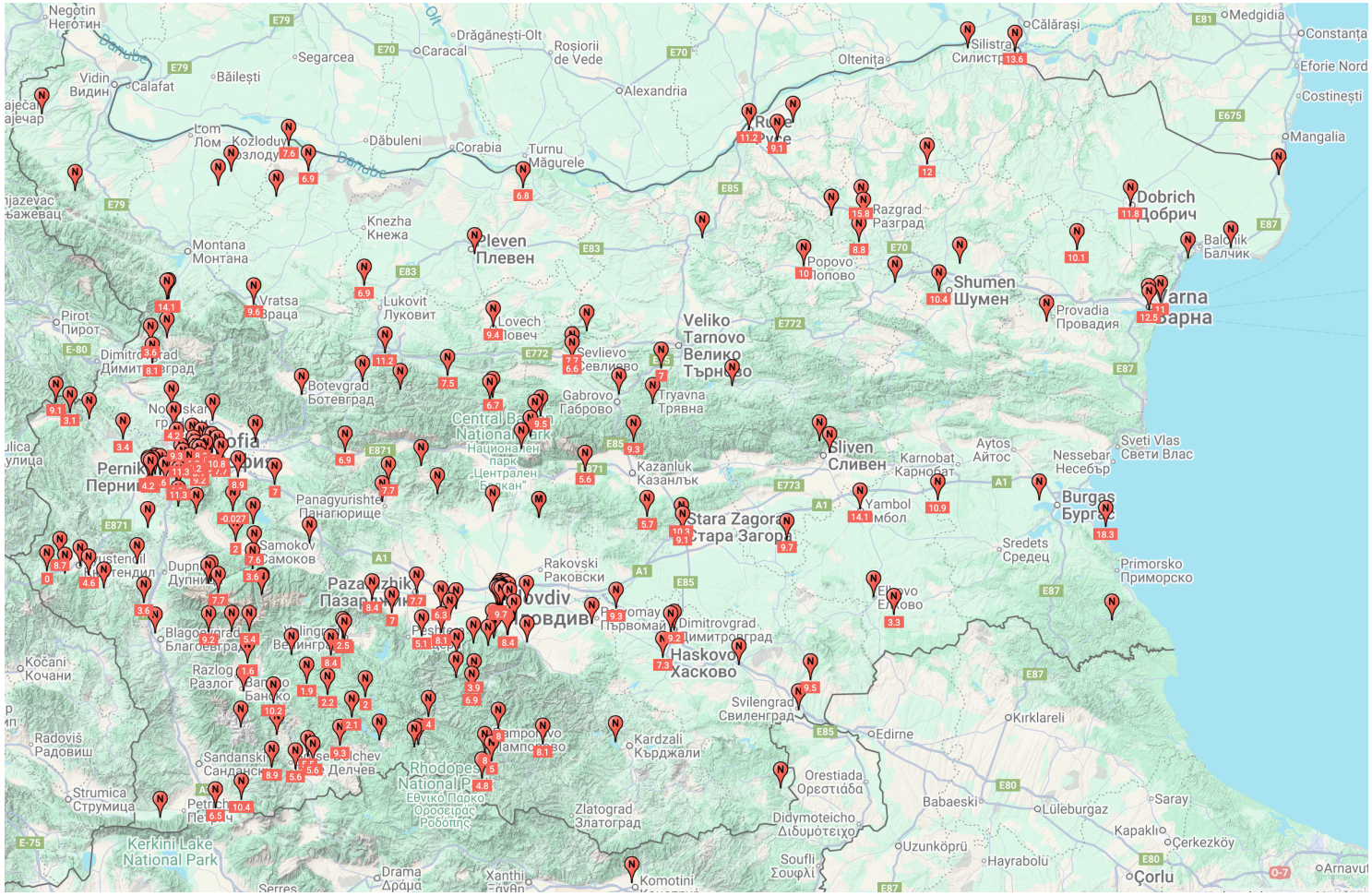
Comprehensive Air Quality Monitoring Strategies in Plovdiv

V. Paskaleva, A. Terziyski, S. Tenev, N. Kochev

6.11.2025, 16:20, Grand Hotel Plovdiv

Background (meter.ac, CC0)



AWS and Meteo
38 sites

Earth Science
61 stations

Air Quality
225 nodes

Agriculture
9 places

Network Growth
Volunteer commitment
ФП17-ХФ-013
ФП19-ХФ-001
European Climate Foundation
Breathe, Pernik
ФП21-ХФ-001
МУ21-ФМИ-002
ИТ22-ХФ-002
… and many others (integration)

Air Quality Overview

Remote Sensing Methods

- **CHM15k** *Ceilometer*
- **SkySpec 2D** *DOAS*
- **SkySpec 2D** *DOAS*

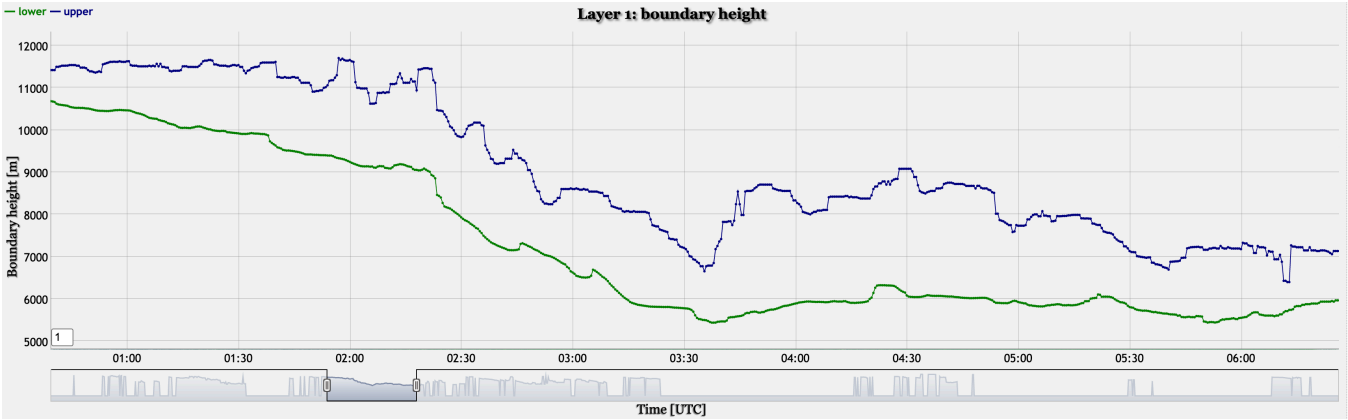
In situ Methods

- **WS501** *Weather Station*
- **WS100** *Disdrometer*
- **AirQino** *Air qiality*
- **Stationary AQ** *Air qiality*
- **Mobile AQ** *Air qiality*

