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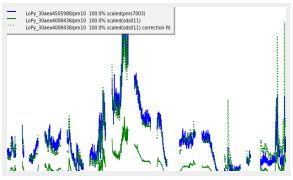
Summary of correlations of sensor kits and sensor modules

Sensorkits: LoPy_30aea4505988 LoPy_30aea4008438
Report generated on: Wed Apr 18 11:56:20 CEST 2018

R-square and statistical summary

Measurement PM10 correlation key values

Correlation 1 - **PM10** - kit LoPy_30aea4505988 sensor type**PMS7003** with kit LoPy_30aea4008438 sensor type**SDS011**:

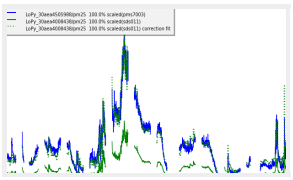


nr samples 2049, min= 1.00, max=24.80
avg= 5.43, std dev= 3.67
R-squared:
0.8776

Best fit polynomial coefficients:
[7.318e-01, 2.713e+00]

Measurement PM2.5 correlation key values

Correlation 2 - **PM2.5** - kit LoPy_30aea4505988 sensor type**PMS7003** with kit LoPy_30aea4008438 sensor type**SDS011**:



nr samples 2049, min= 1.00, max=23.70
avg= 5.35, std dev= 3.43
R-squared:
0.9475

Best fit polynomial coefficients:
[-5.757e-01, 2.620e+00]

Sensor pms7003@LoPy_30aea4505988 with sensor sds011@LoPy_30aea4008438

correlation report for pm10 (raw) measurements

Correlation details of project LoPy sensor kit ID 30aea4505988 with project LoPy sensor kit ID 30aea4008438
Date of correlation report: Wed Apr 18 11:56:17 CEST 2018
From date 2018-04-04 upto 2018-04-18 00:00
Origin of measurement time serie data from InFluxDB host: localhost
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sds011, pms7003
Graphs based on data MYSQL from luchtmetingen on server localhost as user teus:
Auto interval samples is (re)set to 422 (avg+2*stddev)
Database table LoPy_30aea4505988 sensor (column) pm10: 2755 db records, deleted 132 NaN records.
Auto interval samples is (re)set to 446 (avg+2*stddev)
Database table LoPy_30aea4008438 sensor (column) pm10: 2955 db records, deleted 38 NaN records.
Collected 2049 values in sample time frame (7m/26s) for the graph. Skipped 706 db records, could not find any value(s) in same sample interval.

Samples period: Apr 04 00:00 up to Apr 18 2018 00:00, interval timing 7m:26s.

Data from table/sheet LoPy_30aea4008438, sensor (column) pm10:

number 2049, min= 1.00, max=24.80

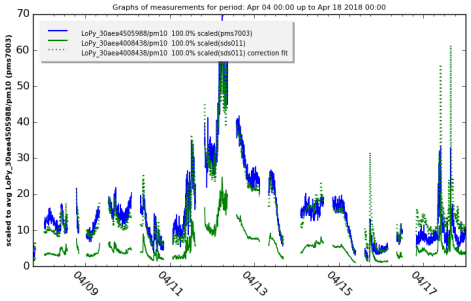
avg= 5.43, std dev= 3.67

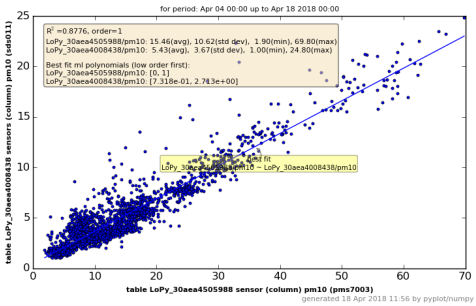
R-squared (R^2) with LoPy_30aea4008438/pm10: 0.8776

Best fit linear single polynomial regression curve ($A_0*X^0 + A_1*X^1$):

LoPy_30aea4505988/pm10 (sds011)-> best fit coefficients:

7.318e-01, 2.713e+00





Statistical summary linear regression for LoPy_30aea4505988/pm10 with ['LoPy_30aea4008438/pm10']:

