

# OCEAN OPTICS XXIV

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<https://oceanopticsconference.org>

Wednesday, October 10

Poster Session 3

16:00–18:00

## **Poster 79**

### **DEMONSTRATION OF AN ANALYTICAL MODEL FOR THE COMBINED DESCRIPTION OF CDOM ABSORPTION AND FLUORESCENCE SIGNATURES**

Colored dissolved organic matter (CDOM) plays a fundamental role in aquatic environments and is monitored in the context of water quality assessment and studies on biogeochemical cycles. We recently developed a Gaussian light absorption and emission model (GLEAM) for an analytical description of both absorption and fluorescence signatures of CDOM in the UV and the visible wavelength range. Fluorescence is modelled as a function of excitation and emission wavelength and related to absorption signals. Here, we demonstrate the potential of this model for composition analysis of CDOM and remote sensing modelling. Application to a test data set of freshwater CDOM absorption and excitation-emission-measurements gives insight into the wavelength range which is affected most by fluorescence. Finally, we discuss the challenges of fluorescence measurements in absolute units and its need for radiative transfer modelling.

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