



Advances in remote sensing of forest background reflectance with MODIS BRDF data across Europe

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Spatial and temporal patterns of forest background (understory) reflectance are crucial for retrieving biophysical parameters of forest canopies (overstory) and subsequently for ecosystem modeling. However, systematic reflectance data covering different site types are almost missing.

This presentation will focus on the validation of background reflectance retrievals using MODIS bidirectional reflectance distribution function (BRDF) data against in-situ understory reflectance measurements covering a diverse set of long-term ecological research (LTER) sites distributed along a wide latitudinal and elevational gradient across Europe: protected coniferous blueberry forest in Sweden, karst forest system in Austria, floodplain broadleaf forest and coniferous forest in the Czech Republic, and Mediterranean agro-sylvo-pastoral woodlands in Portugal.

The multi-angle remote sensing data-based methodology was originally developed for the forest background signal retrieval in a boreal region. Here its performance will be tested across diverse forest conditions and moments during the growing season, which is a necessary step before conducting extensive mapping over forested areas. The results can be also used as an input for improved modeling of local carbon and energy fluxes.