

CIBC Workshop 2008



SCIRun: Introduction & Overview

Medical Data
Acquisition
Multimodal Scanning

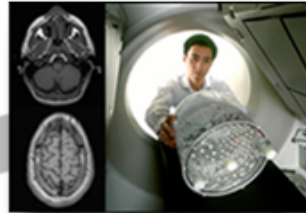
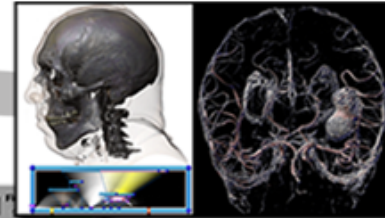


Image
Rendering
Surface Imaging
Volume Rendering

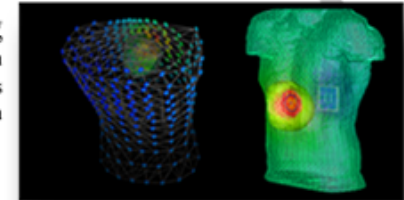


Integrated Software
Environment

Intervention
Real-time Data for
Operating Room



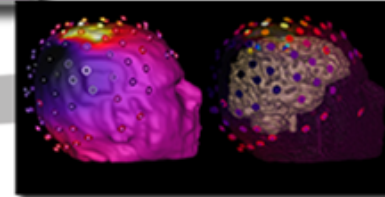
Modeling
Segmentation
Finite Elements
Registration



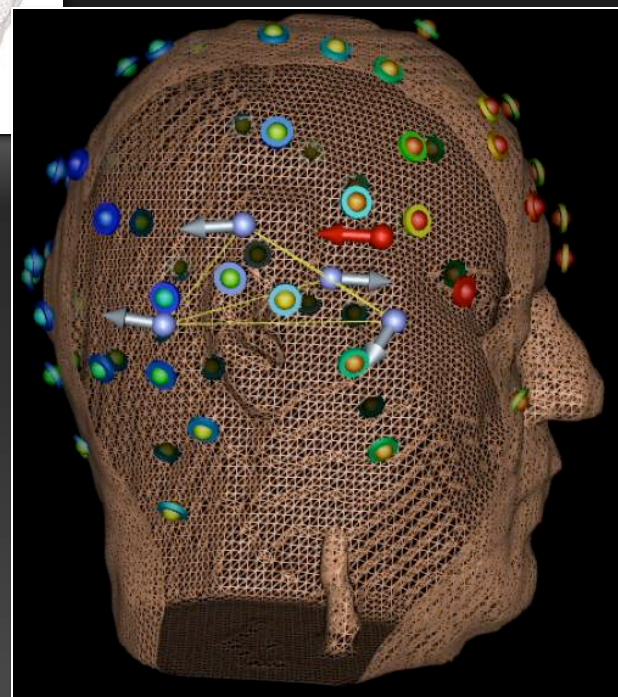
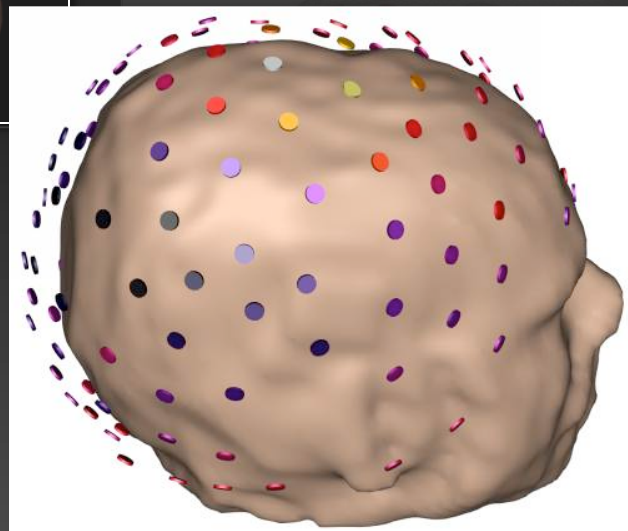
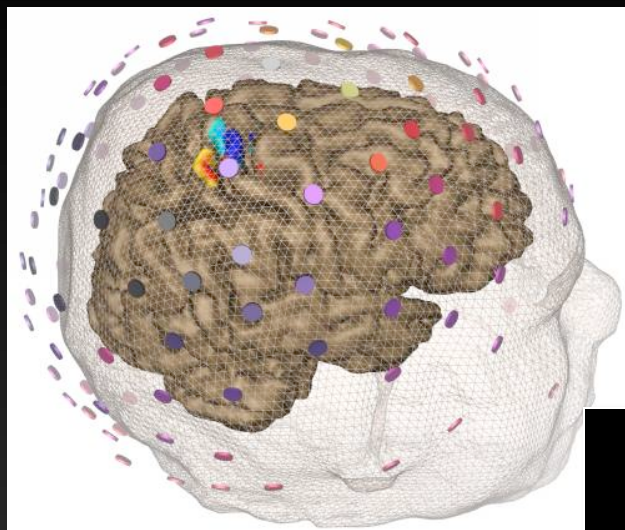
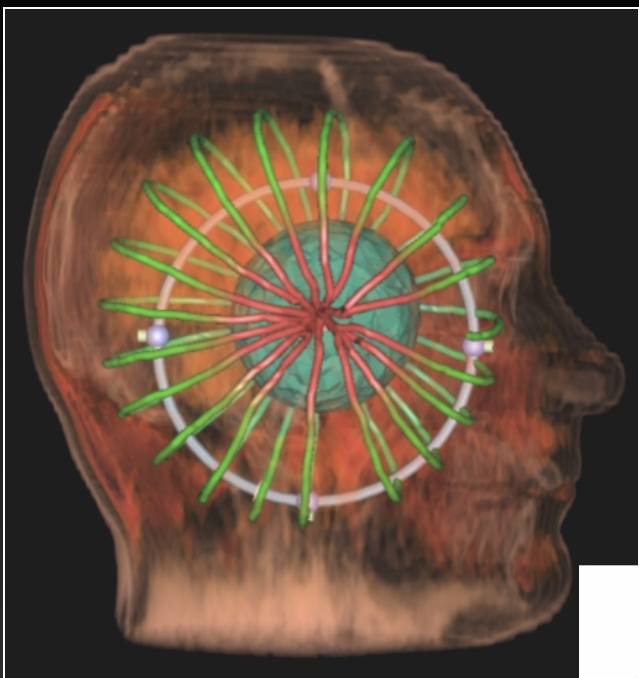
Data
Interpretation
Virtual Reality
Error Analysis



