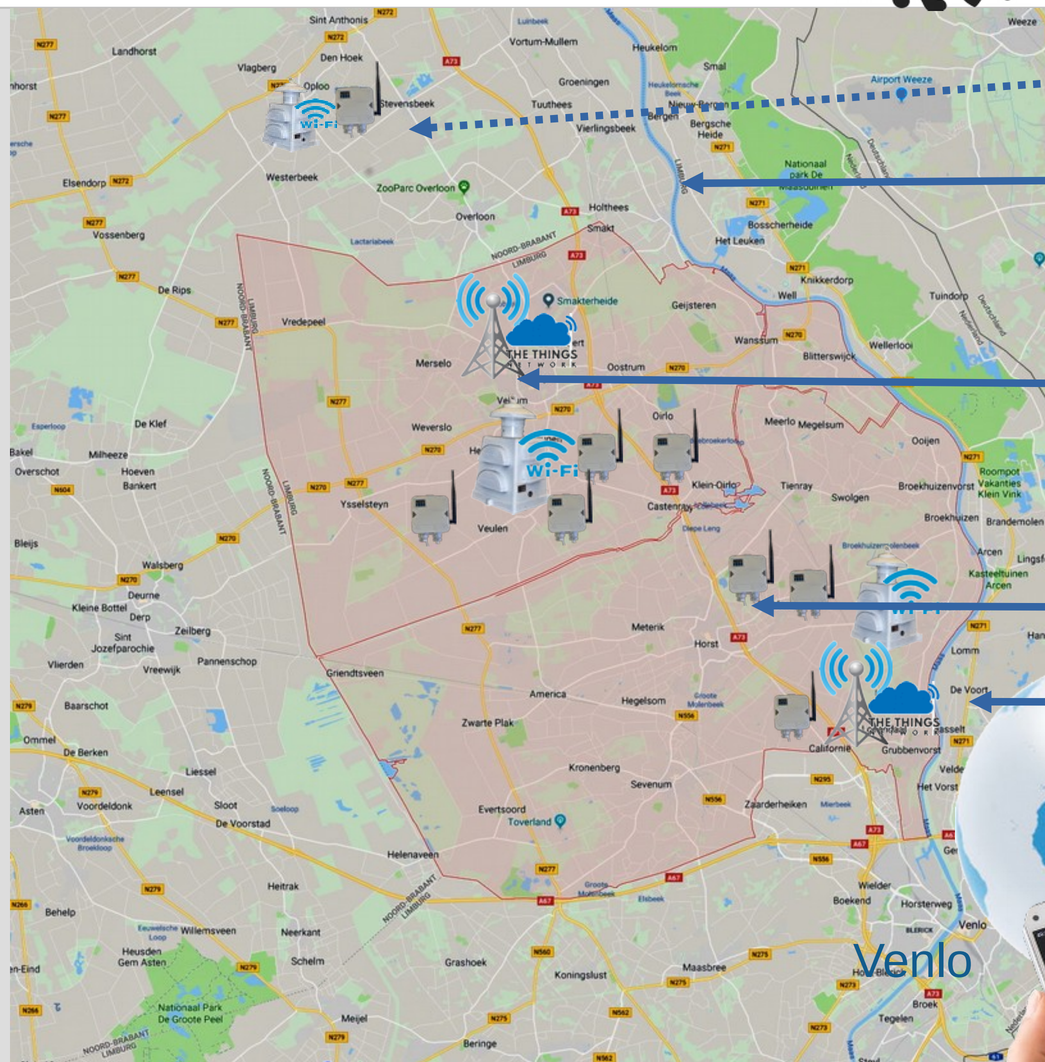
samen met ver. Behoud de Parel hoogfrequent lokaal luchtkwaliteit snuffen in het buitengebied bij burgers

varkens, kippen, mest,…

Noord Limburg



St Anthonis

Maas

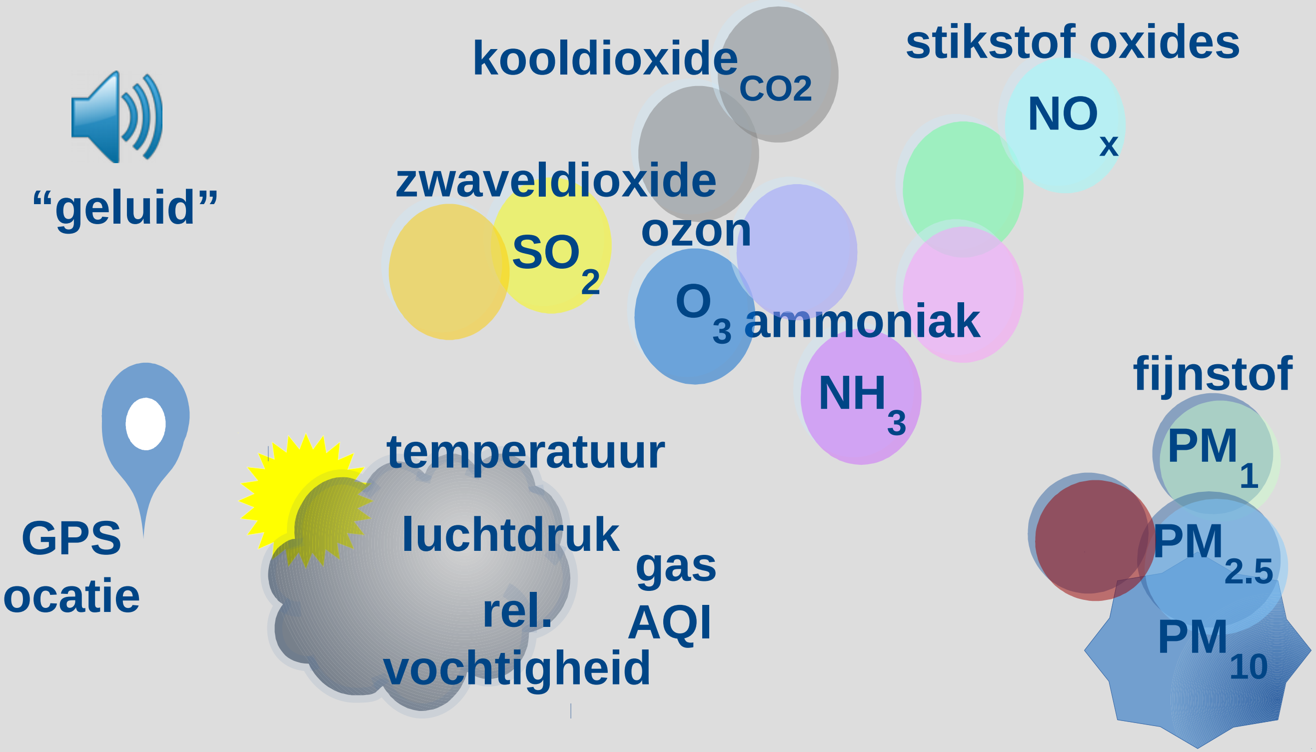
Venray

Horst ad Maas

Grubbenvorst

Venlo

ver. Behoud de Parel: MySense project
wat en hoe meten we ?



