Reviewer's report

Title: Acoustically detected Magnetic Particle Imaging

Version: 1 Date: 15 June 2010

Reviewer: John B Weaver

Reviewer's report:

Five substantive issues should be addressed:

1. There are many dropped articles and other grammatical errors (page 2, 6th line from the bottom, page 3 1st line after Eq 3, page 6 3rd line in the Results section, etc). A native speaker should review the paper for language or the authors should review it more carefully.

2. The original references for Langevin's theory of paramagnetism should be provided as well as the group's references.

3. Why was the frequency (700Hz) selected? MPI uses frequencies two orders of magnitude higher.

4. The sensitivity of the proposed method should be compared to that of MPI as well as that of MRI.

5. It might be helpful to compare the proposed method to ultrasound harmonic imaging in the conclusion; both originate in the tissue and so eliminate distortions generated by the incident beam in traditional ultrasound.

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Reasonably
3. Are the data sound? Reasonably
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? Yes
9. Is the writing acceptable? Needs work