

We wish to thank the editor and the reviewers for the positive review of our paper and for the suggestions provided.

In the new version of the paper we have implemented three small modifications:

- 1) We wish to retain in the title reference to the Wasserstein distance - which is the main point in our paper. We have also added "stochastic" in the title, in order to better characterize the type of parametrization we are dealing with.
- 2) Page 3, Lines 6-10: Clearer explanation of the main novelty of the paper.
- 3) Page 6, Lines 6-12: Discussion about scale adaptivity, with the clarification that we still don't know if the methodology can be applied when dealing with spatial scale separation.

Best Regards,
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