Highlights

Accelerated Diffusion Magnetic Resonance Imaging at 7 T : Joint Reconstruction for Multi-Band Multi-Shell Shift-Encoded Echo Planar Imaging (JETS-EPI)

Zhengguo Tan, Patrick Alexander Liebig, Robin Martin Heidemann, Frederik Bernd Laun, Florian Knoll

- Novel accelerated diffusion acquisition with shifted phase encoding among diffusion directions for complementary *k*-*q*-space sampling at 7T
- Generalized joint *k*-*q*-slice diffusion-weighted image reconstruction with overlapping locally low-rank regularization
- 5 min 1.2 mm isotropic resolution with *b*-value 1000 s/mm^2 and 32 diffusion directions for in vivo whole-brain diffusion tensor imaging
- 23 min 1 mm isotropic resolution with three-shell high b-values (up to 3000 s/mm^2) and 126 diffusion directions for in vivo whole-brain diffusion tensor imaging and fiber orientation distribution function (fODF) mapping