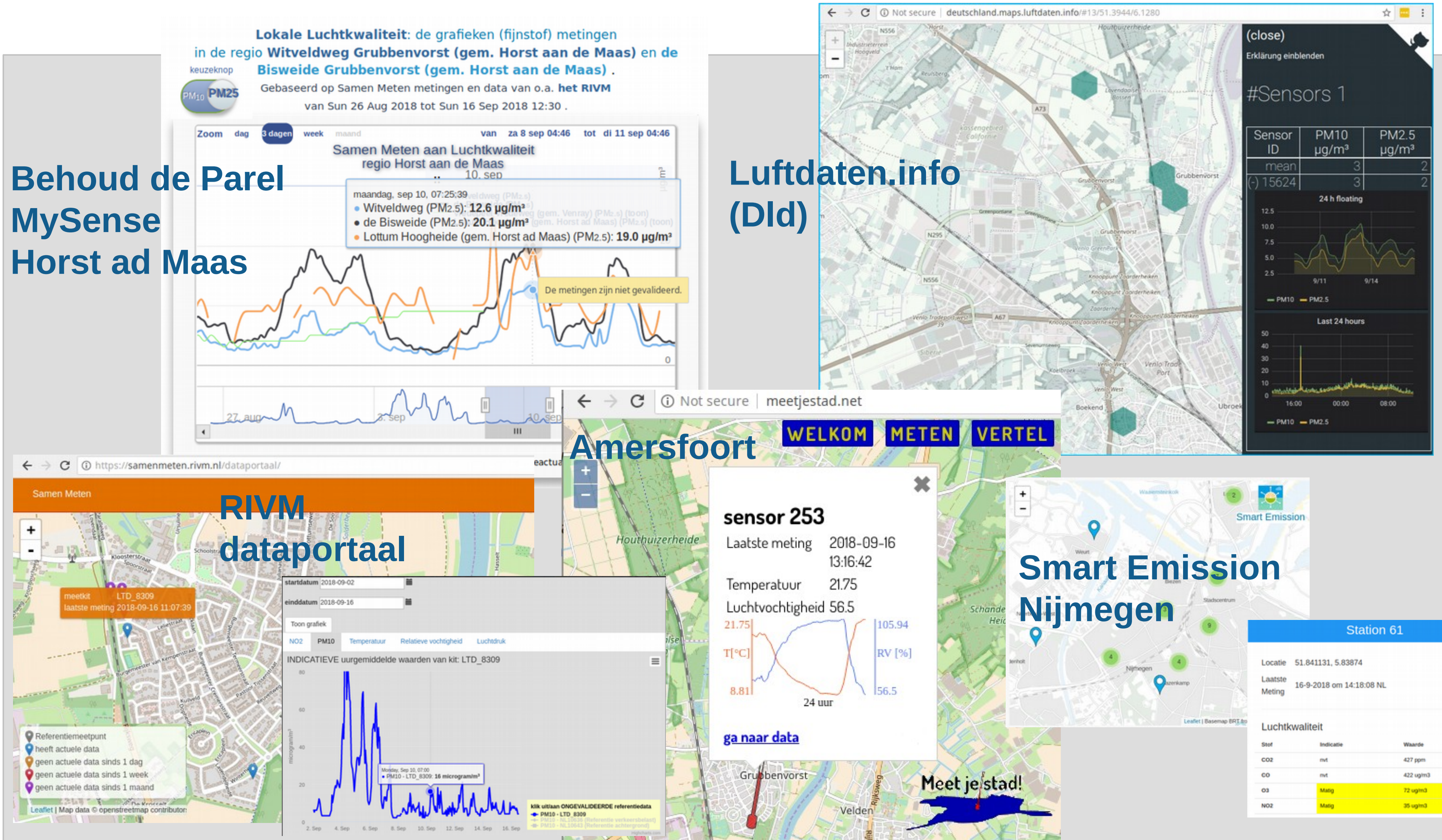
documentatie, rapportages, grafieken, statistiek en software:

http://BehoudDeParel.nl/samen-meten

https://github.com/teusH/MySense (Open Source)

visualisatie van metingen op eigen website, RIVM dataportaal en Luftdaten.info, etc.

