

## ***Interactive comment on “Observations and model calculations of trace gas scavenging in a dense Saharan dust plume during MINATROC” by M. de Reus et al.***

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The paper acpd-2005-0008 addresses very important results concerning the interaction between mineral dust and trace atmospheric components such as ozone and components whose concentration is very low but very important in the heterogeneous atmospheric chemistry budget. What has been observed at Mt. Cimone during an intensive campaign during the period June–December 2000 has now been made more clear involving also a larger number of atmospheric trace compounds. Also the model involving heterogeneous chemistry has been tuned using the concentrations measured

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during the campaign and fit more than before the occurring reactions.

As it occurs with every new paper concerning atmospheric physics interactions and measurements, it is only a next step in the knowledge of how reactions occur, particularly in this field of mineral dust and trace gas interactions that is going to be explained just in these years.

New concepts are presented in this work, but I would have investigated more on instrumental response and I would have done some intercomparison with other instruments such as tunable diode lasers for obtaining spectroscopic analysis. I think the concentrations of trace gases measured are so low that every care should be taken to avoid any instrumental response doubt.

The scientific methods used are clearly outlined and results support with great evidence the interpretations and conclusions.

My opinion concerning the traceability of the results is that the authors have sufficiently explained their scientific methods and operations.

Both the title and the abstract give right indications regarding the paper and the subsequent work is very well structured and clear.

The work is so well structured that each doubt coming out is eliminated during the reading of subsequent paragraphs.

I think it is a very fine paper for the completeness of the trace gases measured and analyzed in the model proposed.

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