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Summary of correlations of sensor kits and sensor modules

PROJECT: BdP_, Sensorkits: NL10131 RIVM_30aea4ec7cf8 RIVM_807D3A9369F4 RIVM_30aea4505888
Report generated on: Fri 12 Feb 13:14:31 CET 2021
Period of measurements: Wed 1 Jul 00:00:00 CEST 2020 upto Thu 31 Dec 00:00:00 CET 2020

R-square and statistical summary

Measurement PM10 correlation key values

Correlation 1 - **PM10** - kit NL10131 sensor type **BAM1020** with kit RIVM_30aea4ec7cf8 sensor type **SPS30**:

nr samples 3759, min= 0.37, max=122.58
avg=12.97, std dev=13.41
R-squared:
0.1976

Best fit polynomial coefficients:
[5.506e+00, 4.303e-01]

Correlation 2 - **PM10** - kit NL10131 sensor type **BAM1020** with kit RIVM_807D3A9369F4 sensor type **PMSX003**:

nr samples 3361, min= 0.14, max=171.45
avg=23.11, std dev=19.82
R-squared:
0.1378

Best fit polynomial coefficients:
[1.362e+01, 5.786e-01]

Correlation 3 - **PM10** - kit NL10131 sensor type **BAM1020** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 3770, min= 0.60, max=190.10
avg=16.17, std dev=18.25
R-squared:
0.1462

Best fit polynomial coefficients:
[7.420e+00, 5.049e-01]

Correlation 4 - **PM10** - kit RIVM_30aea4ec7cf8 sensor type **SPS30** with kit RIVM_807D3A9369F4 sensor type **PMSX003**:

nr samples 13388, min= 0.01, max=194.00
avg=21.65, std dev=19.83
R-squared:
0.8025

Best fit polynomial coefficients:
[4.656e+00, 1.452e+00]

Correlation 5 - **PM10** - kit RIVM_30aea4ec7cf8 sensor type **SPS30** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 15355, min= 0.40, max=199.20
avg=15.15, std dev=17.36
R-squared:
0.7956

Best fit polynomial coefficients:
[5.402e-01, 1.202e+00]

Correlation 6 - **PM10** - kit RIVM_807D3A9369F4 sensor type **PMSX003** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 13595, min= 0.65, max=197.60
avg=14.76, std dev=15.88
R-squared:
0.7139

Best fit polynomial coefficients:
[-6.836e-03, 6.674e-01]

Measurement PM2.5 correlation key values

Correlation 7 - **PM2.5** - kit NL10131 sensor type **BAM1020** with kit RIVM_30aea4ec7cf8 sensor type **SPS30**:

nr samples 4205, min= 0.33, max=105.75
avg=11.79, std dev=11.91
R-squared:
0.7391

Best fit polynomial coefficients:
[-2.297e+00, 1.402e+00]

Correlation 8 - **PM2.5** - kit NL10131 sensor type **BAM1020** with kit RIVM_807D3A9369F4 sensor type **PMSX003**:

nr samples 3691, min= 0.06, max=168.80
avg=19.58, std dev=19.73
R-squared:
0.6467

Best fit polynomial coefficients:
[-3.098e+00, 2.341e+00]

Correlation 9 - **PM2.5** - kit NL10131 sensor type **BAM1020** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 4219, min= 0.47, max=130.90
avg=11.35, std dev=13.09
R-squared:
0.5815

Best fit polynomial coefficients:
[-2.399e+00, 1.368e+00]

Correlation 10 - **PM2.5** - kit RIVM_30aea4ec7cf8 sensor type **SPS30** with kit RIVM_807D3A9369F4 sensor type **PMSX003**:

nr samples 13384, min= 0.01, max=179.40
avg=18.93, std dev=19.42
R-squared:
0.9432

Best fit polynomial coefficients:
[2.717e-02, 1.713e+00]

Correlation 11 - **PM2.5** - kit RIVM_30aea4ec7cf8 sensor type **SPS30** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 15379, min= 0.40, max=143.70
avg=11.19, std dev=13.24
R-squared:
0.8938

Best fit polynomial coefficients:
[-8.843e-01, 1.042e+00]

Correlation 12 - **PM2.5** - kit RIVM_807D3A9369F4 sensor type **PMSX003** with kit RIVM_30aea4505888 sensor type **SDS011**:

nr samples 13598, min= 0.60, max=113.10
avg=10.64, std dev=11.37
R-squared:
0.9073

Best fit polynomial coefficients:
[-8.364e-02, 5.506e-01]

