MriStudio: for Quantitative Analysis of Diffusion Tensor Imaging

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- MriStudio is a family of programs for comprehensive quantitative analyses of DTI data;
- The programs consists of DtiStudio, Landmarker, and RoiEditor, which communicate seamlessly.
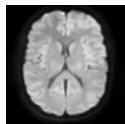
MriStudio

DtiStudio

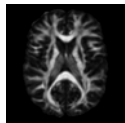### Landmarker

RoiEditor

DTI processing

Scanner

DWI
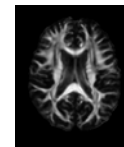
Tensor

Maps

Fiber Tracking

Co-registration
Eddy current correction
Automated quality check

Image normalization

Pre-processing
- Format
- Size
- Skull strip
- b0 distortion cor.

Linear normalization

Non-Linear normalization

Built-in Atlases
- Population-averaged (Philips & Siemens)
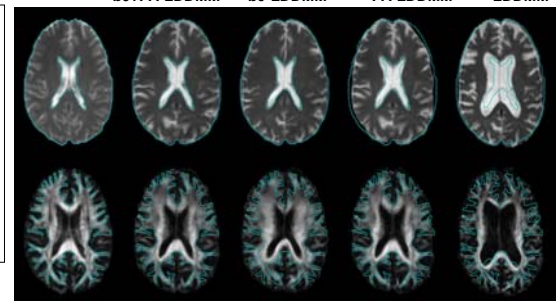- Single-subject
- Talairach

Quantification

ROI-based
- Manual
- Threshold
- Region growing
- Vector-based

Atlas-based

A) Template   B) Subject After b0+FA-LDDMM   C) Subject After b0-LDDMM   D) Subject After FA-LDDMM   E) Before LDDMM

References
[1]. Mori S, et al., Ann. Neurol., 45:265-269, 1999.
[2]. Jiang H, et al., Comput Methods Programs Biomed., 81:106-116, 2006.