WATER COLUMN CHARACTERIZATION ON BASE OF HYMAP AIRBORNE AND RAMSES UNDERWATER SPECTRORADIOMETER DATA OF AN ARTIFICIAL SURFACE IN LAKE STARNBERG

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ABSTRACT:

Global, especially climate change seems to be the driving force for the success of invasive species. Elodea nuttalii and Najas marina are two of that species invading freshwater lakes of Upper Bavaria. In the frame of a project focussing on remote sensing methods to identify and monitoring these invasive species an experiment design was developed with the aim to improve the characterization of the water column and such to contribute to a better macrophythes identification and status assessment from remote sensing data. Parallel to a HyMap data take on 21st of July 2009 along the western waterside of Lake Starnberg, Bavaria, a white plastic sheet was placed from the shallow shore region into deep water at about 7m. The spectral characteristics of the plastic foil were known from the lab. At ground the plastic sheet was measured with an RAMSES underwater fieldspectroradiometer by changing the position from the shallow shore side to the deep water region. At each position the incoming and the reflected radiation was measured directly below the water surface and about 15cm above the plastic foil. The data were used for water contents determination from both, the RAMSES and the HyMap data set.

TOPIC: Multi-spectral and hyperspectral remote sensing
ALTERNATIVE TOPIC: Remote sensing applications