


Slice Timing: Multiband & NIFTI .nii

- **AFNI** can store EPI slice time offsets in the dataset header (***.HEAD**)
- **Problem:** Multiband (multi-slice) image acquisition has complicated slice timing/order
 - Not just interleaved: **0 4 1 5 2 6 3 7**
 - Might be instead: **0 2 3 1 0 2 3 1** (multiband 2)
 - Can be hard to read from DICOM files
- **Problem:** The standard NIFTI .nii format cannot store complicated slice timings
 - So programs like *dcm2niix_afni* cannot store this information even if the program can find it in the DICOM files

AFNI and Slice Timing

- I am assuming you have (or can find) the slice timing for your EPI datasets
 - If you are downloading data from some other place, you might not be able to get that timing
 - In that situation, you will just have to skip slice timing correction (*tshift* block in *afni_proc.py*)
- It is possible to make *afni_proc.py* use slice timing that is **not** stored in the dataset header, but it is complicated right now
-  I plan to make a software change to **AFNI** to make it easier to store the slice timing in the NIFTI file, so *3dTshift* can do good work

3drefit -Tslices

- Insert slice timing information into AFNI/NIFTI dataset header
- `3drefit -Tslices 0.0 1.0 0.2 1.2 0.4 1.4 0.6 1.6 0.8 datasetname`
- Units are seconds
 - Can put `'*0.001'` before first time to scale from milliseconds, if that is the of information you have
- Can read times from a file by using Unix trickery:
- `3drefit -Tslices '*0.001' \`
``cat Times.1D``