OTT CHM15k

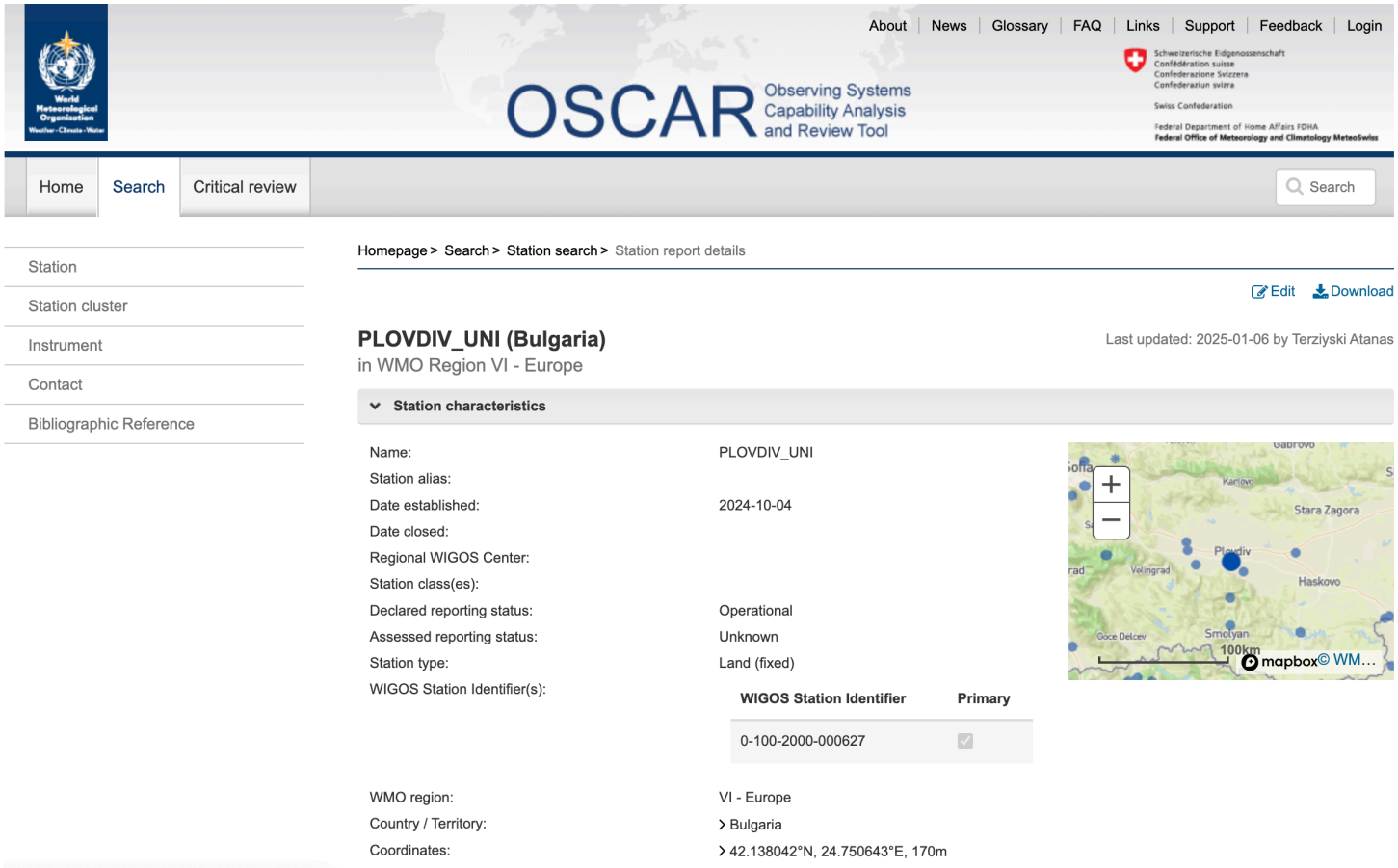


Telegram brief plot



Data is available under CC0 at: https://meter.ac/gs/meteo/M98/history.html

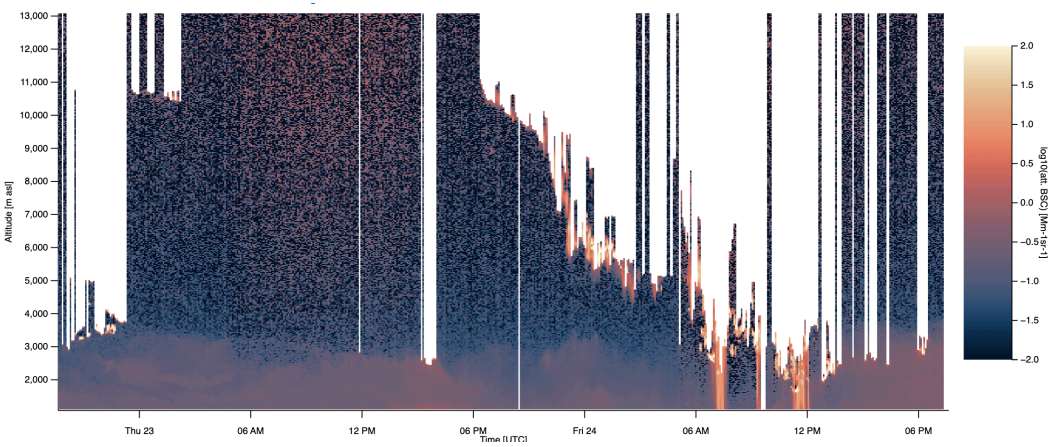
Contribution to WMO / EUMETNET



https://oscar.wmo.int/surface/#/search/station/stationReportDetails/0-100-2000-000627

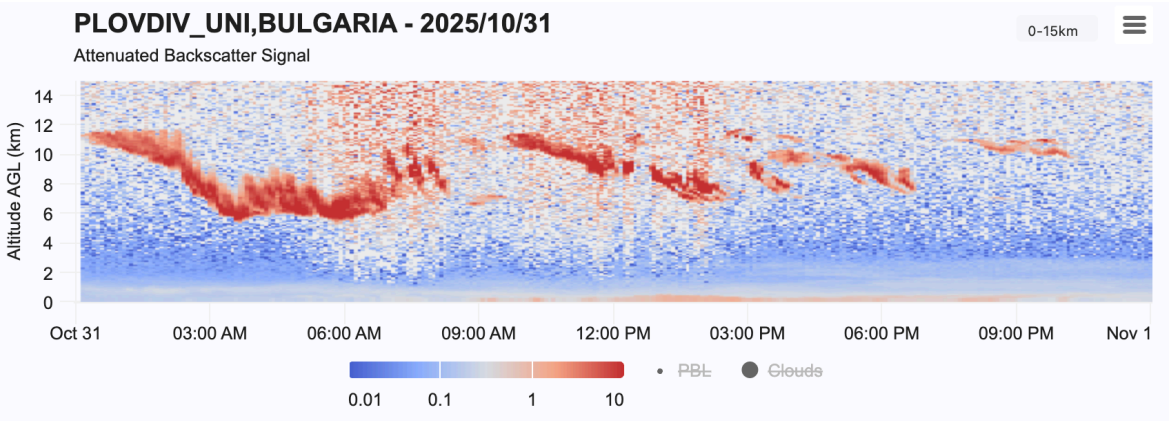
E-profile (EUMETNET, MeteoSwiss)

