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Nonlinear Processes in Geophysics
Discussions
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Interactive comment on "Toward the assimilation of images" *by* F.-X. Le Dimet et al.

F.-X. Le Dimet et al.

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1 Comment

1.1 Comment from Referee

I would appreciate if the topics of data assimilation in medicine namely medical Imaging that investigates processes in the brain by techniques such as MRI, EEG, MEG and many more could be briefly addressed. Usually dynamical models based on finite element discretisation approaches are coupled with data by inversion and data assimilation.

The same relates to image reconstruction from noisy data that is an important inverse problem. where Electrical Impedance Tomography (EIT)can be used.

Otherwise a very good review that should be published.

See for instance : D. Chapelle, M. Fragu, V. Mallet, P. Moireau: Fundamental principles of data assimilation underlying the Verdandi library: applications to biophysical model personalization within euHeart. Medical & Biological Engineering & Computing Vol. 51 (2013) 1221-1233

1.2 Author's response

The Editor gave a direction to answer this comment based on the scope of the Journal and we thank him for his answer. Since this journal is focused on geophysics, the text does not address data assimilation in other domains like medecine. However, the introduction mentions that the thechnique can be applied to other problems. As an illustration of the application to other problems, we added the reference suggested by the referee in the introduction.

1.3 Author's changes in manuscript

In the introduction, lines 11-13, page 1384 are modified to read:

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For engineering problems, the unknown conditions may be some parameters which have to be identified as a solution of an inverse problem, a methodology which can be included in data assimilation as it is**, see for example (Chapelle et al., 2013)**

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And the reference section includes

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D. Chapelle, M. Fragu, V. Mallet, P. Moireau: Fundamental principles of data assimilation underlying the Verdandi library: applications to biophysical model personalization within euHeart. Medical & Biological Engineering & Computing Vol. 51 (2013) 1221-1233

Interactive comment on Nonlin. Processes Geophys. Discuss., 1, 1381, 2014.