gMocren and Volume Visualization

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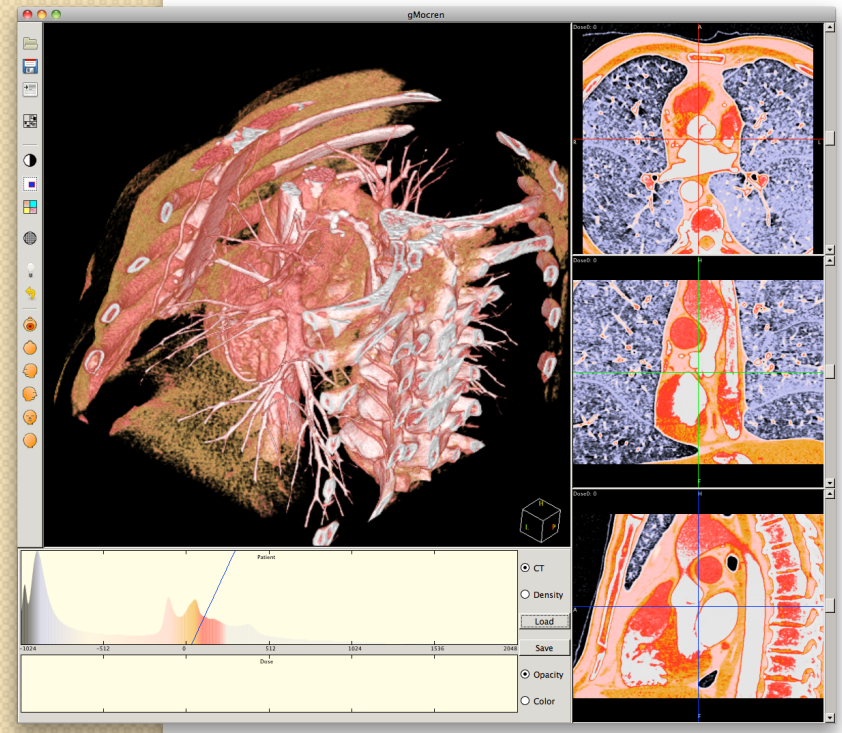
gMocren

--- A volume visualizer for Geant4 ---

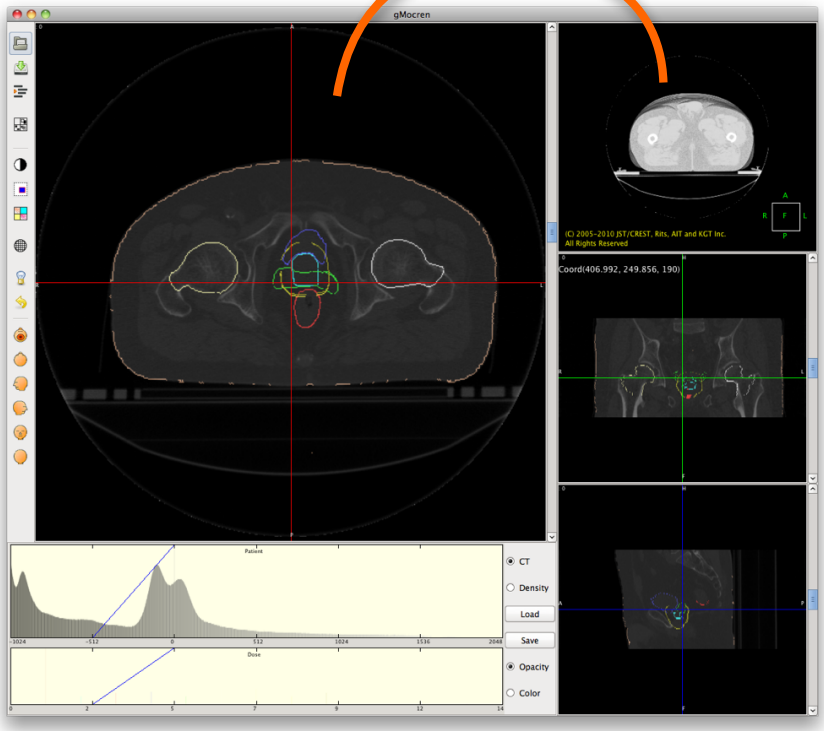
gMocren : update

- New functions :
  - A DICOM dataset becomes readable directly
  - DICOM-RT files are supported to visualize ROIs
    - It is implemented based on the DICOM-RT structure set of Hyogo Ion Beam Medical Center.
  - It is possible to swap the 3D image pane with one of the 2D image panes in order to enlarge the 2D image

