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Interactive comment on “Three-dimensional effects in polarization signatures as observed from precipitating clouds by low frequency ground-based microwave radiometers” by A. Battaglia et al.

Anonymous Referee #2

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The paper verified an important statement/hypothesis that the vertically polarized microwave brightness temperature can be smaller than the brightness temperature in horizontally polarized. Although the anomaly over ice was modeled and further confirmed by ground measurement over Ladoga lake, the anomaly (we) found from Special Sensor Microwave Imager (SSM/I) over clouds was skeptical. The article written by Battaglia et al. provides readers the understanding and insights of radiative transfer of microwave and also made confidence on SSM/I measured anomaly. Their 3D modeling identified the limitation of 1D radiative simulation and well explained the 3D radiative

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effect. The authors may include more observational results. The variation of the polarization difference of measurements over viewing angles should be very interesting to readers.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 5427, 2006.

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