Sensor bam1020@NL10131 with sensor sps30@RIVM_30aea4ec7cf8

correlation report for pm10 () measurements

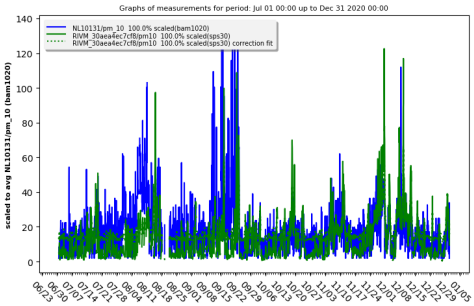
Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 30aea4ec7cf8
Date of correlation report: Fri 12 Feb 13:14:22 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sps30, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_10: 3854 db records, deleted 0 NaN records.
Database table RIVM_30aea4ec7cf8 sensor (column) pm10: 15595 db records, deleted 0 NaN records.
Collected 3759 values in sample time frame (60m/0s) for the graph. Skipped 95 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_30aea4ec7cf8, sensor (column) pm10:



number 3759, min= 0.37, max=122.58

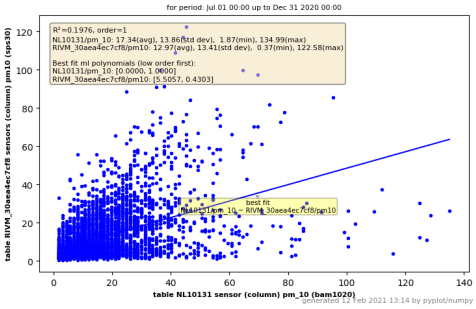
avg=12.97, std dev=13.41

R-squared (R^2) with RIVM_30aea4ec7cf8/pm10: 0.1976

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

NL10131/pm_10 (sps30)-> best fit coefficients:

5.506e+00, 4.303e-01



Statistical summary linear regression for NL10131/pm_10 with ['RIVM_30aea4ec7cf8/pm10']:

OLS Regression Results

Dep. Variable:	NL10131/pm_10	**R-squared:**	0.198
Model:	OLS	**Adj. R-squared:**	0.197
Method:	Least Squares	**F-statistic:**	925.0
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	8.07e-182
Time:	13:14:26	**Log-Likelihood:**	-14801.
No. Observations:	3759	**AIC:**	2.961e+04
Df Residuals:	3757	**BIC:**	2.962e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4ec7cf8/pm10	11.3894	0.282	40.436	0.000	10.837	11.942

Omnibus:	2509.795	**Durbin-Watson:**	0.741
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	43462.980
Skew:	2.949	**Prob(JB):**	0.00
Kurtosis:	18.579	**Cond. No.**	26.0

Sensor bam1020@NL10131 with sensor pmsx003@RIVM_807D3A9369F4

correlation report for pm10 () measurements

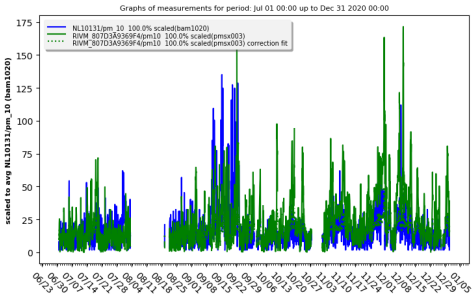
Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 807D3A9369F4
Date of correlation report: Fri 12 Feb 13:14:31 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): pmsx003, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_10: 3854 db records, deleted 0 NaN records.
Database table RIVM_807D3A9369F4 sensor (column) pm10: 13878 db records, deleted 0 NaN records.
Collected 3361 values in sample time frame (60m/0s) for the graph. Skipped 493 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_807D3A9369F4, sensor (column) pm10:



number 3361, min= 0.14, max=171.45

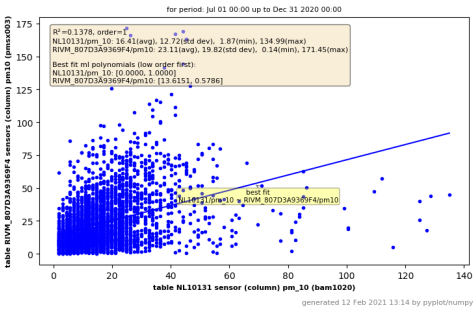
avg=23.11, std dev=19.82

R-squared (R^2) with RIVM_807D3A9369F4/pm10: 0.1378

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

NL10131/pm_10 (pmsx003)-> best fit coefficients:

1.362e+01, 5.786e-01



Statistical summary linear regression for NL10131/pm_10 with ['RIVM_807D3A9369F4/pm10']:

OLS Regression Results

Dep. Variable:	NL10131/pm_10	**R-squared:**	0.138
Model:	OLS	**Adj. R-squared:**	0.138
Method:	Least Squares	**F-statistic:**	536.9
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	2.57e-110
Time:	13:14:32	**Log-Likelihood:**	-13067.
No. Observations:	3361	**AIC:**	2.614e+04
Df Residuals:	3359	**BIC:**	2.615e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_807D3A9369F4/pm10	10.9044	0.313	34.842	0.000	10.291	11.518

