

## ***Interactive comment on* “Experimental study of forced convection heat transport in porous media” by Nicola Pastore et al.**

### **Anonymous Referee #1**

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The following items are needed to be discussed:

1. Please check Eqs (4) and (16). The advection term should be multiplied further by the porosity in Eq (4).  $\alpha$  should be divided further by the porosity in Eq (16).
2. How do the authors obtain the specific surface area in the present work? This was not introduced.
3. In Fig 3, why the inlet temperature was first higher then lower than the downstream temperature? It seems that some information is missing in the introduction of the experiment procedure.
4. To validate the present results, it is recommended to compare the results of the convective heat transfer coefficient and effective thermal conductivity with the current

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classical correlations.

5. In my opinion, the expression of  $v=q/n$  is obtained rigidly from the volume averaging theory. Thus,  $v$  should be taken as a known constant in the data processing, as well as  $\beta$ . Of course, the RMSE will be larger if so, but I think the experiment results are allowed to have larger errors. Please comment on this.

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Interactive comment on Nonlin. Processes Geophys. Discuss., <https://doi.org/10.5194/npg-2017-53>, 2017.

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