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Supplement of

XCO₂ in an emission hot-spot region: the COCCON Paris campaign 2015

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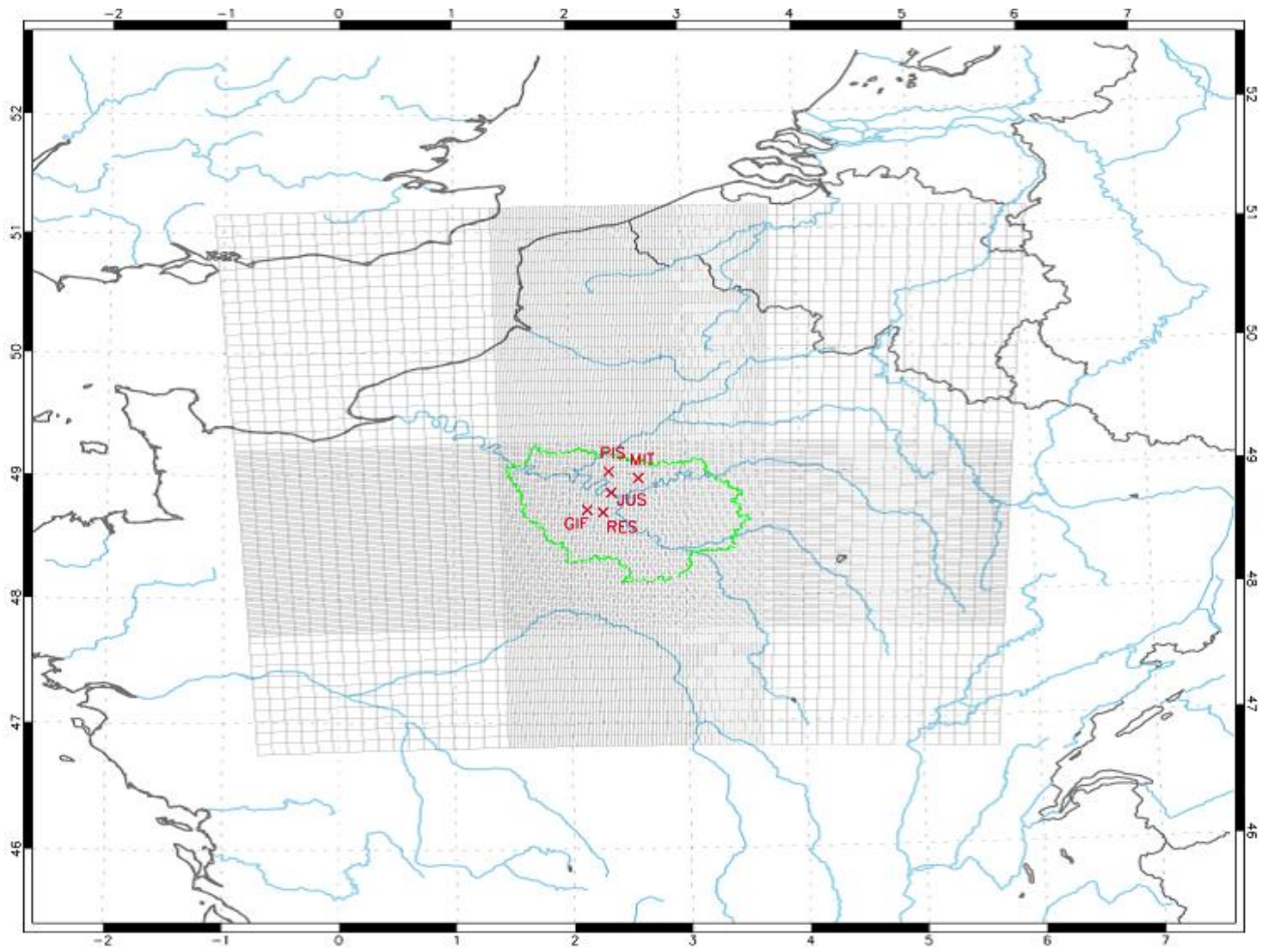


Figure S1. Modelling domain and numerical grid configuration of CHIMERE with a zoom on the Île-de-France region at 2 x 2 km².

