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## **Modification of Multidirectional Distortion for Diffusion Tensor Imaging**

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**Purpose:** To modify the assigned optimization of acquisition parameters for precise measurement of diffusion in anisotropic systems.

**Materials and Methods :** Diffusion weighted MR data were acquired from healthy volunteer, using 1.5T Siemens Avanto (Siemens, Erlangen, Germany) with actively shielded magnetic field gradients (maximum amplitude, 40mT/m). The parameters for optimal schemes were derived for each measurement based on the estimated mean diffusivity and T2 measurements. Data were analyzed on an independent workstation (Pentium IV, 3.2 GHz CPU). The diffusion weighted images were corrected for gradient tables and ECC using DTI Studio software (Radiology, Johns Hopkins University, SOM).

**Results and Conclusion:** Each individual measurement of Dxx, Dyy, and Dzz can be optimized in the way as with optimal diffusion weighting the x, y, z, and other index. The more precise assessment of Tr(D) is needed, the more measurements should be made. In our study, consider the variances of each of the unique elements of the diffusion tensor.

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