

DIAGTOOL REPORT



**Round Robin (GT cotier) : Tide. Medsea. J3. fes14b
struct vs fes14b unstruct vs fes14b unstruct reg vs
EOT20.**

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1 General description

- Figures and notes have been included in this report to evaluate different altimetry products.
- In order to test different version of the Tide used to calculate the sea level anomaly. Each version has been compared with a reference version. In this case the Fes14b_struct is the reference one.
- The sea level anomaly has been calculated using each version of the variable and has been compared to the sea level anomaly calculated using the reference version.
- The region of study is Medsea
- Mission : J3
- Git last tag :
- Git changeset number : 3b970d7-2022-07-05

2 Processing

2.1 sla formula

2.1.1 fes14b_struct product ' sla

sla = ORBIT.ALT.CNES_POE_F -
RANGE.ALT -
MEAN_SEA_SURFACE.MODEL.CNESCLS15 -
SEA_STATE_BIAS.ALT -

IONOSPHERIC_CORRECTION.MODEL.GIM -
 WET_TROPOSPHERIC_CORRECTION.RAD -
 DRY_TROPOSPHERIC_CORRECTION.MODEL.ECMWF -
 DYNAMICAL_ATMOSPHERIC_CORRECTION.MODEL.MOG2D_HR -
 OCEAN_TIDE_HEIGHT.MODEL.FES14B -
 SOLID_EARTH_TIDE_HEIGHT.MODEL.CARTWRIGHT_TAYLER_71 -
 POLE_TIDE_HEIGHT.MODEL.DESAI_2015

2.1.2 fes14b_unstruct product ' sla

sla = ORBIT.ALT.CNES_POE_F -
 RANGE.ALT -
 MEAN_SEA_SURFACE.MODEL.CNESCLS15 -
 SEA_STATE_BIAS.ALT -
 IONOSPHERIC_CORRECTION.MODEL.GIM -
 WET_TROPOSPHERIC_CORRECTION.RAD -
 DRY_TROPOSPHERIC_CORRECTION.MODEL.ECMWF -
 DYNAMICAL_ATMOSPHERIC_CORRECTION.MODEL.MOG2D_HR -
 tide_FES2014b_unstruct -
 LOAD_TIDE.MODEL.FES14B -
 SOLID_EARTH_TIDE_HEIGHT.MODEL.CARTWRIGHT_TAYLER_71 -
 POLE_TIDE_HEIGHT.MODEL.DESAI_2015

2.1.3 fes14b_unstruct_reg product ' sla

sla = ORBIT.ALT.CNES_POE_F -
 RANGE.ALT -
 MEAN_SEA_SURFACE.MODEL.CNESCLS15 -
 SEA_STATE_BIAS.ALT -
 IONOSPHERIC_CORRECTION.MODEL.GIM -
 WET_TROPOSPHERIC_CORRECTION.RAD -
 DRY_TROPOSPHERIC_CORRECTION.MODEL.ECMWF -
 DYNAMICAL_ATMOSPHERIC_CORRECTION.MODEL.MOG2D_HR -
 tide_RegAT -
 LOAD_TIDE.MODEL.FES14B -
 SOLID_EARTH_TIDE_HEIGHT.MODEL.CARTWRIGHT_TAYLER_71 -
 POLE_TIDE_HEIGHT.MODEL.DESAI_2015

2.1.4 EOT20 product ' sla

sla = ORBIT.ALT.CNES_POE_F -
 RANGE.ALT -
 MEAN_SEA_SURFACE.MODEL.CNESCLS15 -
 SEA_STATE_BIAS.ALT -
 IONOSPHERIC_CORRECTION.MODEL.GIM -
 WET_TROPOSPHERIC_CORRECTION.RAD -
 DRY_TROPOSPHERIC_CORRECTION.MODEL.ECMWF -
 DYNAMICAL_ATMOSPHERIC_CORRECTION.MODEL.MOG2D_HR -
 tide_EOT20 -
 LOAD_TIDE.MODEL.FES14B -
 SOLID_EARTH_TIDE_HEIGHT.MODEL.CARTWRIGHT_TAYLER_71 -
 POLE_TIDE_HEIGHT.MODEL.DESAI_2015

2.2 Binning

Each track has been divided to a set of sections, where the center of each section is separated by the sample frequency of the satellite times its velocity.