samen meten aan luchtkwaliteit
visualisatie metingen, enkele voorbeelden

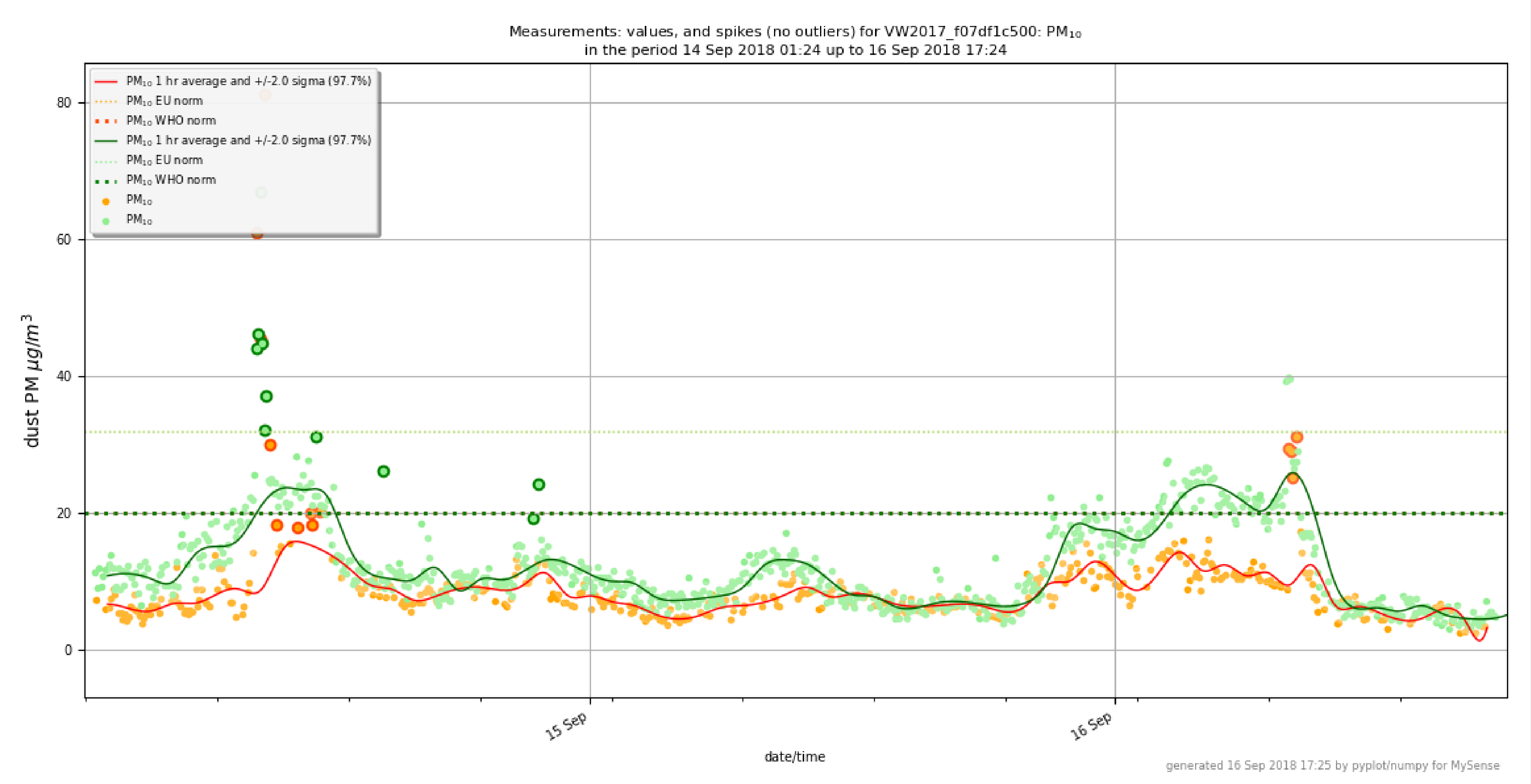


discutabel: spikes/outliers weghalen?

72 uurs meting: PM_{10}

twee meetkits 2 km uit elkaar, sensors/behuizing zijn niet gekalibreerd

gebruikte sensors: Nova SDS011, en Plantower PMS7003



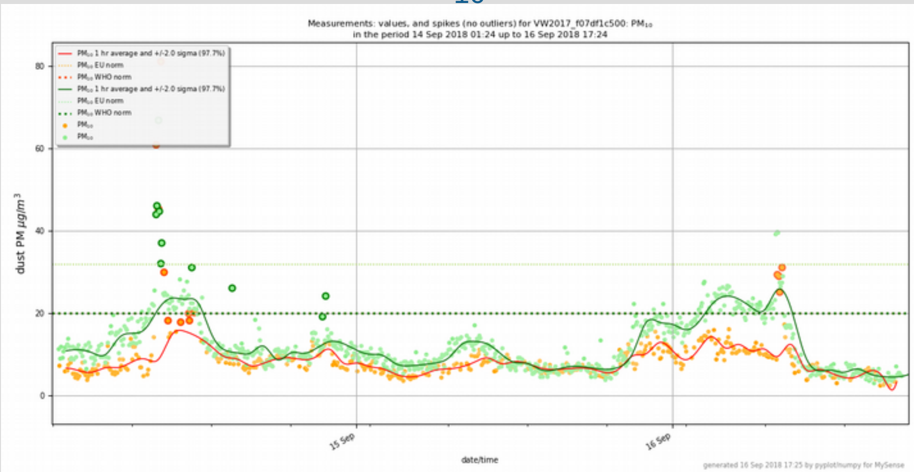
discutabel: spikes/outliers weghalen?

72 uurs meting: PM_{10}, $PM_{2.5}$, rel. vocht, temperatuur

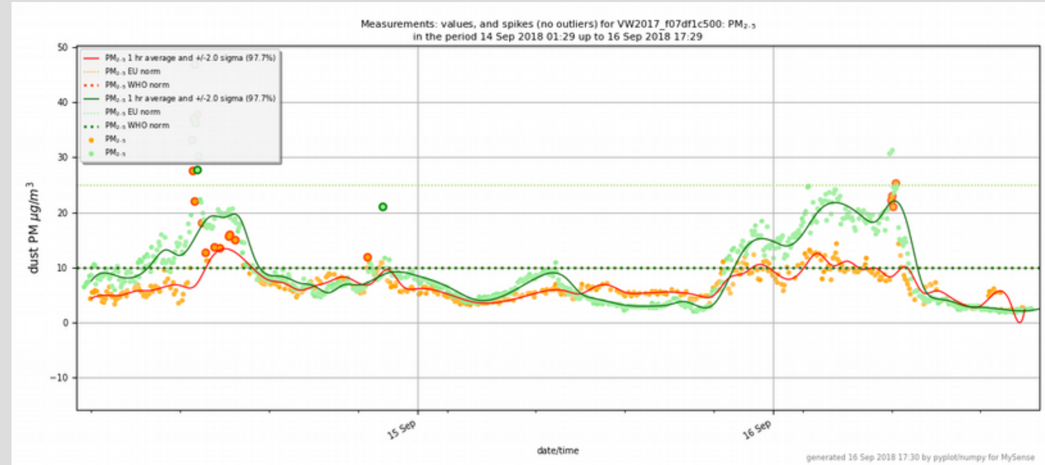
twee meetkits 2 km uit elkaar, sensors/behuizing zijn niet gekalibreerd

gebruikte sensors: Nova SDS011, Plantower PMS7003, en Bosch BME280/680

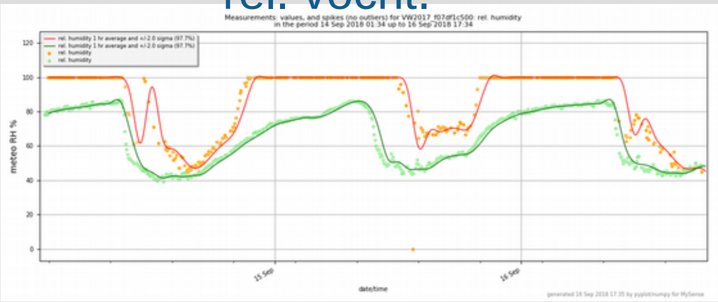
PM_{10}



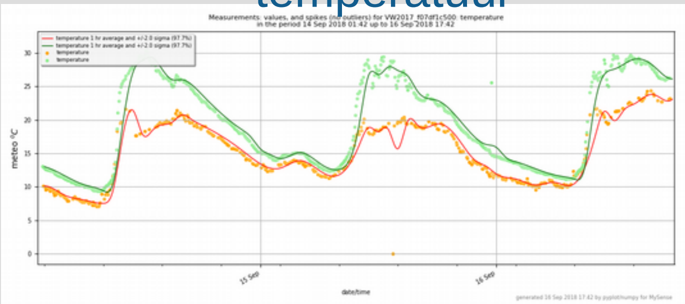
$PM_{2.5}$



rel. vocht.

