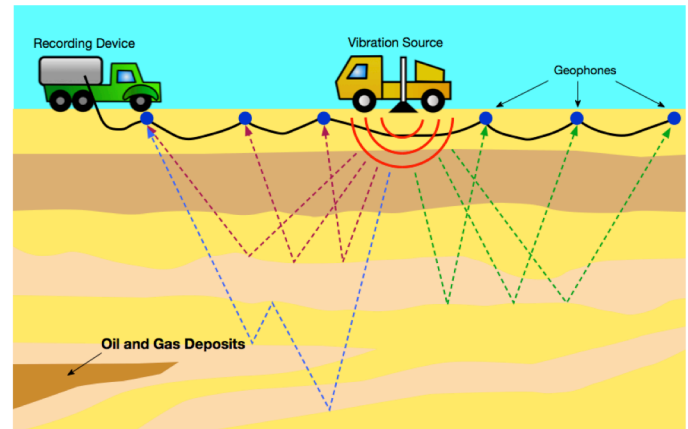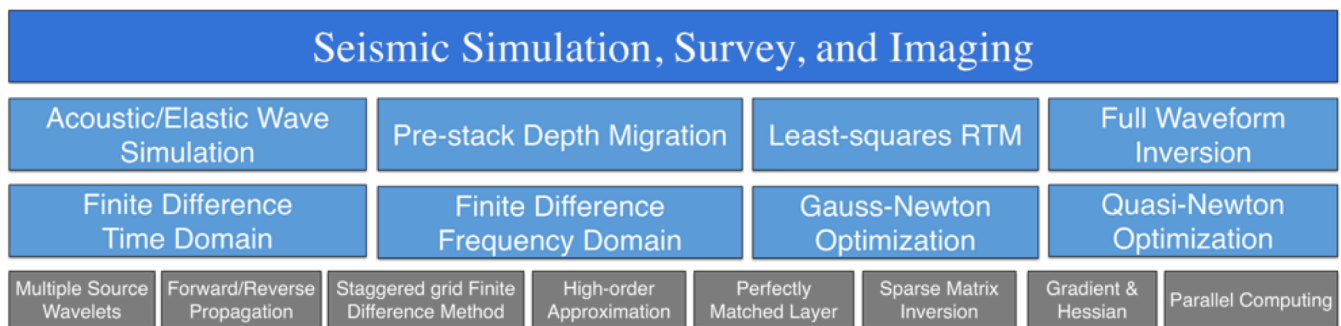## Purpose of S3I

• Provides an easy MATLAB®-based library to simulate seismic imaging
• Produces synthesized data for any given velocity model
• Targets students as well as professionals in exploration geophysics
• Provides an efficient implementation of the processing pileline for seismic imaging
• Provides a platform to build other features such as interpretation and reservoir modeling
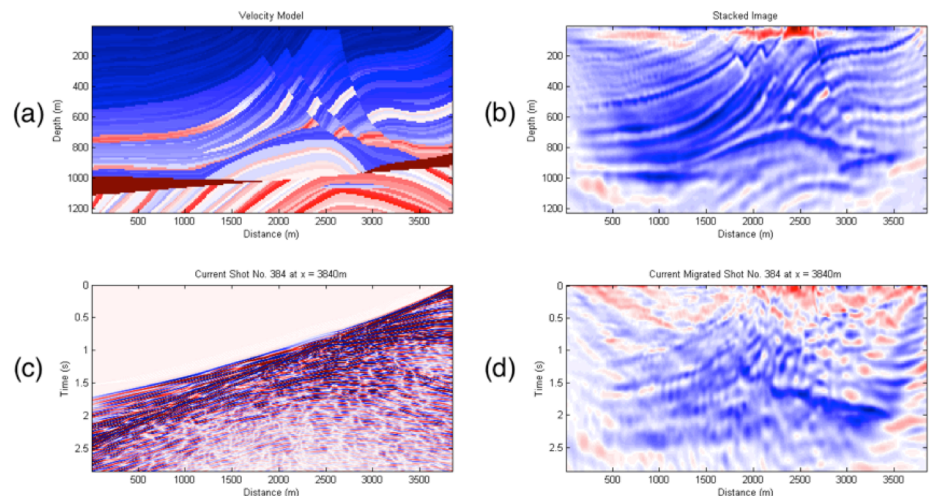

Seismic Survey

Structure of S3I Library

Main Functions of S3I

• Acoustic/elastic wave simulation
• Pre-stack depth migration
• Least square RTM
• Full waveform inversion

Other Features

• Open source
• Detailed user guide
• GUI for seismic survey
• C MEX-files enhanced
• Parallel computing

Imaging Example

Reverse Time Migration

(a) True velocity model
(b) Aggregated RTM result
(c) Seismic data for one shot
(d) Migrated image for one

Download url: cegp.ece.gatech.edu/codedata

Contributors: Lingchen Zhu, Entao Liu, and Lijun Zhu

Georgia Institute of Technology