Debug the following code.
Boresight: 33.7°N, 91°W
~ 2035 good N/S pixels
~ 1226 steps/hr
~ 2.5 M pixels/hr
# spatial pixels ~TROPOMI
2 x 4.75 km² @center FOR
FOR: N/S +/-210 pixels, E/W +230/160 pixels

Field of regard is optimized to cover both Puerto Rico and Canadian tar sands.
SSp-TROPOMI NO2 product oversampled by Kang Sun.
Los Angeles coverage

Every hour!
Typical TEMPO-range spectra (from ESA GOME-1)

Reflectance ($\pi \times \text{radiance} / \mu_0 \times \text{irradiance}$)

- $\text{O}_3$
- $\text{BrO, OCIO, H}_2\text{CO, SO}_2$
- $\text{NO}_2^+$
- $\text{C}_2\text{H}_2\text{O}_2$
- $\text{O}_3$
- $\text{O}_2$
- $\text{O}_2$
- $\text{O}_2$
- $\text{H}_2\text{O}$
- $\text{H}_2\text{O}$

- Fully cloudy
- Sahara Desert
- Vegetation red edge
- Clear, ocean albedo

Wavelength (nm)

300 400 500 600 700 800
**The TEMPO Green Paper**

Chemistry, physics, and meteorology experiments with the Tropospheric Emissions: Monitoring of Pollution instrument

Now at: https://www.cfa.harvard.edu/atmosphere/publications.html


### NORMAL TIME RESOLUTION STUDIES

**Air quality and health**

**Ultraviolet exposure**

**Biomass burning**

**Synergistic GOES-16/17 Products**

**Advanced aerosol products**

**Soil NO\textsubscript{x} after fertilizer application and after rainfall**

**Solar-induced fluorescence from chlorophyll**

**Foliage studies**

**Mapping NO\textsubscript{2} and SO\textsubscript{2} dry deposition at high resolution**

**Crop and forest damage from ground-level ozone**

**Halogen oxide studies in coastal and lake regions**

**Air pollution from oil and gas fields**

**Night light measurements resolving lighting type**

**Ship tracks, aircraft tracks, drilling platform plumes.**

**Water vapor studies**

### Volcanoes

**Socio-economic studies**

**National pollution inventories**

**Regional and local transport of pollutants**

**Sea breeze studies for Florida and Cuba**

**Transboundary pollution gradients**

**Transatlantic dust transport**

### HIGH TIME RESOLUTION EXPERIMENTS

**Lightning NO\textsubscript{x}**

**Morning and evening higher-frequency scans**

**Dwell-time studies and temporal selection to improve detection limits**

**Exploring the value of TEMPO in assessing pollution transport during upslope flows**

**Tidal effects on estuarine circulation and outflow plumes**

**Air quality responses to sudden changes in emissions**

**Cloud field correlation with pollution**

**Agricultural soil NO\textsubscript{x} emissions and air quality**