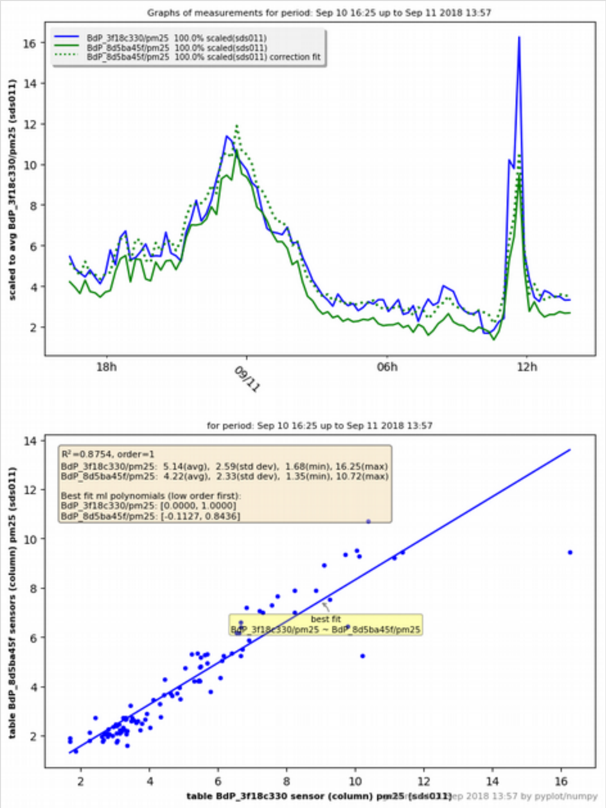


temperatuur

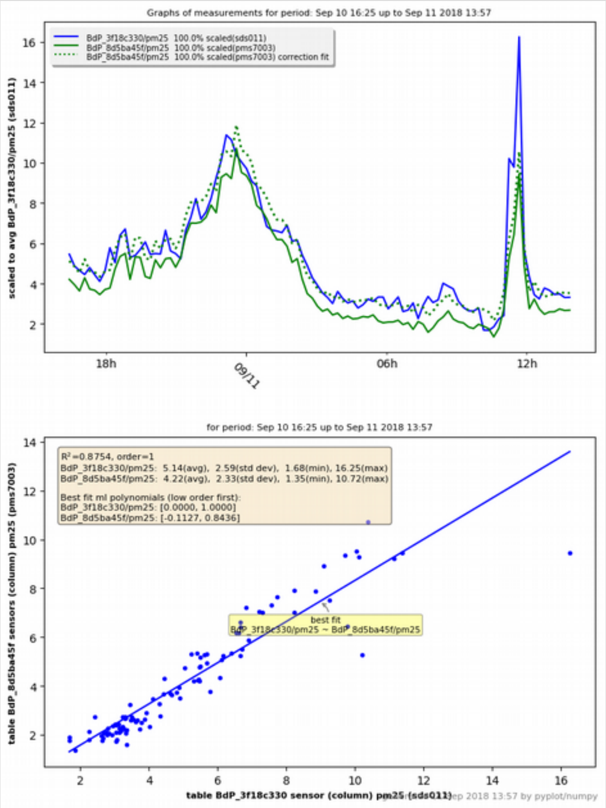


PM$_{2.5}$ sensor indoor metingen over 24 uur Nova SDS011 en Plantower PMS7003

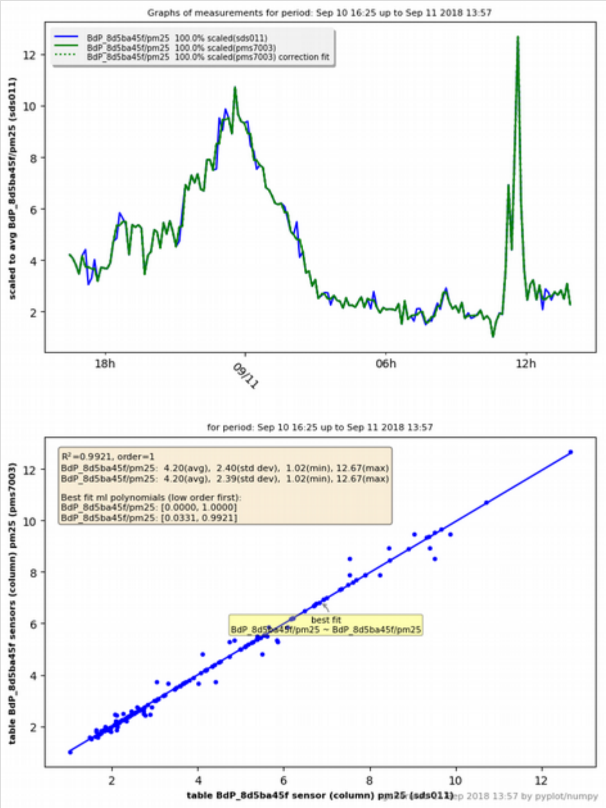
Nova SDS011/Nova SDS011
2 kits 30 cm
OLS regressie R^2 0.875



Nova SDS011 /Plantower
PMS7003 2 kits 30 cm
OLS regressie R^2 0.875



Nova SDS011 /Plantower
PMS7003 binnen 1 kit
OLS regressie R^2 0.992

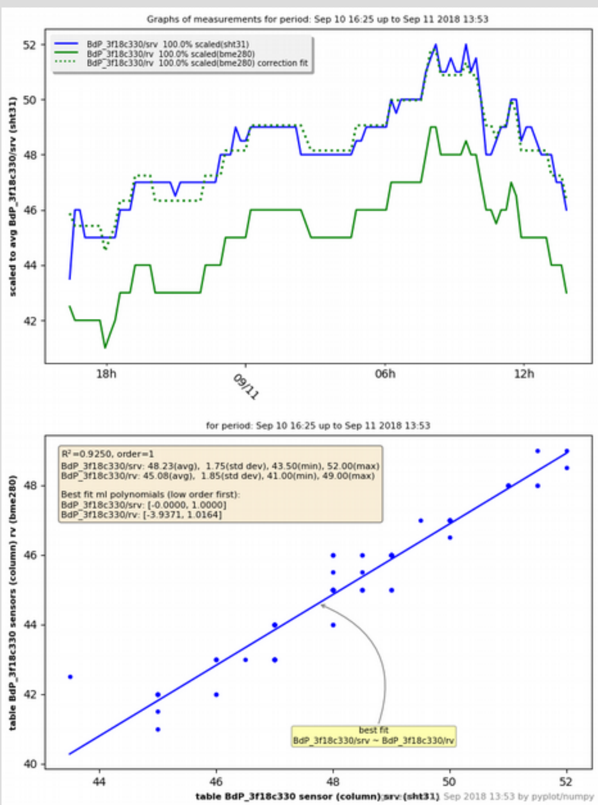


report: https://github.com/teusH/MySense/blob/master/statistics/2018-09-11_CorrelationReport_PM_SDS011-PMS7003.pdf

