Geosci. Model Dev. Discuss., 7, C159–C160, 2014
www.geosci-model-dev-discuss.net/7/C159/2014/

Geoscientific Model Development Discussions

Interactive comment on "Implementation of a soil albedo scheme in the CABLEv1.4b land surface model and evaluation against MODIS estimates over Australia" *by* J. Kala et al.

S. Otto

sebasotto@gmx.de

Received and published: 18 March 2014

Dear Authors,

I would like to note that the application of Goudriaan's simple parameterisation of the G-function of vegetation media may lead to uncertainties. A discussion of its accuracy is given in the paper:

Otto S, Trautmann T, A note on G-functions within the scope of radiative transfer in turbid vegetation media, J. Quant. Spectrosc. Radiat. Transfer, 109, 2813-2819, 2008.

Unfortunately, Fig. 1 in that paper is incomplete and can be found in

Otto S, Trautmann T, Fast analytical two-stream radiative transfer methods for horizontally homogeneous vegetation media, Scientific Communications of the Institute for Meteorology of the University of Leipzig, Meteorologische Arbeiten (XIII) und Jahresbericht 2007 des Instituts für Meteorologie der Universität Leipzig, self-published, ISBN 978-3-9811114-2-2, 42, 17-32, 2008 http://www.uni-leipzig.de/∼meteo/de/orga/LIM_Bd_42.pdf

on page 21.

Wouldn't it be reasonable to use more accurate parameterisations or exact G-functions for certain leaf normal distributions? Did you already perform tests like this with regard to their influence on the canopy reflectivity and hence the soil albedo under non-vegetation-free conditions?

Best regards,

Sebastian Otto

Interactive comment on Geosci. Model Dev. Discuss., 7, 1671, 2014.