swappable the 3D image pane for one of the 2D image panes



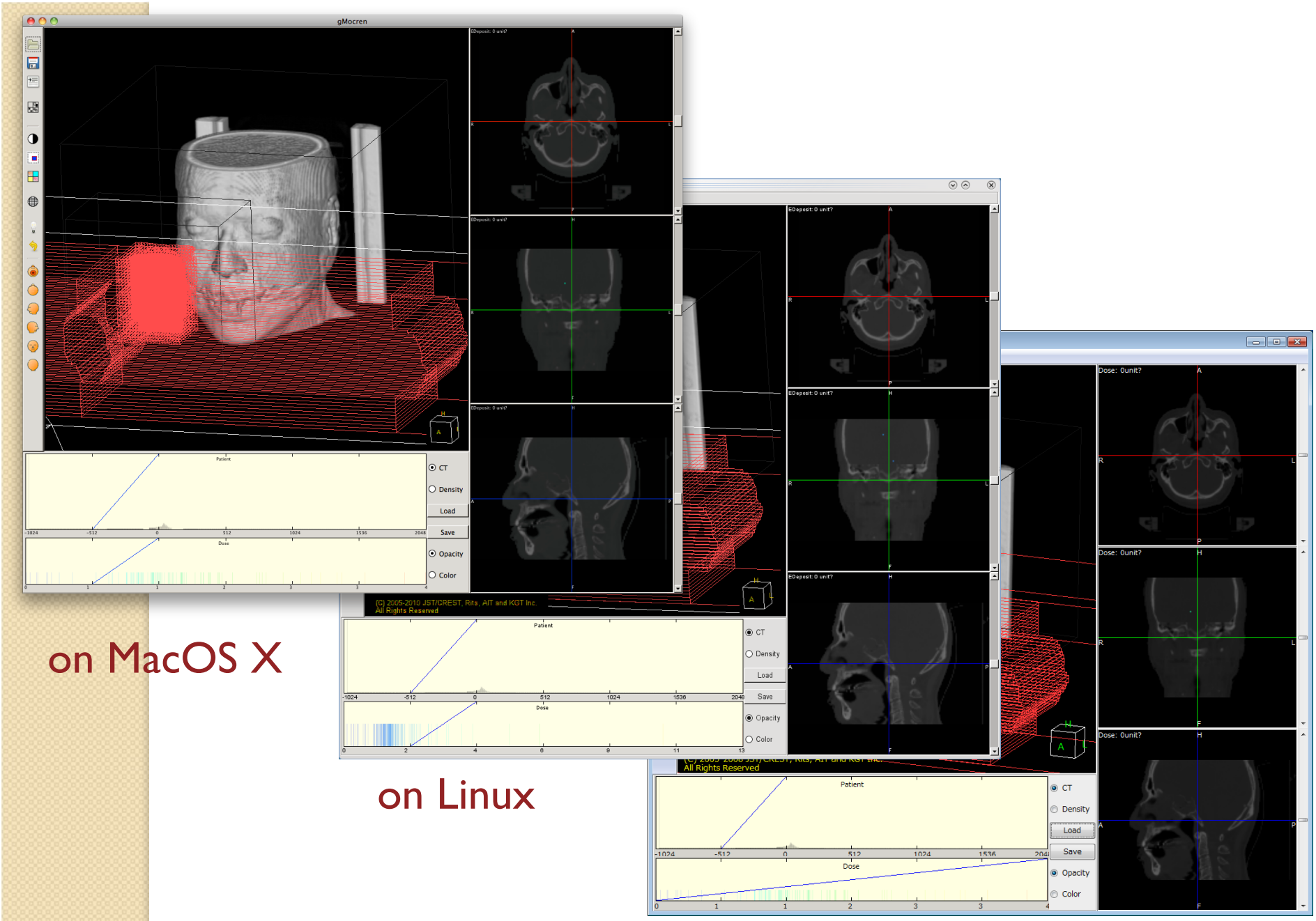
A fine image from a DICOM data set



ROI image from DICOM-RT Structure Set

gMocren on MacOS X

- gMocren on MacOS X is dvelopped
  - The first α version is available.
  - It has the same functions as gMocren on Windows or Linux.



