

Dear Editor in Chief,

Please find attached our manuscript "*Accuracy of perfusion measurements in coupled systems*". Perfusion as implemented in traditional one-compartment models has previously been identified to be discretization dependent, but voxel wise perfusion maps are still being used in clinical studies without error estimates or further limitations with respect to the method. In our manuscript we quantify the discretization dependent error on a simulated phantom, and we also demonstrate similar overestimation of perfusion in real data.

We consider our work to be of high relevance for proper quantification of the error in clinical studies where voxel wise perfusion measurements are used for determination of proper diagnosis and choice of treatment.

Bergen 29th of May 2017

Best regards

Erlend Hodneland

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