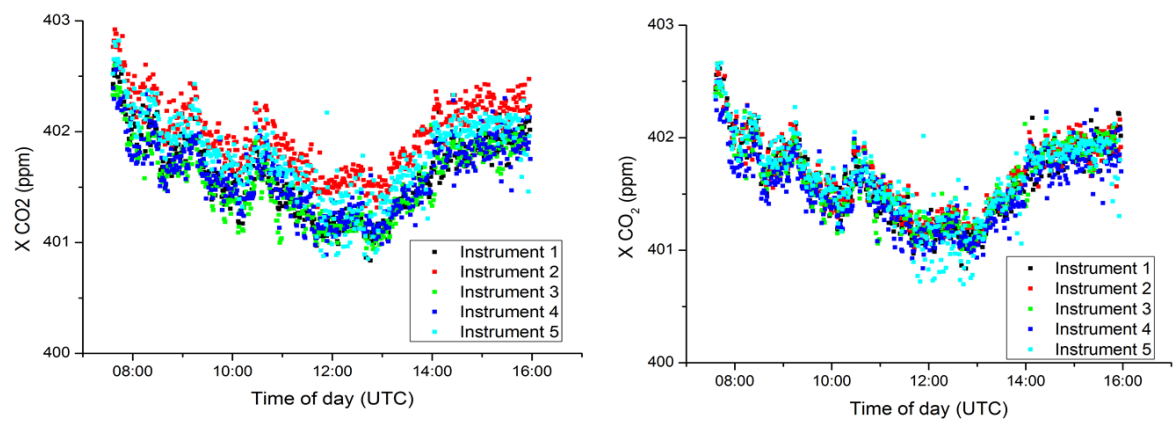


Figure S2. Sample parallel measurements of the five EM27/SUN instruments in Karlsruhe for raw data (left panel) and the data with the applied correction (right panel) taken on April 15th, 2015.

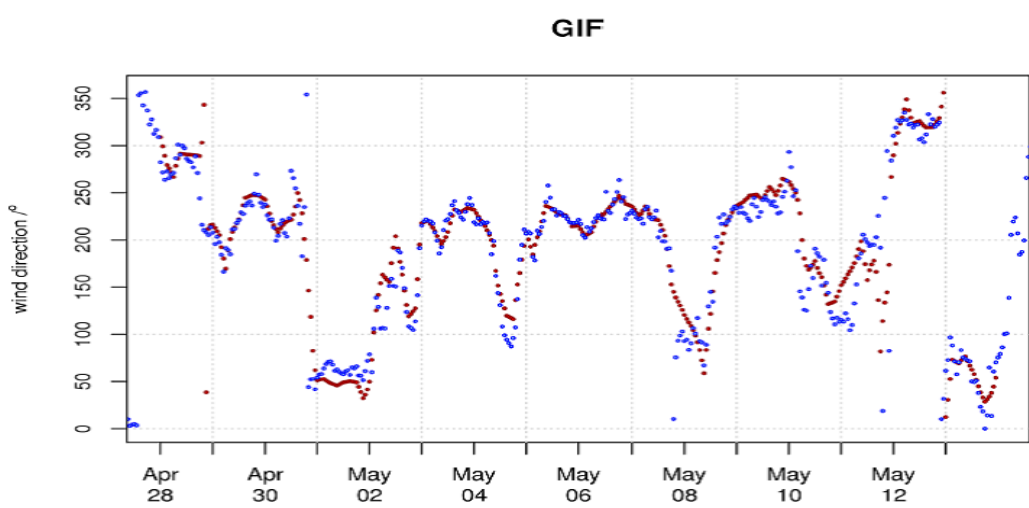
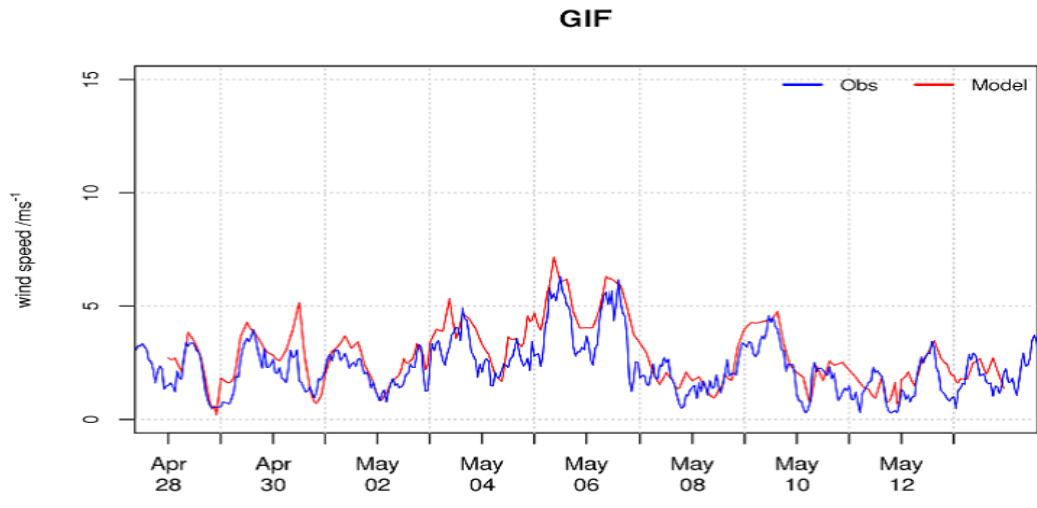