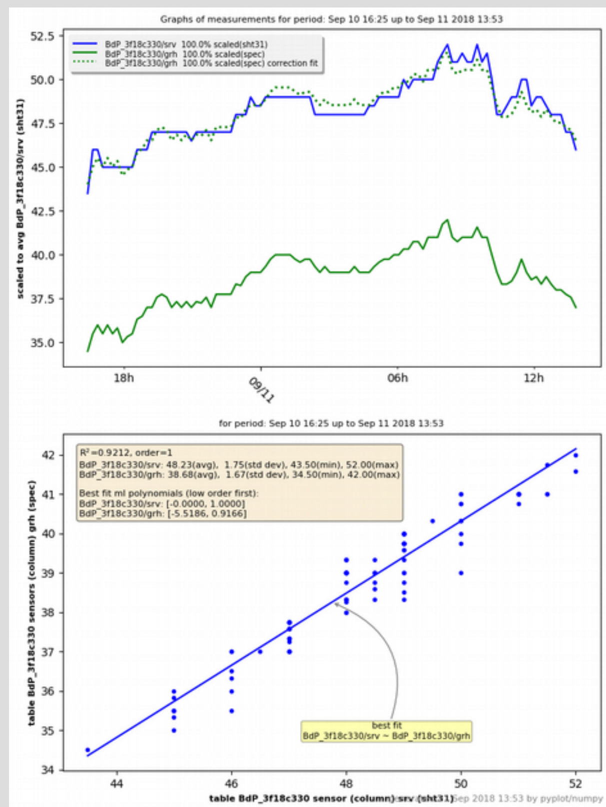
verschil in rel. vocht. sensorwaarden

24 uur, indoor, binnen 1 kit, geen behuizing

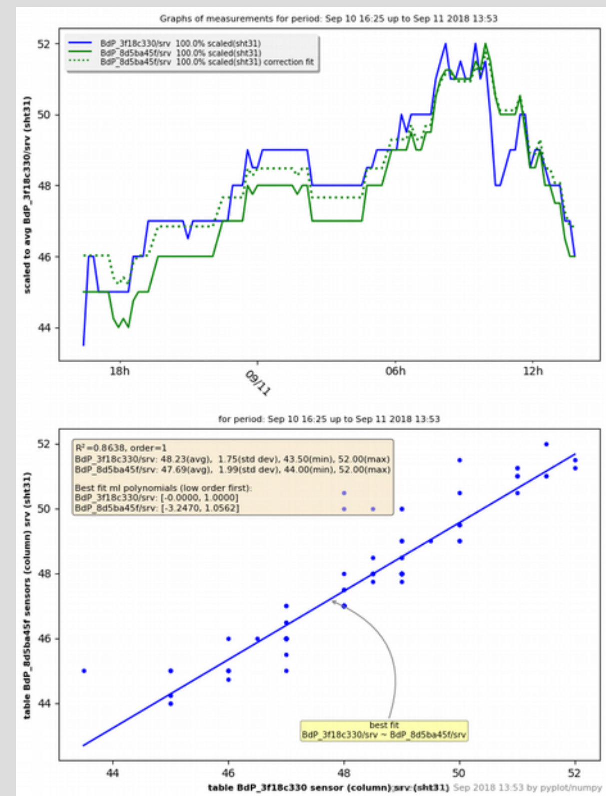
BME280 en SHT31
OLS regression R^2 0.925



SHT31 en Spec
OLS regression R^2 0.921



SHT31 en SHT31
2 kits, 30 cm uit elkaar
OLS regression R^2 0.863

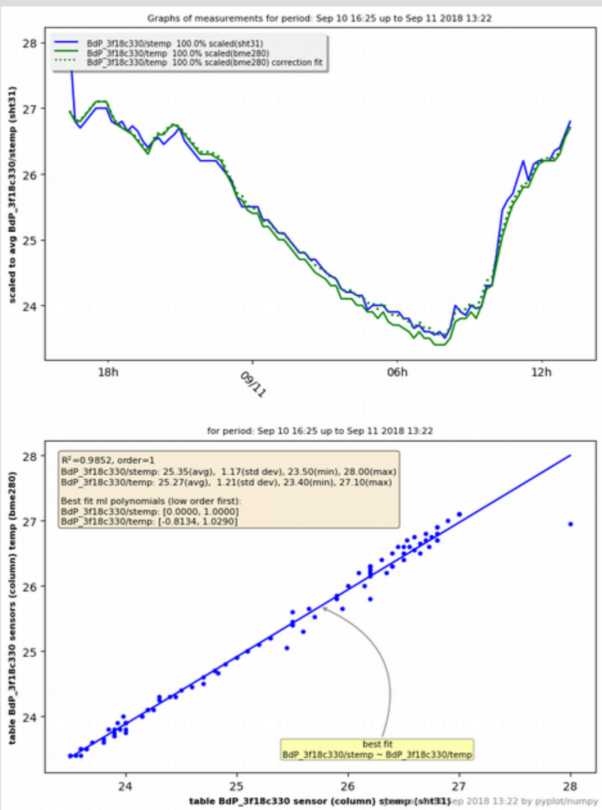


report: https://github.com/teusH/MySense/blob/master/statistics/2018-09-11_CorrelationReport_rh_BME280-SHT31-Spec.pdf