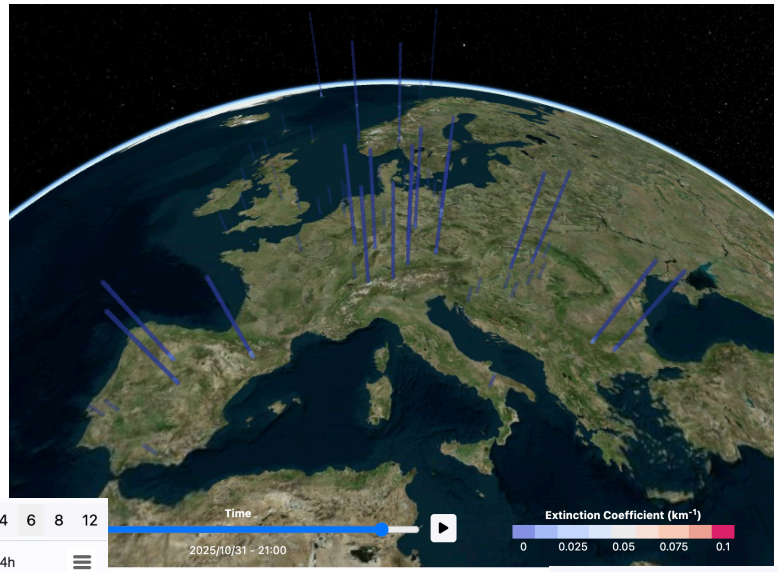




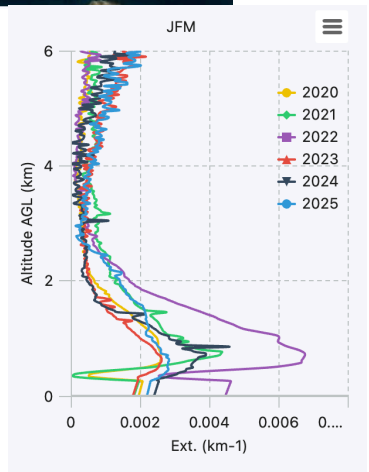
https://e-profile.eu

V-Profiles (MET Norway)

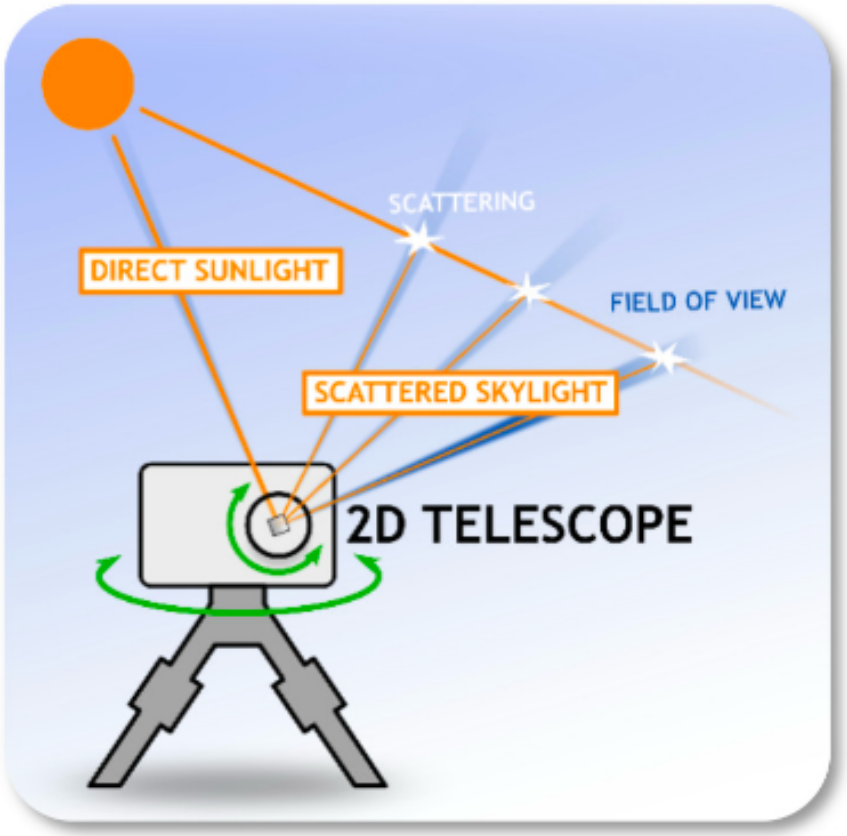








Airyx DOAS SkySpec 2D

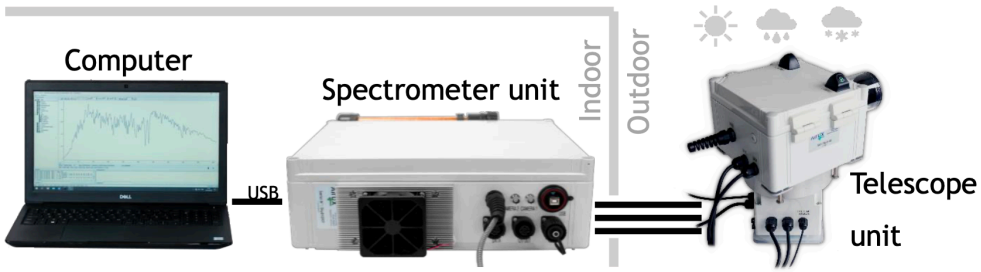


VOL. 84, NO. C10 JOURNAL OF GEOPHYSICAL RESEARCH OCTOBER 20, 1979

Simultaneous Measurement of Atmospheric CH_2O, O_3, and NO_2 by Differential Optical Absorption

