Abstract

* Abstract was presented very clearly. Very concise summary of the project that draws the reader in, especially after noting the strange SNR boost.
* May want to introduce full terminology of acronyms like SNR and MRI **depending on journal of submission**. Although I think for this purpose, it is fine.
* Keep F-19 consistent with the body of the paper (where you use 19F). May also want to define that F-19 is Fluorine-19 initially.

Introduction

* Introduce full terminology of SNR and MRI **depending on journal of submission**. However, CS needs to be defined initially. Also, I would introduce Fluorine-19 (19F). I noticed that you alternate between F-19 and 19F throughout the paper, would keep this consistent.
* Several small grammatical errors
  + susceptibility induced = susceptibility-induced
  + “using some image and compression quality metrics” = using *several* image quality metrics
* I really like the bridge sentence “Previous studies have validated 19F MRI in preclinical studies tracking various cell types”. I think that is a great intro to the next paragraph, in which you talk about the downsides of this technique. Which is where your tries to improve upon.
* It would probably be of interest to, at least briefly, define compressed sensing. What it is, what it does, and how it can apply to this work.

Methods and Materials

* You could mention why a 1D PDF was used, instead of 2D (because we can’t feasibly undersample in the frequency encode). Also define the acronym PDF initially.

General notes:

* Data is considered plural for IEEE. Instead of “data *was* acquired”, say “data *were* acquired”.

The review will be part of your homework grade, not the project grade. The review should not exceed one page.

* What did you like / what did you not like about the report.
* Was the material clearly presented (quality of figures, structure of the document, etc.)? ꞏ
* What do you think of the science? Is it a well conducted experiment? Do you see some flaws or shortcomings? Is it novel? Does the discussion adequately cover potential limitations of the study?
* Does the introduction adequately cover the objective of the manuscript and related work?
* Were the key references included or are some missing that you consider crucial for this topic.
* Are the methods described such that they are reproducible?
* Did the authors follow the submission guidelines (style / reference format / page limits)
* Are there substantial typos or grammatical errors?