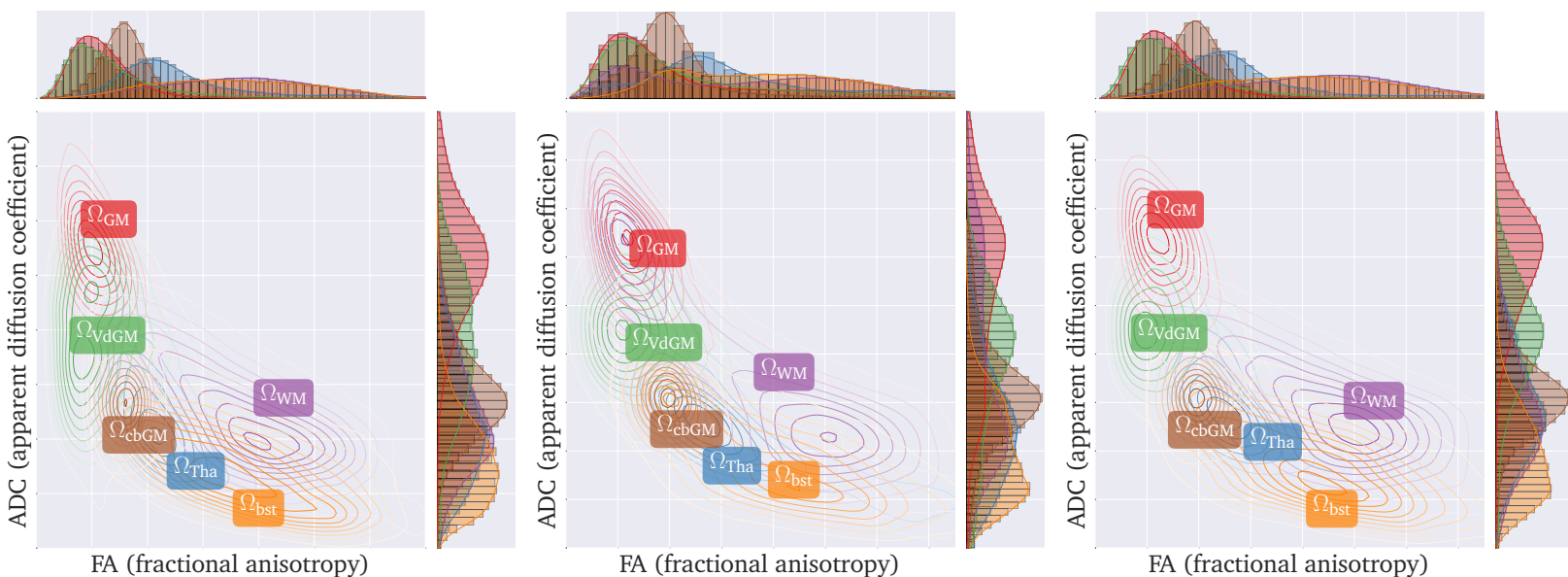


# A. OPTIMIZATION OF THE SEGMENTATION MODEL

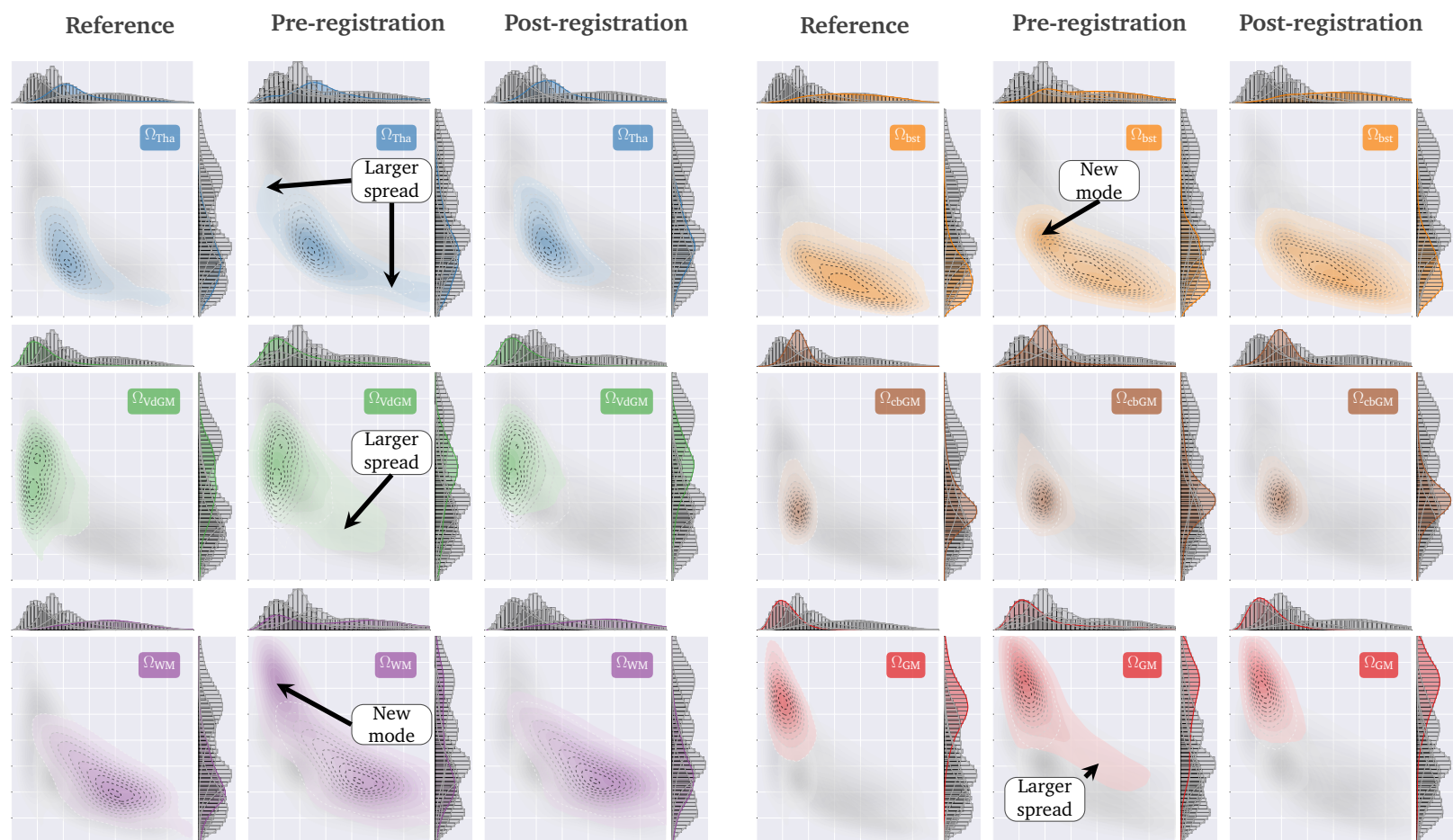


**Reference:** segmentation by the surfaces extracted in T1w and original (undistorted) diffusion data.

**Before registration,** the contours from the T1w are not aligned with the distorted diffusion data.

**After registration,** the contours are now aligned with the distorted diffusion data.

# B. DETAIL OF TISSUE-WISE JOINT-DISTRIBUTIONS



**THE PROPOSED SEGMENTATION MODEL** comprehends the following six homogeneous regions, in hierarchical order: 1) thalamus  $\Omega_{Tha}$ ; 2) ventricular system and deep gray matter structures  $\Omega_{VdGM}$ ; 3) cerebral white matter  $\Omega_{WM}$ ; 4) brain stem and cerebellar white matter  $\Omega_{bst}$ ; 5) cerebellar gray matter  $\Omega_{cbGM}$ ; and 6) cortical gray matter  $\Omega_{GM}$ .