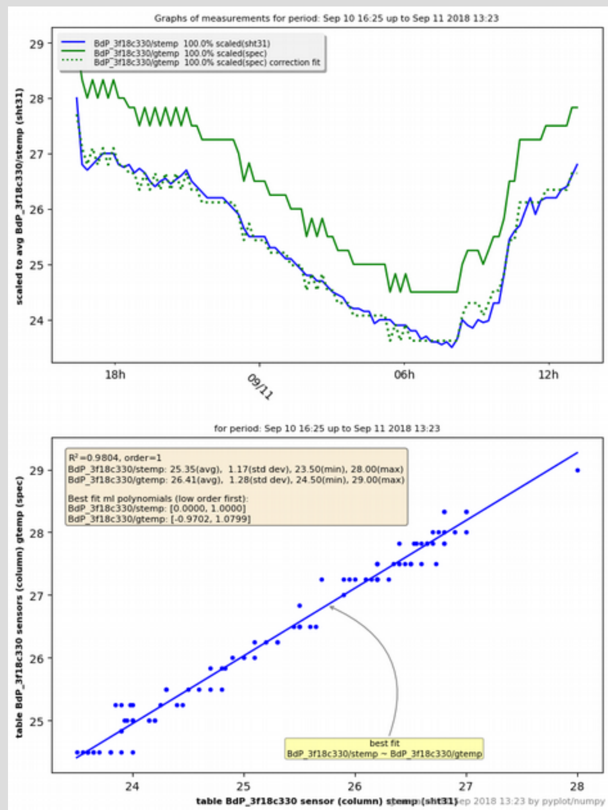
verschil in temperatuur sensor waarden

24 uur, indoor, binnen 1 kit, geen behuizing

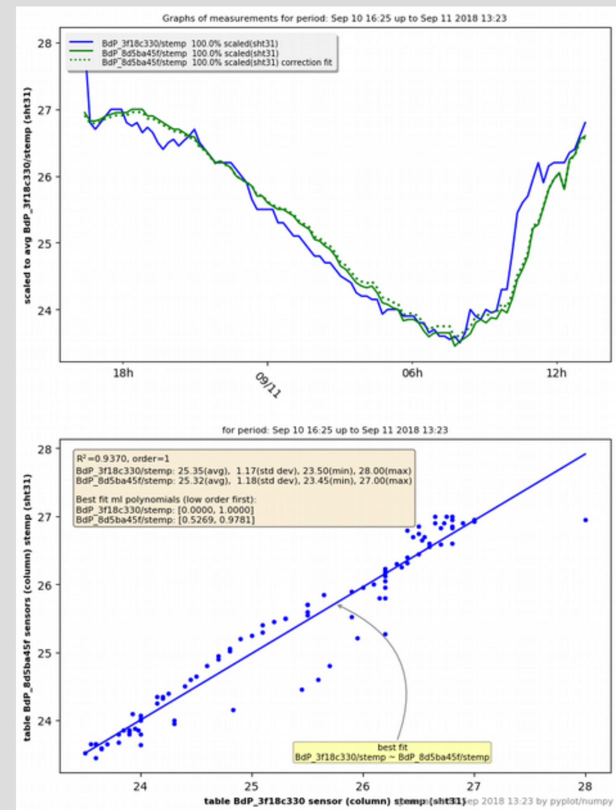
SHT31 en BME280
OLS regression R^2 0.985



SHT31 en Spec
OLS regression R^2 0.980



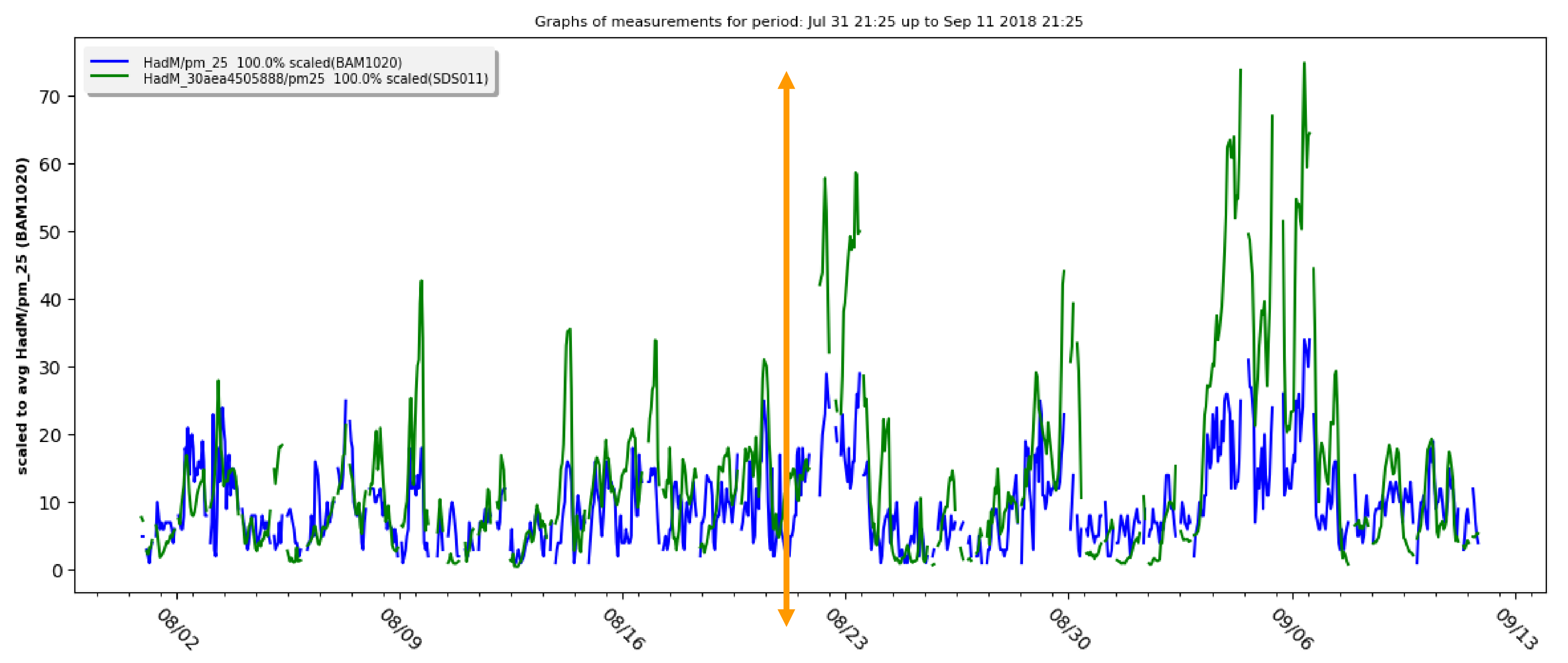
SHT31 en SHT31
2 kits, 30 cm van elkaar
OLS regression R^2 0.937



report: https://github.com/teusH/MySense/blob/master/statistics/2018-09-11_CorrelationReport_temp_BME280-SHT31-Spec.pdf

