Docket #: S04-305

MRI - MRI: Generalized Image Reconstruction

Disclosed is an effective algorithm to correct motion-induced phase error using an iterative reconstruction. Using a conjugate-gradient (CG) algorithm, the phase error is treated as an image encoding function. Given the complex perturbation terms, diffusion-weighted images can be reconstructed using an augmented sensitivity map. The mathematical formulation and image reconstruction procedures are similar to the SENSE reconstruction. By defining a dynamic composition sensitivity, the CG phase correction method can be conveniently incorporated with SENSE reconstruction for the application of multi-shot SENSE DWI. Effective phase correction and multi-shot SENSE DWI (R=1 to 3) are demonstrated on both simulated and in vivo data acquired with PROPELLER and SNAILS.

Patents

- Published Application: 20070182411

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