

L1 Data-set – 05/2020

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Source – Update Full scan

- Source (by Cedric G.):
 - Inputs: 4 ECMWF forecasts
 - 00h -> 18h
 - Simulation of slanted views combining the profiles
 - L1 computation using RTTOV
 - Old grid
 - Old apodization (“cos²”)
 - OPD max = 0.828cm
 - Outputs: 4 full scans L1
 - 00h - 6h - 12h - 18h
- Update:
 - New apodization (“light”)
 - FT: Interferogram
 - De-apodization (/cos²)
 - Re-apodisation (x light)
 - FT-1
 - With OPD max:
 - LWIR: 8.290380239487cm
 - MWIR: 8.282446861267cm
 - Caution: missing information !
 - New grid
 - Spline interpolation
 - Caution: Slightly larger band
 - Filled with constant values = edges

Format and Grid

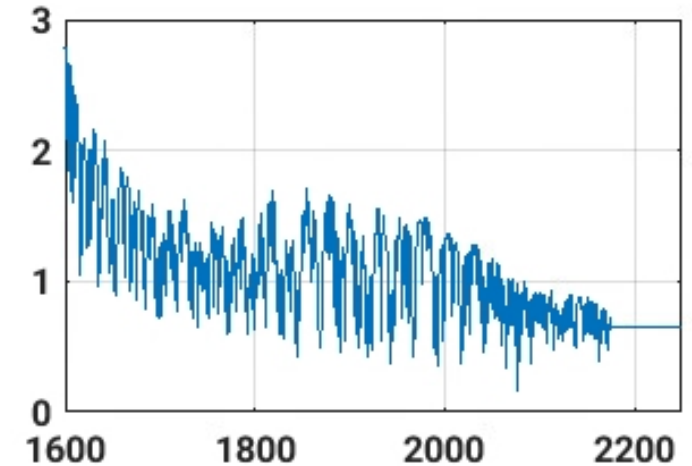
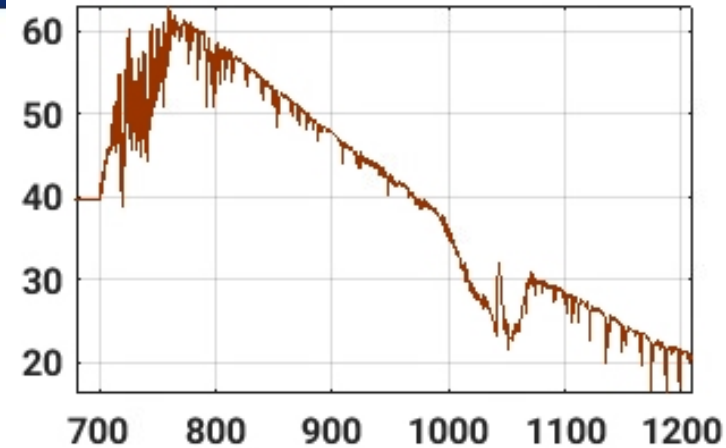
- Format:

- Netcdf 4
- Longitude, Latitude, Azimuth, Zenith
- Out of earth = NaN
- “IRS_Radiances_cloud_LAC1_dwell50.nc”

- New Grids LWIR - MWIR:

```
Size:      881x25600
Dimensions: spectral_samples,nrecords
Datatype:  double
Attributes:
    long_name      = 'Radiance'
    units          = 'mW/cm-1/sr/m2'
    start_wavenumber = '679.7034438977440 cm-1'
    end_wavenumber  = '1210.439052265104 cm-1'
    wave_number_step = '0.603108645872 cm-1'
```

```
Size:      1079x25600
Dimensions: spectral_samples,nrecords
Datatype:  double
Attributes:
    long_name      = 'Radiance'
    units          = 'mW/cm-1/sr/m2'
    start_wavenumber = '1599.768790786900 cm-1'
    end_wavenumber  = '2250.542661152288 cm-1'
    wave_number_step = '0.603686336146 cm-1'
```



Additional Scanning simulation

- + 18h L1 Dataset following the LAC scanning law

73 consecutives LACS:

- Every 900s = 15min, 00h -> 18h
- Following the LAC scanning law (3,4,3,4,3,4,2,4,...)
- Linear interpolation of the spectra to simulate passing time
- No calibration dwells
- “121500_IRS_Radiances_cloud_LAC1_dwell50.nc”

Interest: Impact of LAC borders discontinuities