Simulation
Inverse problems
Source Localization

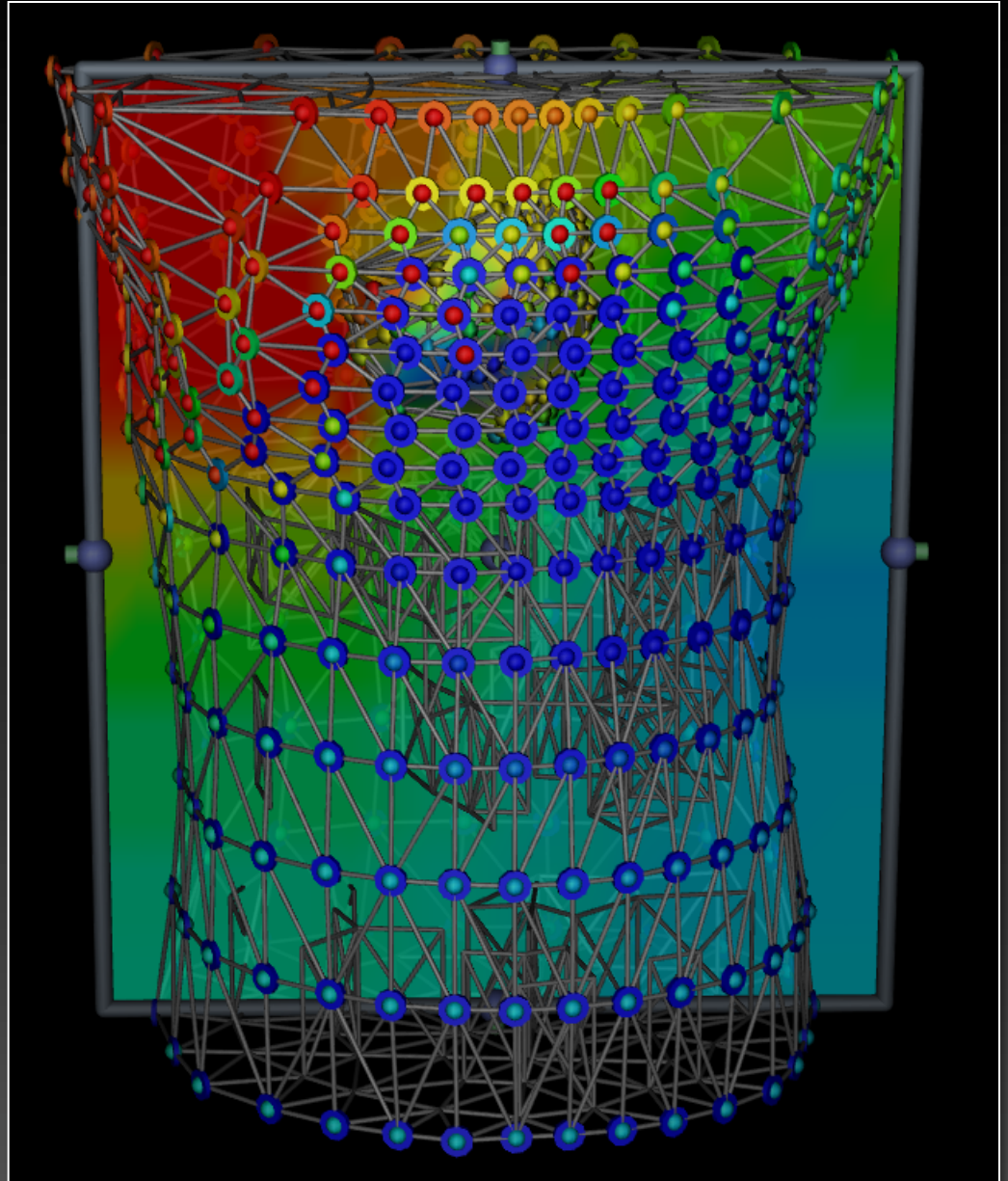


Forward and Inverse EEG

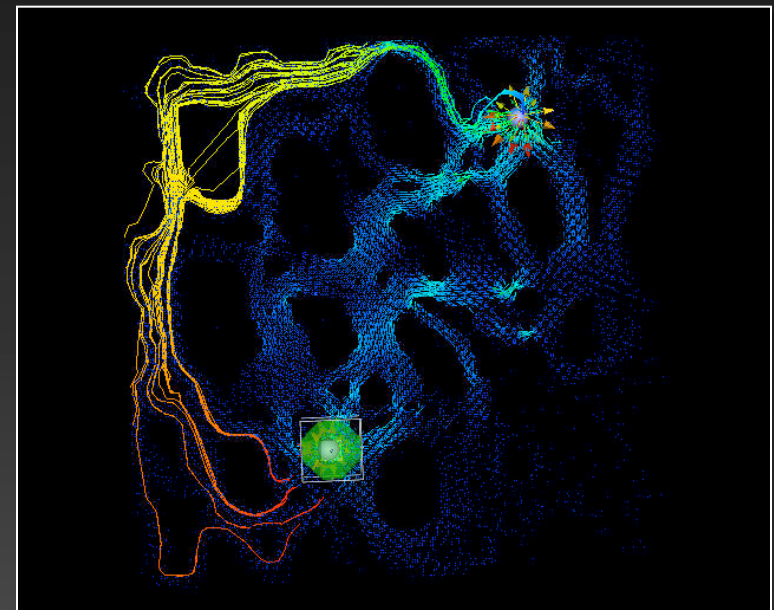
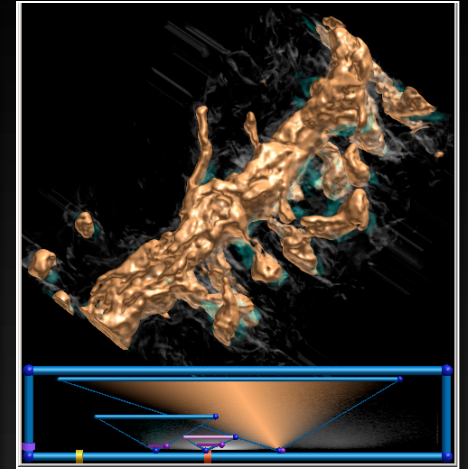
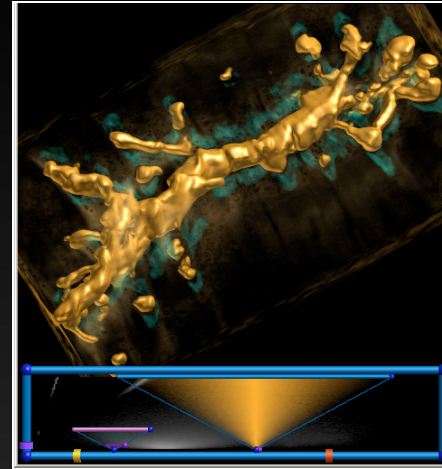
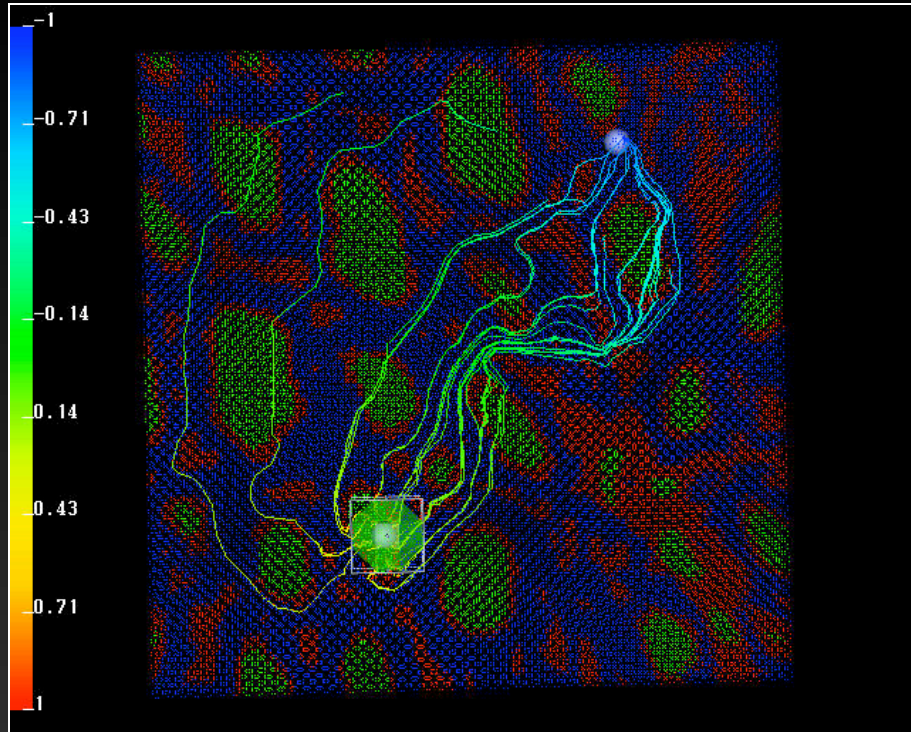


Electrocardiography

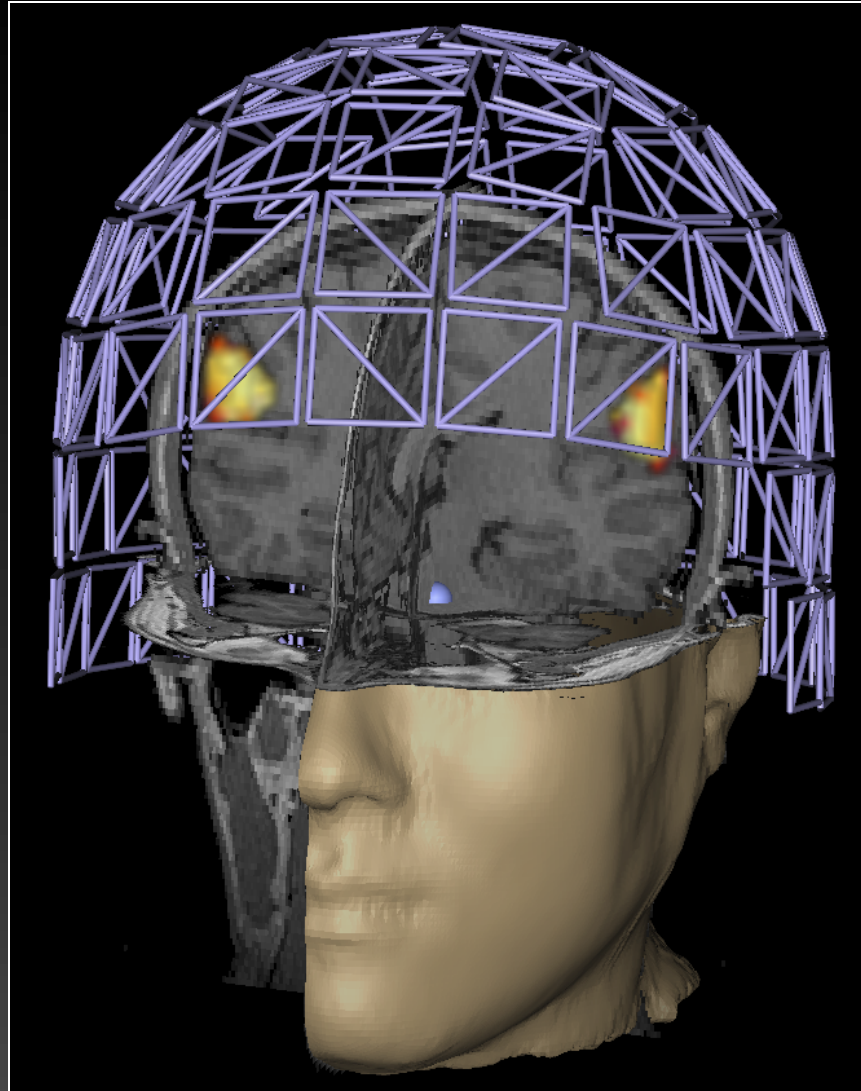
Torso Tank
in BioPSE



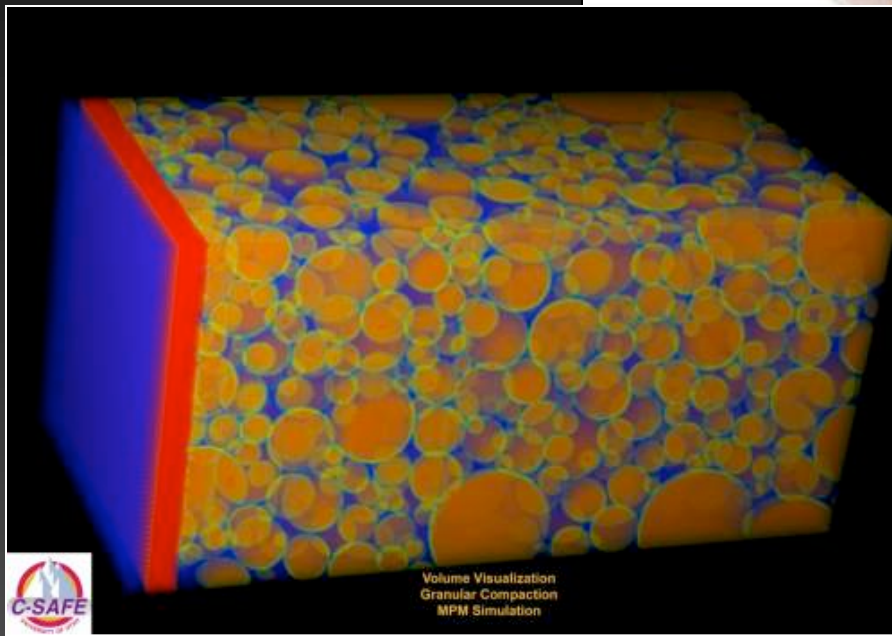
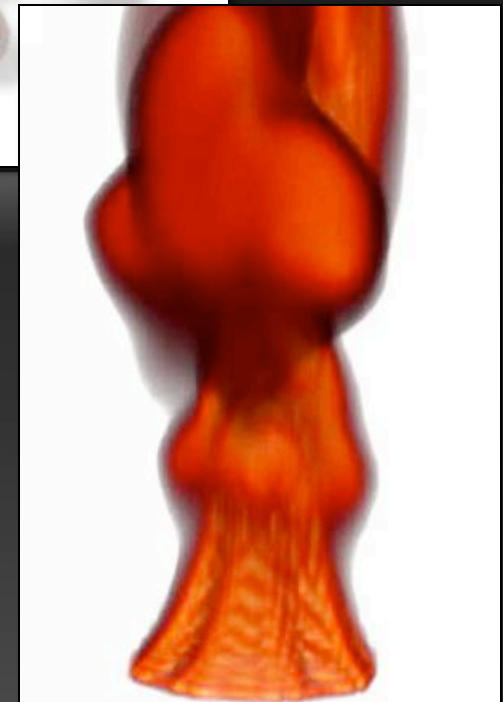
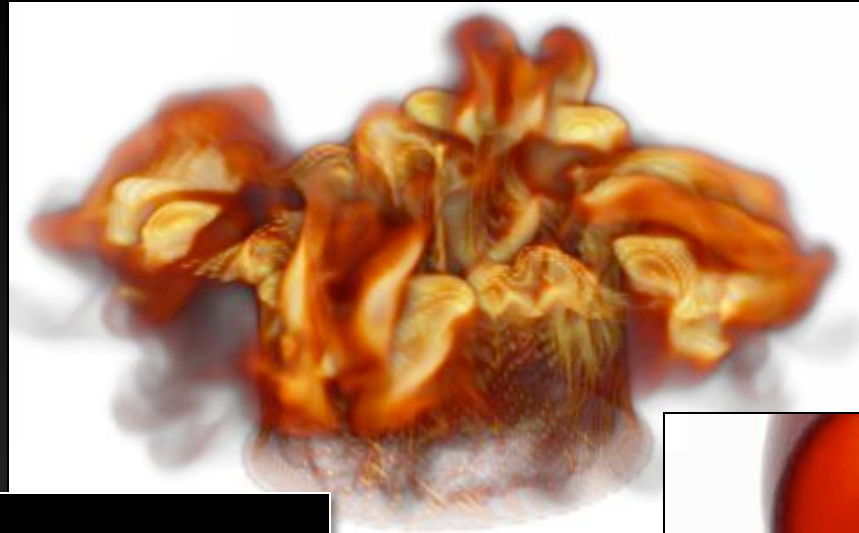
Neural Modeling and Visualization



Magnetoencephalography



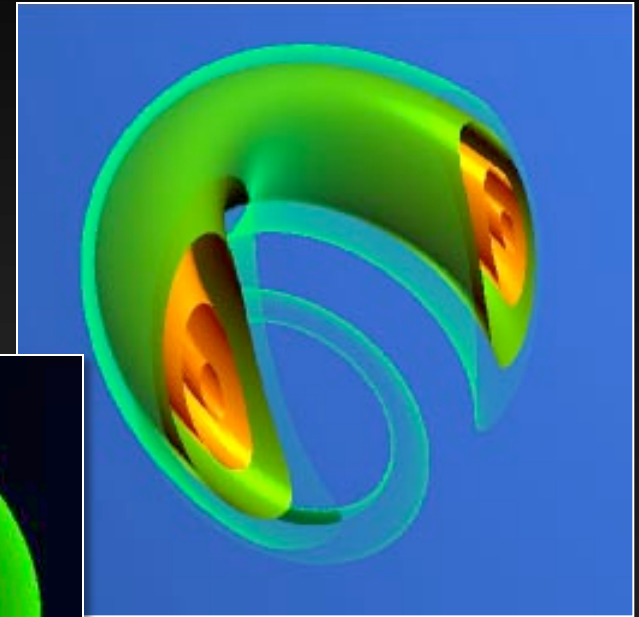
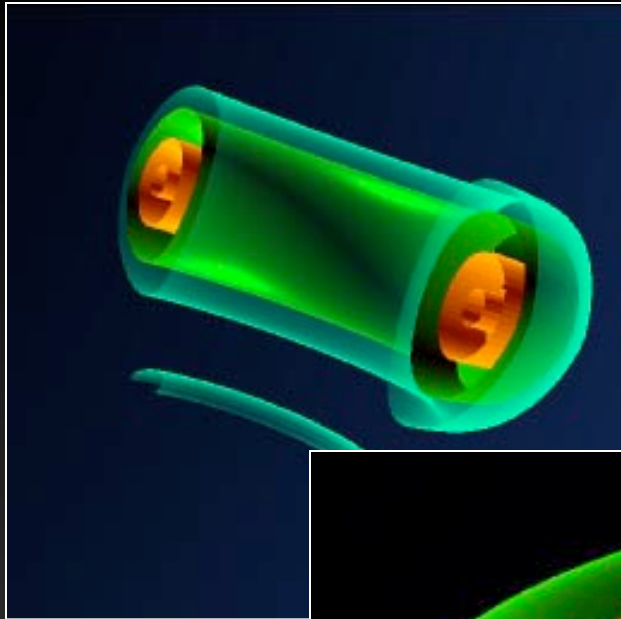
CSAFE: Fire-spread



