Geophysical Research Abstracts, Vol. 9, 01583, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-01583


# Uncertainty assessment on soil moisture retrieval from ALOS PALSAR data

**N.E.C. Verhoest** (1), H. Vernieuwe (2) and B. De Baets (2)

(1) Laboratory of Hydrology and Water Management, Ghent University, Coupure links 653, 9000 Ghent, Belgium, (2) Department of Applied Mathematics, Biometrics and Process Control, Ghent University, Coupure links 653, 9000 Ghent, Belgium (Niko.Verhoest@ugent.be)

The retrieval of soil moisture of bare surfaces from synthetic aperture radar (SAR) data is an ill-posed problem due to the uncertainty upon the soil roughness parameters. A recently introduced technique which is based on possibility theory allows to estimate the uncertainty upon the retrieved soil moisture, which is crucial information for further use in data assimilation studies. This novel technique is applied to synthetical ALOS PALSAR L-band data. The impact of different types of soil roughness and uncertainty thereupon is investigated. The effect of the incidence angle and the polarization upon the soil moisture retrieval and its uncertainty is assessed. Conclusions are drawn with respect to the potential of L-band PALSAR data for soil moisture retrieval.