Acquisition sequences and methods for T1-mapping at 7 Tesla small animal scanner.

The T1-relaxation time is an important tissue parameter in Magnetic Resonance Imaging, and several MR sequences and acquisition methods are available in order to estimate the voxelwise T1-value. However, it is not straight forward to establish a robust and bias-free method which is also sufficiently fast for practical daily use.

The aim of this project is to establish one optimized scan protocol for T1-mapping at the 7 Tesla small animal MRI scanner, located at the Department of Circulation and Medical Imaging. The project will involve experiments and data analysis, and the student will develop knowledge in MR-physics and image processing. The project will involve use of matlab. If successful, the project will make an important contribution to the overall capability/repertoir of the 7 Tesla scanner.

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