Omnibus:	2502.527	**Durbin-Watson:**	0.796
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	62706.775
Skew:	3.299	**Prob(JB):**	0.00
Kurtosis:	23.106	**Cond. No.**	46.8

Sensor bam1020@NL10131 with sensor sds011@RIVM_30aea4505888

correlation report for pm10 () measurements

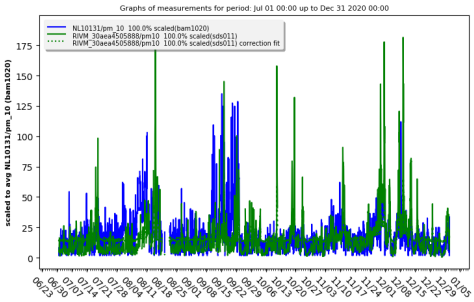
Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:14:34 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sds011, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_10: 3854 db records, deleted 0 NaN records.
Database table RIVM_30aea4505888 sensor (column) pm10: 15914 db records, deleted 0 NaN records.
Collected 3770 values in sample time frame (60m/0s) for the graph. Skipped 84 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm10:



number 3770, min= 0.60, max=190.10

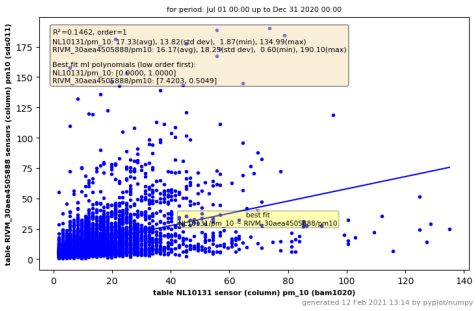
avg=16.17, std dev=18.25

R-squared (R^2) with RIVM_30aea4505888/pm10: 0.1462

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

NL10131/pm_10 (sds011)-> best fit coefficients:

7.420e+00, 5.049e-01



Statistical summary linear regression for NL10131/pm_10 with ['RIVM_30aea4505888/pm10']:

OLS Regression Results

Dep. Variable:	NL10131/pm_10	**R-squared:**	0.146
Model:	OLS	**Adj. R-squared:**	0.146
Method:	Least Squares	**F-statistic:**	645.1
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	1.70e-131
Time:	13:14:35	**Log-Likelihood:**	-14951.
No. Observations:	3770	**AIC:**	2.991e+04
Df Residuals:	3768	**BIC:**	2.992e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm10	12.6465	0.278	45.506	0.000	12.102	13.191

Omnibus:	2362.354	**Durbin-Watson:**	0.713
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	36908.122
Skew:	2.731	**Prob(JB):**	0.00
Kurtosis:	17.322	**Cond. No.**	32.6

Sensor sps30@RIVM_30aea4ec7cf8 with sensor pmsx003@RIVM_807D3A9369F4

correlation report for pm10 () measurements

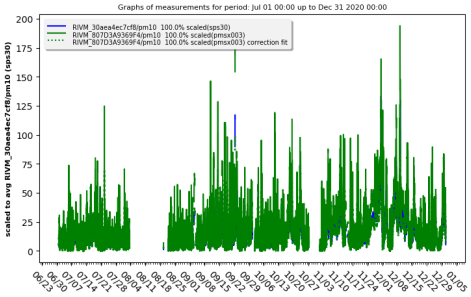
Correlation details of project RIVM sensor kit ID 30aea4ec7cf8 with project RIVM sensor kit ID 807D3A9369F4
Date of correlation report: Fri 12 Feb 13:14:37 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): pmsx003, sps30
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1274 (avg+2*stddev)
Database table RIVM_30aea4ec7cf8 sensor (column) pm10: 15595 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1262 (avg+2*stddev)
Database table RIVM_807D3A9369F4 sensor (column) pm10: 13878 db records, deleted 0 NaN records.
Collected 13388 values in sample time frame (21m/2s) for the graph. Skipped 2207 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 21m:2s.