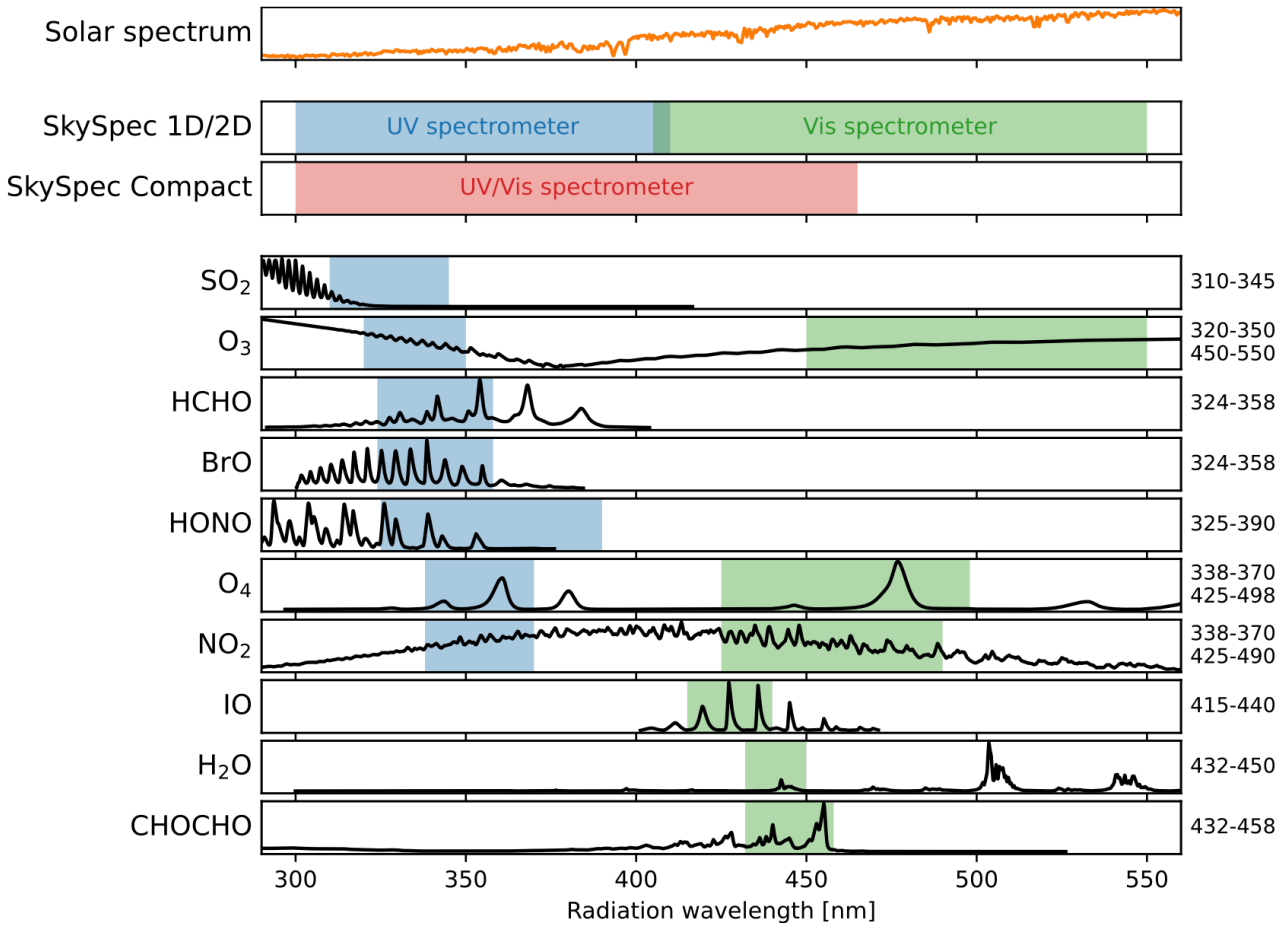
U. PLATT, D. PERNER, AND H. W. PÄTZ

Kernforschungsanlage Jülich GmbH, Institut für Chemie 3, Atmosphärische Chemie, D-5170 Jülich, Germany

