Geoscientific
Model Development
Discussions

Interactive comment on "An efficient method for discerning climate-relevant sensitivities in atmospheric general circulation models" *by* H. Wan et al.

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The manuscript describes a methodology for extracting the climatological response of CAM5 to "fast physics" parameters affecting clouds. The paper is well written and illustrates that one can reduce the computational requirements by an order of magnitude or more from the more standard several-year model integrations. The authors consider the responses among a large number of fields as well as a comparison to a 256 experiment exploration of parameter space among 16 model parameters. In all these cases, their method is shown to be quite effective. I have no substantial comments to make. Other than a few editorial corrections, I recommend this manuscript be published. Pg

2176 Line 12 use "alternate" rather than "alternative" Pg 2176 Line 26 observation[s] Pg 2180 For me analyses I and II are the same, therefore I don't understand why they are separated. Pg 2180 line 9 . . . I don't normally see 20 days as "extended". Perhaps the sentence could do without that qualifier. Pg 2181 line 1. "It is worth noting that not only [are] these basic features . . ."

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