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Interactive Comment

Interactive comment on "Relation between weather radar equation and first-order backscattering theory" by F. S. Marzano and G. Ferrauto

F. S. Marzano and G. Ferrauto

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The reviewer indicates the need of a wider sensitivity analysis due to the impressive number of power law relationships available in the open literature. Indeed, we show in Fig. 3 the possible impact of using different statistical relations. The main point, raised by this work, is that this range-bin effects increases as specific path attenuation increases and/or range bin size increases. In order to keep the paper reasonably short, we show only some numerical results. A wider analysis will be presented in future papers.

The use of real data is quite difficult to argue and demonstrate this range-bin effect. Probably a laboratory set up might confirm our thesis.

The impact of a vertical structure on the presented results is briefly sketched in the

Full Screen / Esc Print Version Interactive Discussion Discussion Paper (C) EGS 2003 paper. In general, we note that ice layers with large volumetric albedo should yield scattering at orders higher than the first one. This is, indeed, proved by Marzano et al., 2003 by using vertically stratified structures. This reference has been introduced in the revised paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 301, 2003.

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