

Reviewer 1: This work describes a method for thermal polarization using an additional high-field magnet positioned close to the commercial benchtop NMR system. Several comments are below. In general, the novelty of this work is limited.

Answer: We agree with the reviewer about the limited novelty, or lack of a big surprise. All the more surprising to us was the lack of treatment of the subject somewhere in the scientific literature. The key issue is, we think, that advances in superconductor properties are currently simplifying such applications of pre-polarisers, and these opportunities have not yet been put into application.

Comments:

- Line 43: As long as the external magnetic field is parallel to the magnetization, also non-adiabatic transfer is possible.

Answer: Agreed. We will revise the text to consider this.

- Line 49: the lowest field during transfer is given as 10mT, was this measured or estimated based on known stray field maps?

Answer: This field was measured with a Hall probe. The result will be included in the revised text.

- Line 50 and line 80: how is enhancement defined? Is it  $M(\text{at } 5\text{T})/M(1.4\text{T})$ ? Please clarify.

Answer: Yes, you are correct. An explanation will be added to the revised text.

- Fig 1: why is polarization about 3 at large  $t$ ? How is polarization defined or normalized?

Answer: The polarization is normalized to the Boltzmann Polarization at 1.4 T. This fact will be highlighted in the revised text.

- Table 4: for the samples without CuSO<sub>4</sub> (first three rows) linewidth at 3, 2 and reference varies by about a factor of 2. With CuSO<sub>4</sub> variation increases to a factor of 4 to 5. Why?

Answer: Thanks for the detailed question. An explanation, that relates to  $T_2$  in the CuSO<sub>4</sub> samples will be included in the reviewed version.

- Potential effects of motion and flow within the sample due to the rapid displacement should be discussed.

Answer: We will add an additional sentence to explain. These effects are however no problem, since the transfer would still be adiabatic and the spins have enough time to re-align.

- Fig 6: there is no reference in the text to fig 6. Also, not many details are given for the 5T magnet, or a reference

Answer: Thank you, the reference to the figure has been included, along with extra details on the magnet. There is no literature reference, since the magnet is from another project in the group and constitutes work in progress.

- Minor comments: Line 43: what is “wo that fast” ?

Answer: Apologies. We will correct the typo.