Figure S3. Comparison of modelled and observed wind speeds and directions at the Gif-Sur-Yvette measurement site

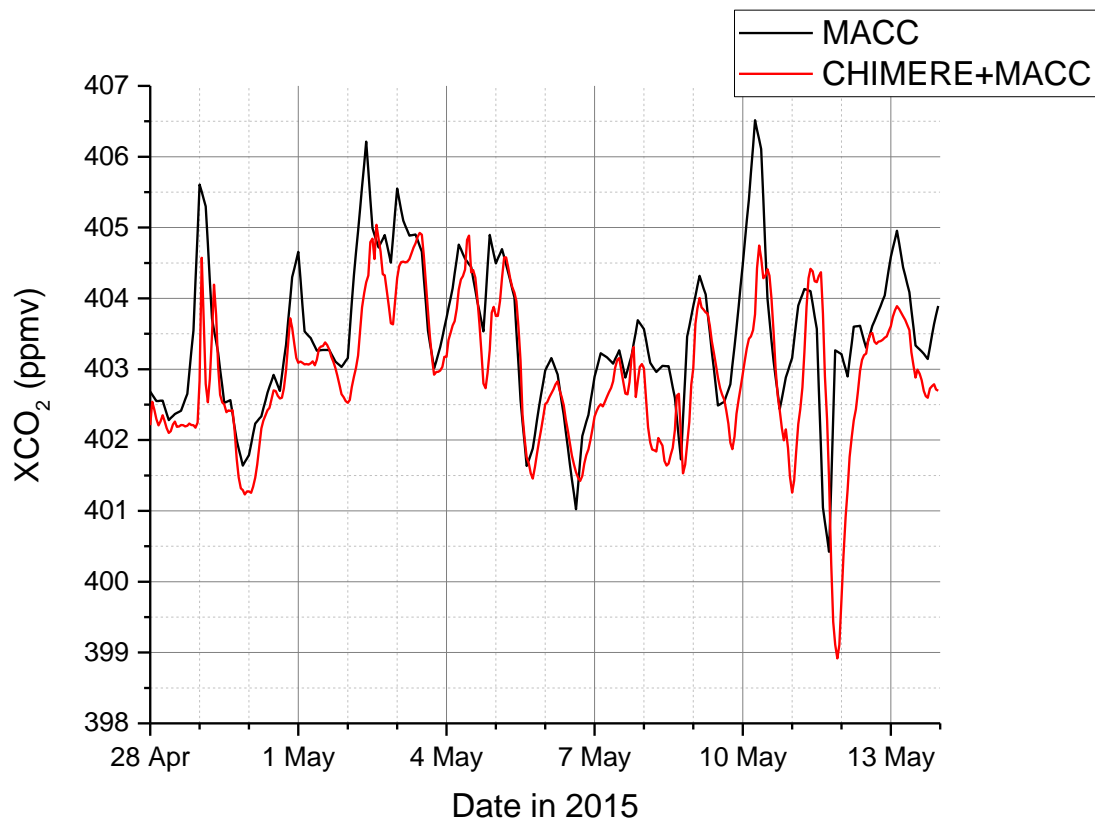


Figure S4. Comparison of modelled XCO₂ from ECWMF-CAMS (15 x 15 km²), here MACC (Monitoring Atmospheric Composition and Chemistry), with CHIMERE simulation (inner domain, 2 x 2 km²) for JUS.