The data located within the sections limits represent the altimetry time-series on which the statistics will be calculated and visualized in this report.

2.3 Filtering

- The sla has been filtered by a threshold of 1 m.
- Each sla time-serie has been filtered by a window of $[-4\sigma, 4\sigma]$, where σ is the standard deviation of the sla time serie

3 Spatial coherence analysis

3.1 sla

3.1.1 sla 's count

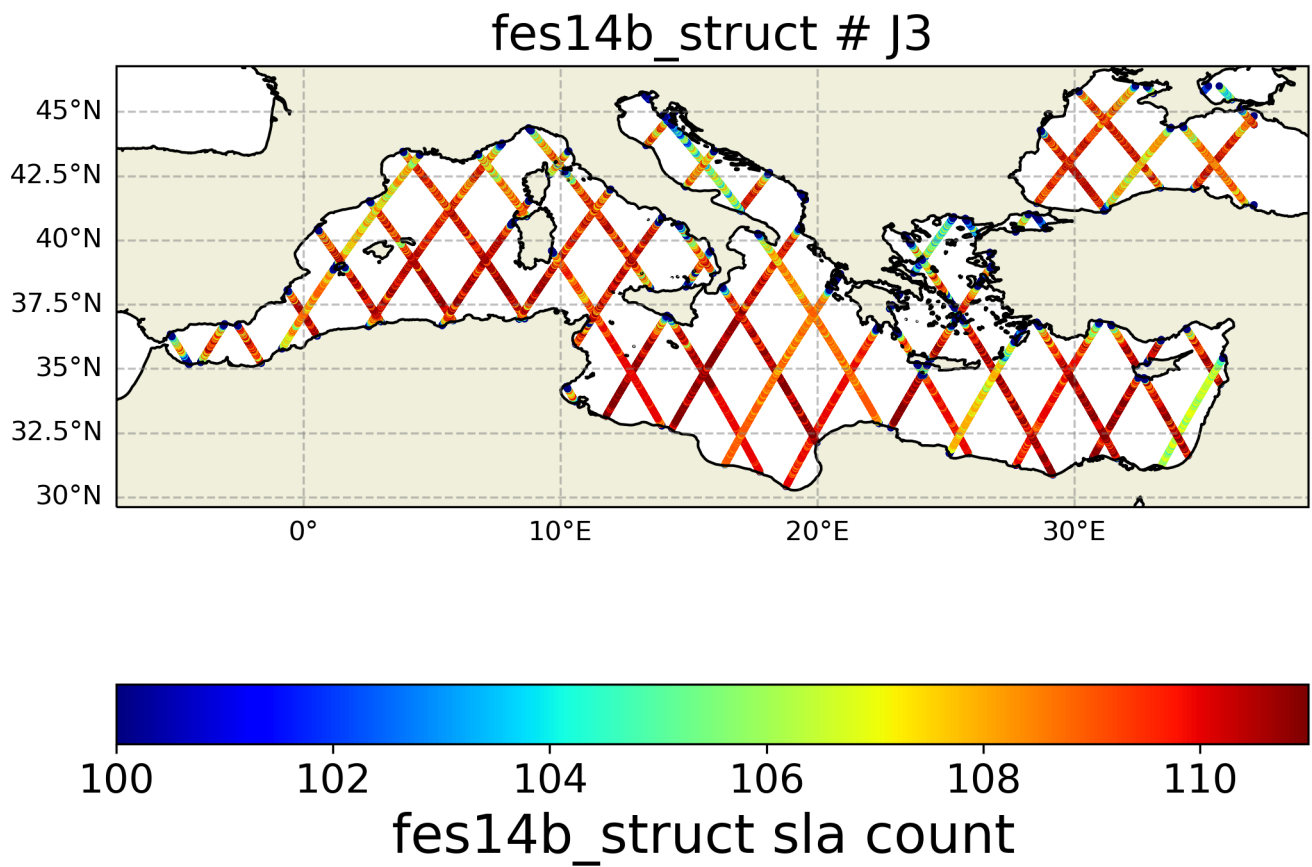


FIGURE 1 – Spatial coherence analysis of the count of the fes14b_struct version of sla variable