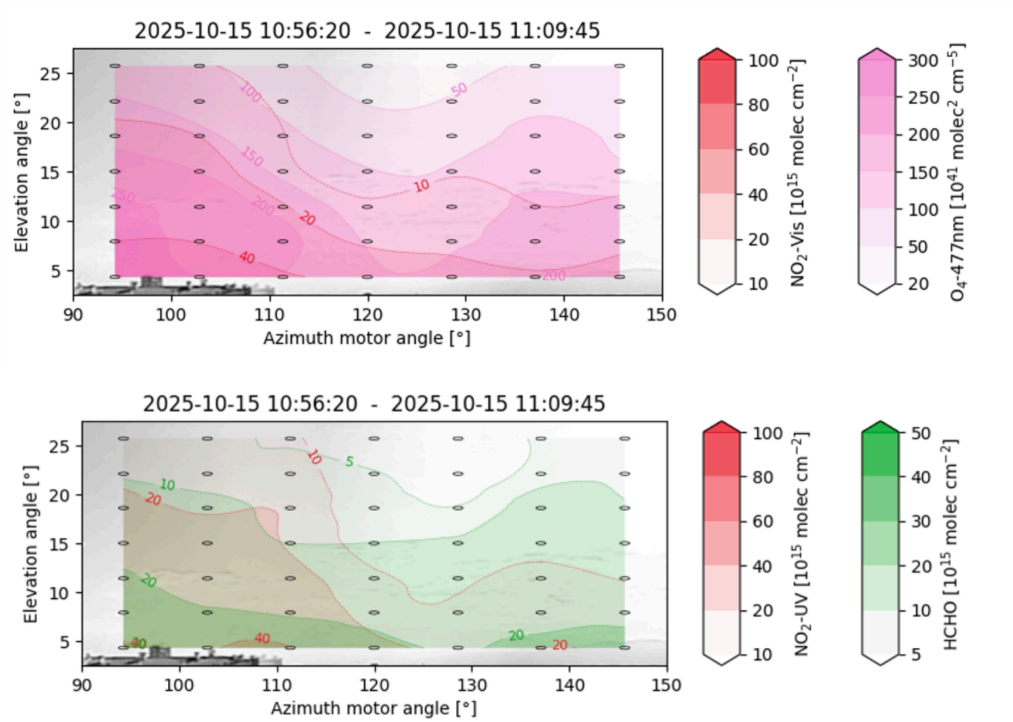


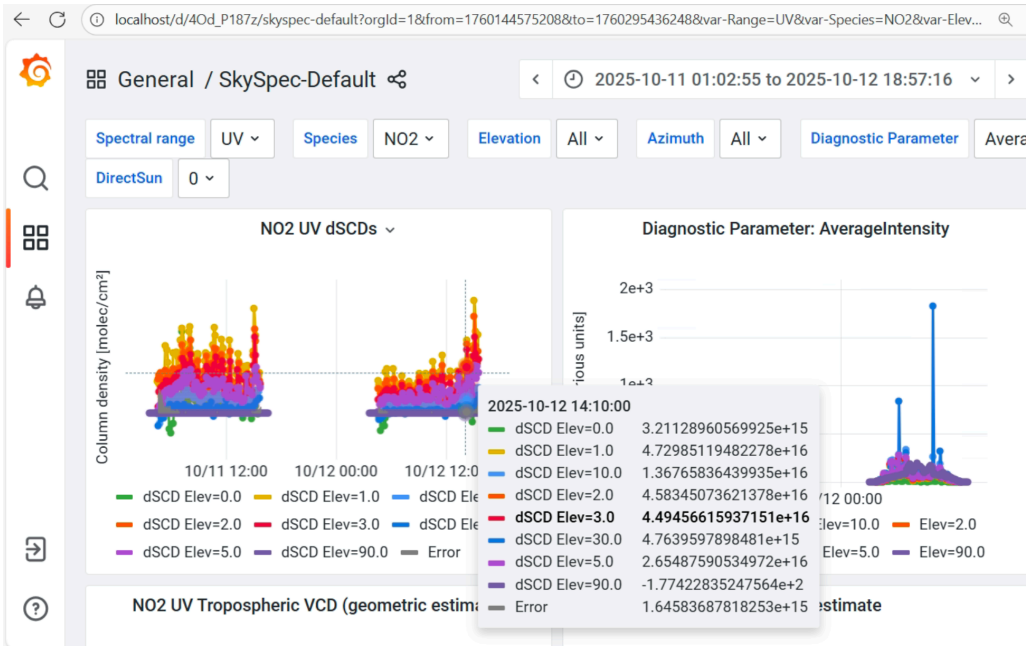


Airyx DOAS SkySpec 2D

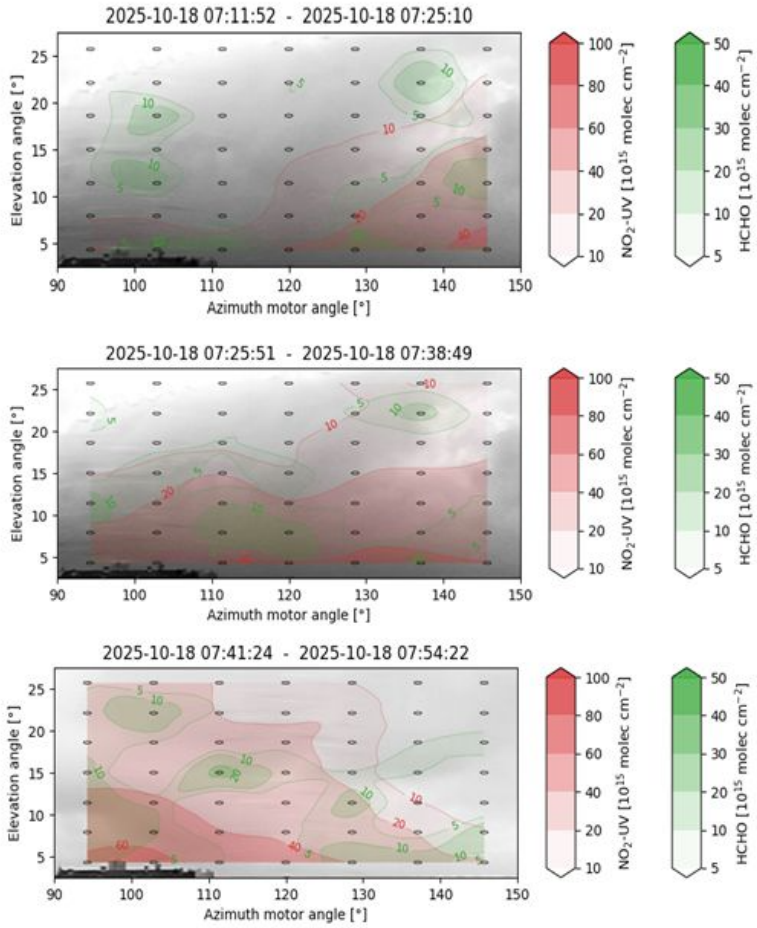


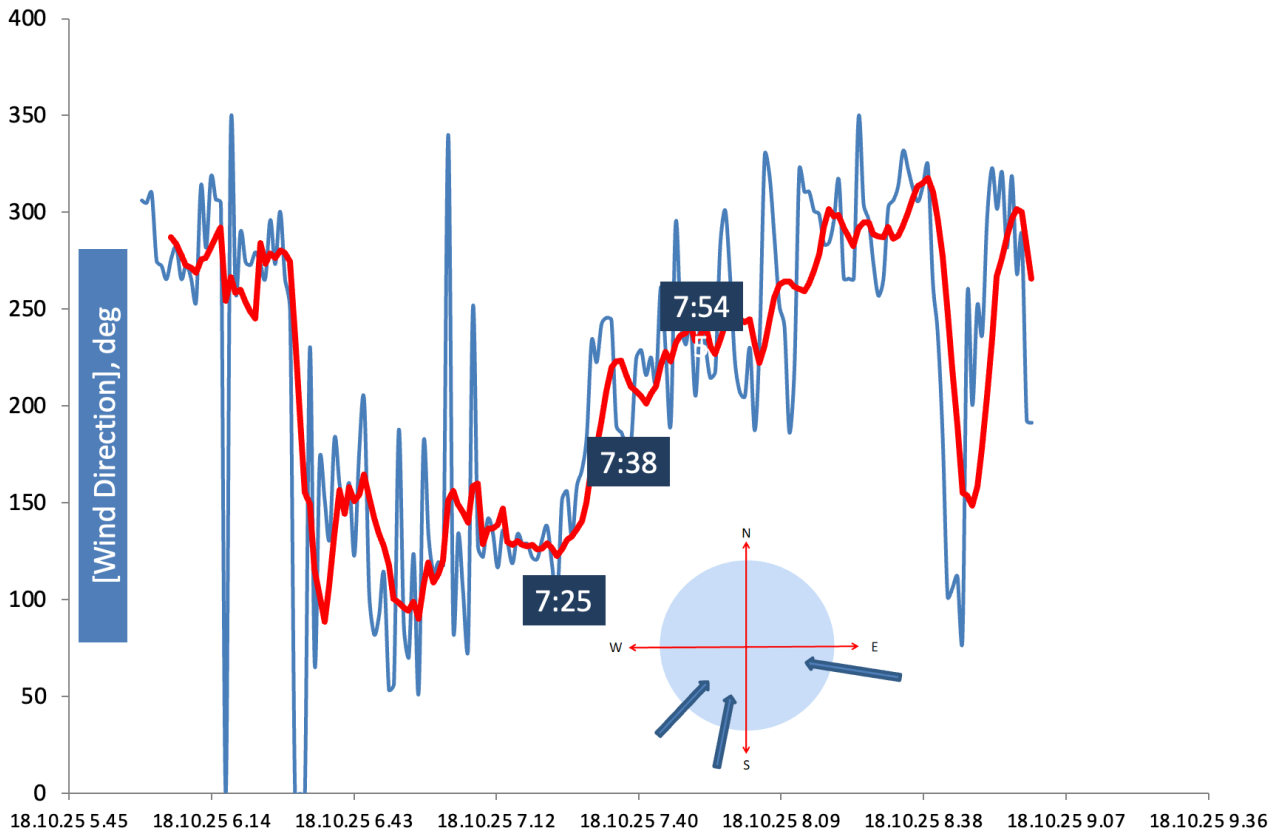
Airyx DOAS SkySpec 2D





NO2 and HCHO Dynamics Above Plovdiv





Meteorology

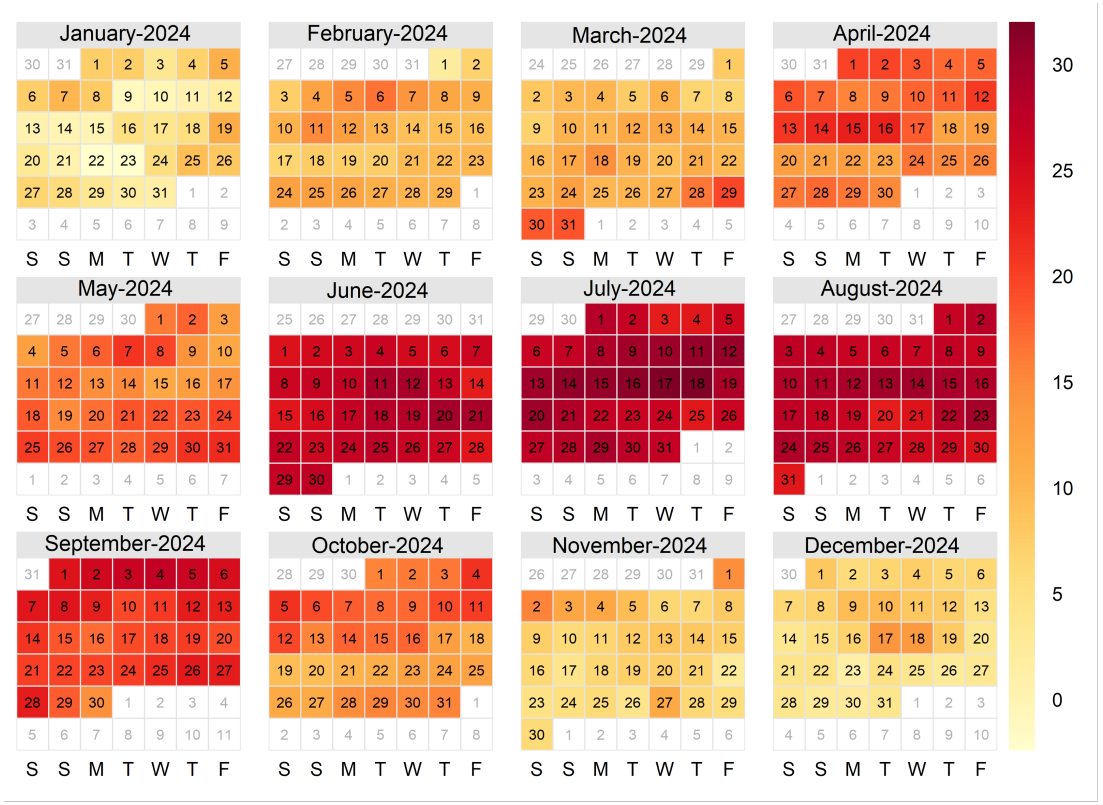


