

L1AQC : Process L1A to L1AQC

Low level QC (pitch, roll, yaw, and azimuth) and deglitching.

Processing Parameters:
Rotator Home Angle: 0.0

Process log:

Process Single Level

Found data: lat

Found data: lon

No deglitching will be performed.

ProcessL1aqc.processL1aqc: 12-May-2026 10:31:54

Sorting all datasets chronologically

Screening ES for clean timestamps.

Filtering file for high pitch and roll or pre/post-tilt

Percentage of data out of pre/post-tilt bounds: 6 %

Eliminate combined filtered data from datasets.*****

Remove ES Data

Length of dataset prior to removal 413 long

Length of records removed from dataset: 26

Data end 387 long, a loss of 6 %

Process Single Level: /Users/nils/Data/VDIUP/ESS/hcp/006/L1AQC/20260430_030206_L1AQC.hdf -
SUCCESSFUL

Example Deglitching

Randomized. Complete plots of hyperspectral
deglitching from anomaly analysis can be found in [output_directory]/Plots/L1AQC_Anoms.

None found.

None found.

None found.

None found.

None found.

None found.

L1B : Process L1AQC to L1B

Dark correction. Calibration and/or full characterization. Match timestamps & wavebands.

Processing Parameters: None

Cal. Type: Full-FRM Internal working temp source: Internal thermistor

Process log:

Process Single Level

ProcessL1b: /Users/nils/Data/VDIUP/ESS/hcp/006/L1AQC/20260430_030206_L1AQC.hdf

ProcessL1bTriOS.processL1b: 12-May-2026 10:31:55

Interpolate Data LATITUDE

Interpolate Data LONGITUDE

Interpolate Data SOLAR_AZ

Interpolate Data SZA

Interpolate Data LATITUDE

Interpolate Data LONGITUDE

Interpolate Data TILT

MERRA2 data for Wind and AOD may be used to replace blank values. Reading in model data...

Retrieving ancillary file from server: GMAO_MERRA2.20260430T030000.MET.nc

Retrieving ancillary file from server: GMAO_MERRA2.20260430T030000.AER.nc

Request error: 404

Filling in ancillary data with default values where still needed.

ES: Using internal thermistor for sensor working temperature

Dark Correction: SAM_8834 - ES

ProcessL1b_Interp.processL1b_Interp: 12-May-2026 10:33:48

Interpolate Data sixS_irradiance

found NaN 435

found NaN 484

Interpolate Data direct_ratio

Interpolate Data diffuse_ratio

Interpolate Data solar_zenith

Process Single Level: /Users/nils/Data/VDIUP/ESS/hcp/006/L1B/20260430_030206_L1B.hdf -

SUCCESSFUL

Example Temporal Interpolations

Randomized. Complete plots of hyperspectral interpolations can be found in [output_directory]/Plots/L1B_Interp.

None found.

L1BQC : Process L1B to L1BQC

Apply more quality control filters.

Processing Parameters:

Max Wind: 50.0

Min SZA: 0.0

Max SZA: 90.0

Filter Sigma Es: 5.0

Filter Sigma Li: 8.0

Filter Sigma Lt: 3.0

Process log:

Process Single Level

Percentage of data out of Wind limits: 0 %

Out-of-bounds SZA. SZA: 100

Percentage of data out of SZA limits: 100 %

Flag data from TT2: 2026-04-30 03:02:06+00:00 to 2026-04-30 04:01:54+00:00

L1bqc processing failed. Nothing to output.

Process Single Level: /Users/nils/Data/VDIUP/ESS/hcp/006/L1BQC/20260430_030206_L1BQC.hdf - NOT SUCCESSFUL