

Interactive comment on “Determination of land surface reflectance using the AATSR dual-view capability” by L. Sogacheva et al.

L. Sogacheva et al.

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We would like to thank Alexei Lyapustin for the effort in evaluating, commenting, and thus improving our manuscript and for the time spent to perform this work.

Below are comments addressed and answers:

Ln. 18: Do you mean “phenologic”? Yes, I do! Corrected. Ln. 20-21: Please, rephrase more carefully: 3D surface structure causes shadowing, which is a part of the BRDF effect. And any height irregularity will cast a shadow, regardless of its height. Re-phrased, reference to van Ginneken et al., 1998 is given. Eq. 1: Please reference Chandrasekhar before your colleagues.

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Referenece to Chandrasekhar (1960) is added

Also, be more specific: Eq. 1 holds when surface is Lambertian.

Rephrased, added: The choice made here implies that surface reflectance is assumed to be Lambertian, i.e. surface reflectance is isotropic. Reference to Lyapustin and Knyazikhin (2001) is added as a possible solution.

Some confusion arises when you jump between surface reflectance (SR) and albedo.

Albedo is introduced in the introduction as more commonly used characteristic of the surface. Later on, the directional surface reflectance is introduces as ADV product. Test is checked for misinterpretation and misuse of both terms.

AATSR has two view zenith angles. I couldn't find, SR for which angle is used in the comparison with ASRVN and with MODIS. Also, which angle compares better – near-nadir or 55°?

In current manuscript the directional surface reflectance retrieved with the near-nadir view is presented and validated. We specified that more clearly in the text.

Please also note the supplement to this comment:

<http://www.atmos-meas-tech-discuss.net/7/C4216/2014/amtd-7-C4216-2014-supplement.pdf>

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