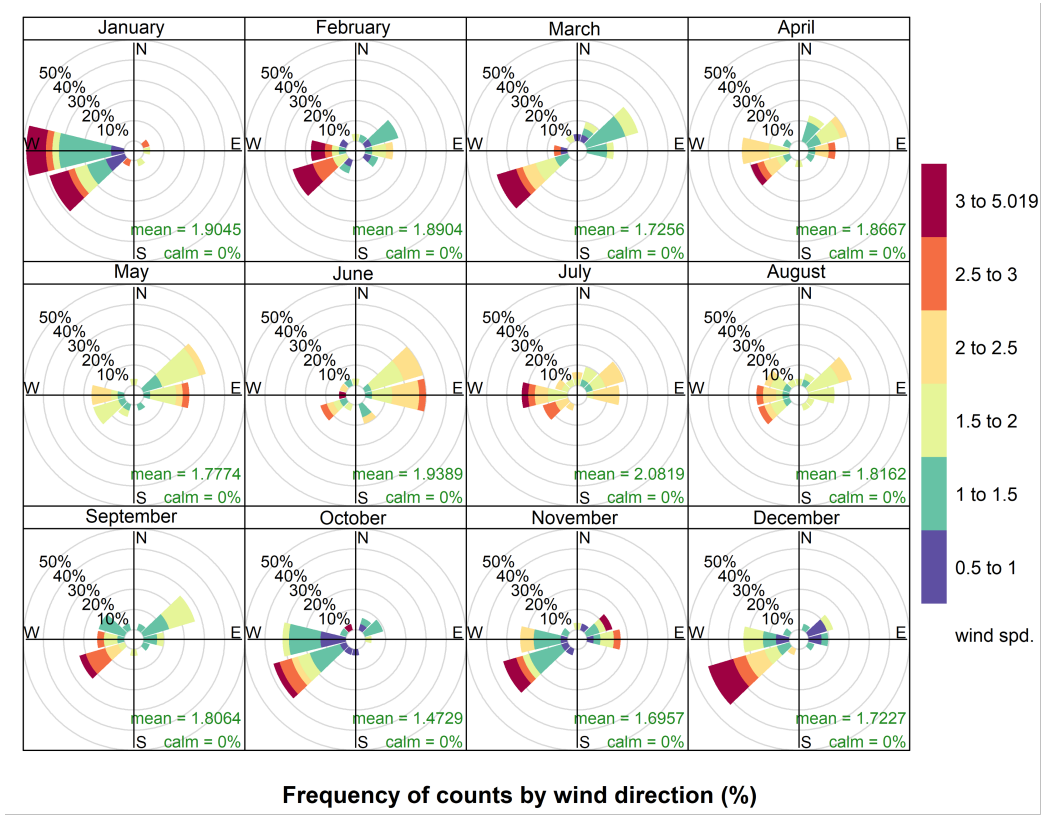
OTT WS501
Air Temperature
Relative Humidity
Air Pressure
Wind Direction
Wind Speed
Solar Radiation



OTT WS100
Precipitation quantity
Precipitation intensity
Precipitation type (rain, snow, sleet, freezing rain, hail)

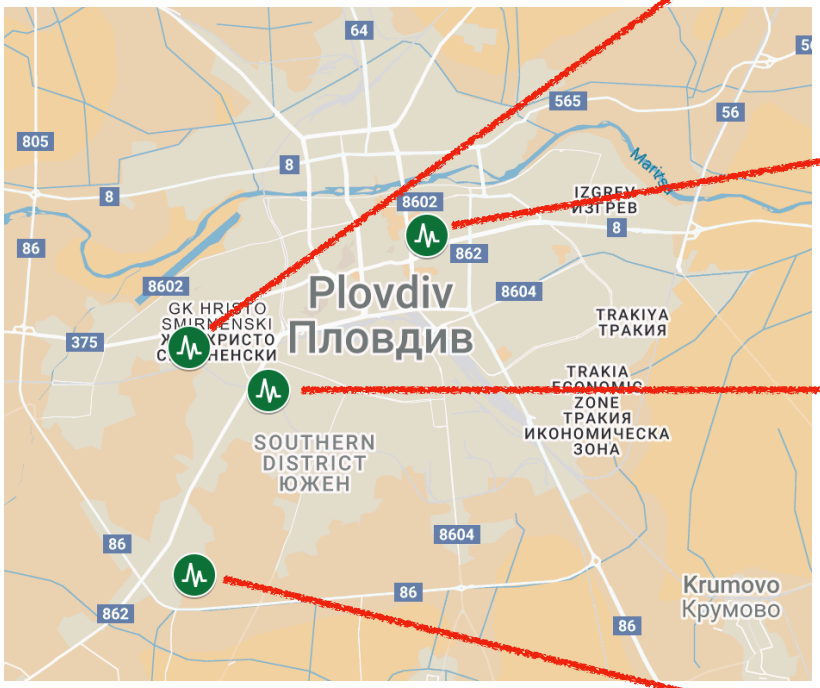
Meteorology (Plovdiv, 2024)

