitudes and phases
- Selection of tomographic algorithms and weighting options
- Export of images and data files

## Data editing and reduction

Raw and reduced data can be viewed and manipulated for QC and first-pass interpretation. Subsets of rays can be “masked out”, according to amplitude, travel time, or apparent velocity criteria (see figure on the right). Source and receiver gathers can be efficiently viewed and edited. Basic data reduction utilities are already available; more advanced utilities are planned.



## Tomographic reconstruction

Three algorithms are currently available: SIRT, ART, and conjugate gradient least squares. Two styles of weighting can be applied if SIRT is selected: *clamping weights*, suitable if discrete, high contrast targets are being imaged; *central weights*, to enhance features in the middle of the tomogram. In the future, central weighting will provide a means for enforcing constraints along the tomogram margins, e.g. from borehole logs.

## Further information

Peter Fullagar Fullagar Geophysics Pty Ltd Ph: +61 (7) 3377 6780 Email: p.fullagar@mailbox.uq.edu.au  
Binzhong Zhou CSIRO Exploration & Mining Ph: +61 (7) 3327 4630 Email: b.zhou@dem.csiro.au