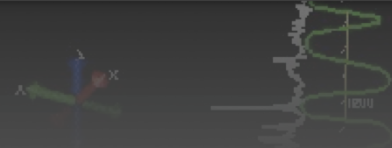
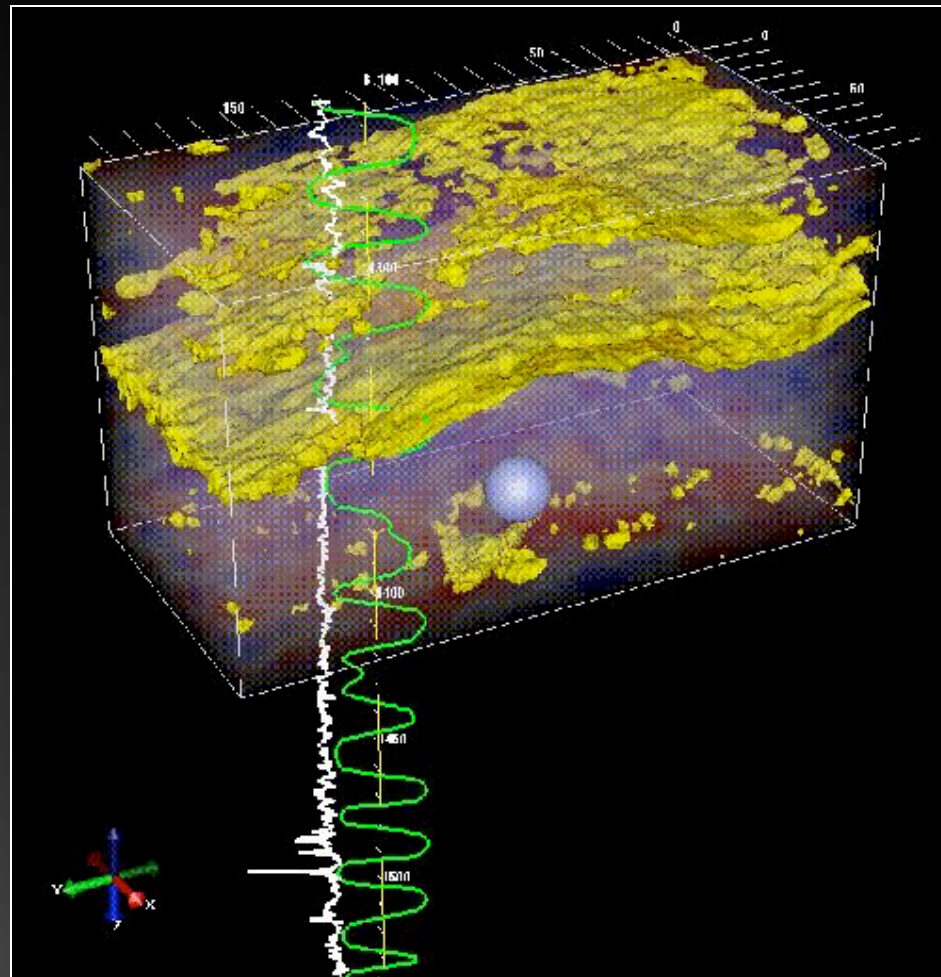
Volume Visualization
Granular Compaction
MPM Simulation

И.И. Шатров
Одесская Национальная
Академия Домостроения

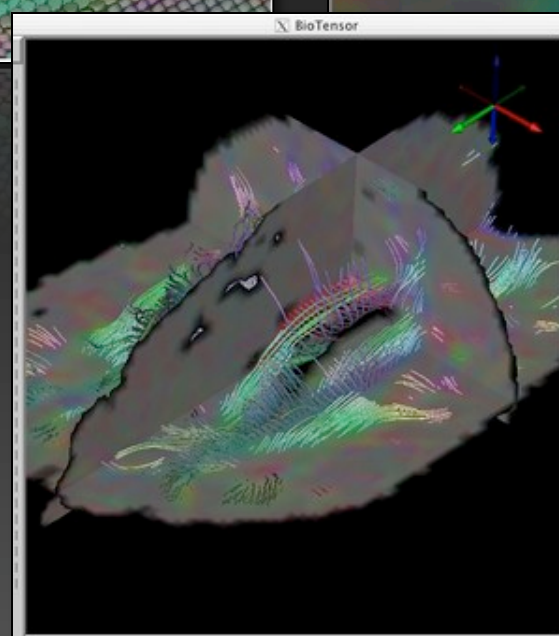
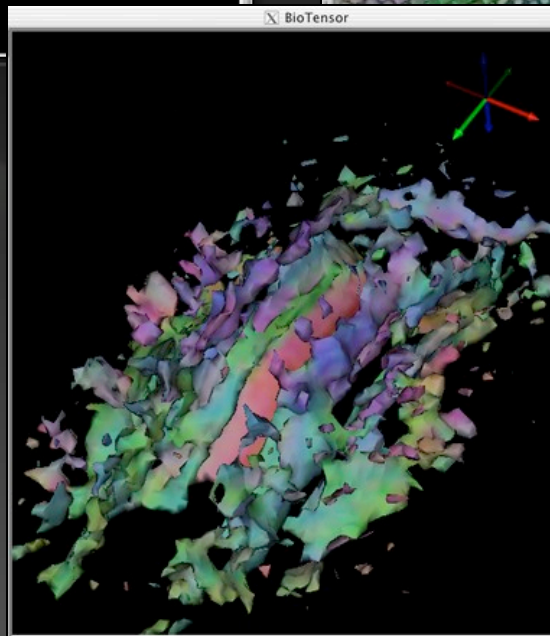
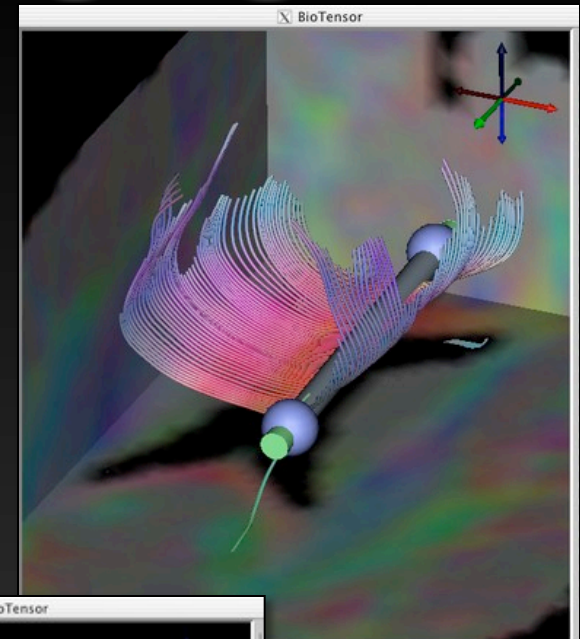
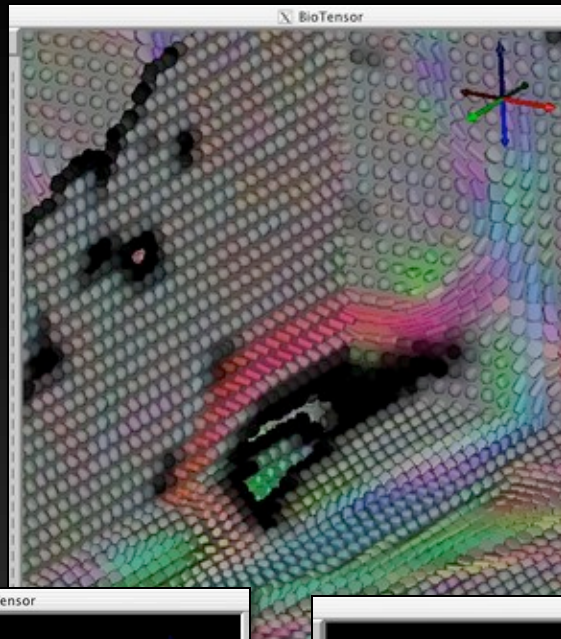
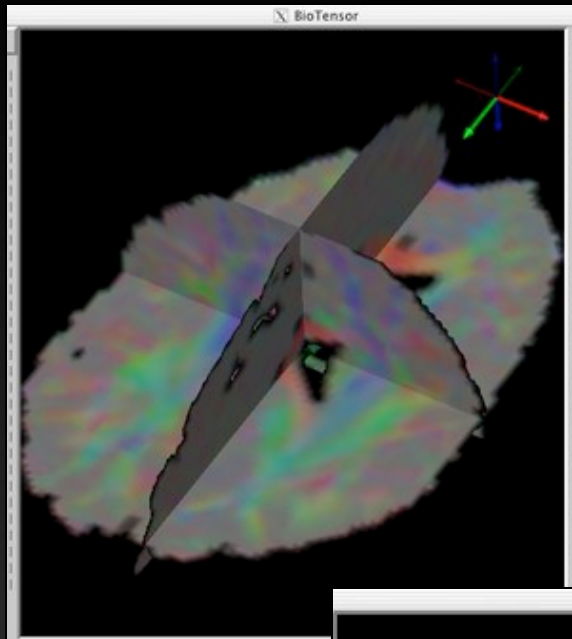
Nuclear Fusion: Tokamak