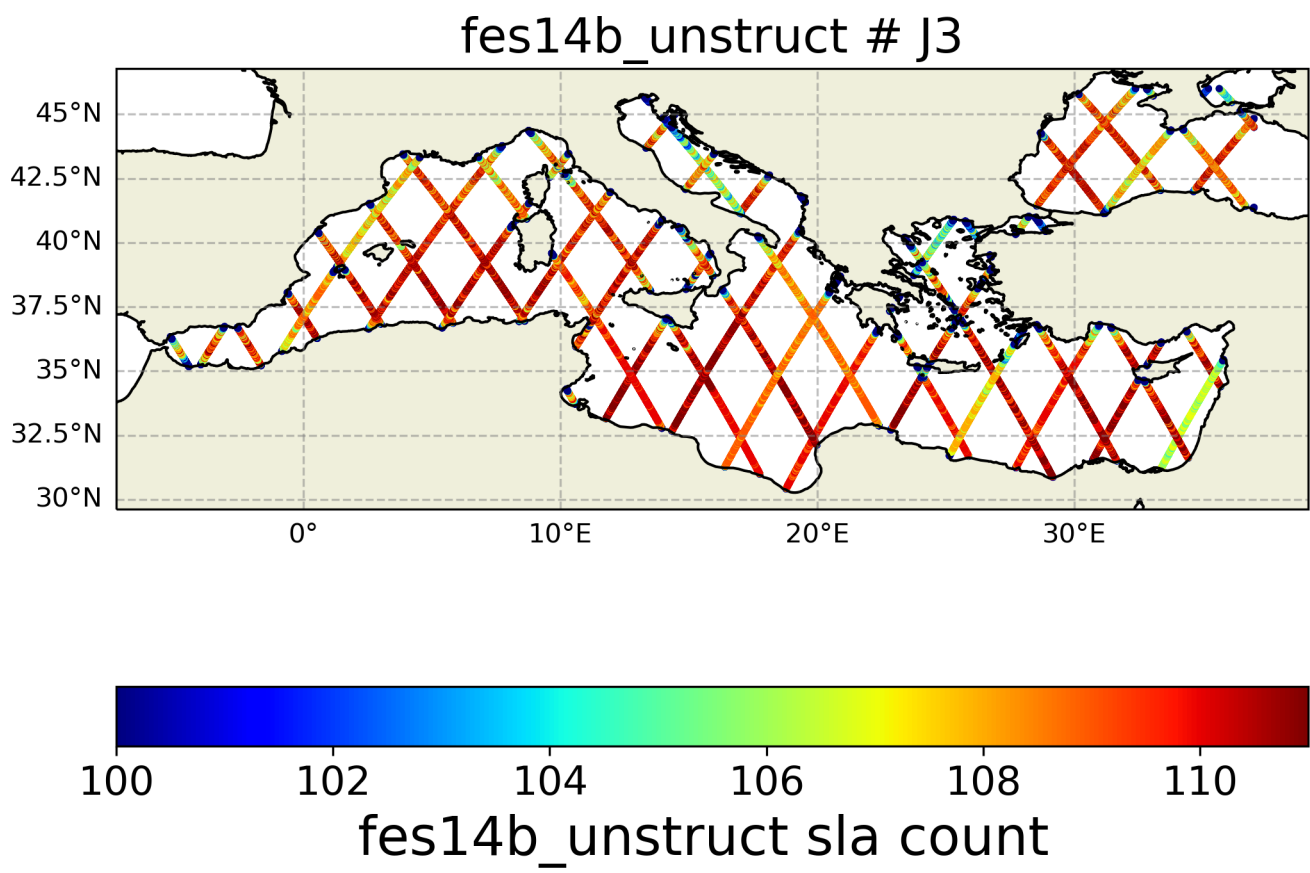


FIGURE 2 – Spatial coherence analysis of the count of the fes14b_unstruct version of sla variable