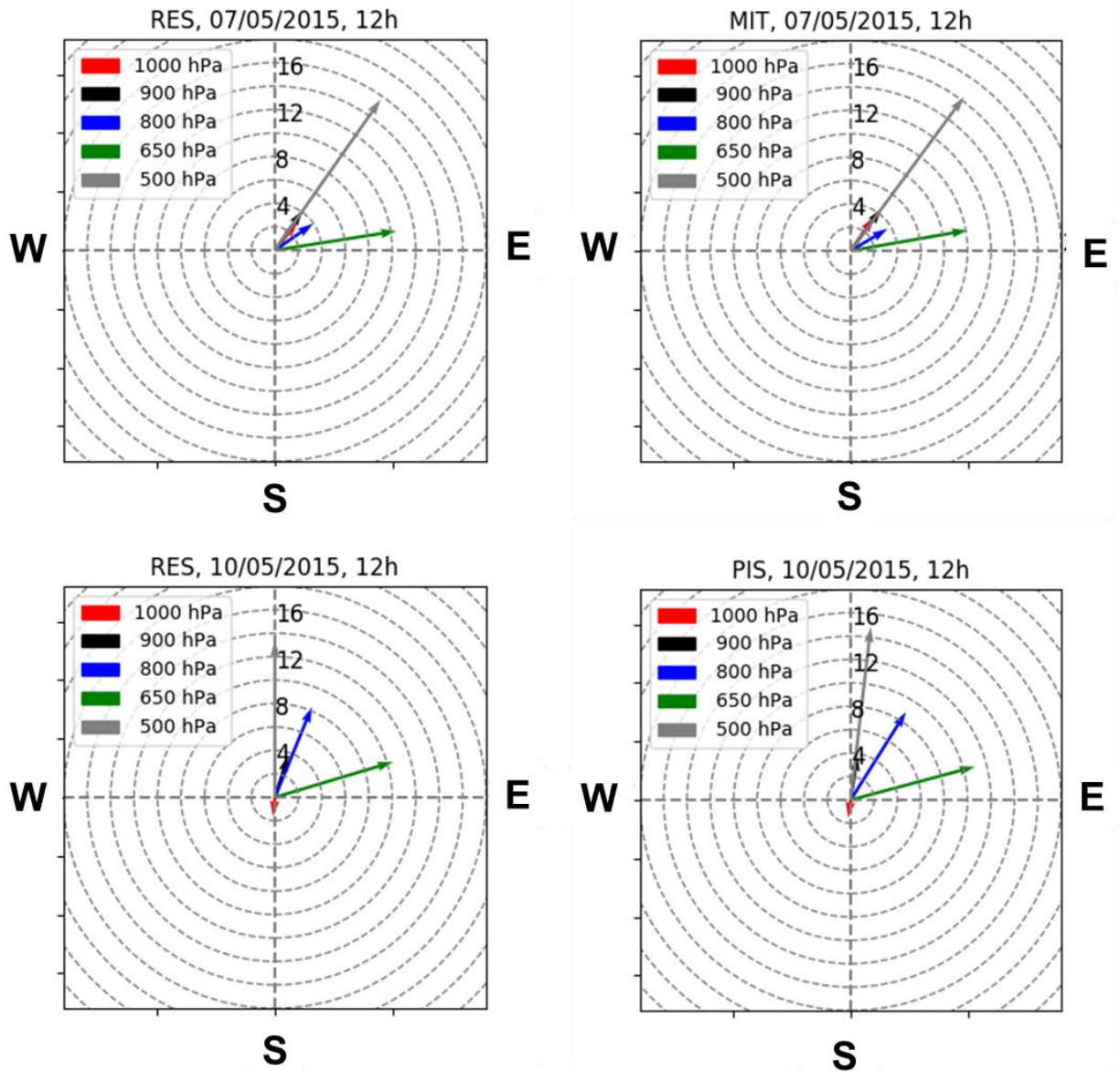


Figure S5. Hodograph for selected sites and days (aligned with Figure 4). Averaged wind speed direction in different heights based on ECMWF ERA-interim winds interpolated by CHIMERE.

Location	ID	Lat (deg)	Lon (deg)	Position	Distance and bearing to site from Saulx-Les-Chartreux (RES)
Piscop	PIS	49.019	2.347	20 km NNW of JUS	37km at 7°
Mitry-Mory	MIT	48.984	2.626	25 km NW of JUS	41km at 37°
Jussieu	JUS	48.846	2.356	Paris city centre	18km at 17°
Saulx-les-Chartreux	RES	48.688	2.284	20 km SSW of JUS	---
Gif-Sur-Yvette	GIF	48.708	2.148	20 km SW of JUS	10km at 282°

Table S1. Location of FTIR measurement instruments during the field campaign

	Total obs	Mean (ppm)	STD (ppm)	Quartile1 (ppm)	Median (ppm)	Quartile3 (ppm)
RES	2616	401.11	0.93	400.44	400.88	401.96
GIF	1888	401.05	0.92	400.94	400.94	401.58
JUS	1803	401.33	1.17	401.31	401.31	402.04
PIS	1904	401.62	0.95	401.03	401.59	402.44
MIT	2207	401.26	1.15	401.11	401.11	401.95

Table S2. Statistics of observed XCO₂ 1-minute averages for all sites