

**WORKSHOP ON INTER-COMPARISON OF
LARGE SCALE OPTICAL AND INFRARED SENSORS
ESA / ESTEC, Noordwijk
12 –14 October 2004**

1. INTRODUCTION

With a view to the Earth's changing climate a close monitoring of our biosphere on a global level and continuous routine basis has become essential. Large scale satellite sensors are a critical component to ensure reliable and continuous observations for that purpose. It is imperative that observations made by the different sensors are stable over time and consistent across sensor systems, enabling synergistic combination of space-borne data from different sources leading to quantitative global data products derivable from multiple data sources.

The CEOS Working Group on Calibration and Validation and its Sub-Group for Infrared-Visible Optical Systems (IVOS) have identified the inter-comparison of large scale optical sensors operated by different space agencies as an issue of high priority. As a consequence, the European Space Agency (ESA) organised a Workshop with a view to set requirements for future use of consistent global remote sensing data from different satellites that result in operational services.

2. OBJECTIVE

The main goal of the workshop was to present and exchange experiences and knowledge from work on inter-comparing large scale optical sensors at different product level. This included the evaluation and reduction of calibration bias and the validation of geophysical product uncertainties.

3. TOPICS

- Inter-comparison of satellite optical sensors data
- Hyperspectral imaging instruments calibration and inter-comparison
- Inter-comparison of satellite derived Land Surface Temperatures
- Inter-comparison of infrared measurements over the ocean
- In-flight calibration methodologies
- Requirements for improvement of pre-launch satellite calibration
- Post-launch sensors inter-comparison and calibration over land, ocean and clouds
- Atmospheric correction procedures for optical and IR sensors
- Radiative transfer methods for forward simulation of satellite sensors measurements

Contributions from members of the scientific and operational remote sensing community working with large scale optical sensor data and with experience in the area of inter-comparison, calibration and merging of moderate resolution optical satellites were specifically addressed to participate in this Workshop.

The Workshop was structured in thematic sessions accommodating 33 presentations. It was concluded with a round table discussion to establish a set of recommendations on the way forward.

The Workshop contributions are published on CD-Rom featuring the presentations, posters and related abstracts provided by authors.