
PULSAR Version 1.00
Parallel Imaging Utilizing Localized Surface-coil Acquisition and Reconstruction
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INTRODUCTION

Parallel magnetic resonance imaging has emerged as an effective means for high-speed imaging in various applications. Although there is an enormous amount of publications on different reconstruction and processing techniques, little effort has been made to make these tools accessible to the general MR community. As a result, repeated efforts often have to be made by students and researchers new to the field to implement the tools from scratch based on the literature. Since the image quality in parallel MRI depends on various factors, such as receiver coil array configuration, reduction factor, k-space coverage and the method of reconstruction, there is a critical need for a toolbox that can be utilized to simulate and test different techniques before implementing them on the scanners.

PULSAR is our attempt to provide the research community a general-purpose reconstruction toolbox for parallel magnetic resonance imaging using phased-array receivers. It can be used as a platform for testing different parallel imaging methods to find the method expected to provide optimum performance, for developing new imaging methods, or for learning the parallel imaging methods. The toolbox is not designed to be a comprehensive package including every known algorithm, but rather as a basic set of the popular reconstruction tools. The entire toolbox is written in Matlab. We hope that it can serve as a tool for different groups to contribute new algorithms to.

OBTAINING PULSAR

At present, PULSAR is available via email to parallel.mri@gmail.com. It will be available on the webpage <http://www.ee.tamu.edu/~mrs1/software.html>. A library of source code, manuals and other developmental information will be maintained at this address. For additional information on how to obtain PULSAR, please address correspondence to

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Questions regarding PULSAR may be addressed to parallel.mri@gmail.com. This address should also be used to report bugs. Researchers are also encouraged to send any useful algorithms developed for parallel MRI to

this address for easy release to other research groups through PULSAR.

INSTALLATION

For installation of PULSAR, the user is encouraged to follow these steps:

1. Have Matlab version 6.5 R13 (or newer version of Matlab) installed in your system
2. Download the pulsar.zip file and unzip it to drive C:
3. Follow procedure in C:\PULSAR\documents\INSTALLATION.doc or download the PDF version on the website.

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