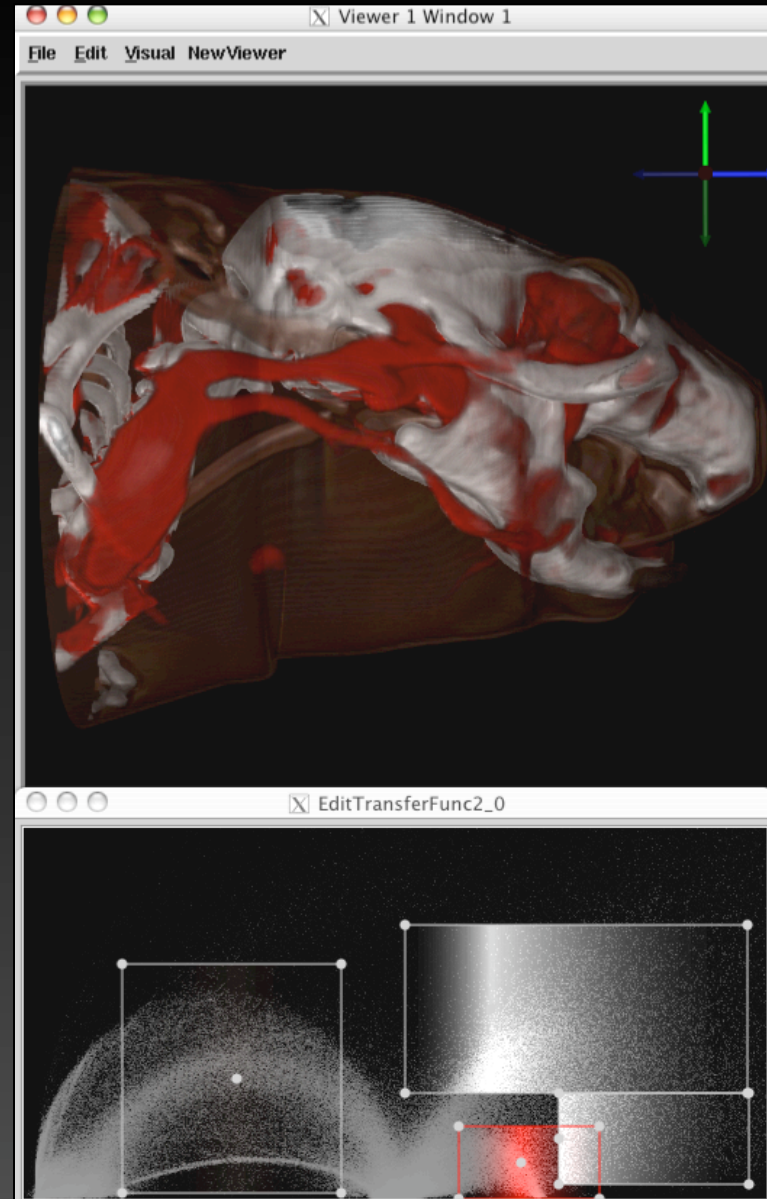
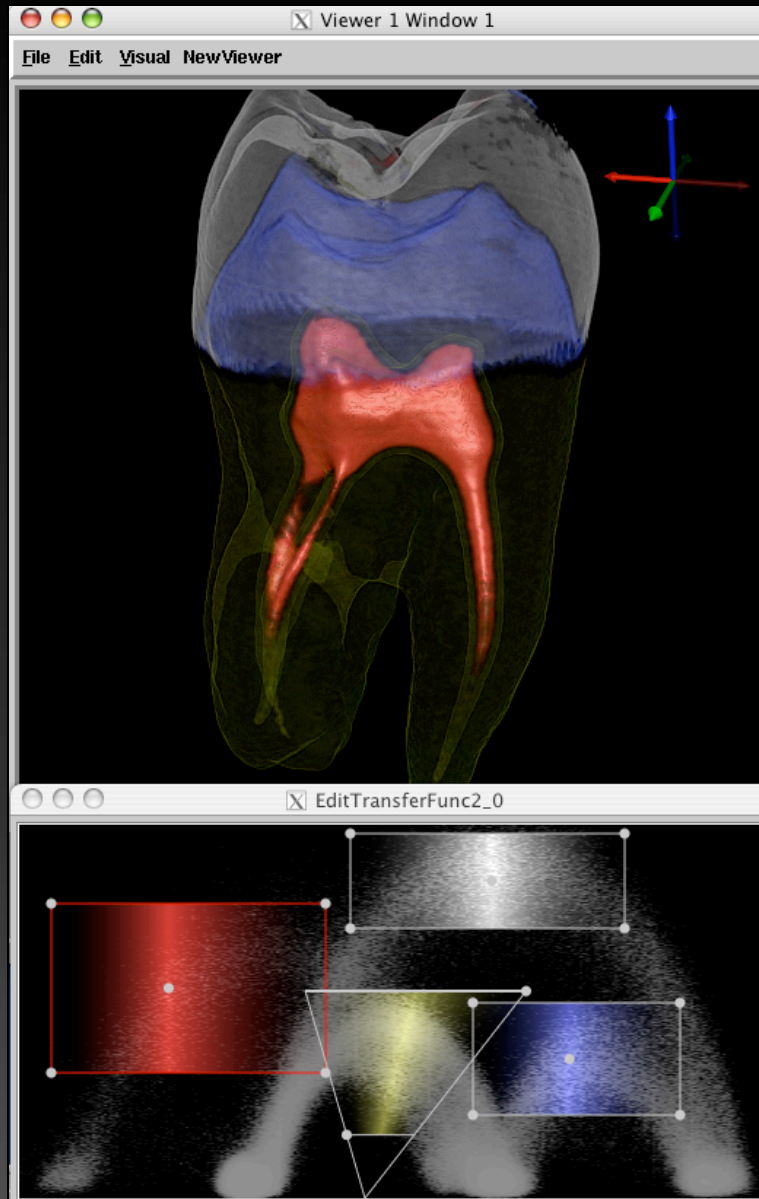
Seismic Data Visualization



Diffusion Tensor Imaging

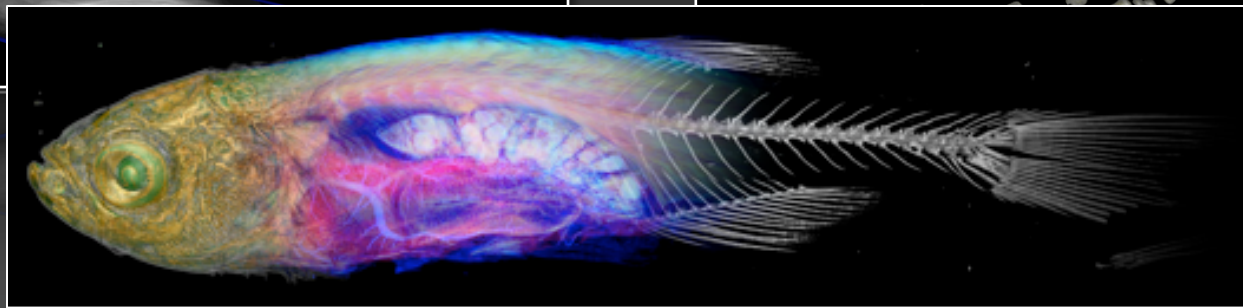
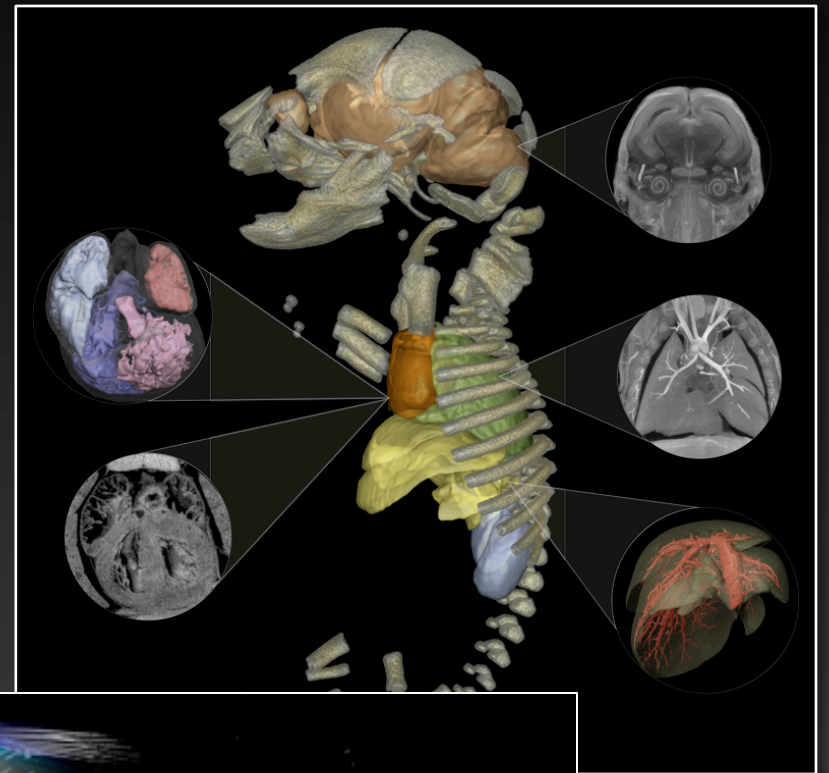
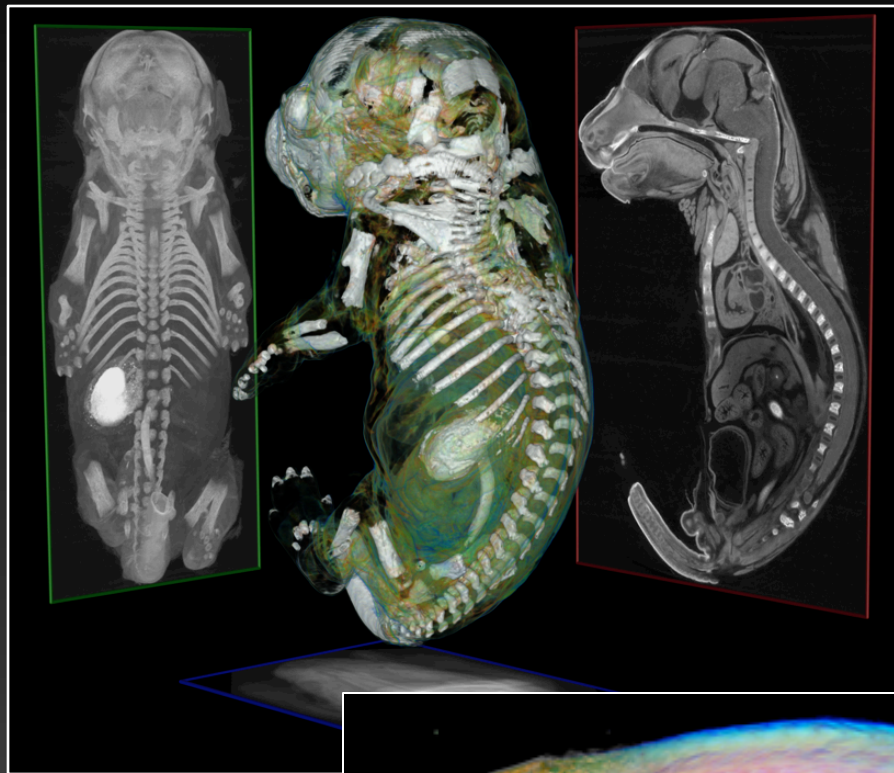


