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Date: May 21, 2008

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Venue—T 623

Title:

**Bi-directional Reflectance Measurement of
Natural and Artificial Sediment Layers**

Abstract:

The bi-directional reflectance distribution function (BRDF) is a fundamental parameter needed to accurately describe how light is reflected from a surface and is extensively needed in remote sensing. Knowledge of the sediment BRDF is important for radiative transfer modeling of the light field in shallow water environment. In this talk, a BRDF-meter capable of making both in-situ and laboratory measurements is introduced, followed by its in-air and in-water calibrations. The in-situ BRDF data taken in benthic environment are presented. Then several popular radiative transfer models are compared with "controlled" measurements on packed artificial layers composed of nearly perfect spheres. We also demonstrate the wetting liquid complex refractive index effects on sediment BRDF. Finally, polarization characteristics of the sediment BRDF are introduced.

REFRESHMENTS WILL BE SERVED