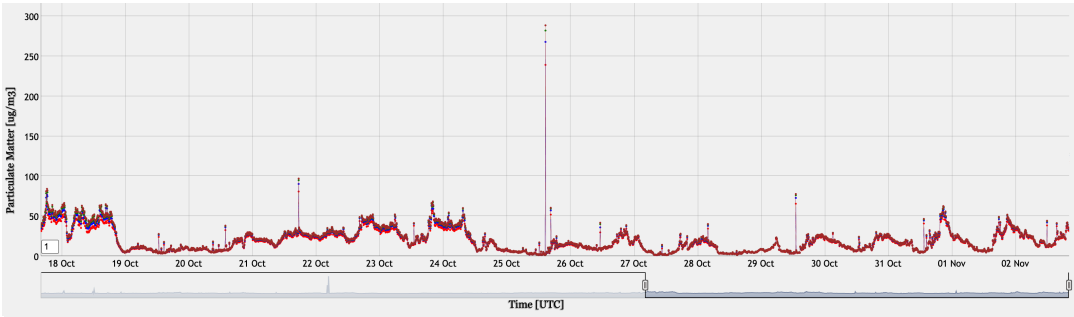


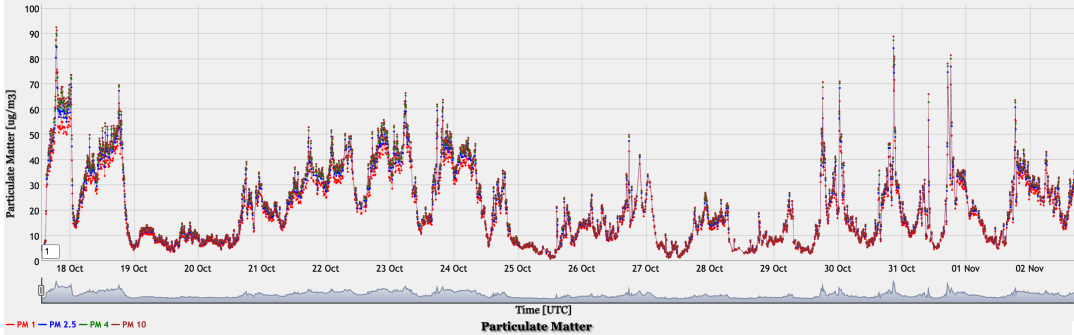


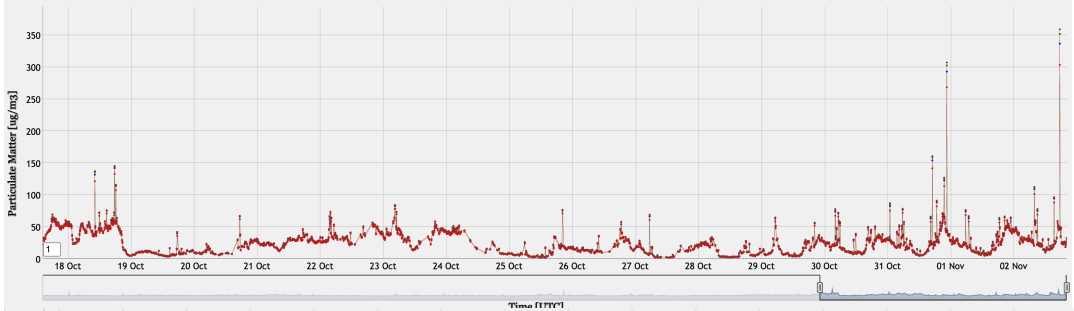
Stationary AQ

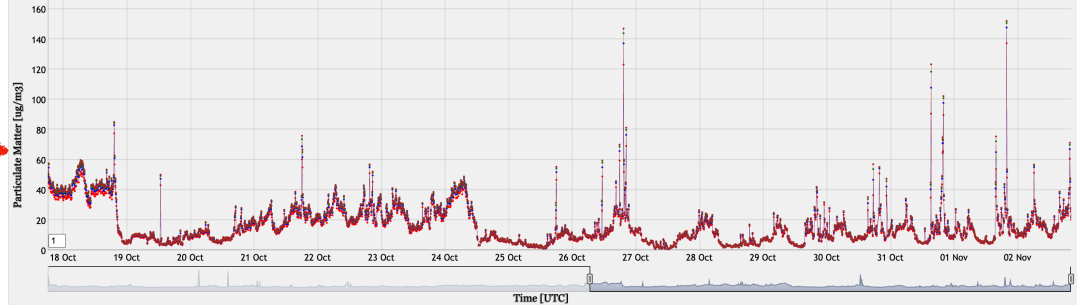
PM: 1, 2.5, 4, 10, VOC, NOX, T, P, RH, Gamma