on MacOS X

on Linux

on Windows

High-Quality Volume/Surface Fusion for Genanr4 Medical Visualization

----- a new technology ----

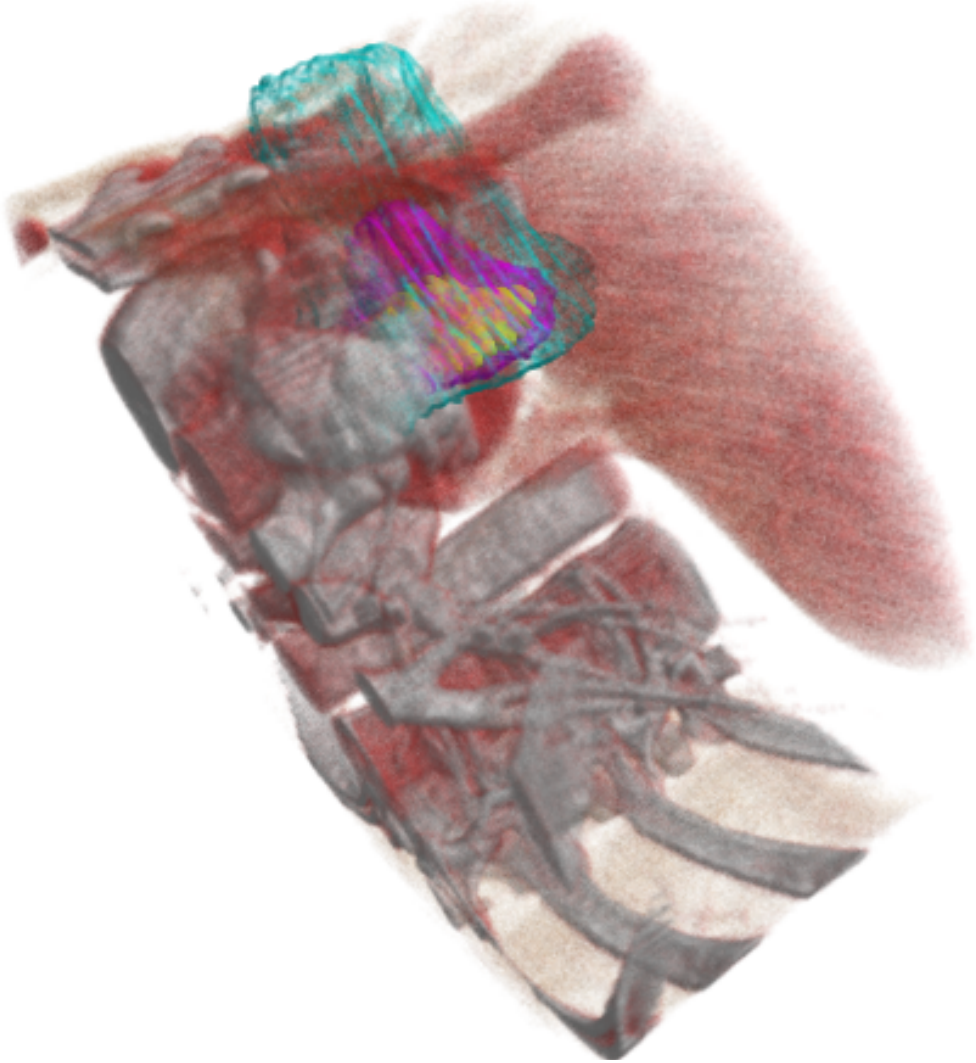
Why volume/surface "fusion"

- To visualize a simulation result together with simulated object, e.g.,
  - Dose (simulation result)
    + Human Breast (simulated object)
- To visualize many internal organs simultaneously
- Etc.

