

## Response to Reviewer 1

We thank Reviewer 1 for the feedback and interest in our work, as well as the rapidity of the review.

**This very interesting paper would ease the use of multiple-point statistical simulation by optimizing the parameters that generally require manual tuning before acceptable results are obtained.**

**The main problem with the current version is that it has been written in a hurry, it contains too many typos, and, more importantly, the explanations are unclear, sometimes because of brevity, sometimes because of improper English usage, sometimes because the author presumes that the reader knows much more than he should.**

We agree that a more thorough proofreading could have been carried out for this manuscript. We thank you for the annotated pdf and we will put a particular effort on clarifying the sections you highlighted.

**The paper needs a thorough review of the text to make it understandable to someone who is not an expert in MPS simulations and might not have worked with either QS or DS.**

We will add some more background explanations about these algorithms. However, we will keep it relatively short as this manuscript is destined to people who have a minimum of knowledge about QS or DS.

**A few more sentences or paragraphs explaining some of the parameters or some of the technicalisms used would provide a better understanding. A rearrangement of some of the sentences is also necessary to ensure that the flow of information is logical.**

We will try to implement these suggestions.

**Many sentences with interesting statements are thrown out in the middle of paragraphs with which they are unrelated without supporting evidence.**

**And most importantly, the authors must emphasize that their approach is valid for a specific training image. When new simulations are to be generated, a new optimization must be carried out.**

We thank the reviewer for highlighting this very important point. We thought it was clear (especially in the title of the manuscript), but we will have to add sentences in the introduction and conclusion to clarify this point.

We will also change the highlight “Calibration depends only on the training image” to “Calibration depends on each training image”