

***Interactive comment on* “The role of transition metal ions on HO<sub>x</sub> radicals in clouds: a numerical evaluation of its impact on multiphase chemistry” by L. Deguillaume et al.**

**Anonymous Referee #2**

Received and published: 26 November 2003

Review: The role of transition metal ions on HO<sub>x</sub> radicals... by L. Deguillaume et al. submitted to ACPD

General:

The paper is a valuable modeling study. The authors further modify the model published before.

The paper contains a broad introduction which might serve as a valuable overview on tropospheric multiphase mechanism development.

Many of the changes under the section 2.2. ‘New developments’ do remind the reader on the changes performed by another group when CAPRAM 2.3 has been ex-

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tended to CAPRAM 2.4. and afterwards condensed again. The mentioned mechanisms have been freely available on the web long before the CAPRAM 2.4. paper has finally been published earlier this year in JGR. Hence, the question arise whether these parts of the  $\text{M2C2S}$  mechanism are somehow connected to other former work such as the one mentioned. The authors are advised to pay proper attention to this question and to properly address work which might have been used by them. This issue has well been addressed with regard to emissions and depositions, cf. section 2.2.3.. Clearly, not all the changes in M2C2 show such connection, however.

In general, this paper is a valuable modeling study showing that TMI chemistry is essential for reasonable HOx solution phase budgets. The paper should be published after minor revision.

Specific

It should be explained what italic printing stands for in the tables. Also, explain  $\text{CnS}$  in Table headers

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Interactive comment on Atmos. Chem. Phys. Discuss., 3, 5019, 2003.

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