



Get figure file: [sub-486306438/figures/sub-486306438_ses-PNC1_task-rest_acq-se_desc-pvcplot_asl.svg](#)

About

- ASLPrep version: 0.2.6
- ASLPrep command: `/usr/local/miniconda/bin/aslprep /cbica/projects/GURLAB/projects/aslpipeline/bids_data/PNCdata /cbica/projects/GURLAB/projects/aslpipeline/aslprepoutput/pncdata participant --participant_label 486306438 --nprocs 8 -w /cbica/projects/GURLAB/projects/aslpipeline/aslwkdir/pncdata --fs-license-file /cbica/software/external/freesurfer/centos7/6.0.0/license.txt --skip_bids_validation --anat-derivatives /cbica/projects/GURLAB/projects/aslpipeline/aslprepoutput/pncdata/aslprep/sub-486306438/anat/ --basil --scorescrub`
- Date preprocessed: 2020-12-07 05:57:39 -0500

Methods

We kindly ask to report results preprocessed with this tool using the following boilerplate.

HTML

Markdown

LaTeX

Results included in this manuscript come from preprocessing performed using *aslprep* 0.2.6, which is based on *Nipype* 1.6.0 (Gorgolewski et al. (2011); Gorgolewski et al. (2018); RRID:SCR_002502).

Anatomical data preprocessing

A total of 1 T1-weighted (T1w) images were found within the input BIDS dataset. The T1-weighted (T1w) image was corrected for intensity non-uniformity (INU) with **N4BiasFieldCorrection** (Tustison et al. 2010), distributed with ANTs 2.3.1 (Avants et al. 2008, RRID:SCR_004757), and used as T1w-reference throughout the workflow. The T1w-reference was then skull-stripped with a *Nipype* implementation of the **antsBrainExtraction.sh** workflow (from ANTs), using OASIS30ANTs as target template. Brain tissue segmentation of cerebrospinal fluid (CSF), white-matter (WM) and gray-matter (GM) was performed on the brain-extracted T1w using **fast** (FSL 6.0.3:b862cdd5, RRID:SCR_002823, Zhang, Brady, and Smith 2001). Volume-based spatial normalization to one standard space (MNI152NLin2009cAsym) was performed through nonlinear registration with **antsRegistration** (ANTs 2.3.1), using brain-extracted versions of both T1w reference and the T1w template. The following template was selected for spatial normalization: *ICBM 152 Nonlinear Asymmetrical template version 2009c* [Fonov et al. (2009), RRID:SCR_008796; TemplateFlow ID: MNI152NLin2009cAsym],

Functional data preprocessing

For each of the 1 ASL runs found per subject (across all tasks and sessions), the following preprocessing was performed. First, a reference volume and its skull-stripped version were generated. Head-motion parameters with respect to the ASL reference (transformation matrices, and six corresponding rotation and translation parameters) are estimated before any spatiotemporal filtering using **mcflirt** (FSL 6.0.3:b862cdd5, Jenkinson et al. 2002). ASL runs were slice-time corrected using **3dTshift** from AFNI 20160207 (Cox and Hyde 1997, RRID:SCR_005927). The ASL reference was then co-registered to the T1w reference using **flirt** (FSL 6.0.3:b862cdd5, Jenkinson and Smith 2001) with the boundary-based registration (Greve and Fischl 2009) cost-function. Co-registration was configured with nine degrees of freedom to account for distortions remaining in the ASL reference. The asl time-series (including slice-timing correction when applied) were resampled onto their original, native space by applying the transforms to correct