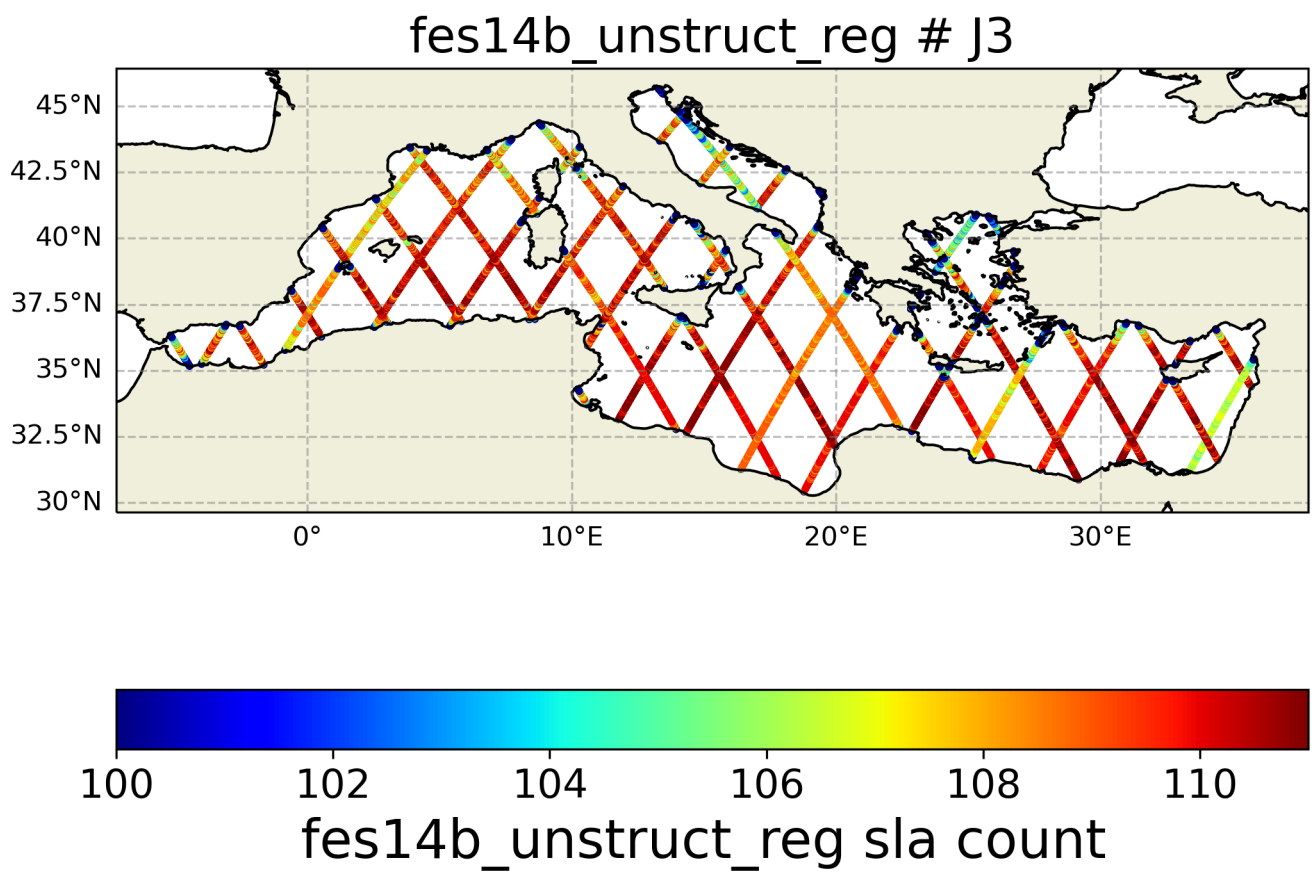


FIGURE 3 – Spatial coherence analysis of the count of the fes14b_unstruct_reg version of sla variable

