Referentials in Anatomist
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- Visualization of several types of objects: image, volume (3D, 4D), mesh, graph (sulci, ROI)
- Management of coordinate systems and transformations
- Possibility of building complex 3D scenes with several objects (merging, superimposing...).
- A lot of tools: color palettes, region of interest module, manual registration
Anatomist features

- Volume rendering
- Cut mesh
- 2D fusion
- 3D fusion
Handling referentials

- Different subjects, acquisitions -> different referentials
- Transformation : changes coordinates system from one referential to another
Anatomist / SPM referentials

- **Anatomist default referential**
  - X axis: right to left
  - Y axis: front to back
  - Z axis: top to bottom
  - origin: the center of the first voxel: in the top, right, front corner

- **Radiological convention by default**
Anatomist / SPM referentials

- SPM default referential
  - X axis: left to right
  - Y axis: back to front
  - Z axis: bottom to top
  - origin: the center of image.

- Neurological convention
Superimposing anatomical and functional MRI

- SPM Anatomy normalization
  - transformation matrix in a matlab file (.mat)
  - can be converted to Anatomist transformation (.trm) with Brainvisa process tools -> converters -> **SPM sn3d to AIMS transformation converter**

- Normalized fMRI data
  - Nifti format contains transformation information
  - Anatomist option: **apply SPM/Nifti builtin referential**
  - Be careful: SPM generally doesn't indicate the destination of the transformation, so we have to add the information in Anatomist referential window.
Superimposing anatomical and functional MRI

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