

Aeolus VirES Tool

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Abstract

VirES (Virtual Workspaces for Earth-observation Scientists) stands for an innovative service concept providing advanced data access to Earth Observation (EO) data – especially to those available from Earth Explorer Missions – expanding the capabilities of discovery, download, view, analysis, subset, and snapshot of EO data, thus providing better support to modern, inter-disciplinary and crosscutting research.

The service is currently available at <http://vires.services> for Swarm, the geomagnetic satellite constellation of ESA. The Agency is now extending the capability to support also ADM-Aeolus data, ready for launch of this mission. The following users are targeted:

- Algorithm teams who fine-tune algorithms and processors
- Cal/Val users who filter, customize and download subsets of Aeolus products for specific regions or times
- Scientific users specially interested in specific regions, e.g. Tropics or polar regions, specific altitudes or atmospheric features (jet stream, dust transport)
- Numerical Weather Prediction NWP research departments; users working on atmospheric composition and air quality models, judging the Aeolus data for specific model applications

Envisaged functionalities being discussed with users are:

- Visualization of L1B, L2A, L2B, L2C products, AUX_MET and other auxiliary files
- 1D data and 2D curtains of Mie and Rayleigh wind and aerosol backscatter observations on global views including underlying DEM and surface albedo maps
- Analytics panel with 1D scatterplots and 2D colour coded plots
- Observations filter with different quality indicators (instrument and satellite data, specific features (strong winds, strong wind gradients, altitude regions), using other Aeolus observations or auxiliary files)
- Possibility to derive differences or residuals between different Aeolus observations
- Download selected Aeolus observations with common formats from different products for a specific geographical region, with a selectable setting for grids, filtered with QC criteria and concatenated for longer time periods than available in the product files
- Provide possibility to capture all plots as graphical output useable in scientific presentations and publications