IOCS 2019

Breakout workshop 9: Atmospheric correction under complex/extreme environments

Co-chairs: **Constant Mazeran** (SOLVO), **Amir Ibrahim** (NASA), **Robert Frouin** (UCSD)

9:30 - 9:35 **Introduction: goal and organization of the workshop**
Constant Mazeran, Amir Ibrahim, Robert Frouin

Part I: Atmospheric correction over optically-complex waters (chair: Constant Mazeran)

9:35 - 9:45 **Key findings of current IOCGG WG *Intercomparison of Atmospheric Correction Algorithms Over Optically-Complex Waters***
Cédric Jamet (ULCO)

9:45 – 9:55 **Review of EUMETSAT Bright Pixel Correction for Sentinel-3/OLCI**
Constant Mazeran (SOLVO)

9:55 – 10:05 **Review of CEOS/ESA/NASA ACIX I and ACIX II activity for Landsat/Sentinel-2 atmospheric correction over inland and nearshore coastal waters**
Nima Pahlevan (NASA/GSFC)

10:05 – 10:30 **Group discussion: recommendations for AC over optically-complex waters**
Possible outcomes: strategies and recommendations in the development of AC (bands, modelling, inverse method), ideas to handle the variety of IOP models at global scale, rationale for inter-comparison and validation

Note: coffee will be available from 10:00 outside the room in case people want to slip out

Part II: Atmospheric correction over complex atmosphere (chair: Amir Ibrahim)

10:30 - 10:40 **Physics and remote-sensing of absorbing aerosol**
Robert Frouin (UCSD)

10:40 - 10:50 **NO2 correction over coastal waters**
Maria Tzortziou (CCNY)

10:50 – 11:20 **Group discussion: recommendations for AC over complex atmosphere**
Possible outcomes: capabilities and limitations of optical radiometry, use of bands for assessing the altitude of aerosol plumes (e.g. O2 band), requirements for future sensors (e.g. bands, polarization, LIDAR), challenge in the RTM, use of ancillary data (transport model)

Part III: Uncertainties of atmospheric correction (chair: Frédéric Mélin)

11:20 – 11:30 **Key findings of IOCCG WG *Uncertainties in Ocean Colour Remote Sensing***
Frédéric Mélin (JRC)

11:30 – 11:55 **Group discussion: recommendations to derive uncertainties of AC in complex environment**
Possible outcomes: main sources of uncertainty (radiometry, models), generic methodology for uncertainty propagation, per-pixel estimates, importance of spectral correlation, method to detect out-of-scope conditions, best practice for efficient delivery to users, requirements for future implementation

Final group discussion (co-chair: Constant Mazeran, Amir Ibrahim, Robert Frouin)

11:55 – 12:15 **Open discussion: other measurement techniques and ideas for AC in complex environment**
Preparation of the key message to the space agencies