Generalized Retrieval of Aerosol and Surface Properties

**Highlights**

- Direct on-line computations
- Simultaneous multi-pixel retrieval
- Applicable to diverse remote sensing observations

GRASP enables a consistent retrieval over a wide variety of instruments.

Dubovik et al., *GRASP: a versatile algorithm for characterizing the atmosphere*, SPIE Newsroom

[https://www.grasp-open.com](https://www.grasp-open.com)
Some GRASP Applications

cf. Doina Nicolae’s talk “Demonstration of an Integrated Approach for the Validation and Exploitation of Atmospheric Missions”
3rd GRASP re-processing of PARASOL is ongoing

• Expected to be completed by end of year
• AOD, BRPF, Ang. Exp, SSA, Vertical Profile, etc.

0.1° and 1° quality screened product available at
Developments are ongoing to have GRASP power the operational 3MI aerosol product.

The goal for 3MI is to provide an even better product than PARASOL!
**Envisat/MERIS**

Full Mission Reprocessed
- Multi-spectral AOD, BRF, DHR in 8 wavelengths


Good correlation with AERONET
- Not all aerosol events captured due to conservative cloud mask
Several seasons of 2017 of S3A processed

- Multi-spectral AOD, BRF, DHR in 9 wavelengths

Developments are ongoing to provide products systematically.

Validation is still pending

- Issues with OLCI Cloud-masking
- Reprocessed data and/or S3A+S3B pending
Sentinel-3/SLSTR

First look on S3A/SLSTR for a few locations

- Good correlation against AERONET
- Despite not having latest SLSTR baseline or final calibration
- Much better cloud-masking

Synergy OLCI+SLSTR is expected to improve products.
Terra/MISR

Full mission will be reprocessed
- at least AOD, BRF, DHR
- NRT product can be provided on request

Preliminary correlation against AERONET is great
- still finding optimal data preparation (cloud mask, corrections, etc.)
Two products will be supplied for S4 at the end of the day:

- SUR product: hourly BRF, DHR and AOD for all cloud-free observations
- GSR product: a gap-filled daily BRF value

Please reach out if there is any demand for having AOD and BRF in NRT!

Or if you would like a comparable product for Himawari, GOES, GEMS, etc.

cf. Diego Loyola’s talk on “Development of the Sentinel-4 Products for Air Quality and Climate Monitoring”
GRASP-as-a-Service offering:
- Quickly apply GRASP on new instruments
- Systematic data processing with GRASP
- Distributing and accessing GRASP products

Benefits:
1. makes GRASP easy to use
2. an archive of data for inter-comparison
3. powered by big infrastructure resources

This project is supported by the Beyond Europe program of the Austrian BMWFW.
In 2018 a total of 291 users in 45 countries.

GRASP Adoption Level

Fully GRASPified!

https://www.grasp-sas.com/contact/