

Table of Contents

CHAPTER 1.....	1
<i>INTRODUCTION TO SPECIAL TOPICS IN OCEAN OPTICS FOR OCEAN COLOR SENSOR VALIDATION</i>	
CHAPTER 2.....	3
<i>MOBY, A RADIOMETRIC BUOY FOR PERFORMANCE MONITORING AND VICARIOUS CALIBRATION OF SATELLITE OCEAN COLOR SENSORS: MEASUREMENT AND DATA ANALYSIS PROTOCOLS</i>	
2.1 INTRODUCTION	3
2.2 THE MOBY PRIMARY VICARIOUS CALIBRATION SITE.....	5
<i>MOBY and the Marine Optical System (MOS)</i>	5
<i>Ancillary Measurements on MOBY</i>	8
<i>Mooring Buoy Measurements</i>	10
<i>Data Communications</i>	10
2.3 MOBY OPERATIONS AND MEASUREMENT METHODS	10
<i>Deployment Schedule and Methods</i>	10
<i>MOCE and Other Validation Shipboard Operations</i>	11
<i>MOBY System Operations Scheduling</i>	13
<i>Radiometric Measurements</i>	13
<i>Methods for Mitigating Bio-Fouling</i>	15
<i>Ancillary Measurements</i>	15
<i>Sun Photometer and Sky Radiance Measurements (on Lanai and Oahu)</i>	16
2.4 CALIBRATION AND QUALITY CONTROL	16
<i>Radiometric Calibration and Characterization of MOS</i>	16
<i>Field Tests of Radiometric Stability Using Diver Deployed Sources</i>	17
<i>Wavelength Stability Tests Using Fraunhofer Lines</i>	17
<i>Stray Light Characterization</i>	18
<i>CIMEL Sun Photometer and Sky Radiance Sensor Calibrations</i>	20
2.5 DATA ANALYSIS METHODS	20
<i>Temporal Averaging</i>	21
<i>System Spectral Response Functions</i>	21
<i>Measurement Depths</i>	21
<i>Determining LW(l) by Upward Extrapolation</i>	22
<i>Normalized Water-Leaving Radiance</i>	22
<i>Spectral Band Averaging</i>	23
2.6 DATA ARCHIVAL AND RECORDKEEPING	24
2.7 FUTURE DIRECTIONS	24
<i>Temperature Characterizations</i>	24
<i>Stray Light Characterizations</i>	25
CHAPTER 3.....	35
<i>RADIOMETRIC AND BIO-OPTICAL MEASUREMENTS FROM MOORED AND DRIFTING BUOYS: MEASUREMENT AND DATA ANALYSIS PROTOCOLS</i>	
3.1 INTRODUCTION	35
<i>Bio-optical measurements from moored and drifter platforms</i>	36
3.2 BIO-OPTICAL MOORING NETWORKS AND DRIFTING BUOY EXPERIMENTS: STRATEGIC PRINCIPLES.....	38
<i>Coastal and Continental Shelf Oceanographic Features and Processes</i>	39
<i>Equatorial Oceanographic and Air-Sea Interaction Processes</i>	41
<i>Oceanographic Processes in Oligotrophic Water Masses</i>	43
<i>The Southern Ocean</i>	45
<i>California Current System Drifter Studies</i>	46
3.3 MOORING AND DRIFTER ARRAY CONFIGURATIONS	46