OLS Regression Results

Dep. Variable:	LoPy_30aea4505988/pm10	**R-squared:**	0.878
Model:	OLS	**Adj. R-squared:**	0.878
Method:	Least Squares	**F-statistic:**	1.467e+04
Date:	Wed, 18 Apr 2018	**Prob (F-statistic):**	0.00
Time:	11:56:18	**Log-Likelihood:**	-5598.0
No. Observations:	2049	**AIC:**	1.120e+04
Df Residuals:	2047	**BIC:**	1.121e+04
Df Model:	1		

	coef	std err	t	P>|t|	[95.0% Conf. Int.]	
LoPy_30aea4008438/pm10	0.7318	0.147	4.986	0.000	0.444	1.020

Omnibus:	564.190	**Durbin-Watson:**	0.494
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	2755.251
Skew:	-1.222	**Prob(JB):**	0.00
Kurtosis:	8.128	**Cond. No.**	11.9

Sensor pms7003@LoPy_30aea4505988 with sensor sds011@LoPy_30aea4008438

correlation report for pm25 (raw) measurements

Correlation details of project LoPy sensor kit ID 30aea4505988 with project LoPy sensor kit ID 30aea4008438
Date of correlation report: Wed Apr 18 11:56:20 CEST 2018
From date 2018-04-04 upto 2018-04-18 00:00
Origin of measurement time serie data from InFluxDB host: localhost
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sds011, pms7003
Graphs based on data MYSQL from luchtmetingen on server localhost as user teus:
Auto interval samples is (re)set to 422 (avg+2*stddev)
Database table LoPy_30aea4505988 sensor (column) pm25: 2755 db records, deleted 132 NaN records.
Auto interval samples is (re)set to 446 (avg+2*stddev)
Database table LoPy_30aea4008438 sensor (column) pm25: 2955 db records, deleted 38 NaN records.
Collected 2049 values in sample time frame (7m/26s) for the graph. Skipped 706 db records, could not find any value(s) in same sample interval.

Samples period: Apr 04 00:00 up to Apr 18 2018 00:00, interval timing 7m:26s.

Data from table/sheet LoPy_30aea4008438, sensor (column) pm25:

number 2049, min= 1.00, max=23.70

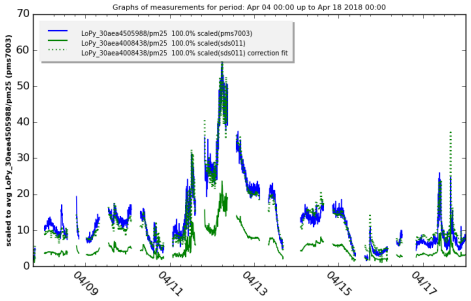
avg= 5.35, std dev= 3.43

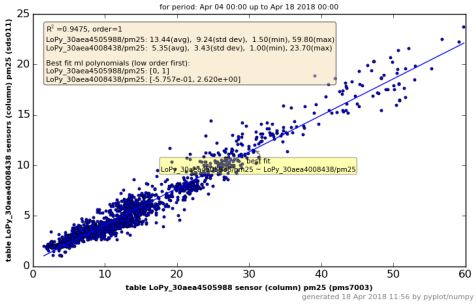
R-squared (R^2) with LoPy_30aea4008438/pm25: 0.9475

Best fit linear single polynomial regression curve ($A_0*X^0 + A_1*X^1$):

LoPy_30aea4505988/pm25 (sds011)-> best fit coefficients:

-5.757e-01, 2.620e+00





Statistical summary linear regression for LoPy_30aea4505988/pm25 with ['LoPy_30aea4008438/pm25']:

OLS Regression Results

Dep. Variable:	LoPy_30aea4505988/pm25	**R-squared:**	0.948
Model:	OLS	**Adj. R-squared:**	0.947
Method:	Least Squares	**F-statistic:**	3.696e+04
Date:	Wed, 18 Apr 2018	**Prob (F-statistic):**	0.00
Time:	11:56:20	**Log-Likelihood:**	-4442.8
No. Observations:	2049	**AIC:**	8890.
Df Residuals:	2047	**BIC:**	8901.
Df Model:	1		

	coef	std err	t	P>|t|	[95.0% Conf. Int.]	
LoPy_30aea4008438/pm25	-0.5757	0.087	-6.647	0.000	-0.745	-0.406

Omnibus:	107.235	**Durbin-Watson:**	0.864
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	381.038
Skew:	-0.100	**Prob(JB):**	1.81e-83
Kurtosis:	5.103	**Cond. No.**	12.0