Data from table/sheet RIVM_807D3A9369F4, sensor (column) pm10:



number 13388, min= 0.01, max=194.00

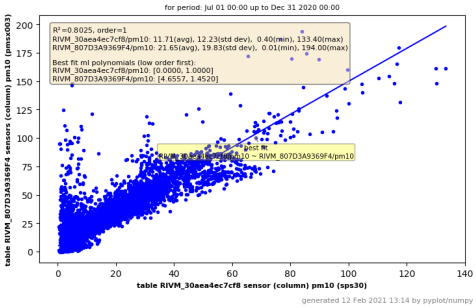
avg=21.65, std dev=19.83

R-squared (R^2) with RIVM_807D3A9369F4/pm10: 0.8025

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

RIVM_30aea4ec7cf8/pm10 (pmsx003)-> best fit coefficients:

4.656e+00, 1.452e+00



Statistical summary linear regression for RIVM_30aea4ec7cf8/pm10 with ['RIVM_807D3A9369F4/pm10']:

OLS Regression Results

Dep. Variable:	RIVM_30aea4ec7cf8/pm10	**R-squared:**	0.803
Model:	OLS	**Adj. R-squared:**	0.803
Method:	Least Squares	**F-statistic:**	5.440e+04
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:38	**Log-Likelihood:**	-41664.
No. Observations:	13388	**AIC:**	8.333e+04
Df Residuals:	13386	**BIC:**	8.335e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_807D3A9369F4/pm10	-0.2614	0.070	-3.757	0.000	-0.398	-0.125

Omnibus:	6877.040	**Durbin-Watson:**	0.877
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	342708.954
Skew:	-1.732	**Prob(JB):**	0.00
Kurtosis:	27.543	**Cond. No.**	43.5

Sensor sps30@RIVM_30aea4ec7cf8 with sensor sds011@RIVM_30aea4505888

correlation report for pm10 () measurements

Correlation details of project RIVM sensor kit ID 30aea4ec7cf8 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:14:41 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
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, sps30
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1274 (avg+2*stddev)
Database table RIVM_30aea4ec7cf8 sensor (column) pm10: 15595 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1341 (avg+2*stddev)
Database table RIVM_30aea4505888 sensor (column) pm10: 15914 db records, deleted 0 NaN records.
Collected 15355 values in sample time frame (22m/21s) for the graph. Skipped 240 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 22m:21s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm10:

number 15355, min= 0.40, max=199.20

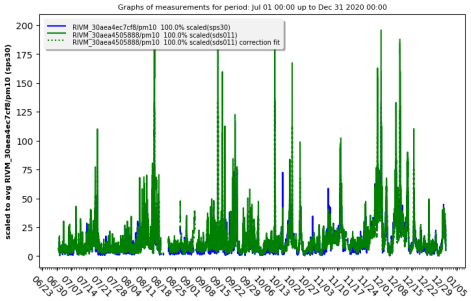
avg=15.15, std dev=17.36

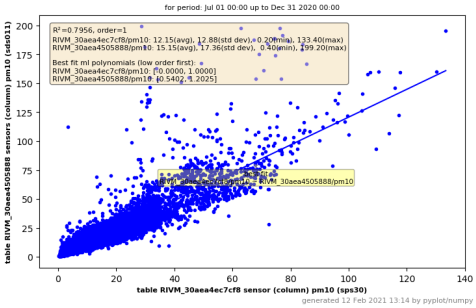
R-squared (R^2) with RIVM_30aea4505888/pm10: 0.7956

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

RIVM_30aea4ec7cf8/pm10 (sds011)-> best fit coefficients:

5.402e-01, 1.202e+00





Statistical summary linear regression for RIVM_30aea4ec7cf8/pm10 with ['RIVM_30aea4505888/pm10']:

OLS Regression Results

Dep. Variable:	RIVM_30aea4ec7cf8/pm10	**R-squared:**	0.796
Model:	OLS	**Adj. R-squared:**	0.796
Method:	Least Squares	**F-statistic:**	5.977e+04
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:42	**Log-Likelihood:**	-48839.
No. Observations:	15355	**AIC:**	9.768e+04
Df Residuals:	15353	**BIC:**	9.770e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm10	2.1252	0.062	34.080	0.000	2.003	2.247

Omnibus:	9957.258	**Durbin-Watson:**	0.292
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	992174.889
Skew:	-2.268	**Prob(JB):**	0.00
Kurtosis:	42.118	**Cond. No.**	30.6

Sensor pmsx003@RIVM_807D3A9369F4 with sensor sds011@RIVM_30aea4505888

correlation report for pm10 () measurements

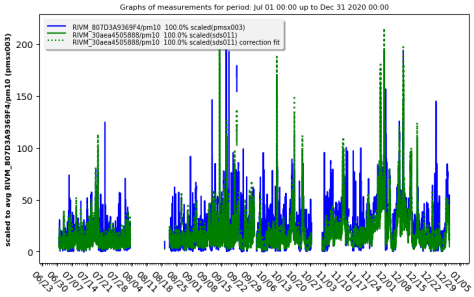
Correlation details of project RIVM sensor kit ID 807D3A9369F4 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:14:44 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): pmsx003, sds011
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1262 (avg+2*stddev)
Database table RIVM_807D3A9369F4 sensor (column) pm10: 13878 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1341 (avg+2*stddev)
Database table RIVM_30aea4505888 sensor (column) pm10: 15914 db records, deleted 0 NaN records.
Collected 13595 values in sample time frame (22m/21s) for the graph. Skipped 283 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 22m:21s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm10:



number 13595, min= 0.65, max=197.60

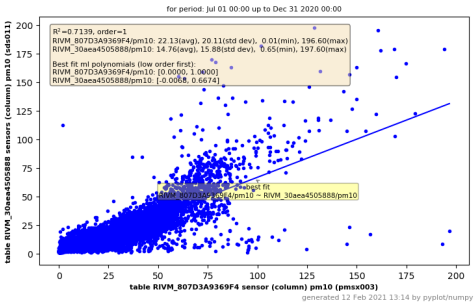
avg=14.76, std dev=15.88

R-squared (R^2) with RIVM_30aea4505888/pm10: 0.7139

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

RIVM_807D3A9369F4/pm10 (sds011)-> best fit coefficients:

-6.836e-03, 6.674e-01



Statistical summary linear regression for RIVM_807D3A9369F4/pm10 with ['RIVM_30aea4505888/pm10']:

OLS Regression Results

Dep. Variable:	RIVM_807D3A9369F4/pm10	**R-squared:**	0.714
Model:	OLS	**Adj. R-squared:**	0.714
Method:	Least Squares	**F-statistic:**	3.392e+04
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:45	**Log-Likelihood:**	-51582.
No. Observations:	13595	**AIC:**	1.032e+05
Df Residuals:	13593	**BIC:**	1.032e+05
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm10	6.3384	0.126	50.330	0.000	6.092	6.585

Omnibus:	6757.782	**Durbin-Watson:**	1.067
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	494317.684
Skew:	1.538	**Prob(JB):**	0.00
Kurtosis:	32.380	**Cond. No.**	29.6

Sensor bam1020@NL10131 with sensor sps30@RIVM_30aea4ec7cf8

correlation report for pm25 () measurements

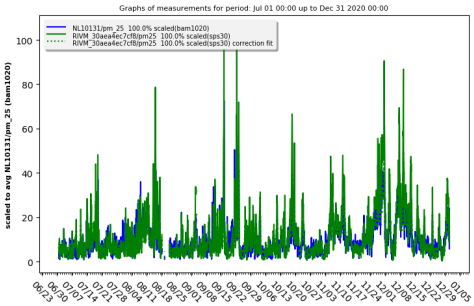
Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 30aea4ec7cf8
Date of correlation report: Fri 12 Feb 13:14:48 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sps30, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_25: 4316 db records, deleted 0 NaN records.
Database table RIVM_30aea4ec7cf8 sensor (column) pm25: 15595 db records, deleted 0 NaN records.
Collected 4205 values in sample time frame (60m/0s) for the graph. Skipped 111 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_30aea4ec7cf8, sensor (column) pm25:



number 4205, min= 0.33, max=105.75

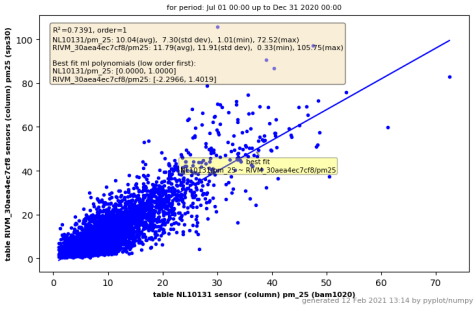
avg=11.79, std dev=11.91

R-squared (R^2) with RIVM_30aea4ec7cf8/pm25: 0.7391

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

NL10131/pm_25 (sps30)-> best fit coefficients:

-2.297e+00, 1.402e+00



Statistical summary linear regression for NL10131/pm_25 with ['RIVM_30aea4ec7cf8/pm25']:

OLS Regression Results

Dep. Variable:	NL10131/pm_25	**R-squared:**	0.739
Model:	OLS	**Adj. R-squared:**	0.739
Method:	Least Squares	**F-statistic:**	1.191e+04
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:49	**Log-Likelihood:**	-11503.
No. Observations:	4205	**AIC:**	2.301e+04
Df Residuals:	4203	**BIC:**	2.302e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4ec7cf8/pm25	3.8314	0.081	47.325	0.000	3.673	3.990

Omnibus:	761.692	**Durbin-Watson:**	0.744
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	4424.484
Skew:	0.736	**Prob(JB):**	0.00
Kurtosis:	7.805	**Cond. No.**	23.6

