

Lab 2: MATLAB Bridge, Image Processing, and More Visualization

Goals

Lab2

Read in a volumetric MATLAB file

Compare the difference between a single slice of the volume and a blurred slice of the same volume

Show difference as a height-map

Look at isosurfaces of difference volume

Look at a volume rendering of difference volume

Load difference volume into Biolume

Instructions

Lab2

Read in a volumetric MATLAB file

- `MatlabInterface::DataIO::NrrdReader`

Select and render a single slice

- `Teem::UnuNtoZ::UnuSlice, ShowField (ColorMap)`

Gaussian blur the volume with Teem

- `UnuResample`

Select a corresponding slice

- `UnuSlice`

Render the second slice side-by-side with the first

- `Math::BuildTransform`
- `FieldsGeometry::TransformMesh`

Compute the difference between the slices

- `Unu2op (-)`

Render the difference image as a height-map

- `Unstructure, TransformMesh, ShowField`

Create an isosurface of the difference volume

- `Unu2op (-), Isosurface`

Create a direct volume rendering of the difference volume