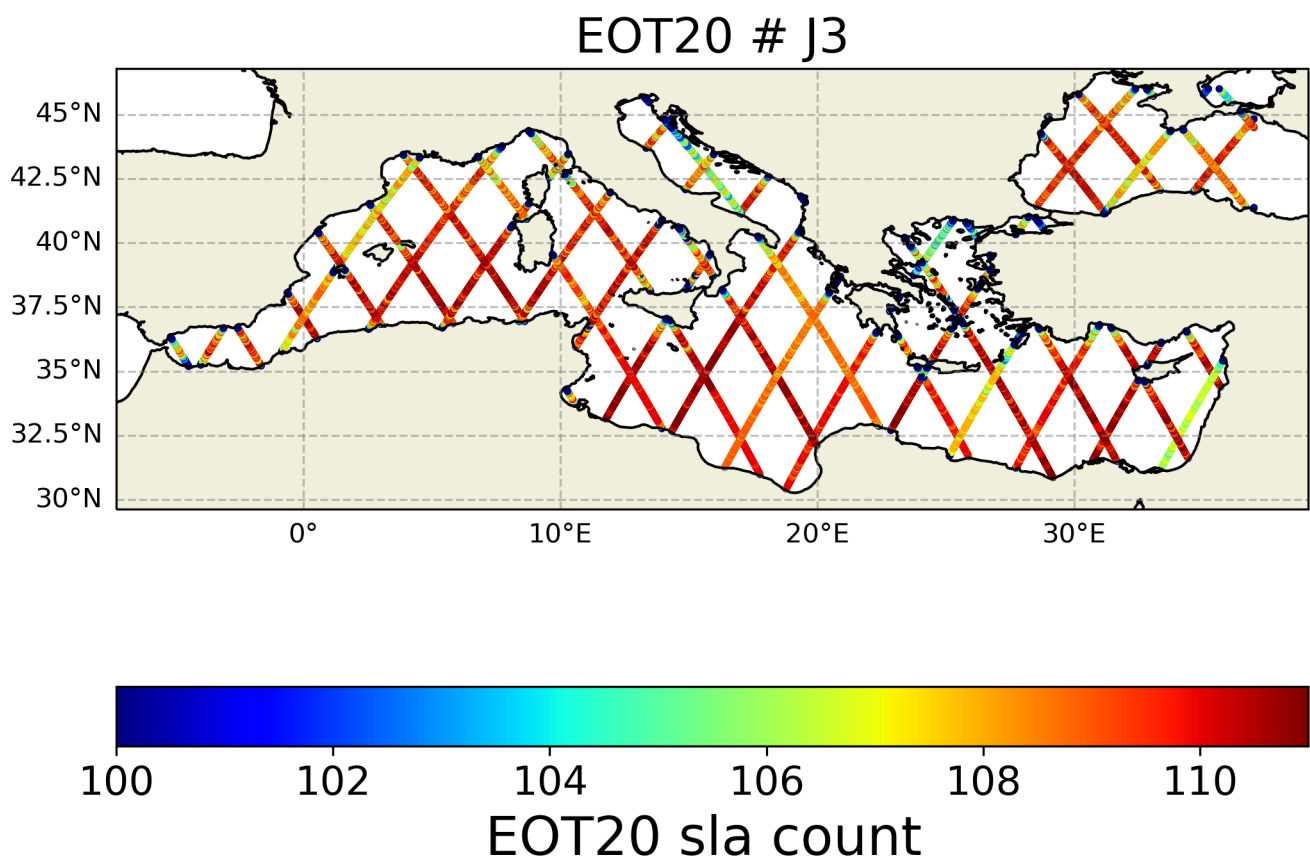


FIGURE 4 – Spatial coherence analysis of the count of the EOT20 version of sla variable