Sensor bam1020@NL10131 with sensor pmsx003@RIVM_807D3A9369F4

correlation report for pm25 () measurements

Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 807D3A9369F4
Date of correlation report: Fri 12 Feb 13:14:51 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
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): pmsx003, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_25: 4316 db records, deleted 0 NaN records.
Database table RIVM_807D3A9369F4 sensor (column) pm25: 13874 db records, deleted 0 NaN records.
Collected 3691 values in sample time frame (60m/0s) for the graph. Skipped 625 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_807D3A9369F4, sensor (column) pm25:

number 3691, min= 0.06, max=168.80

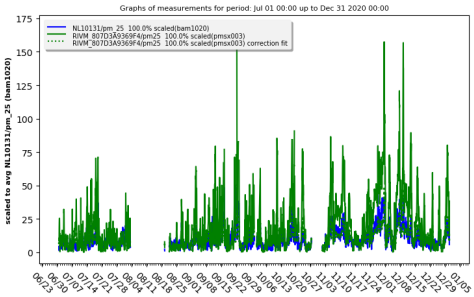
avg=19.58, std dev=19.73

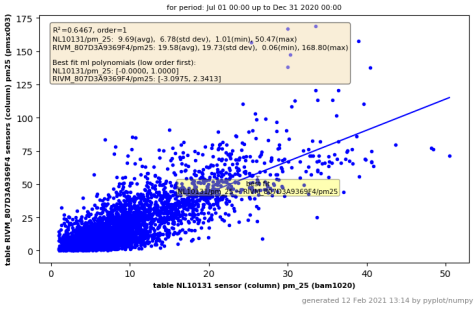
R-squared (R^2) with RIVM_807D3A9369F4/pm25: 0.6467

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

NL10131/pm_25 (pmsx003)-> best fit coefficients:

-3.098e+00, 2.341e+00





Statistical summary linear regression for NL10131/pm_25 with ['RIVM_807D3A9369F4/pm25']:

OLS Regression Results

Dep. Variable:	NL10131/pm_25	**R-squared:**	0.647
Model:	OLS	**Adj. R-squared:**	0.647
Method:	Least Squares	**F-statistic:**	6753.
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:52	**Log-Likelihood:**	-10380.
No. Observations:	3691	**AIC:**	2.076e+04
Df Residuals:	3689	**BIC:**	2.078e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_807D3A9369F4/pm25	4.2777	0.093	45.779	0.000	4.094	4.461

Omnibus:	551.414	**Durbin-Watson:**	0.606
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	2793.804
Skew:	0.620	**Prob(JB):**	0.00
Kurtosis:	7.078	**Cond. No.**	39.2

Sensor bam1020@NL10131 with sensor sds011@RIVM_30aea4505888

correlation report for pm25 () measurements

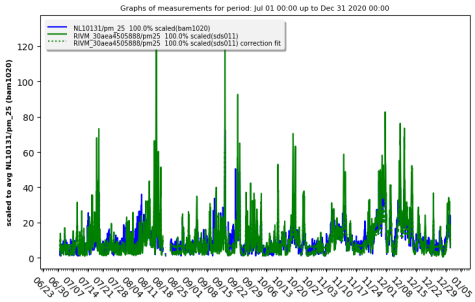
Correlation details of project NL10131 sensor kit ID NL10131 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:14:54 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): sds011, bam1020
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 3600 (avg+2*stddev)
Database table NL10131 sensor (column) pm_25: 4316 db records, deleted 0 NaN records.
Database table RIVM_30aea4505888 sensor (column) pm25: 15940 db records, deleted 0 NaN records.
Collected 4219 values in sample time frame (60m/0s) for the graph. Skipped 97 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 60m:0s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm25:



number 4219, min= 0.47, max=130.90

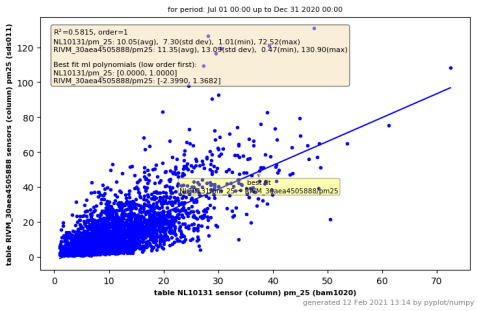
avg=11.35, std dev=13.09

R-squared (R^2) with RIVM_30aea4505888/pm25: 0.5815

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

NL10131/pm_25 (sds011)-> best fit coefficients:

-2.399e+00, 1.368e+00



Statistical summary linear regression for NL10131/pm_25 with ['RIVM_30aea4505888/pm25']:

OLS Regression Results

Dep. Variable:	NL10131/pm_25	**R-squared:**	0.582
Model:	OLS	**Adj. R-squared:**	0.581
Method:	Least Squares	**F-statistic:**	5860.
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:55	**Log-Likelihood:**	-12535.
No. Observations:	4219	**AIC:**	2.507e+04
Df Residuals:	4217	**BIC:**	2.509e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm25	5.2249	0.096	54.305	0.000	5.036	5.414

