

Interactive comment on “Temperature lidar measurements from 1 to 105 km altitude using resonance, Rayleigh, and Rotational Raman scattering” by M. Alpers et al.

M. Alpers et al.

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The aim of the current paper is the demonstration of the successful combination of the three described lidar temperature methods and of the potential for temperature wave studies. While most of the relevant information is already included in the text, we will add some details:

- "...no information how this is effectively achieved..."

We do not understand this statement. The methods and their combinations are described in the instrumentation and measurement sections. For more clarification we only would mention the applied smooth-filter in the text (p. 928, l.6) and add the following sentence (page 928, line 7, after "...less than 10%."): "For the top-to-bottom integration the temperatures of the Potassium lidar profiles are used as start values."

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- "... how they compared on common height range..."

Page 931, line 25: Add as last sentence "In overlapping height ranges the temperatures retrieved from the different methods always agree within their error limits." For the joined profiles, also see page 933, line 1ff.

- "...what type of error are expected, what accuracy is finally obtained and expected when temperature profiles are joined together..."

See page 929, line 14ff, page 931, line 3ff, and page 932, line 25 to page 933, line 8. We would add the following sentence (Page 931, line 7, after "...(Fleming et al., 1990).": "The main temperature error is produced by the signal statistics."

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 923, 2004.

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