

## ***Interactive comment on “Physical interpretation of the spectral radiative signature in the transition zone between cloud-free and cloudy regions” by J. C. Chiu et al.***

### **Anonymous Referee #2**

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The paper of Chiu et al., describes a novel method to exploit UV/vis/near IR zenith sky measurements in order to infer aerosol and cloud parameters around cloud edges. The authors report on observations as well as model calculations in support of the semi-heuristic interpretation of their finding. Once more matured, the described method may provide a new tool to define cloud edges and to the study aerosol/cloud interactions, the latter being one of the big challenges in climate research. The paper is very carefully written and the content is clear and concise, although in chapter 4 and in the discussion chapter more emphasis on the RT cloud/aerosol interaction could have been given, c.f., by more providing more results on the RT as a function of the various important cloud and aerosol parameters.

Minor comments:

(1) Chapter 4.1, 1st paragraph: Provide a value for use aerosol single scattering albedo.

(2) 2nd paragraph 1st sentence: Reconsider the English of the last sentence.

(3) Chapter 4.2: Provide an extra step/argument in your calculation (in between eq (8) and (9), that everyone can accept the linearity of DIF and SUM.

(4) Summary, 2nd paragraph, change to: and provide a semi-heuristic physical interpretation to better...

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Interactive comment on Atmos. Chem. Phys. Discuss., 8, 17549, 2008.

**ACPD**

8, S7897–S7898, 2008

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