Omnibus:	738.405	**Durbin-Watson:**	0.477
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	3633.387
Skew:	0.756	**Prob(JB):**	0.00
Kurtosis:	7.287	**Cond. No.**	23.0

Sensor sps30@RIVM_30aea4ec7cf8 with sensor pmsx003@RIVM_807D3A9369F4

correlation report for pm25 () measurements

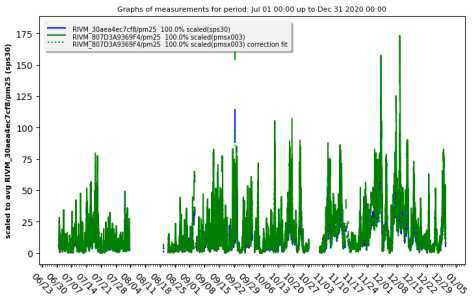
Correlation details of project RIVM sensor kit ID 30aea4ec7cf8 with project RIVM sensor kit ID 807D3A9369F4
Date of correlation report: Fri 12 Feb 13:14:57 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): pmsx003, sps30
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1274 (avg+2*stddev)
Database table RIVM_30aea4ec7cf8 sensor (column) pm25: 15595 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1262 (avg+2*stddev)
Database table RIVM_807D3A9369F4 sensor (column) pm25: 13874 db records, deleted 0 NaN records.
Collected 13384 values in sample time frame (21m/2s) for the graph. Skipped 2211 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 21m:2s.

Data from table/sheet RIVM_807D3A9369F4, sensor (column) pm25:



number 13384, min= 0.01, max=179.40

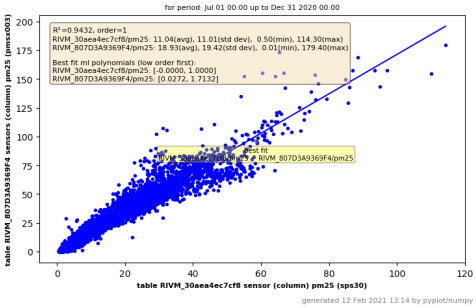
avg=18.93, std dev=19.42

R-squared (R^2) with RIVM_807D3A9369F4/pm25: 0.9432

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

RIVM_30aea4ec7cf8/pm25 (pmsx003)-> best fit coefficients:

2.717e-02, 1.713e+00



Statistical summary linear regression for RIVM_30aea4ec7cf8/pm25 with ['RIVM_807D3A9369F4/pm25']:

OLS Regression Results

Dep. Variable:	RIVM_30aea4ec7cf8/pm25	**R-squared:**	0.943
Model:	OLS	**Adj. R-squared:**	0.943
Method:	Least Squares	**F-statistic:**	2.222e+05
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:14:58	**Log-Likelihood:**	-31903.
No. Observations:	13384	**AIC:**	6.381e+04
Df Residuals:	13382	**BIC:**	6.382e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_807D3A9369F4/pm25	0.6119	0.032	19.316	0.000	0.550	0.674

Omnibus:	3273.175	**Durbin-Watson:**	0.345
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	221115.409
Skew:	0.082	**Prob(JB):**	0.00
Kurtosis:	22.912	**Cond. No.**	37.9

Sensor sps30@RIVM_30aea4ec7cf8 with sensor sds011@RIVM_30aea4505888

correlation report for pm25 () measurements

Correlation details of project RIVM sensor kit ID 30aea4ec7cf8 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:15:00 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
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, sps30
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1274 (avg+2*stddev)
Database table RIVM_30aea4ec7cf8 sensor (column) pm25: 15595 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1337 (avg+2*stddev)
Database table RIVM_30aea4505888 sensor (column) pm25: 15940 db records, deleted 0 NaN records.
Collected 15379 values in sample time frame (22m/17s) for the graph. Skipped 216 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 22m:17s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm25:

number 15379, min= 0.40, max=143.70

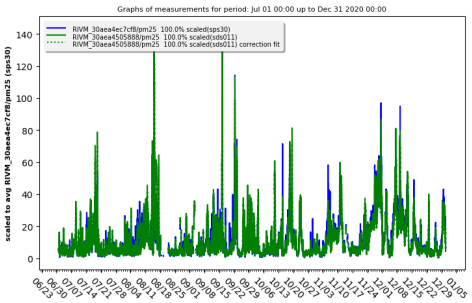
avg=11.19, std dev=13.24

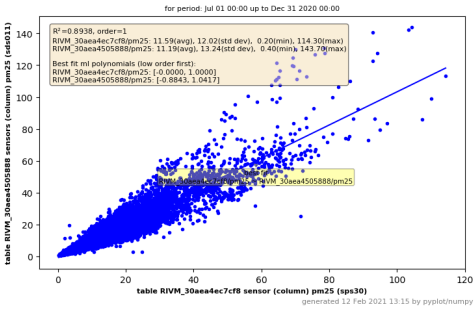
R-squared (R^2) with RIVM_30aea4505888/pm25: 0.8938

