ESA STSE WaterRadiance Project

Project is lead by GKSS (Project Manager Rüdiger Röttgers) with FUB, BC and ARGANS (supported by University of Strathclyde and Bio-optica Ltd)

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WaterRadiance Project Overview

- Literature Review (Task 1a)
- Scientific Analysis Plan (Task 1b)
- Development of a water optical properties model (Task 2)
  - includes measurements of pure water
- Development of a water-leaving radiance model in the UV to SWIR spectral range (Task 3) - MOMO (Matrix Operator Model)
  - addition of Raman scattering and polarization plus full range (UV to SWIR)
- Sensitivity analysis (Task 4)
  - Impact of uncertainties related to pure water inherent optical properties on water leaving radiances
  - UV spectral region (300 – 400 nm) / S-3 400 nm band
  - NIR/SWIR spectral range including temperature and salinity effect
- Development of retrieval algorithms of IOPs (Task 5)
  - GKSS Neural Network & GIOP approach
• Determine a version or versions optimised for the MERIS and Sentinel-3 bands
• Determine and implement a method for creating product error bars
• Identify the shortcomings of the retrieval algorithm and clearly define the observational conditions in which it is applicable

• Deliverable: MERIS & Sentinel-3 ATBD inputs

• GIOP is an evolving project and the intention is to provide a platform for prototyping and testing.

• Therefore, a pragmatic approach is to develop a bridge from BEAM to the C-coded GIOP processor.

• Deliverables: Contribution to MERIS and Sentinel-3 Retrieval Algorithm Validation & Scientific Roadmap docs