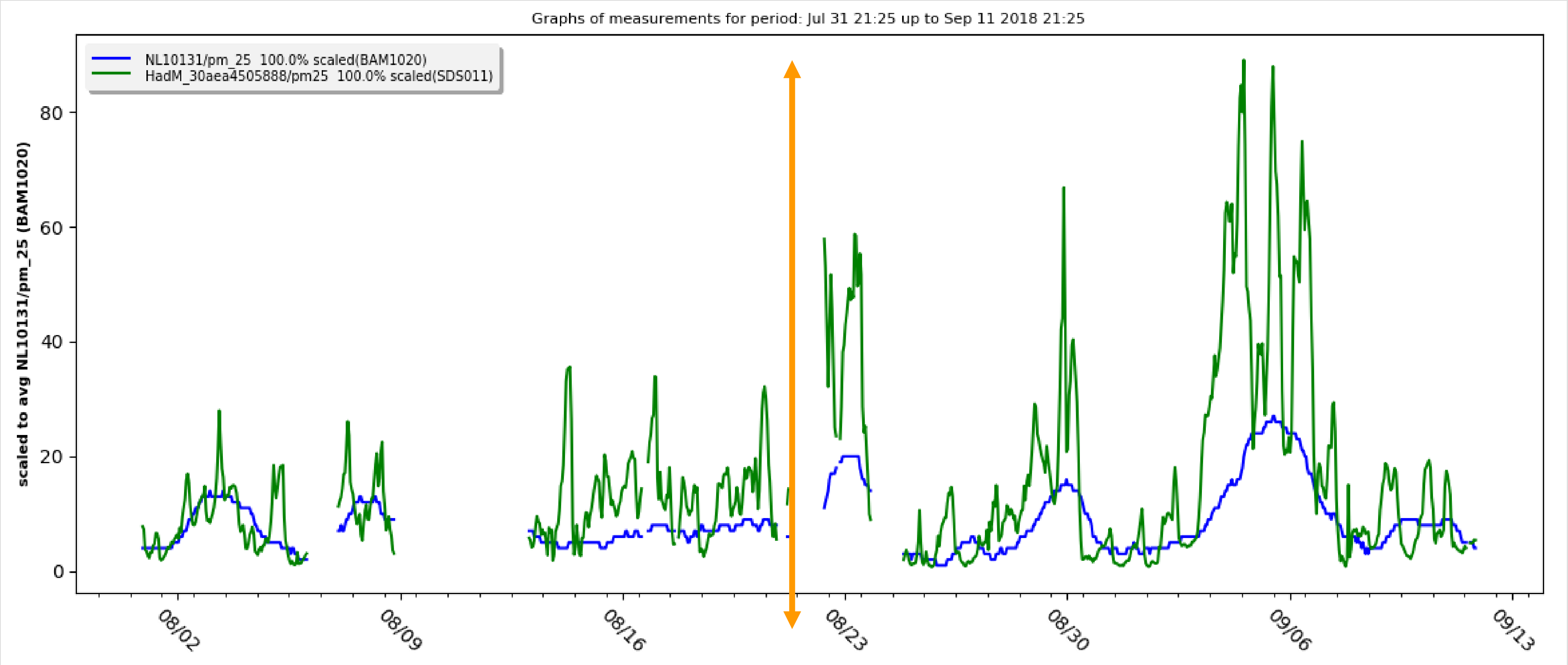
SDS011 Grubbenvorst $PM_{2.5}$ vergeleken met BAM1020 Hoogheide (PLIM, 3 km) over periode van 6 weken aug-sept 2018

Hoogheide en SDS011
OLS regression R^2 0.530

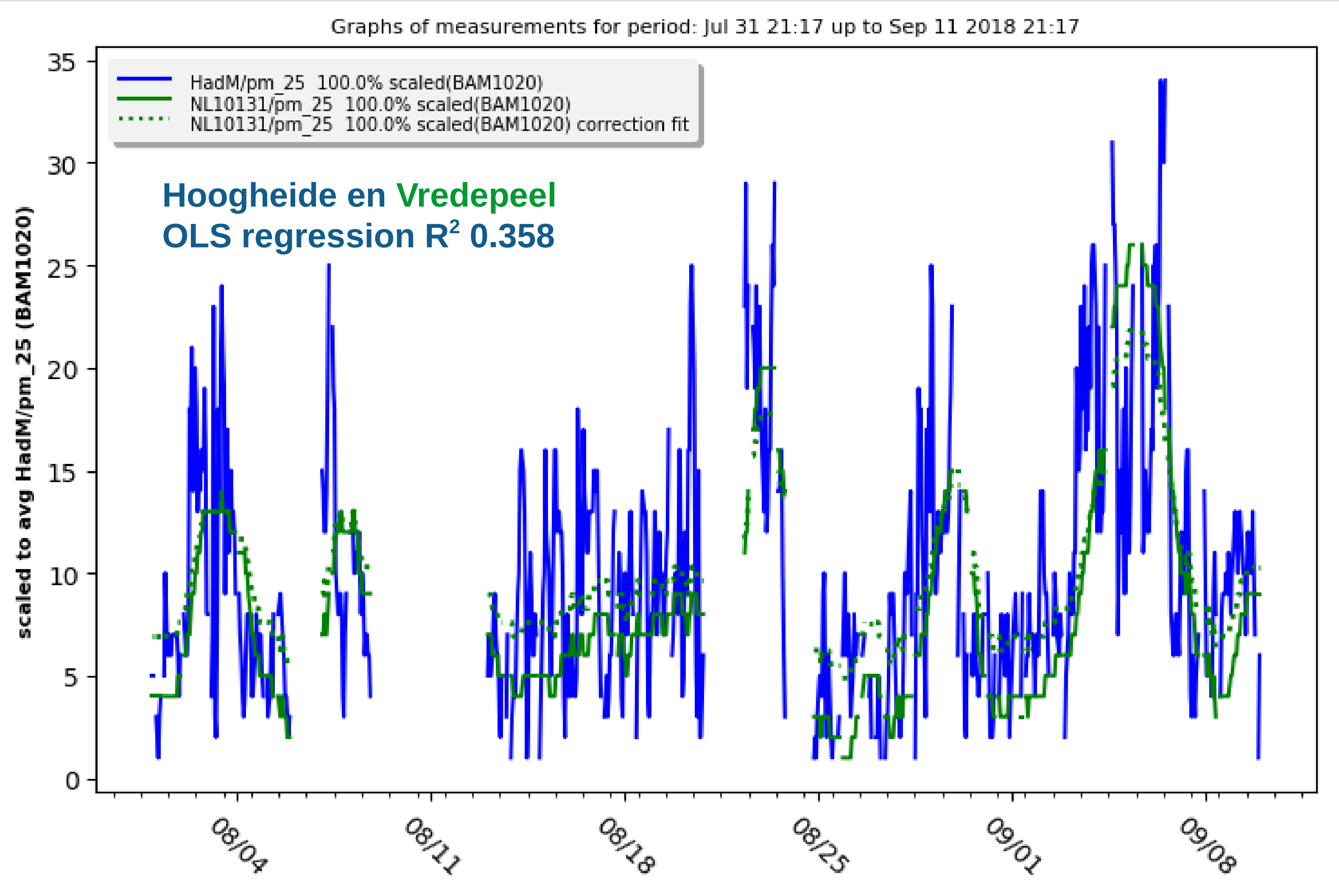


SDS011 Grubbenvorst $PM_{2.5}$ vergeleken met BAM1020 van Vredepeel (RIVM, 30 km) over periode van 6 weken aug-sept 2018

