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Climate of the Past Discussions

Interactive comment on "On the verification of climate reconstructions" *by* G. Bürger and U. Cubasch

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We kindly invite the rev. to return to the normal friendly tone of scientific debate. Following are the points which we think need further discussion before being closed.

3. The rev's equations are wrong, caused by a persistent misunderstanding of the detrending used in the other papers. There, detrending is always used as a **preprocessing** step and the regression applied to the detrended quantities. In contrast, the rev's model includes the detrending into the regression equation, which leads to the erroneous coefficients B_2, B_{21}, *and* B_{22}.

5. There are two fundamentally different topics: a) to **define** a method for millennial reconstructions, and b) to **verify** existing methods of reconstruction. For a), MAR is relevant, for b), it is not. Our paper is about b). Stationarity served as a starting point to

discuss the *verification* bias resulting from particular calibration sets; this has nothing to do with the model *definition* itself. If the rev. agreed that bootstrapping is an adequate method to overcome that bias, we would be very happy. Otherwise, does he/she know of a better one?

We fully agree with the rev. regarding the methodological relevance of MAR for reconstructions. In fact, MAR is closely related to our argument of regression extrapolation given in Bürger and Cubasch, GRL 2005. We also welcome the rev's remarks on the time variable, which are essentially the same as ours (365, 17-24).

We emphasize again that the methods applied here are not "ours", as they emulate those that have been employed so far by the reconstruction community. The purpose of this study is to analyze, and not to improve them.

7. We thought to have clarified this. Could the rev. please tell us which of the arrows in **GLB -> COV -> MDL -> RSC** is wrong?

The "option" was not consistency but the regression to be used in RegEM, as given by the parameter "OPTIONS.regress" of the RegEM code. Now again, is the final mean/covariance estimate provided by RegEM crucially dependent on that option, or not?

Interactive comment on Clim. Past Discuss., 2, 357, 2006.