Medical Volume Rendering



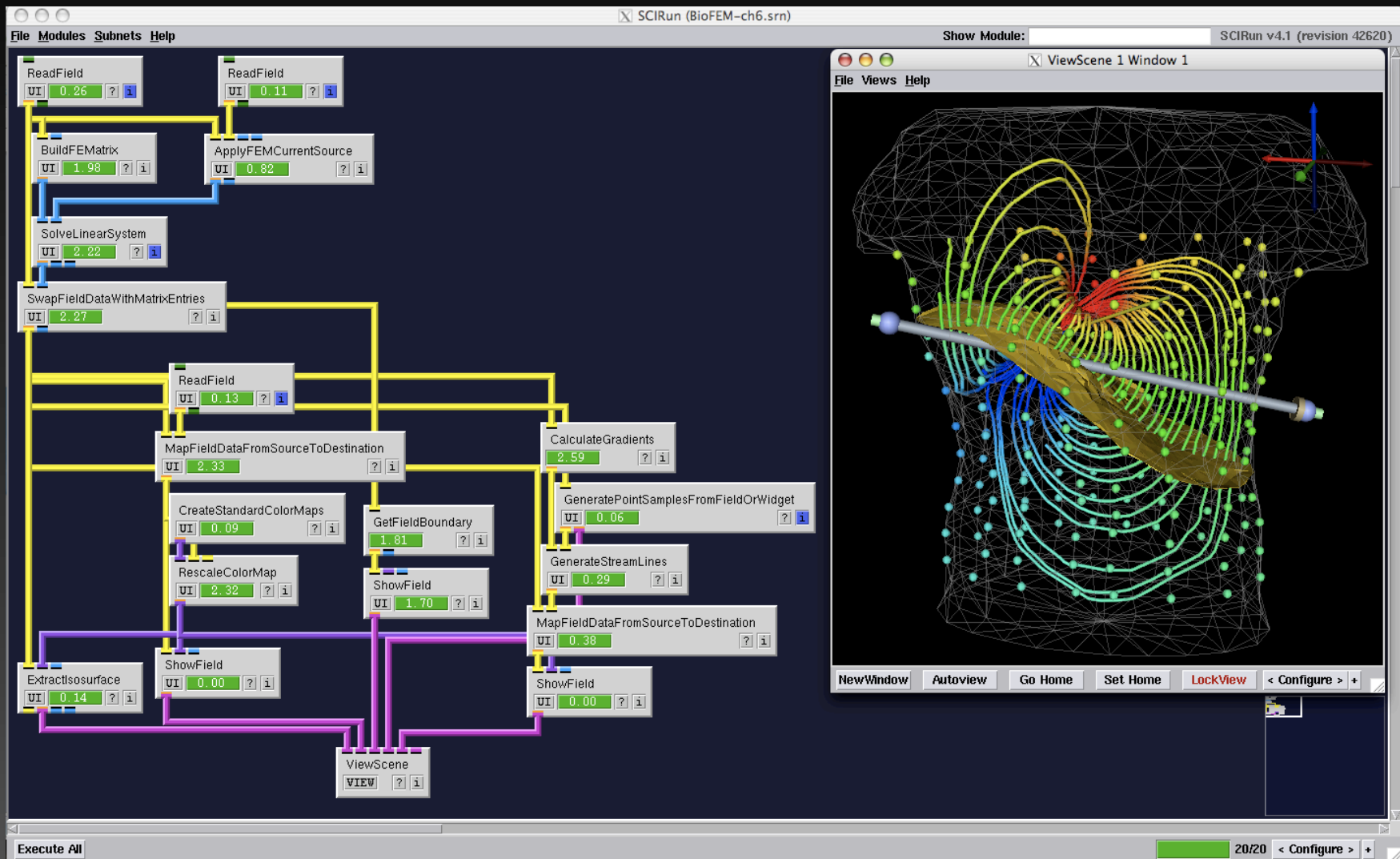
Numira Biosciences

<http://www.numirabio.com>



Elements of SCIRun

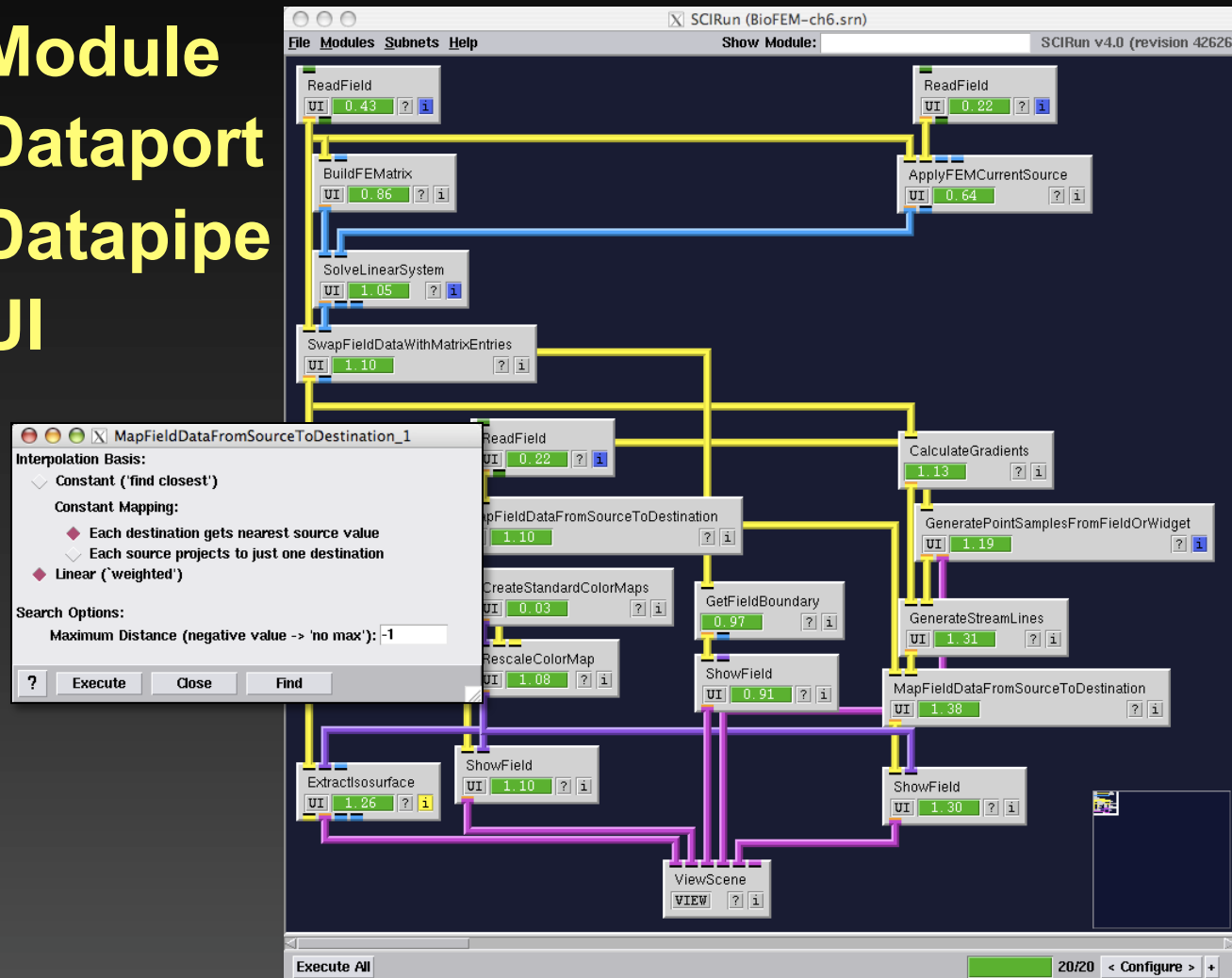
Visual programming Environment



Network Elements

- Dataflow Vocabulary

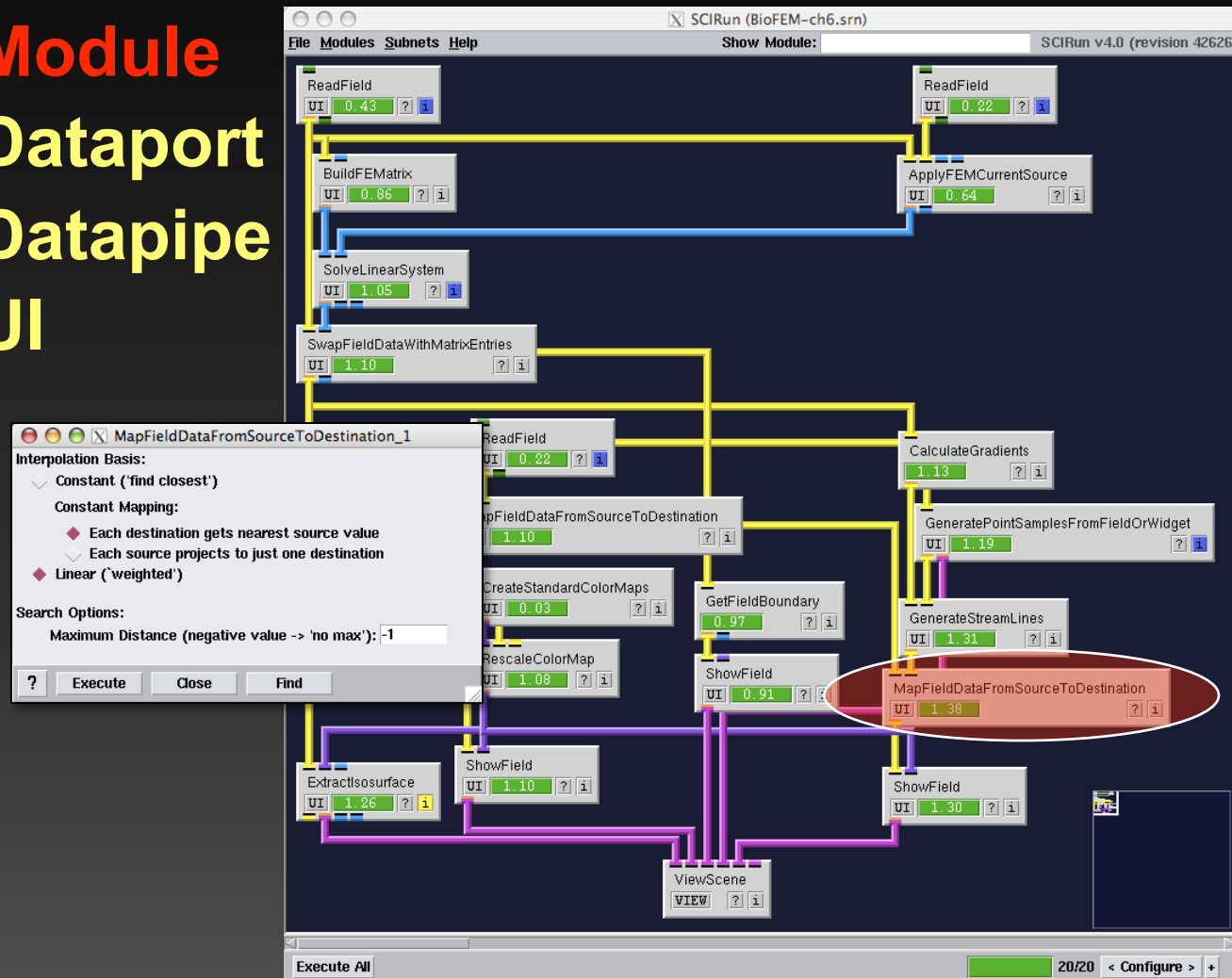
- Module
- Dataport
- Datapipe
- UI



Network Elements

- Dataflow Vocabulary

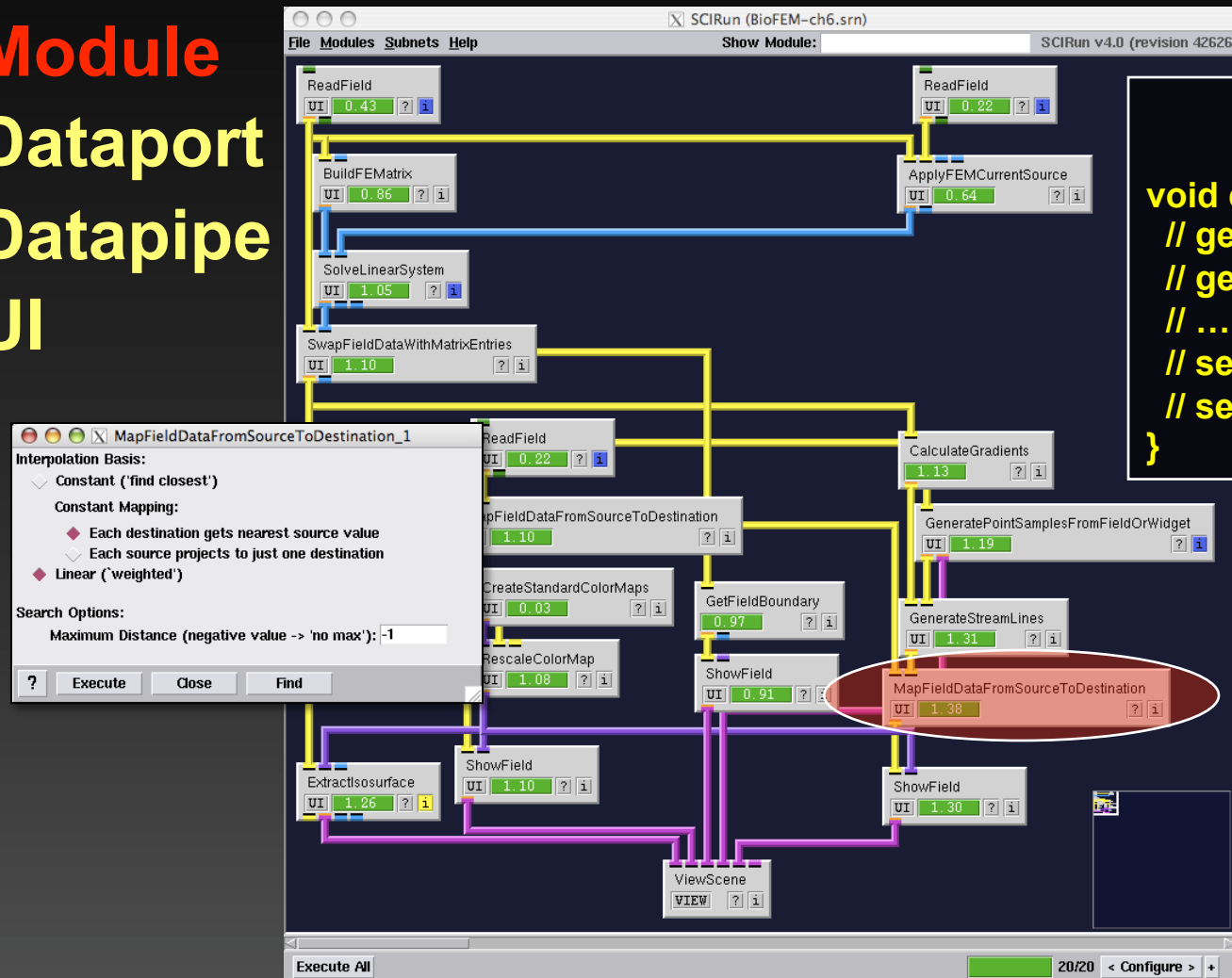
- **Module**
- **Dataport**
- **Datapipe**
- **UI**



