Spinal Cord Diffusion Tensor Imaging and its clinical applications

"ESSAY"

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Dedication:

I dedicate this work to ***Soul of my Father.***

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LIST OF ABBREVIATIONS

DTI	Diffusion Tensor Imaging
CSM	Cervical Spondylotic Myelopathy
DWI	Diffusion Weighted Imaging
MRI	Magnetic resonance imaging
FA	Fractional Anisotropy
CNS	Central Nervous System
CSF	Cerebrospinal fluid
FSE	Fast spin echo
PDWI	Proton density weighted images
ADC	Apparent diffusion coefficient
RF	Radiofrequency pulse
EPI	Echo Planar Imaging
MD	Mean Diffusivity
WM	White Matter
GM	Grey Matter
LSDI	Line Scan Diffusion Imaging
STEAM	Stimulated Echo Acquisition Mode
PSF	Point Spread Function
SENSE	Sensitivity Encoding
ASSET	Array Spatial Sensitivity Encoding Technique
GRAPPA	Generalized Autocalibrating Partially Parallel Acquisition
COVIPER	Correction of Vibration Artifacts in DTI using Phase Encoding Reversal
ACID	Artefact Correction in Diffusion MRI

NEX	**Number of Excitations**
TE	**Echo Time**
TR	**Repetiton Time**
MD	**Diffusion Maps**
NIfTI	**Neuroimaging Informatics Technology Initiative**
NRRD	**Nearly Raw Raster Data**
FDT	**FMRIB`S Diffusion Toolbox**
AIR	**Automated Image Registration**
SIMEX	**Simulation and Extrapolation**
OLS	**Ordinary Least Squares**
NLLS	**Non-Linear Least Squares**
WLLS	**Weighted Linear Least Squares**
LAI	**Lattice Anisotropy Index**
HARDI	**High Angular Resolution Diffusion Imaging**
HYDI	**Hybrid Diffusion Imaging**
DSI	**Diffusion Spectrum Imaging**
QBI	**Q-Ball Imaging**
QSI	**Q-Space Imaging**
PAS-MRI	**Persistent Angular Structure MRI**
TBSS	**Tract-Based Spatial Statistics**
VBA	**Voxel Based Analysis**
SPM	**Statistical Parametric Mapping**
fMRI	**Functional Magnetic Resonance Imaging**
CCEPs	**Cortico-Cortical Evoked Potentials**
TMS	**Transcranial Magnetic Stimulation**