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

RIVM_30aea4ec7cf8/pm25 (sds011)-> best fit coefficients:

-8.843e-01, 1.042e+00





Statistical summary linear regression for RIVM_30aea4ec7cf8/pm25 with ['RIVM_30aea4505888/pm25']:

OLS Regression Results

Dep. Variable:	RIVM_30aea4ec7cf8/pm25	**R-squared:**	0.894
Model:	OLS	**Adj. R-squared:**	0.894
Method:	Least Squares	**F-statistic:**	1.295e+05
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:15:01	**Log-Likelihood:**	-42813.
No. Observations:	15379	**AIC:**	8.563e+04
Df Residuals:	15377	**BIC:**	8.564e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm25	1.9888	0.041	48.116	0.000	1.908	2.070

Omnibus:	3481.289	**Durbin-Watson:**	0.176
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	163254.922
Skew:	-0.181	**Prob(JB):**	0.00
Kurtosis:	18.957	**Cond. No.**	22.7

Sensor pmsx003@RIVM_807D3A9369F4 with sensor sds011@RIVM_30aea4505888

correlation report for pm25 () measurements

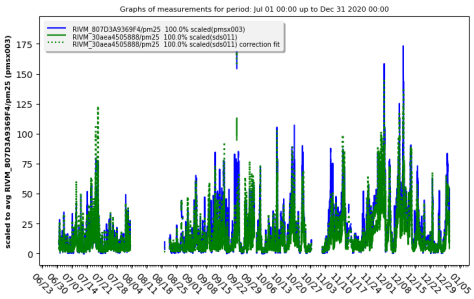
Correlation details of project RIVM sensor kit ID 807D3A9369F4 with project RIVM sensor kit ID 30aea4505888
Date of correlation report: Fri 12 Feb 13:15:03 CET 2021
From date 2020-07-01 upto 2020-12-31 00:00
Origin of measurement time serie data from InFluxDB host: lunar
Report generated by MyRegression.py (GPL V4) (user teus)

General statistical information for the measurements graphs

Regression best fit calculation details for sensor type(s): pmsx003, sds011
Graphs based on data MYSQL from luchtmetingen on server lunar as user teus:
Auto interval samples is (re)set to 1262 (avg+2*stddev)
Database table RIVM_807D3A9369F4 sensor (column) pm25: 13874 db records, deleted 0 NaN records.
Auto interval samples is (re)set to 1337 (avg+2*stddev)
Database table RIVM_30aea4505888 sensor (column) pm25: 15940 db records, deleted 0 NaN records.
Collected 13598 values in sample time frame (22m/17s) for the graph. Skipped 276 db records, could not find any value(s) in same sample interval.

Samples period: Jul 01 00:00 up to Dec 31 2020 00:00, interval timing 22m:17s.

Data from table/sheet RIVM_30aea4505888, sensor (column) pm25:



number 13598, min= 0.60, max=113.10

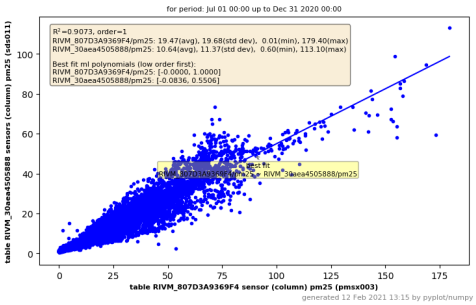
avg=10.64, std dev=11.37

R-squared (R^2) with RIVM_30aea4505888/pm25: 0.9073

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

RIVM_807D3A9369F4/pm25 (sds011)-> best fit coefficients:

-8.364e-02, 5.506e-01



Statistical summary linear regression for RIVM_807D3A9369F4/pm25 with ['RIVM_30aea4505888/pm25']:

OLS Regression Results

Dep. Variable:	RIVM_807D3A9369F4/pm25	**R-squared:**	0.907
Model:	OLS	**Adj. R-squared:**	0.907
Method:	Least Squares	**F-statistic:**	1.330e+05
Date:	Fri, 12 Feb 2021	**Prob (F-statistic):**	0.00
Time:	13:15:05	**Log-Likelihood:**	-43642.
No. Observations:	13598	**AIC:**	8.729e+04
Df Residuals:	13596	**BIC:**	8.730e+04
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
RIVM_30aea4505888/pm25	1.9433	0.070	27.621	0.000	1.805	2.081

Omnibus:	3860.491	**Durbin-Watson:**	0.199
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	57453.760
Skew:	0.956	**Prob(JB):**	0.00
Kurtosis:	12.887	**Cond. No.**	21.4