

Interactive comment on “Stratospheric ozone in the post-CFC era” by F. Li et al.

Anonymous Referee #1

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This is a well written paper which assesses ozone recovery during the 21st century as a function of latitude and height, highlighting the importance of transport changes for ozone recovery in the lower stratosphere. As its primary prediction tool it uses two GEOS CCM integrations, comparing time-slices at roughly equal chlorine loading. The decadal differences plots are used efficiently in arguing for the different transport and temperature change dominated regimes (for ozone recovery). The only minor problem with the paper is the stark confidence expressed in the model results. E.g. the strengthening of the BDC is mentioned numerous times, but without mentioning the caveat that this is a model only result so far and that recent observations (Engel et al., 2009, Nature Geoscience) cannot find a strengthening of the BDC for the recent past (obviously with the caveat of sparse sampling). The paper should be published with minor revisions, including a slightly more critical assessment of the models ability to simulate future change.

Minor points:

The Perlwitz et al. (2008) citation is missing.

I am not quite sure I understand the statement: "SST data for the late 20th century are from observations". Does this imply a discontinuity of SSTs in C160? Are the past SSTs merged with the modelled future SSTs (but for C160 only)? Please clarify!

In the discussion on page 20231 (starting line 11) it might help to briefly mention if and how C160 differs from FREF for the 1975-1984 period.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 20223, 2008.

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