Network Elements

- Dataflow Vocabulary

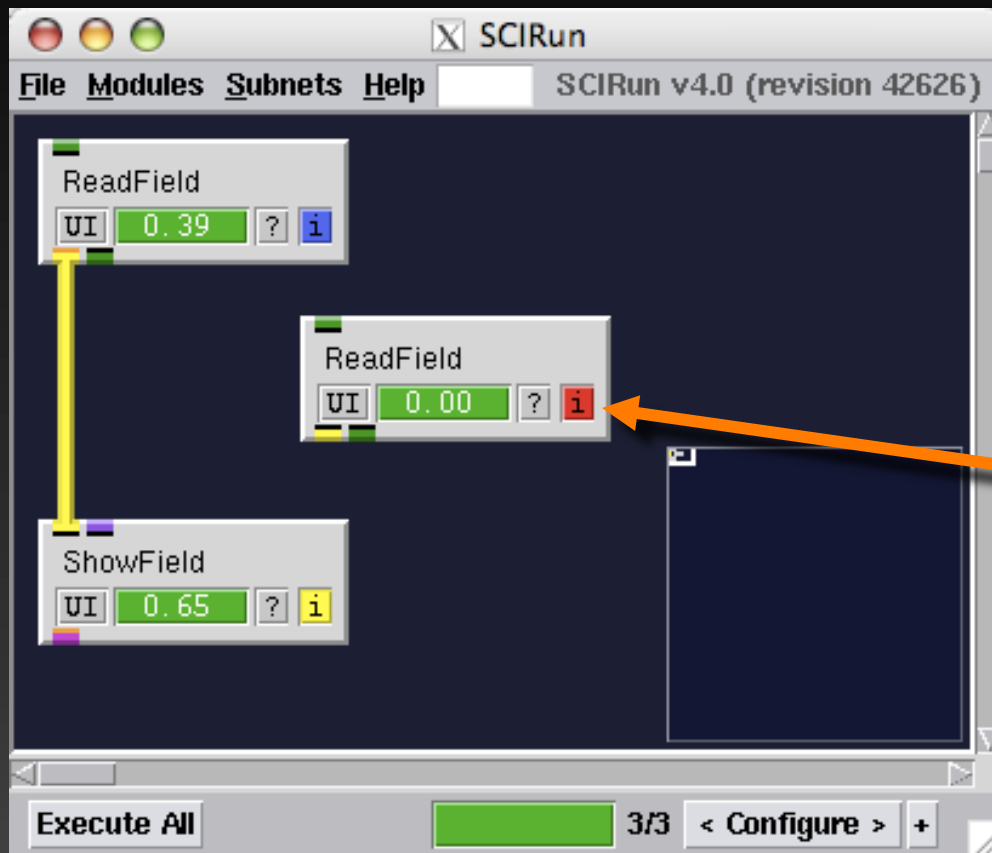
- **Module**
- **Dataport**
- **Datapipe**
- **UI**



MODULE

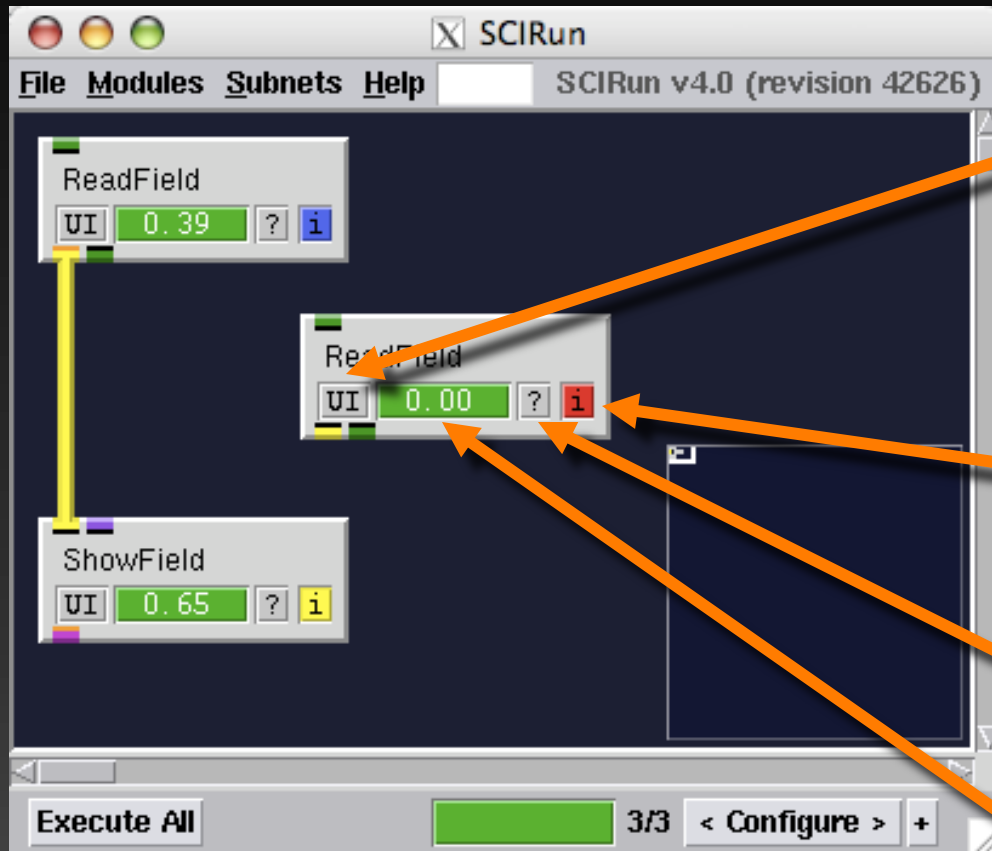
```
void execute() {  
  // get data from ports  
  // get data from UI  
  // ... do work ...  
  // set data on UI  
  // send data out ports  
}
```