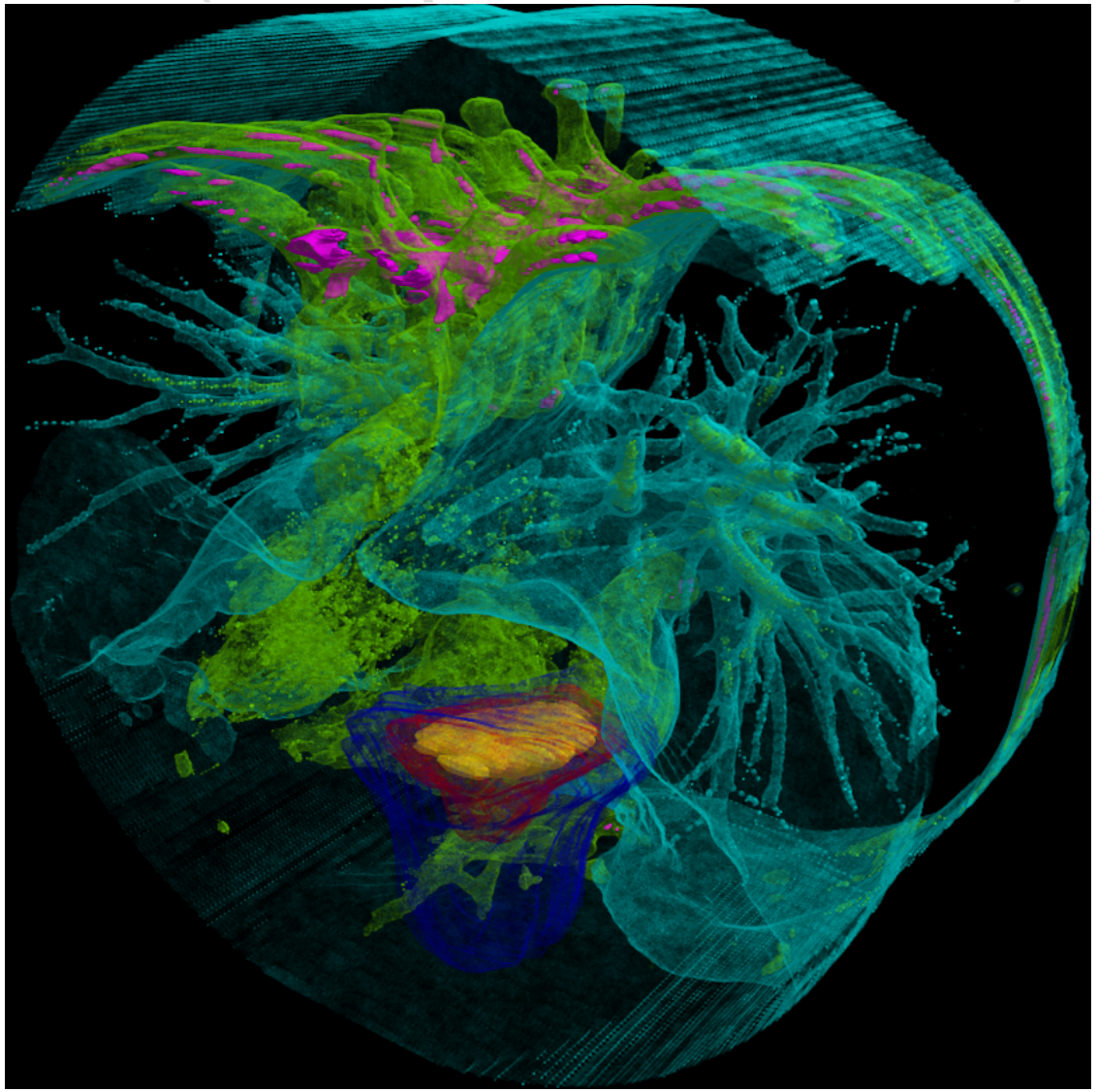
- The gMocren team is developing a new technology to create high-quality "fused transparent views" of volumes and/or surfaces

Breast (volume) + Dose (multiple isosurfaces)