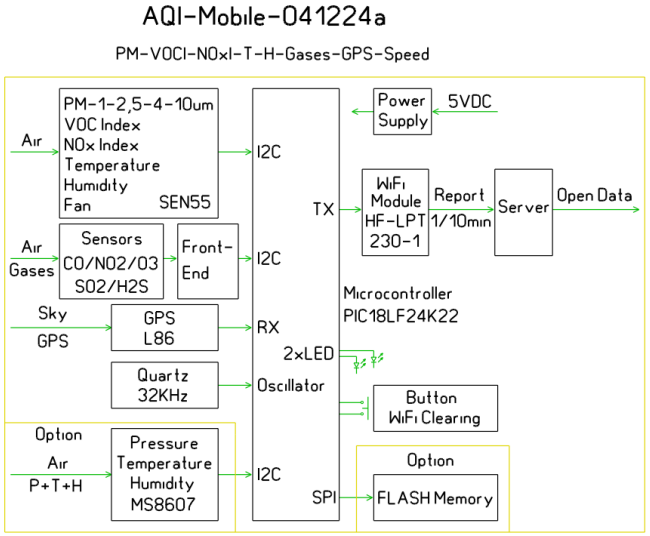


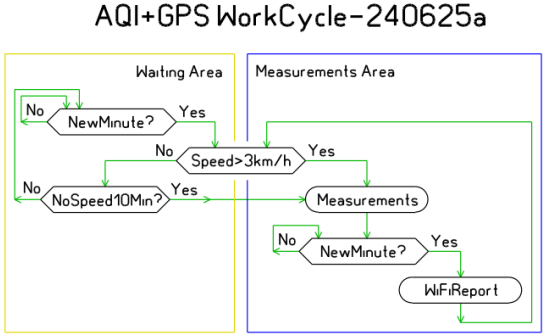


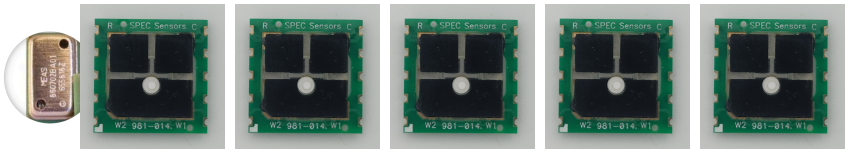


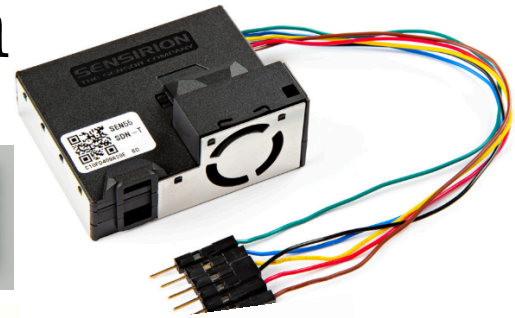


Own Design and Production

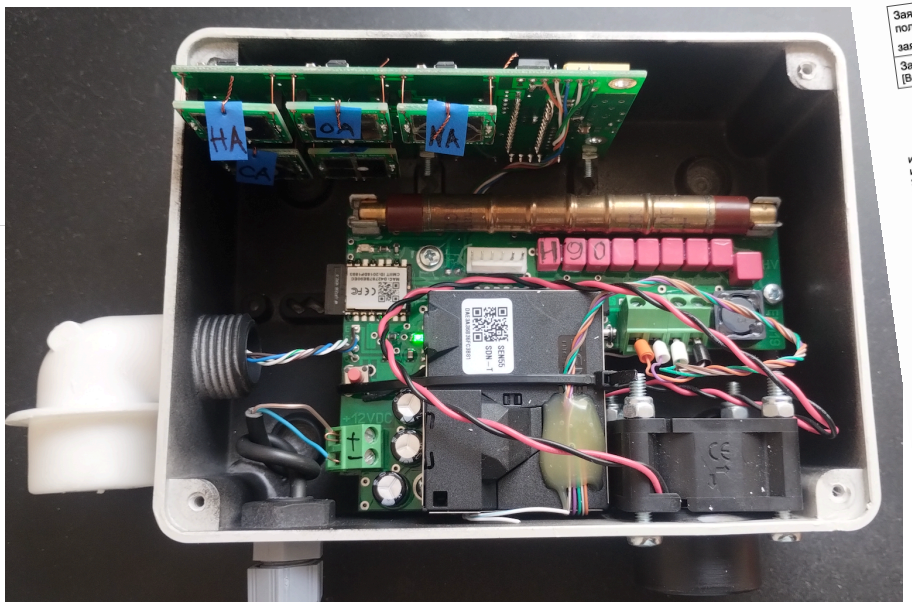








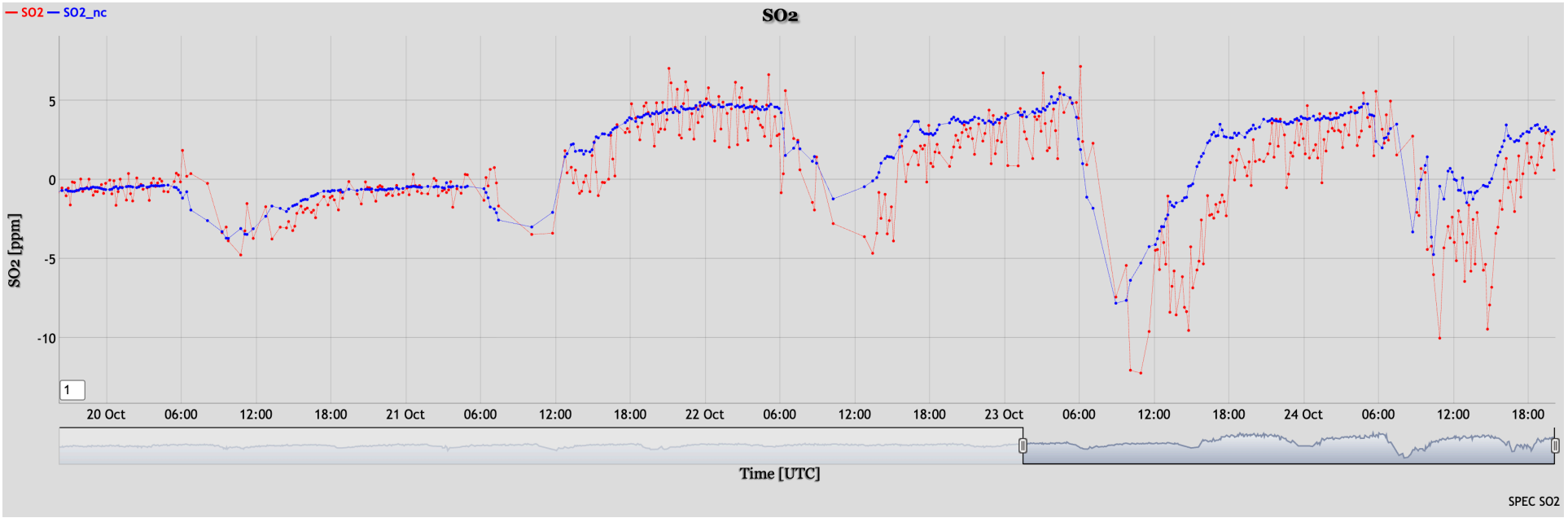




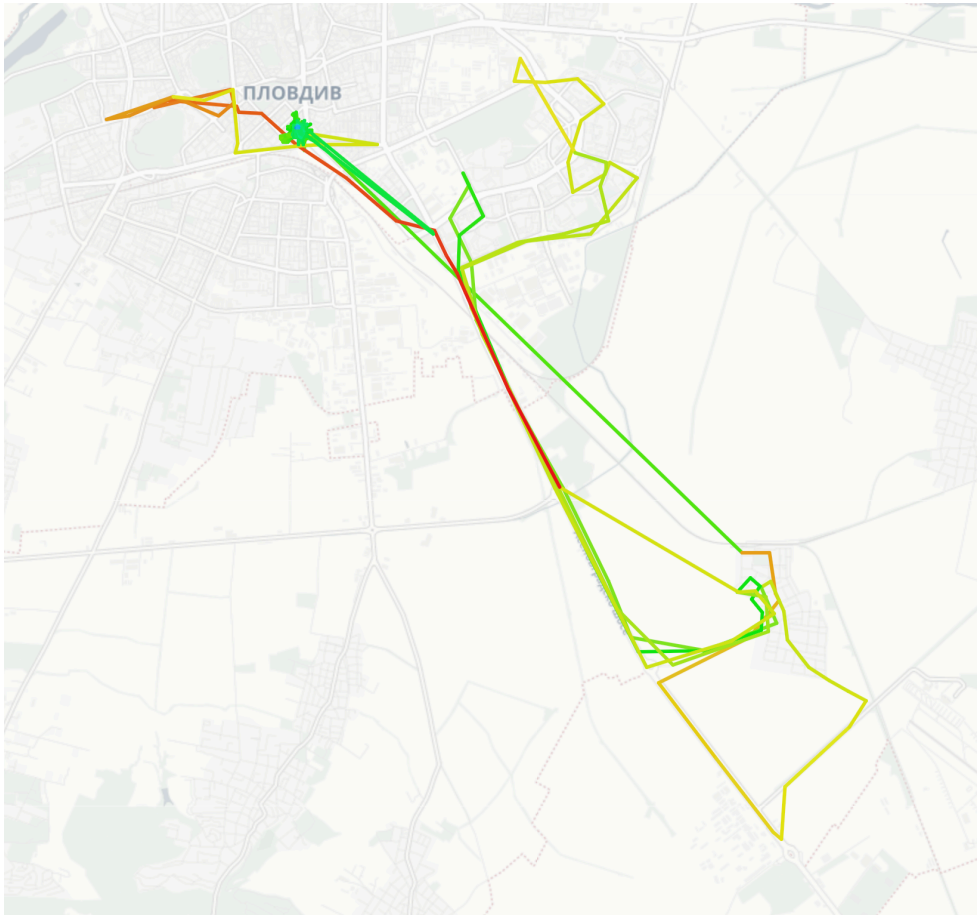


Mobile AQ

CO, SO_2, H_2S, O_3, NO_2, PM 1, 2.5, 4, 10, T, P, RH, Gamma



Mobile AQ - a Data Track







AirQino

Measure	Average Last 24h	Average Last 30dd	Average Last 90dd
CO (mg/m³)	0,18	0,18	0,17
CO2 (ppm)	419,99	426,84	433,92
H2S (µg/m³)	1,19	1,2	1,22
NO2 (µg/m³)	22,8	21,73	27,1
O3 (µg/m³)	42,9	43,28	42,53
PM10 (µg/m³)	25,01	15,97	14,18
PM2.5 (µg/m³)	14,49	9,89	8,65
RH (%)	66,98	57,98	55,1
SO2 (µg/m³)	0,49	0,49	0,5
T (°C)	16,86	16,99	18,31