**Atmospheric
Chemistry
and Physics
Discussions**

Interactive comment on "A practical demonstration on AMSU retrieval precision for upper tropospheric humidity by a non-linear multi-channel regression method" *by* C. Jiménez et al.

Anonymous Referee #1

The paper presents very interesting work on the application of neural nets to the analysis of AMSU data. The quality of this work is certainly suitable for publication in ACP. The results provide a practical demonstration of the application of neural nets to satellite data inversion.

The authors have responded well to my initial suggested corrections / refinements which are not restated here. The only main point I would make is to question whether the layer averaged relative humidity is the most sensible choice of retrieved variable. Al-

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though this may more physically meaningful than a weighting-function averaged quantity, it is still not a particularly easy to interpret meteorological variable (being an average over a large altitude / temperature / pressure range). Furthermore, the instrument radiances are not very directly related to this quantity. A better retrieval accuracy might be obtained if a different variable (e.g. layer integrated column density) were chosen instead.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 7487, 2004.

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