

American Geophysical Union (AGU)

2002 Spring Meeting Washington Convention Center Washington, DC

**May 28-31, 2002
(Tuesday – Friday)**

Monitoring the Radiometric Stability of the SeaWiFS Transfer Radiometer II

Authors: Gerhard Meister¹, Giulietta Fargion², Charles McClain³

¹: Futuretech Corp., SIMBIOS Project, Goddard Space Flight Center, Greenbelt, MD, USA

²: Science Applications International Corporation, SIMBIOS Project, Goddard Space Flight Center, Greenbelt, MD, USA

³: NASA, Goddard Space Flight Center, Greenbelt, MD, USA

The SIMBIOS (Sensor Intercomparison and Merger for Biological and Interdisciplinary Oceanic Studies) Project Office conducts calibration round-robin intercomparison experiments on a yearly basis. The core instrument is the SeaWiFS Transfer Radiometer II (SXR-II) designed by the National Institute of Standards and Technology (NIST). This filter radiometer measures the radiances produced in the participating laboratories in six wavelength channels from 411 nm to 777 nm. These measured radiances are compared to the radiances expected by the laboratories. The SXR-II is calibrated once a year at the SIRCUS (Spectral Irradiance and Radiance Calibration with Uniform Sources) facility at the NIST.

The radiometric stability of the SXR-II is one of the largest contributions to the combined standard uncertainty of the SXR-II. The latter is estimated to be about 0.8 %. The calibration coefficients of the six SXR-II channels between the NIST calibrations from December 2000 and December 2001 changed between 0.3 % and 1.6 %. The SIMBIOS Project monitors the radiometric stability of the SXR-II with commercially available portable light sources called SeaWiFS

Quality Monitors (SQM) on a monthly basis. This contribution discusses the monitoring results from 2001, which were done with an SQM-II from Satlantic Inc. These results showed that a linear interpolation between the two NIST calibrations describes the evolution of the SXR-II calibration coefficients to within +/- 0.5 %, except for channel 1. We also present preliminary results from 2002 with an SQM (OCS-5002) from Yankee Environmental Systems, Inc.