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Thursday, May 1, 2014
2:00 PM
Computer Studies Building 426

Acceleration of High Angular and Spatial Resolution Diffusion Imaging

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Abstract

Diffusion magnetic resonance imaging (dMRI) is a unique in vivo imaging modality that has the capability to reveal the white matter tissue micro-architecture of the brain. It has propelled our understanding of the structure of the brain, which in turn has helped to understand the functioning of the brain by elucidating the different anatomical connectivity pathways. However, the current diffusion imaging protocols are limited in their ability to generate high resolution images that are crucial in tracing the underlying anatomical connections. In this thesis,