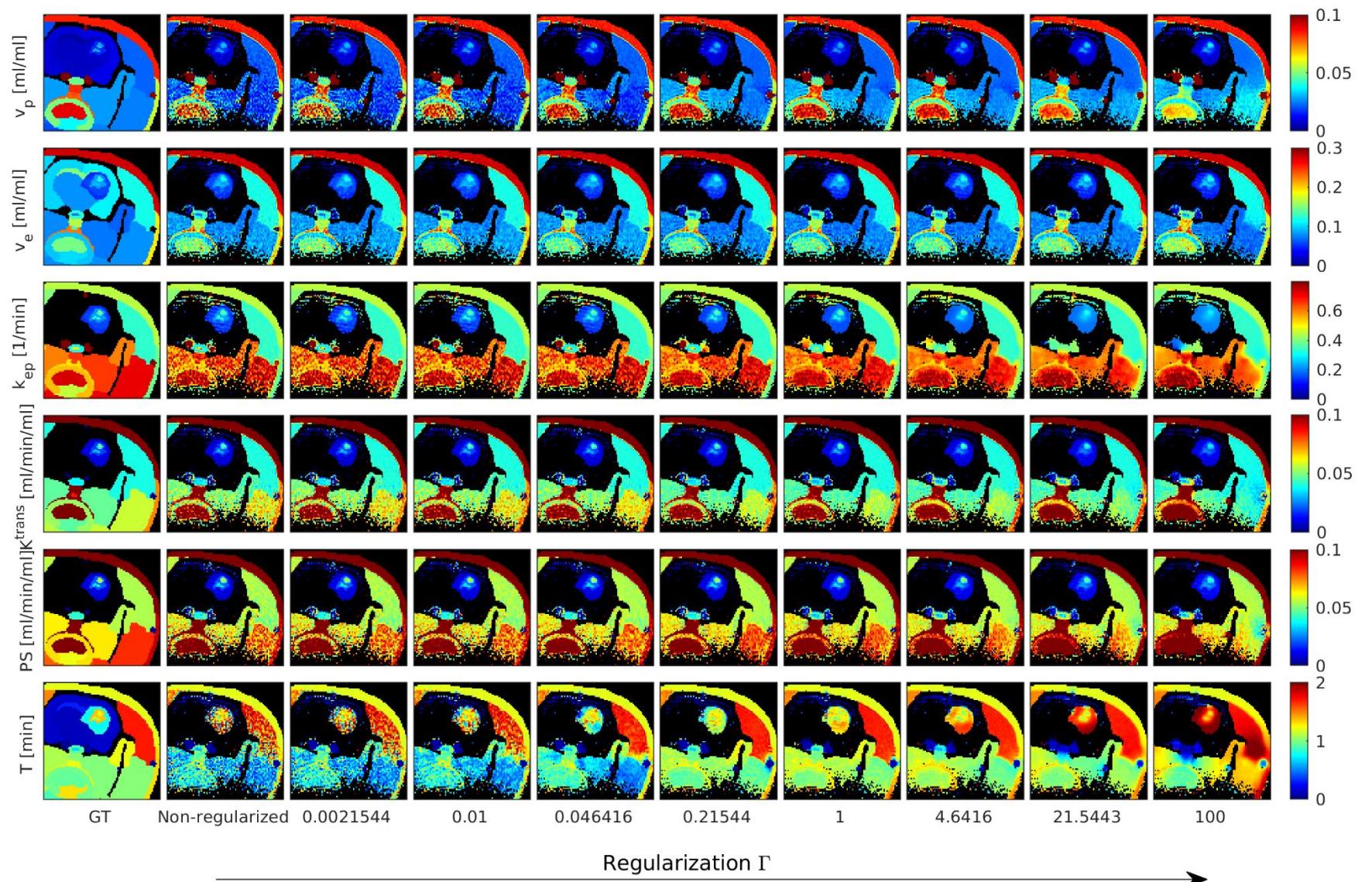
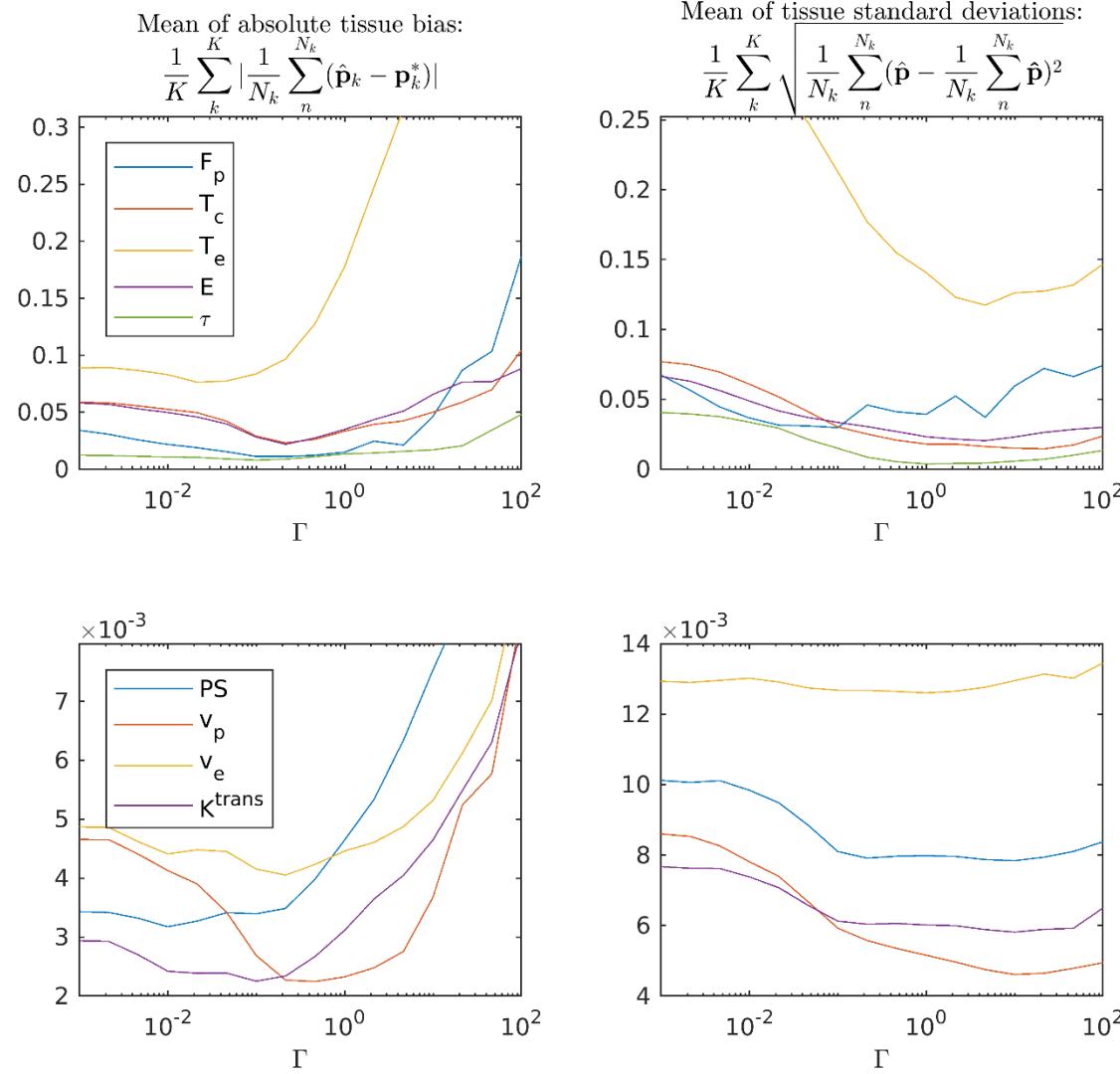


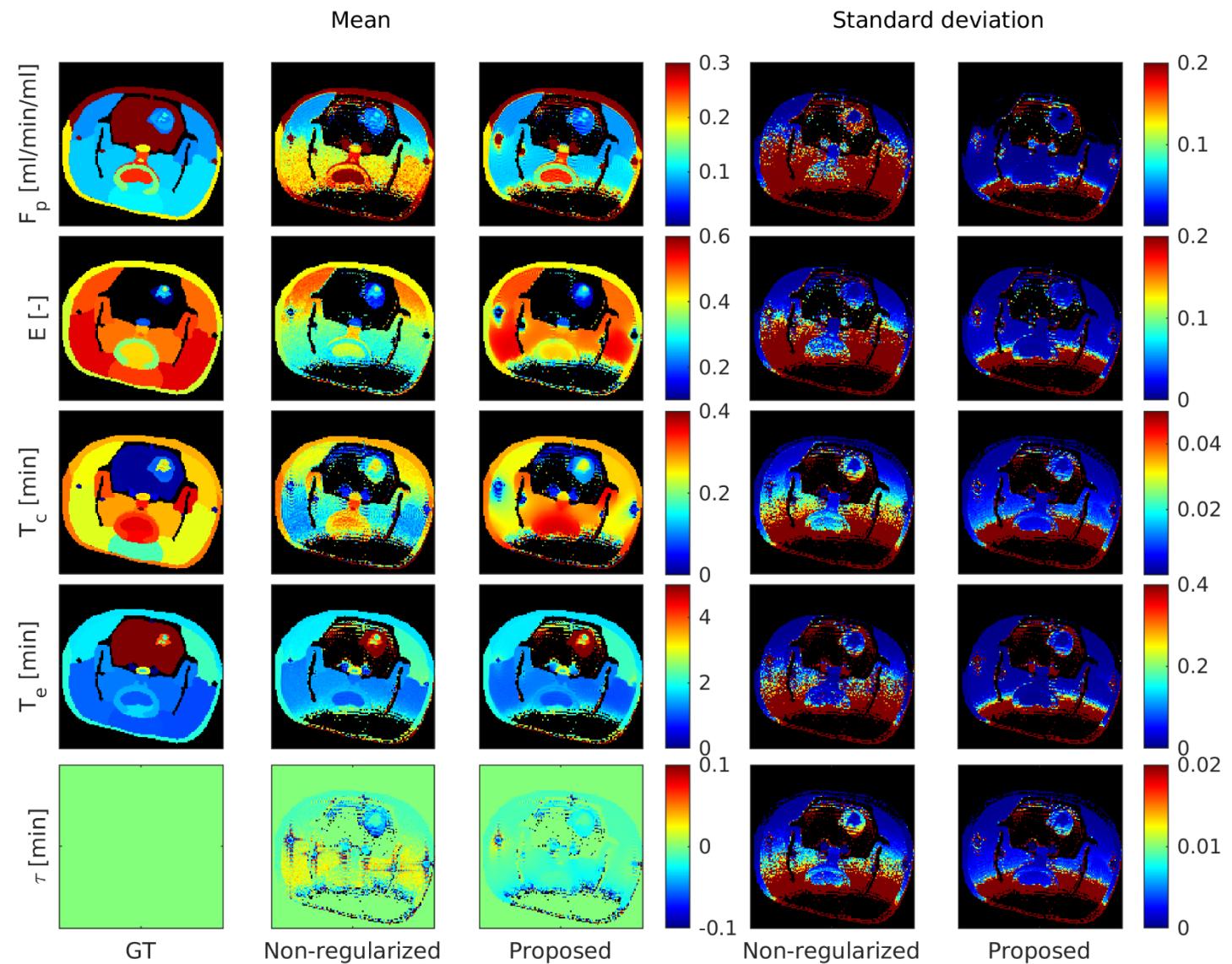
Supporting Information Figure S1 Effect of the global regularization weight Γ on perfusion parameters estimated from the numerical rat phantom in comparison with the ground truth (GT). Estimates of the regularized perfusion parameters and the reduced χ^2 metric are shown for selected regularization weights. The location of the used close-up is defined in Figure 1.



Supporting Information Figure S2 Effect of the global regularization weight Γ on perfusion parameters estimated from the numerical rat phantom in comparison with the ground truth (GT). Estimates of the derived perfusion parameters and for selected regularization weights are shown in a close-up defined in Figure 1.



Supporting Information Figure S3 Simulated data, effect of the regularization weight Γ on the bias (estimated within a tissue) averaged using its absolute value over all tissues (left column) for the regularized parameters (top) and for the derived parameters (bottom). Similarly, the mean of tissue standard deviations is shown (measure of precision - right column). In the formulas, K, k relate to tissue indices and N, n relate to indices of voxels inside the tissues.



Supporting Information Figure S4 Effect of the regularization (Proposed, $\Gamma = 0.22$) on the mean and standard deviation of the perfusion-parameter estimates from 50 noise realizations of the numerical rat phantom in comparison with the ground truth (GT).

