**Ocean Science
Discussions**

Interactive comment on "DINEOF reconstruction of clouded images including error maps. Application to the Sea-Surface Temperature around Corsican Island" *by* J.-M. Beckers et al.

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The authors present a significant improvement to the so-called DINEOF method aimed at calculating principal components of incomplete data sets and filling missing data at the same time.

So far, the method was hampered by the fact that local error estimates were not possible. By a clever analogy with OI, this is now solved and has potential great benefits in a wide range of applications.

The paper is well written but some of the maths could be moved to a dedicated appendix to facilitate the reading, whilst keeping only the relevant equations useful in the

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calculation in the body. A more technical paragraph summarizing the different steps and 'equations' used might be very helpful.

There are several assumption made in the text, and it is not clear to what extent they are valid in the application presented.

A proper validation of the method with one of the following:

- in-situ data

- co-registered remote-sensing data (e.g. MODIS or MERIS)

- cross-validation with some of the same AVHRR daily composites

would definitively increase the value of the paper. As it stands, the description in paragraph 760 (759) "The OI reconstruction (Fig. 7) ..." is rather poor and qualitative (cf. '..a more realistic SST distribution...), but no statistics are derived.

In the conclusions, some sort of comparison (algebraic expressions and/or actual values) of CPU time between both DINEOF and OI methods might also be helpful.

I hope these comments will be useful to the authors.

Interactive comment on Ocean Sci. Discuss., 3, 735, 2006.

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