Vredepeel en SDS011
OLS regression R^2 0.550

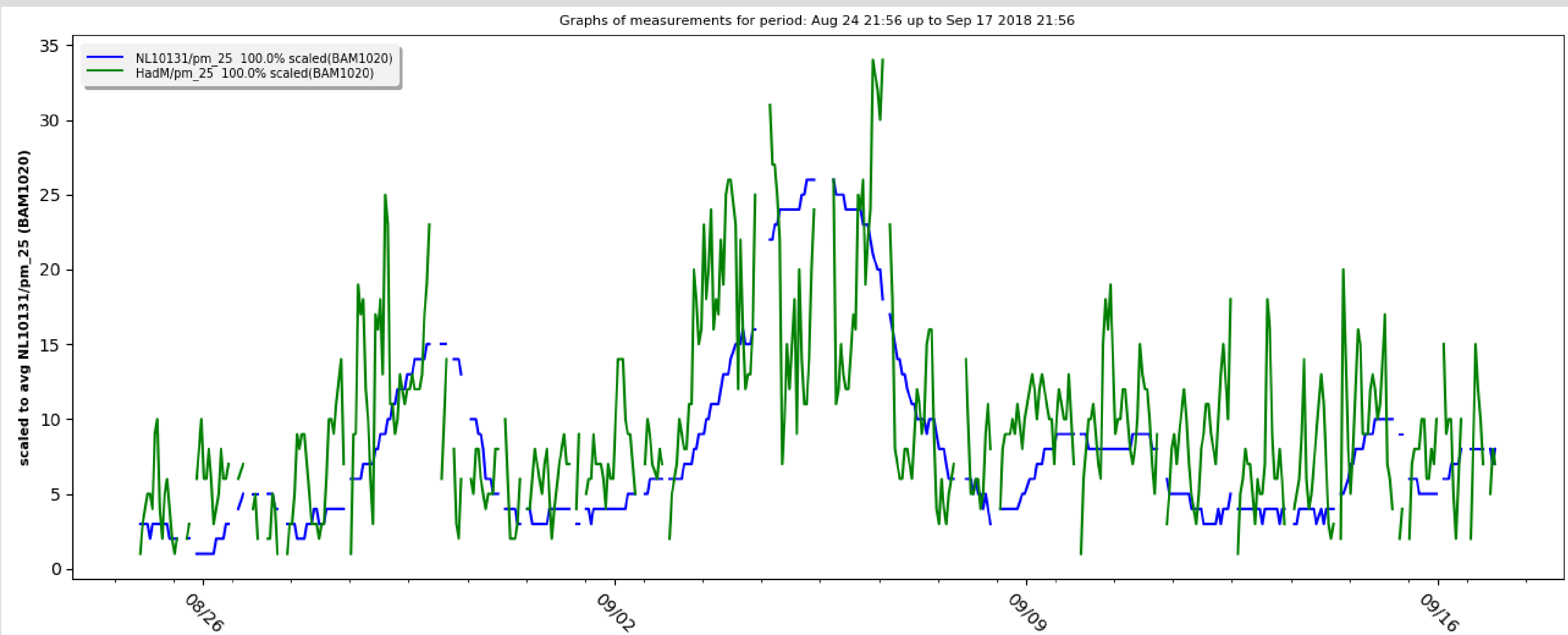


$PM_{2.5}$ vergeleken met BAM1020 van Hoogheide (PLIM, 3 km) en Vredepeel (RIVM, 30 km) over periode van 6 weken aug-sept 2018



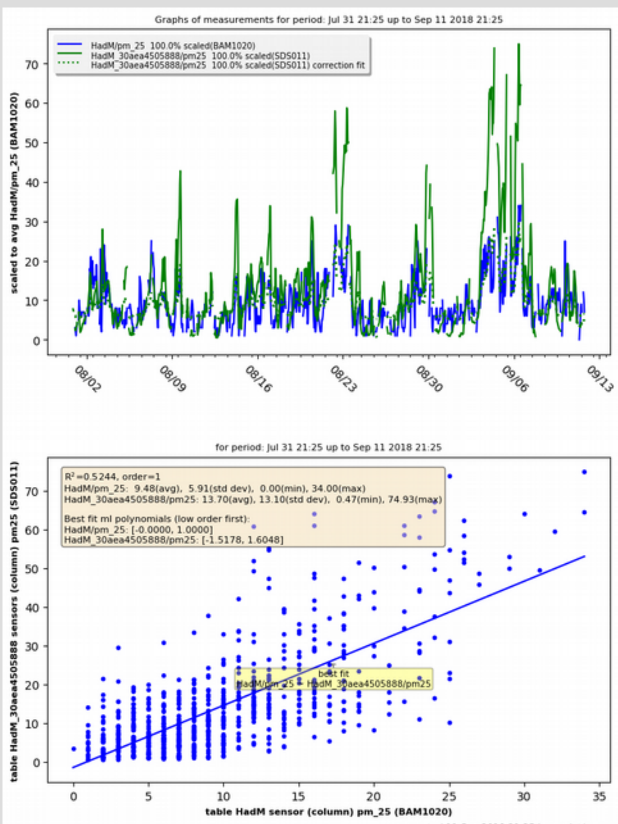
$PM_{2.5}$ vergeleken met BAM1020 van Hoogheide (PLIM, 3 km) en Vredepeel (RIVM, 30 km) over periode van 3 weken aug-sept 2018

Vredepeel en Hoogheide
OLS regression R^2 0.376

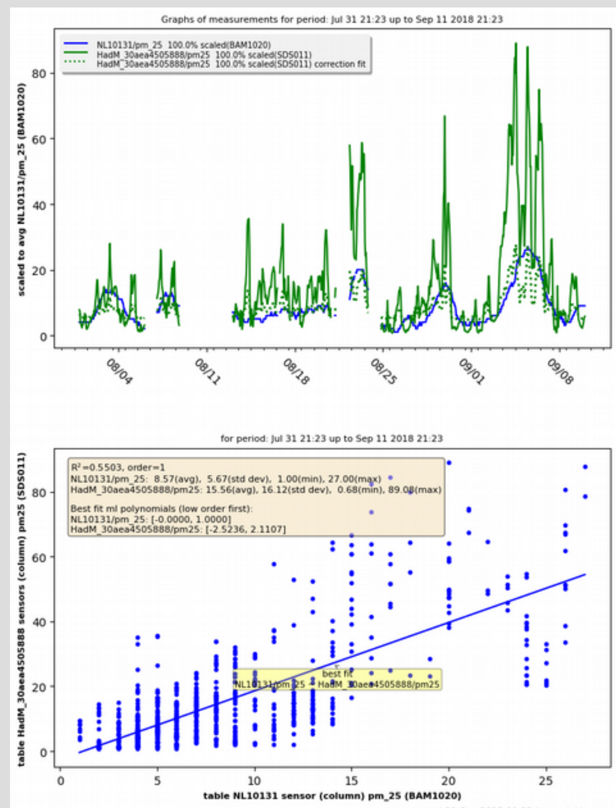


SDS011 Grubbenvorst $PM_{2.5}$ vergeleken met BAM1020 Hoogheide (PLIM, 3 km) en Vredepeel (RIVM, 30 km) over periode van 6 weken aug-sept 2018

Hoogheide en SDS011
OLS regression R^2 0.524



Vredepeel en SDS011
OLS regression R^2 0.550



Hoogheide en Vredepeel
OLS regression R^2 0.358