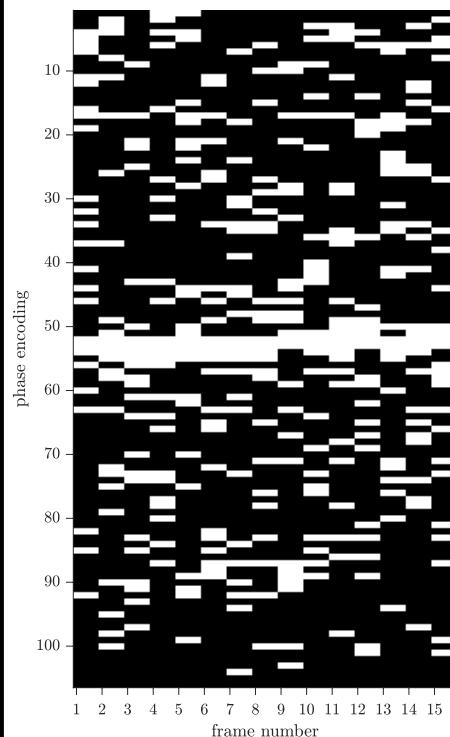


Sampling pattern:

CS-factor = 4.3



Data acquisition:

TE = 7.7ms
TR = 16.4ms,
NEX = 2
FA = 20°
FOV = 30×22.5cm
 256×192 (pFOV 0.55)

3 sagittal-oblique slices
thickness 5mm / skip 0
2 views/segment
17 frames
3d velocity encoding
 $venc = 10$ cm/s
 $\Delta_t = 131$ ms

Reconstruction:

$$f(\mathbf{I}) = \min_{\mathbf{I}} \|\mathcal{S}\mathbf{I} - \mathbf{k}\|_2^2 + \lambda_1 \|\mathcal{W}\mathbf{I}\|_1$$

method of conjugate gradient

Temporal FFT:

$$N_{ite} = 20, \lambda = 0.075$$

Temporal PCA:

$$N_{ite} = 30, \lambda = 0.075$$

3D velocity vector
from phase data

Coil sensitivity maps:



generated from a temporal average and adaptive array combination

Velocity data: $\mathbf{v}(\mathbf{r}, t) = \{v_x(\mathbf{r}, t), v_y(\mathbf{r}, t), v_z(\mathbf{r}, t)\}$

Phase correction

3d anisotropic diffusion filter
 $N_{ite} = 20, \kappa = 20, \delta_t = 3/44$

Entire volume tracking

Displacements data:

$$\Delta(\mathbf{r}, t) = \{\Delta_x(\mathbf{r}, t), \Delta_y(\mathbf{r}, t), \Delta_z(\mathbf{r}, t)\}$$

Spatial gradient

Symmetric form

EV decomposition

Diffusion weighted images

Dual echo FGRE

Eddy current correction

B_0 inhomogeneity correction

Joint Rician LMMSE filter

Diffusion tensor eigenvalues
and eigen vectors

Principle basis (pb): $\mathbf{E}, \mathbf{L}, \mathbf{SR}_E, \mathbf{SR}_L,$

$$E_{vol}, E_{max}, L_{vol}, L_{max}, SR_{max}$$

Fiber basis (fb): $\mathbf{E}, \mathbf{L}, \mathbf{SR}_E, \mathbf{SR}_L,$

$$E_{vol}, E_{max}, L_{vol}, L_{max}, SR_{max}$$