

## ***Interactive comment on “Detection of organic compound signatures in infra-red, limb emission spectra observed by the MIPAS-B2 instrument” by J. J. Remedios et al.***

### **Anonymous Referee #1**

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This is an excellent paper reporting on observations of three organic species in the troposphere using a balloon-borne Fourier transform spectrometer. I have a few queries, comments and corrections: 1. Pg. 10024, line 25: Is the detector an arsenic-doped silicon detector (blocked impurity band), i.e., Si:As BIB? If so, then the text needs to be corrected. 2. Pg. 10028, line 4: the Greek nu is missing a tilde. 3. Pg. 10030: The aerosol part of the retrieval is clearly important because it interferes with the bands of interest. Could a little more information on it be supplied? For example, is aerosol extinction assumed to be without structure or is it assumed to be sulphate with appropriate spectral structure? 4. I find the agreement between observed and calculated residual spectra to be satisfactory and convincing. One aspect, however, puzzles me

somewhat. I expected that the calculated residual spectra would be smoother. In fact, the calculated residual spectra often show sharp structure, which I am assuming is due to the radiative transfer part of the simulation. Perhaps a comment on this point would be helpful. 5. The acetone lab data used in the retrievals should be published. Is there a paper in preparation? If so, it might be good to say so. If not, then this is a problem because other workers cannot retrieve acetone from their spectra to verify and extend the work reported here.

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Interactive comment on Atmos. Chem. Phys. Discuss., 6, 10021, 2006.

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