



PNRR Project – Task 1500-07 | Progetto: EMM – Earth Moon Mars Improving the Italian remote sensing network: from satellite validation to air quality studies

Descrizione generale

Databases di dati colonnari di NO₂, O₃ e spessore ottico dell'aerosol (AOD) ottenute dall'analisi degli spettri misurati a Bologna e Monte Cimone. Database di dati colonnari verticali di XCO₂, XCH₄, XCO, XH₂O a Bologna.

Prestazioni tecniche

- 1 FTIR EM27/SUN (Bruker) compliant con network di validazione satellitare COCCON – dati processati con codice del network
- 2 sistemi SkySpec-2D MAX-DOAS (Airyx) compliant con network di validazione satellitare FRM4DOAS – dati processati con codice CNR-ISAC da progetti precedenti

Applicazioni

- Studi di qualità dell'aria in Pianura Padana
- Misure di gas serra in Pianura Padana
- Validazioni satellitari (e.g. TROPOMI, Sentinel-4 e 5, CO2M)

Overview

Databases of vertical columns of NO₂, O₃ and aerosol optical depth (AOD) obtained from the analysis of the spectra measured in Bologna and Mount Cimone. Database of vertical columns of XCO₂, XCH₄, XCO, XH₂O in Bologna.

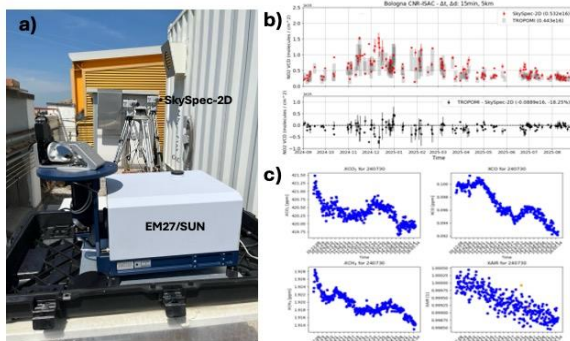
Technical specifications

- 1 FTIR EM27/SUN (Bruker) compliant with the COCCON satellite validation network – data processed using the network's code.
- 2 SkySpec-2D MAX-DOAS systems (Airyx) compliant with the FRM4DOAS satellite validation network – data processed using code developed by CNR-ISAC in previous projects.

Applications

- Air quality studies in the Po Valley
- GHGs measurements in the Po Valley
- Satellite validation (e.g. TROPOMI, Sentinel-4 and 5, CO2M)

Facility Images



a) EM27/SUN and two SkySpec-2D systems on the roof of CNR-ISAC in Bologna. **b)** Comparison between TROPOMI NO₂ Tropospheric columns (grey shadows) and coincident SkySpec-2D ones (red dots) in Bologna **c)** Example of XCO₂, XCO, XCH₄ and XAIR retrieved from EM27/SUN measurements for one day