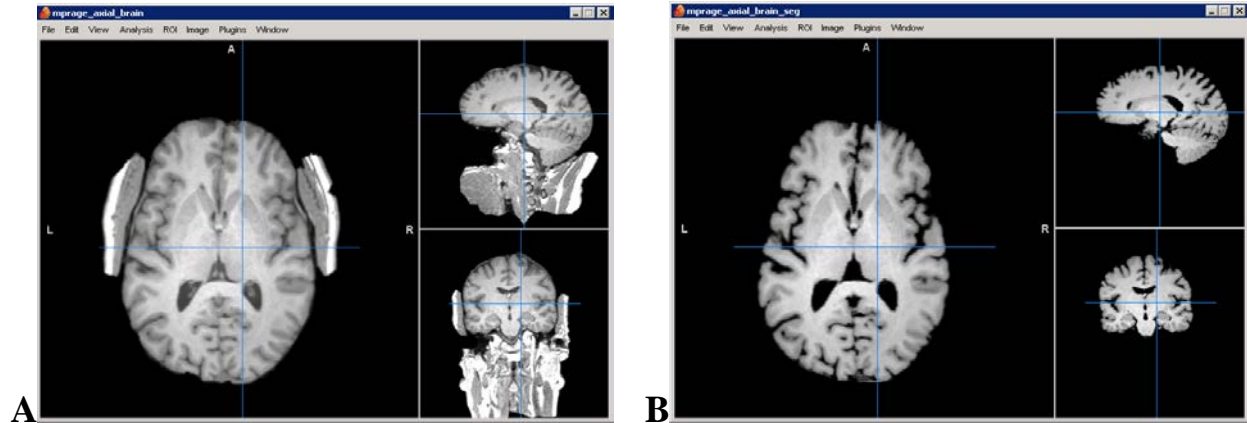


HMRC Technical Note of Kwan-Jin Jung, Ph.D.

Subject: Brain Extraction of Structural MRI such as MPRAGE

Introduction

The FSL's BET is too sensitive to intensity nonuniformity as shown in Fig. A.



Method

- 1) Convert Dicom into Nifti using dcm2nii. If possible, select the axially reoriented image
- 2) Segment the axial mprage_axial using SPM's Segment tool
- 3) Using FSL's fslmaths tool,
 - a. Combine the GM and WM component images,
 - b. Threshold to a mask;
 - c. Multiply the mask to the mprage_axial to produce mprage_axial_brain (Fig. B):

```
$ fslmaths c1mprage_axial.nii -add c2mprage_axial.nii -thrp 50 -bin -mul  
mprage_axial mprage_axial_brain
```