Dear editor and referees,

Thank you very much for having reconsidered our paper. We have carefully applied the modifications recommanded by the first referee. The changes are specified below.

Best regards,

The authors

Review 1

The structure and writing of the paper have been improved, so that I could reconsider my previous decision. However, I still have several objections on the paper in its present form.

Because the main claim of the paper is clear, there should be only one algorithm displayed in the paper that summarized the procedure for generic denoising. Otherwise the reader gets confused. Please remove Algorithm 1: if it is there only to test a hypothesis, It does not make sense to present is as an algorithm. I suggest the authors to extend the details in Algorithm 2 (for example, the "for" loop of algorithm 1 should be present there as well, shouldn't it?) and put the relevant information of algorithm 1 in the text.

We altered the title of Algorithm 1 to Test, emphasizing its role as a hypothesis validation test, not part of the final algorithm. Note that the essence of the *for* loop of the test was in Algorithm 2 (now simply called Algorithm): see line 5-9. Since these two algorithms serve different purposes and are applied in different contexts, the main algorithm is no substitute for the test. The purpose and the involved procedures of the test was described in the text and is now expanded:

> *To verify this conjecture that a linear transform exists which only moves patches within the support of the natural patch distribution, we designed a test that shifts the means of the patches to the same value before denoising them using a neural network, after which the shifted differences were added back individually to obtain their final, denoised versions. It is important to note that thanks to a high ratio between the patch size and σ, estimating the clean patch mean from its noisy version (Line 7 in Test) is very reliable.*

Be careful with some expressions: "certain linear transforms" in the abstract: transforms are either linear or non-linear, and things are either linear invariant or not. I would remove the "certain", unless fully justified.

It has been removed.

In Sc. II, "most patches are distributed around (-.5,.6)". I'd rather give a percentage, since a visual appreciation is not an argument solid enough by itself.

Since a percentage may not be sufficient to describe the behaviour of the presented two 2D distributions, we added their corresponding marginal cumulative distribution functions calculated along the patch mean to allow a better numerical assessement.

There is a new Figure (4), but I can't see it's purpose. I would remove it. Besides, all the discussion performed in the two last paragraphs of Section II is confusing, an needs rewriting for clarity.

The figure has been removed and the two paragraphs have been modified too.

Fig 3. needs improvement. Please add an x and y label to make them more auto-contained. Plot the lines thicker. Write (3a) instead of (4a) in Fig 3's caption.

They have been corrected.

Review 2

I'm happy with the changes made to the paper. As mentioned before, it's interesting to see that the main disadvantage of a current state-of-the-art method for denoising, it's missing adaption to different noise levels, can be largely removed. The new title also emphasizes this more. As recommended, the claim about the mean normalized training distribution was weakened, and the Figure also somewhat supports the statement.