SPECIFIC COMMENTS TO AUTHORS

The topic is very interest. It can be an approach for in vivo tissue diagnosis and potentially served in medical advanced imaging. In this work the authors focus on improving image quality by studying both the effects of adding a dielectric buffer at different locations around the region of interest and also effects of adjusting the flip angle of imagery in cinematic and tagging sequences. Several parameters were considered such as the homogeneity of the B1 field, the signal / noise ratio (SNR), the contrast / noise ratio blood-myocardium (CNR) and the marking persistence throughout the cardiac cycle. The given background in the Introduction is easy to follow. It cites the recent appropriate papers. It provide a hypothesis or aim of the study well located in relation to the state of the art of existing works. The manuscript describes very well the approach used in data analysis, surveys, and clinical trials methods. The document is well written and structured. However, you will find below some comments to improve, from my point of view, the overall content of the paper and which in under no circumstances affects the quality of this work. First: Better introduce scale units on 2D graphs Page 5, § Introduction - line 2: "....and lack of ionizing radiation" From a physical point of view this statement is not always true. it will be preferable that the authors refer to other sources than references [1] and [2]. Page 8, § Effect of Imaging Flip Angle on Image Quality; line 1: Explain the scientific or/and practical reason for the choice targeting the short-axis and long-axis in the imaging context Page 10, § SAR Calculations: In the case of a female subject, what will be, in the absence of a focusing approach, the effect of the dispersion generated by the physical nature of the mammary glands (variation of the cantrast)? Page 12, line 2: ".... optimal prescribed flip angle for tagging MRI was 15°..." How could you explain this optimal value of 15 ° compared to that of 60 ° announced above as optimal (see figure 4)? In conclusion, this paper presents a structured practical approach reflected the promising potential of the concept in the field of a medical radiology. As a reviewer, I give a favorable opinion and I

recommend its publication after a minor revision.

Reply to Reviewer 1: Thanks for the comments.

1. Scale units have been added on 2D graphs (Figures 1 and 2 and their legends)
2. Sentence "....and lack of ionizing radiation" removed (Page 5).
3. References [1] and [2] have been replaced by key reference book in cardiac MRI (Page 5).
4. Explanation was added about the reason for choice targeting the short-axis and long-axis in the imaging context (Page 8).
5. More information was provided about mammary glands contribution in the simulation of female virtual model, compared to male model, and potential effects on image characteristics, and related reference was cited (Page 10).
6. Full explanation about the reason for using different optimal flip angles for cine and tagging images was provided in the discussion section (Page 13).

SPECIFIC COMMENTS TO AUTHORS

This is a good performed and written original research on the improvement of cardiac functional image quality at 7T MRI through simple scan set-up adjustment and imaging parameter optimization. Specific Comments to Authors: 1 Title The title reflect the main subject of the manuscript, however, there is still minor grammar mistake. I suggest the "7T" should replace the "7T.". 2 Abstract. The abstract summarize and reflect the work described in the manuscript. 3 Key words. The key words reflect the focus of the manuscript. 4 Background. The manuscript adequately describe the background, present status and significance of the study. 5 Methods. The manuscript describe methods in adequate detail. 6 Results. The research objectives achieved by the experiments used in this study. The contributions that the study has given a method to optimize the quality of 7T magnetic resonance images. 7 Discussion. The manuscript interprets the findings adequately and appropriately, highlighting the key points concisely, clearly, and logically. However, there are still shortcomings in the discussion, and the discussion is not sufficient. There is a lack of reasonable explanations for the different results produced by the different positions of the dielectric pad. As the author mentioned in the article, the limited number of studied subjects, which does not allow for conducting a thorough statistical analysis. More studies on a larger cohort are need to confirm the results from this study and to investigate more details in the future. 8 Illustrations and tables. The figures are good quality and appropriately illustrative of the paper contents. 9 Biostatistics. The manuscript does not meet the requirements of biostatistics. 10 Units. The manuscript meet the requirements of use of SI units. 11 References. The manuscript cite appropriately the important and authoritative references in the introduction and discussion section. However, most of they are old. Therefore, the latest publications on evidence will be appreciated in the reference section. And there are punctuation errors in the References.(i.e., "3.Ibrahim EH. Heart Mechanics: Magnetic Resonance Imaging. . Boca Raton, FL: CRC Press; 2017.") 12 Quality

of manuscript organization and presentation. The manuscript is well, concisely and coherently organized and presented. However, there are still grammar errors and should be fixed before publication. 13 Research methods and reporting. The author prepare the manuscript according to the appropriate research methods and reporting. 14 Ethics statements. The manuscript meet the requirements of ethics.

Reply to Reviewer 2: Thanks for the comments.

1. Title adjusted as advised (Page 1).
2. More details were added in the discussion providing explanations and reasons for different results produced by the different positions of the dielectric pad and choices of optimal flip angles for different imaging sequences (Pages 13, 14).
3. We added in a limitation in the discussion section about the need for more studies on a larger cohort to confirm the results from this study and to investigate more details in the future (Page 15).
4. Latest publications about different topics discussed in the paper were added to the references and cited in the text (highlighted in the bibliography list).
5. Punctuation and grammar errors fixed throughout the manuscript (tracked).