Module Status



Log message indicator
Gray: no messages
Red: error
Blue: warning/remark

Module Status



Open module's GUI window

Log message indicator

Gray: no messages

Red: error

Blue: warning/remark

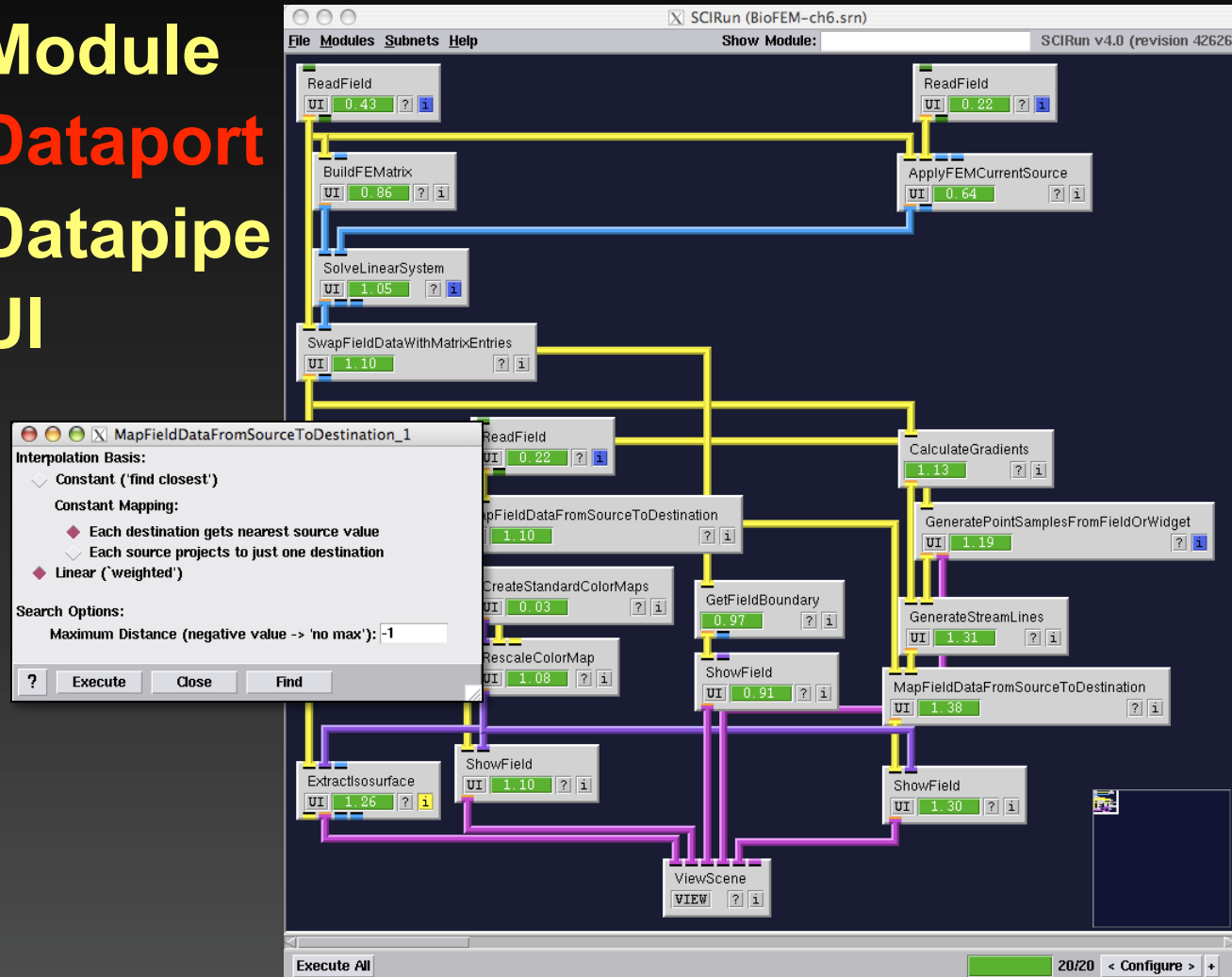
Press '?' button for Module help

Progress bar

Network Elements

- Dataflow Vocabulary

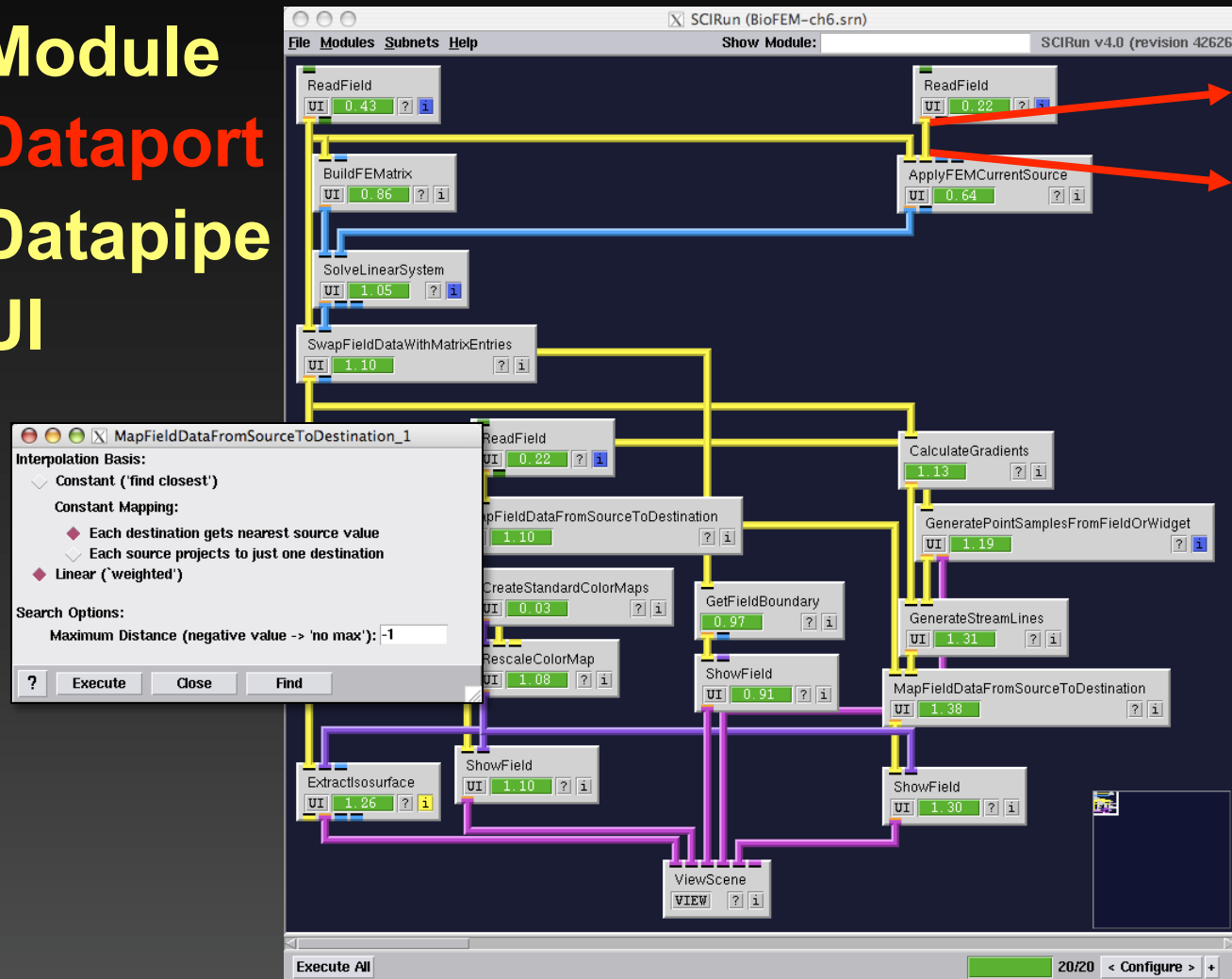
- Module
- Dataport
- Datapipe
- UI



Network Elements

- Dataflow Vocabulary

- Module
- Dataport
- Datapipe
- UI

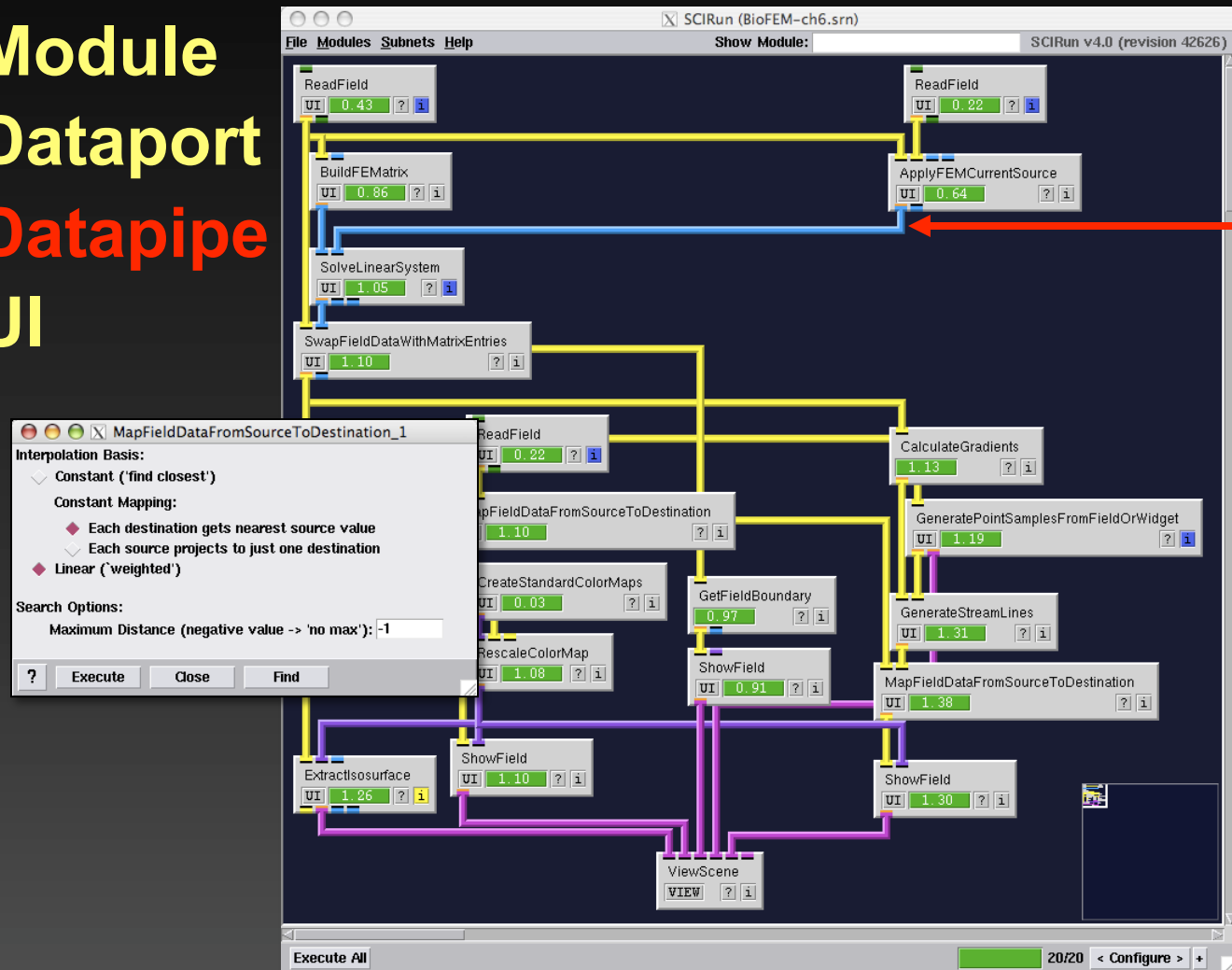


....send
get.....

Network Elements

- Dataflow Vocabulary

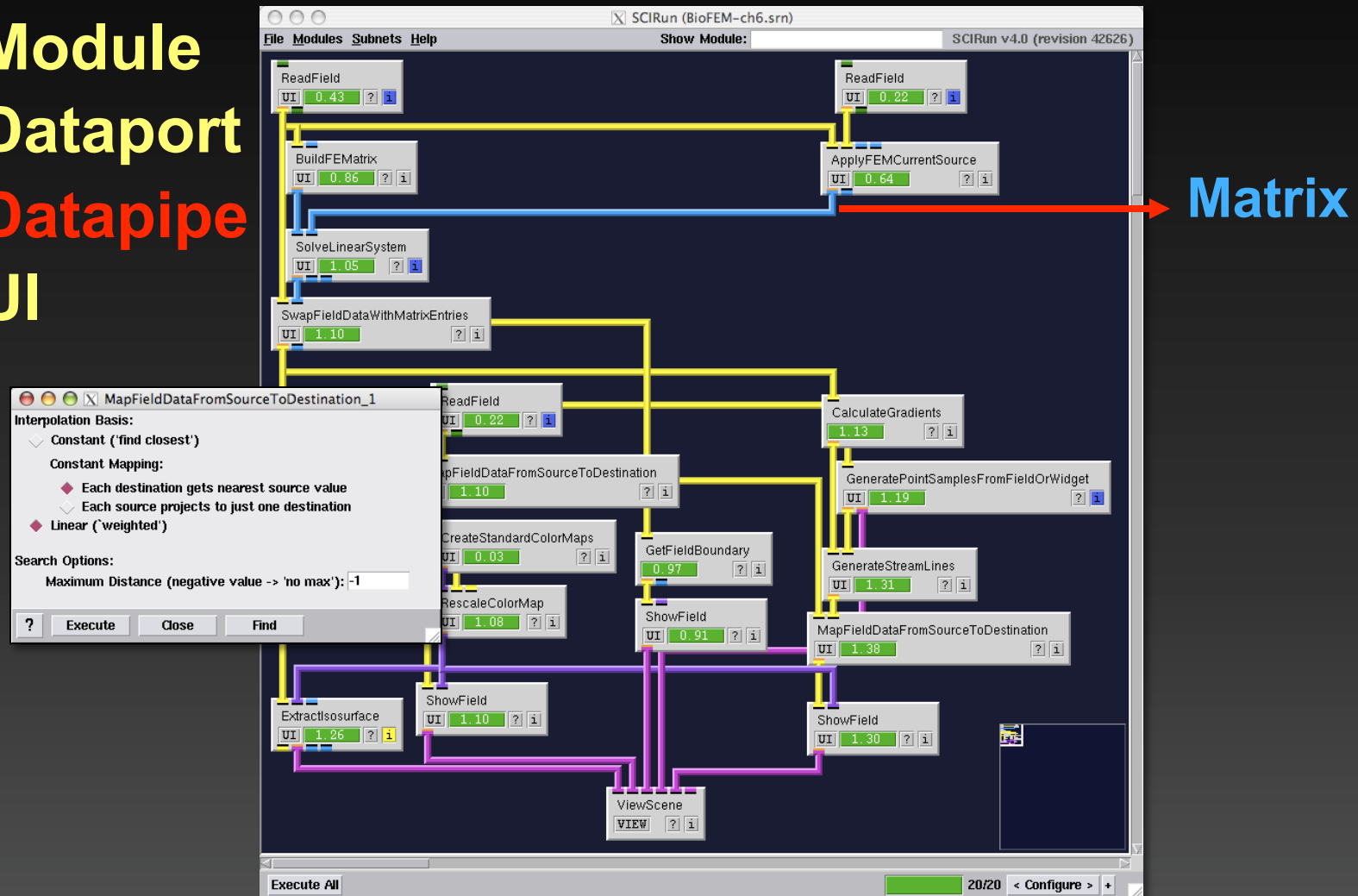
- Module
- Dataport
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- UI



