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## CPD

2, S936-S937, 2007

Interactive Comment

## Interactive comment on "Application of sediment core modelling to understanding climates of the past: An example from glacial-interglacial changes in Southern Oceansilica cycling" by A. Ridgwell

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We have received two reviews of the paper of A. Ridgwell. The first referee thinks that, if the ms does not present new concepts, it represents an important step forward in the domain of the data assimilation in palaeooceanography. He accepts the paper after minor revision. The second referee insists also on the fact that the interpretation proposed by the author is not new but that the approach is novel. Nevertheless, he thinks that the inter-sector differences in the southern ocean are not enough detailed. He proposes to add a figure and to better discuss these differences according to the existing literature.

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Interactive Discussion

**Discussion Paper** 

EGL

Both referees criticize the fact that the author uses the CLIMAP data, which suffer by several problems. Even if these data are old and in some points obsolete, I understand that existing revision for the Southern Ocean will not be able to explain variability in opal conain. As the paper is first a demonstration of a new methodology, it is not a major point. In conclusion, I think that the ms should be published after taking into account most of the specific comments of both referees (or arguing when disagreement) and expanding the explainations about the limitations of the approach (in particular as regarding the data used) and the discussion of the results.

Interactive comment on Clim. Past Discuss., 2, 1371, 2006.

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