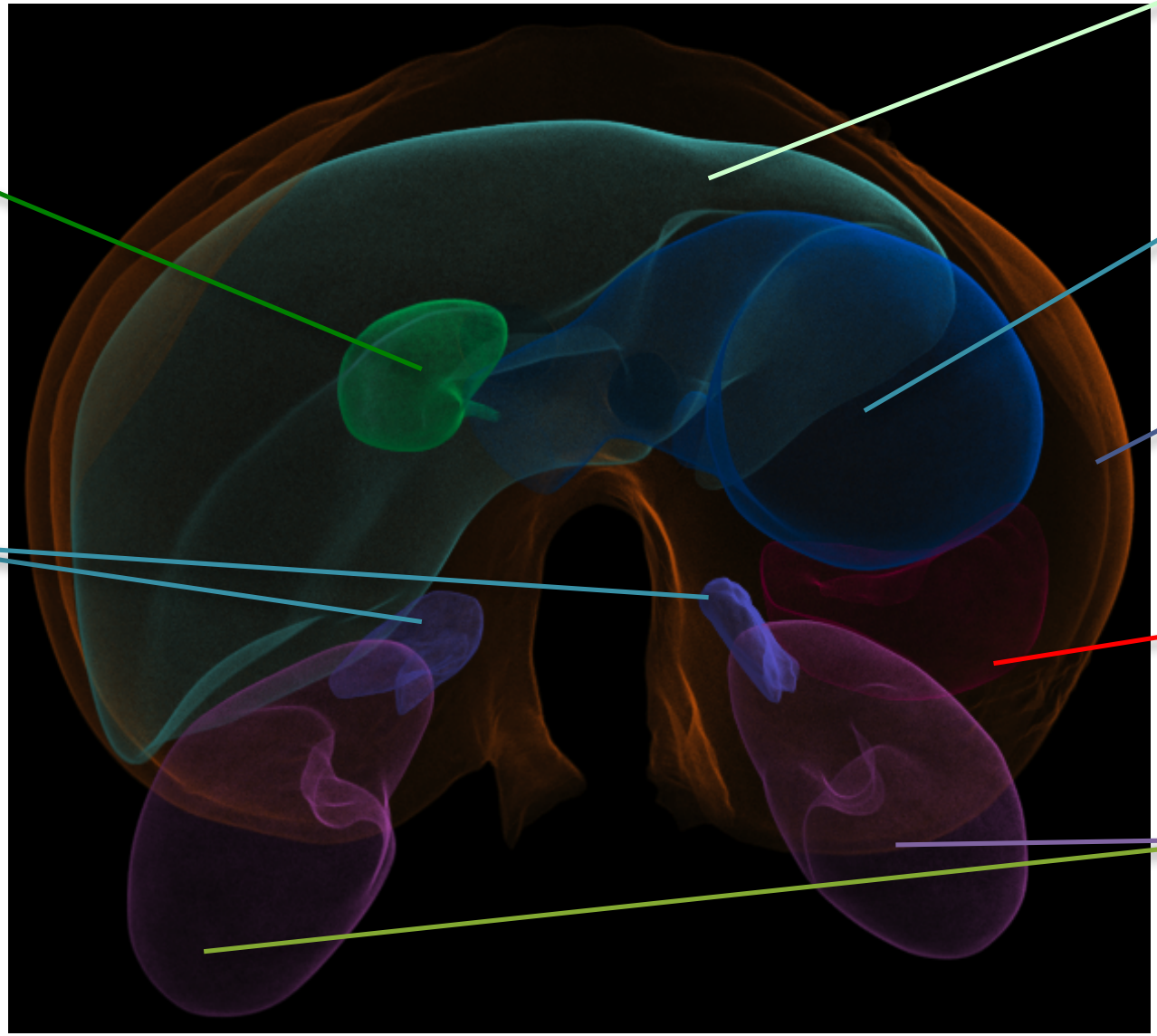
fps: 4.057



Breast (multiple isosurfaces) + Dose (multiple isosurfaces)



Transparent view of internal organs (multiple surfaces)



Internal organs (surfaces) and a medical tool (quadratic sphere)