Network Elements

- Dataflow Vocabulary

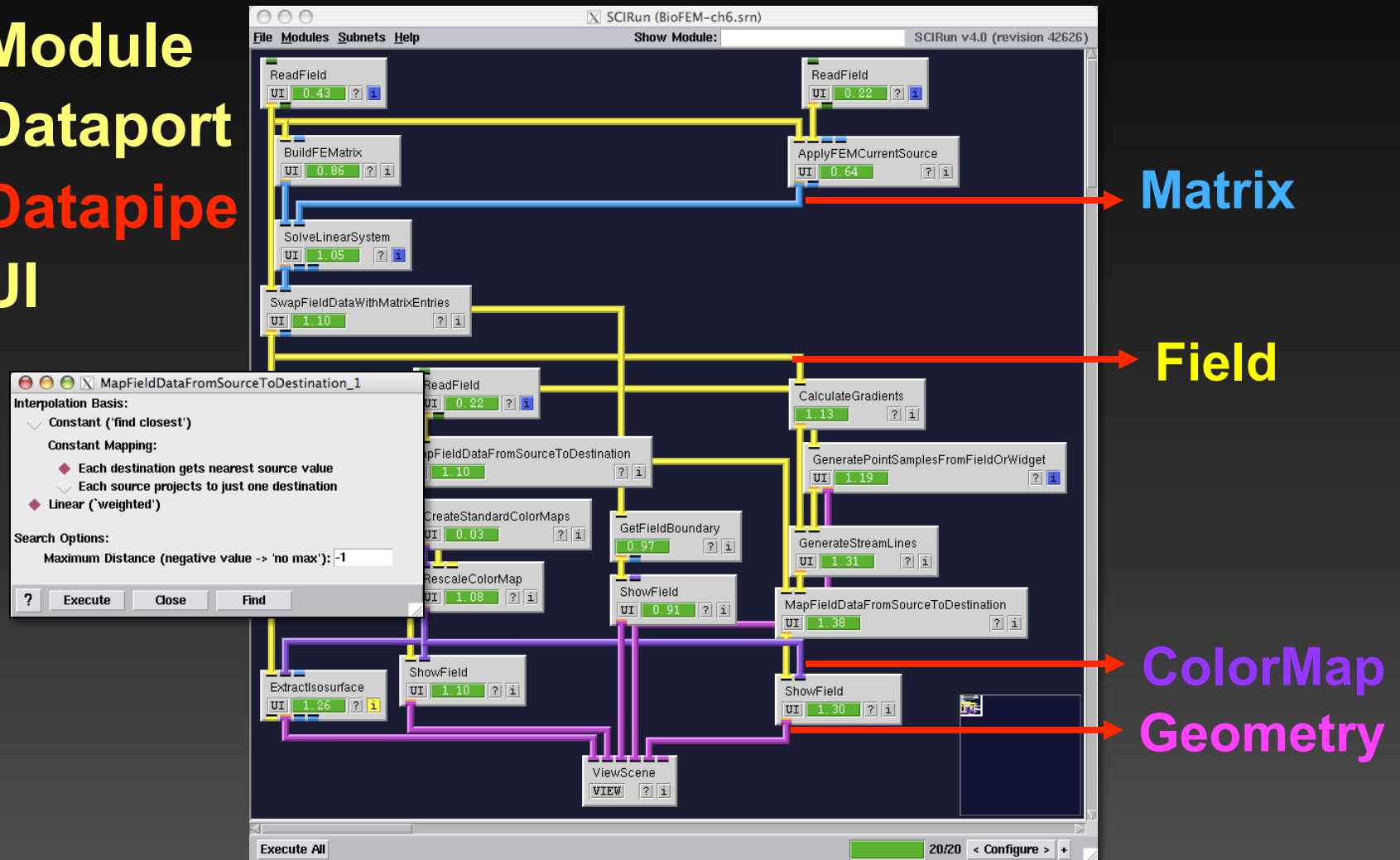
- Module
- Dataport
- Datapipe
- UI



Network Elements

- Dataflow Vocabulary

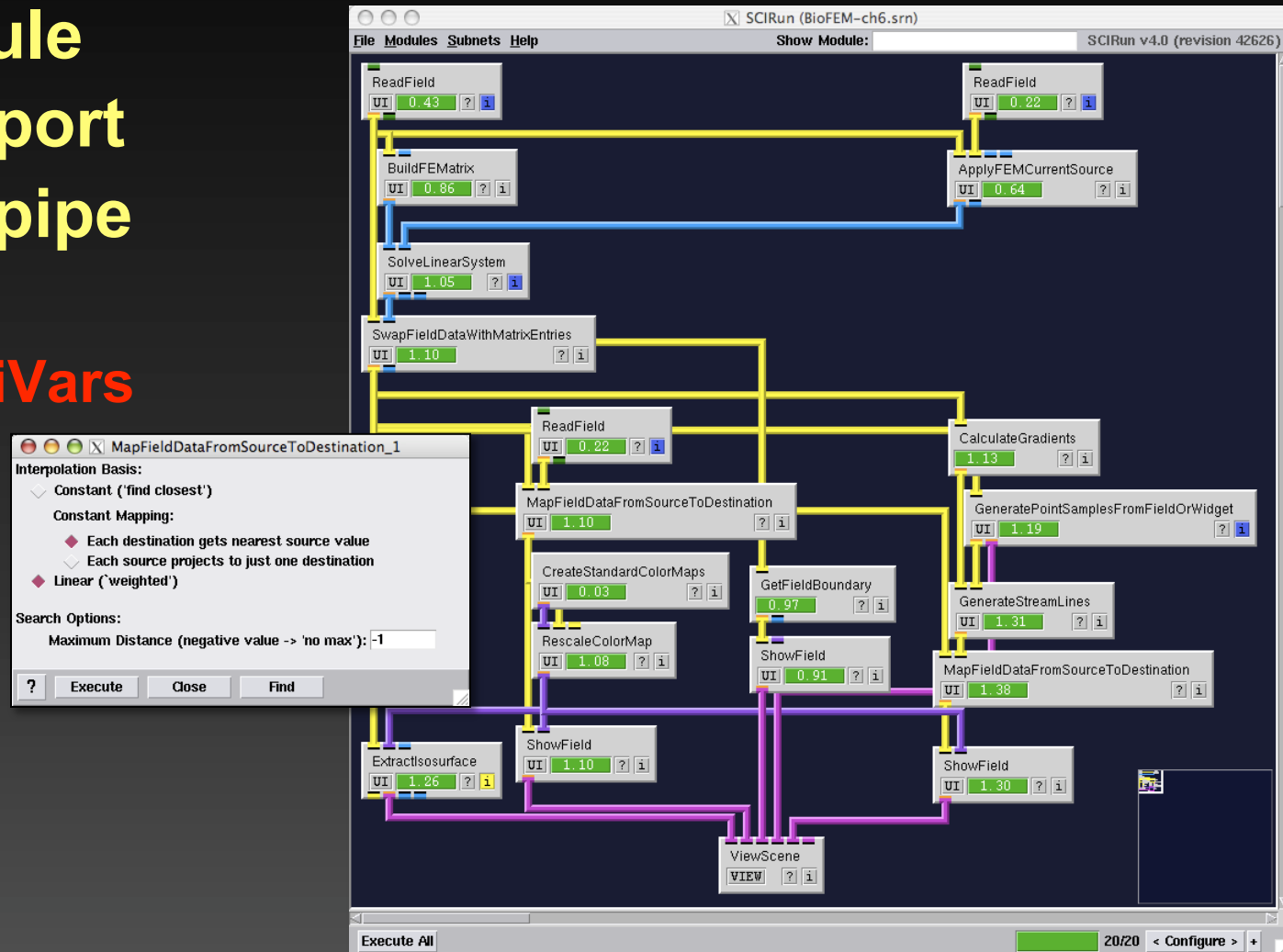
- Module
- Dataport
- Datapipe
- UI



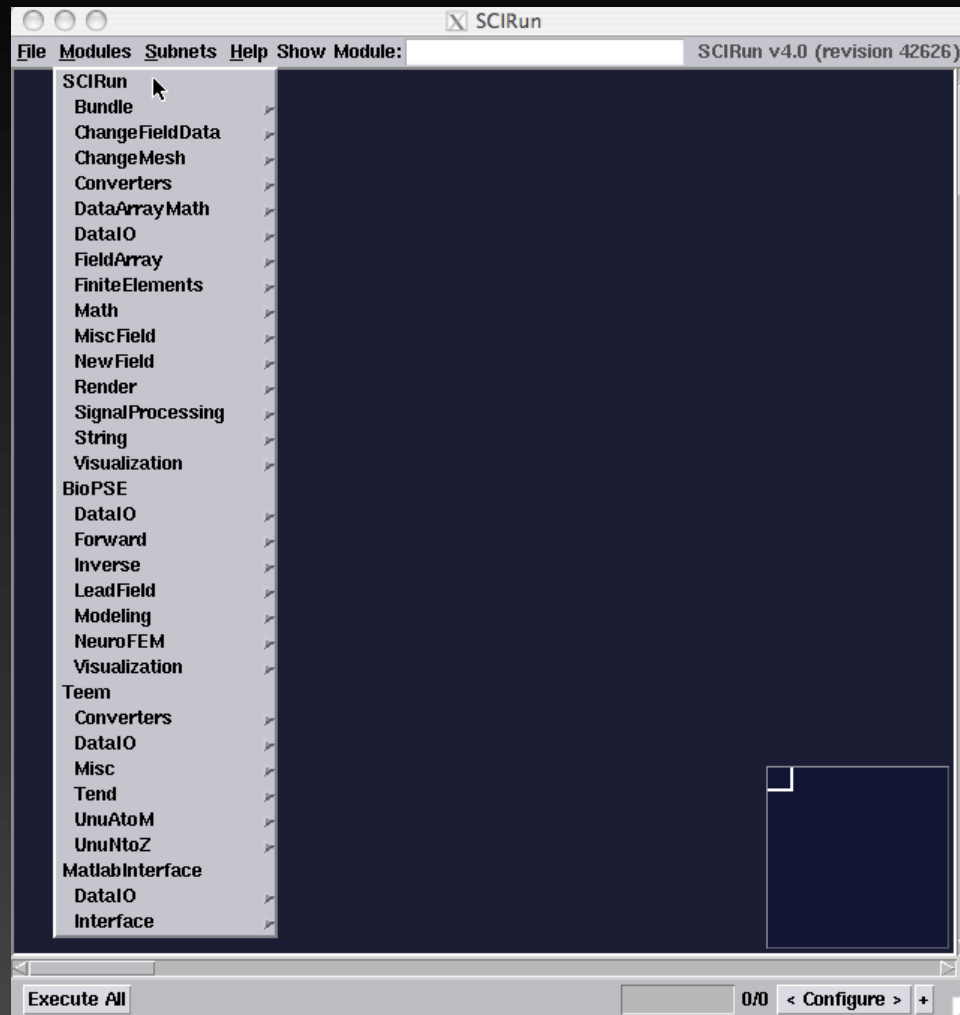
Network Elements

- Dataflow Vocabulary

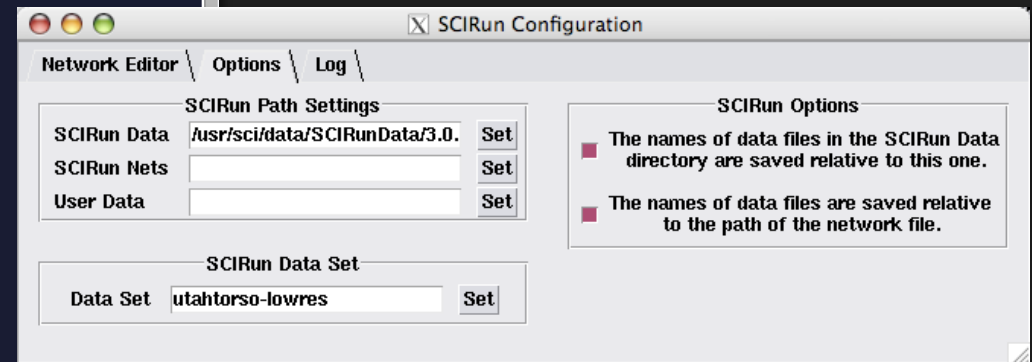
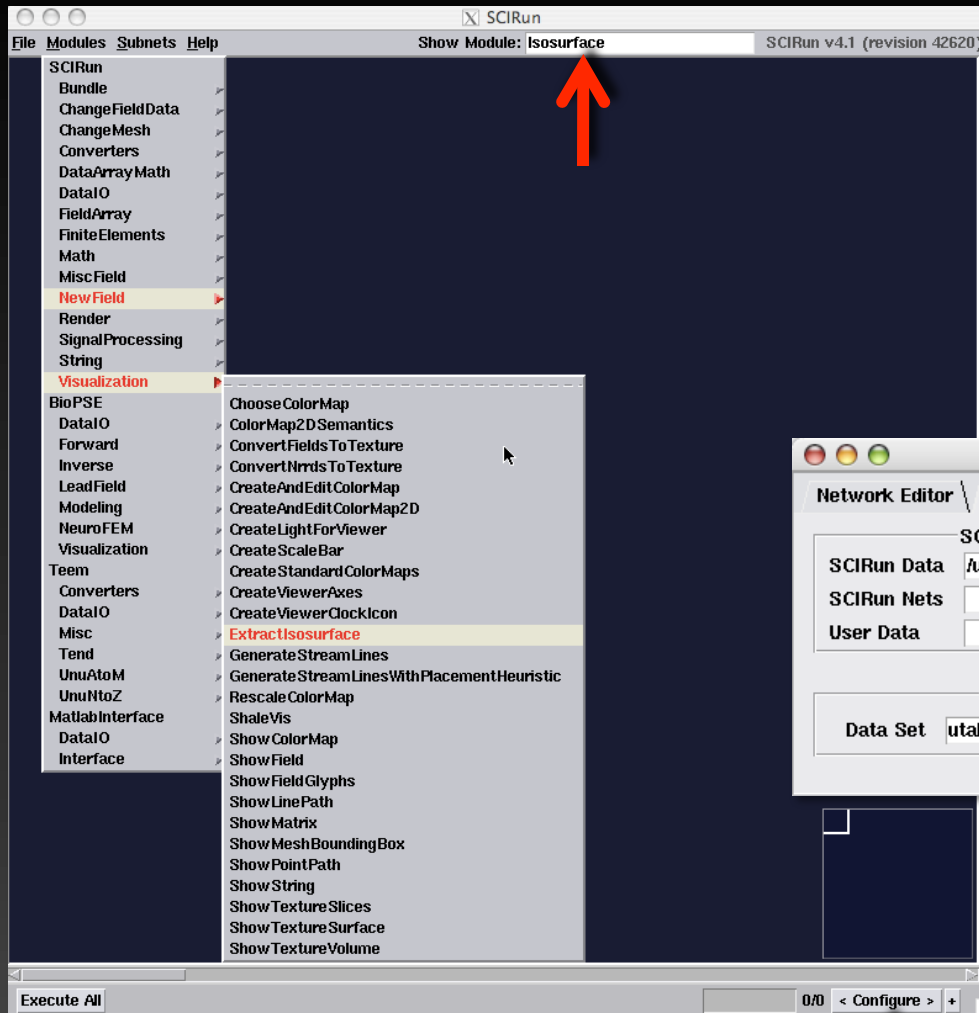
- Module
- Dataport
- Datapipe
- UI
 - GuiVars



Packages and Categories



Module Search & NetEdit Configure



Sample Networks

SCIRun/src/nets/Modules/

SCIRun/src/nets/Samples/

Lab 3 (part 1)

