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Global Scale Analysis of Soil Moisture and Vegetation Biomass from AMSR-E Data

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Abstract

An analysis on the capabilities of microwave radiometers in estimating soil moisture and vegetation biomass was carried out on a global scale by using Advanced Microwave Scanning Radiometer for Earth Observing (AMSR-E) data. The total brightness temperature together with some microwave indexes, namely polarization and frequencies, were taken into account over some test areas. To estimate soil moisture, the use of these indexes makes it possible to identify dense vegetation and snow areas, as well as correcting for the effect of surface roughness. Afterwards, the inversion to retrieve soil moisture is performed by means of a neural network.

Neural Network (ANN). Lastly, a technique based on a multi-sensor
technique for enhancing the C-band spatial resolution is described here.

Keywords: [Global analysis](#), [AMSR-E](#), [soil moisture maps](#), [snow n](#)

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