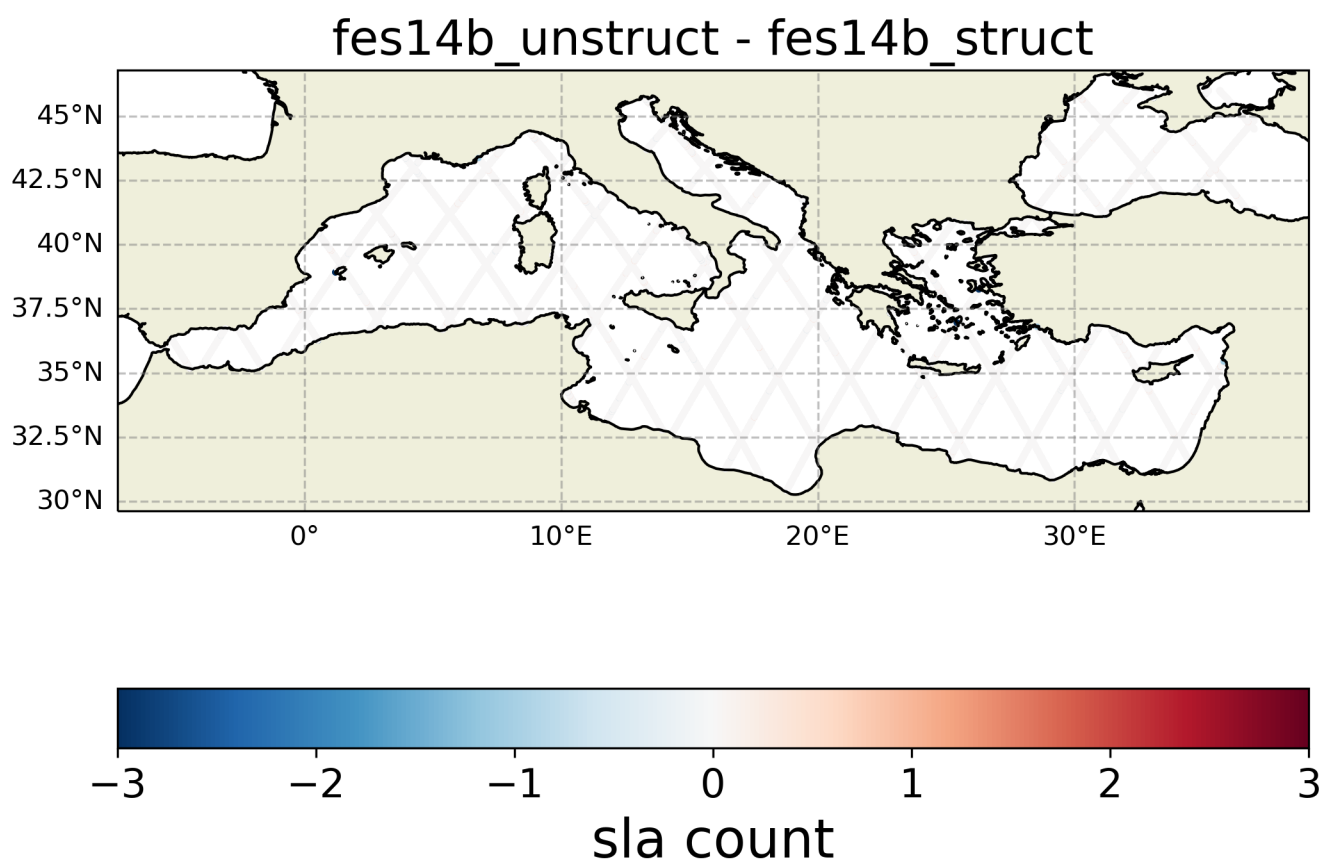


FIGURE 5 – Spatial coherence analysis of the Difference in sla 's count between fes14b_unstruct and fes14b_struct

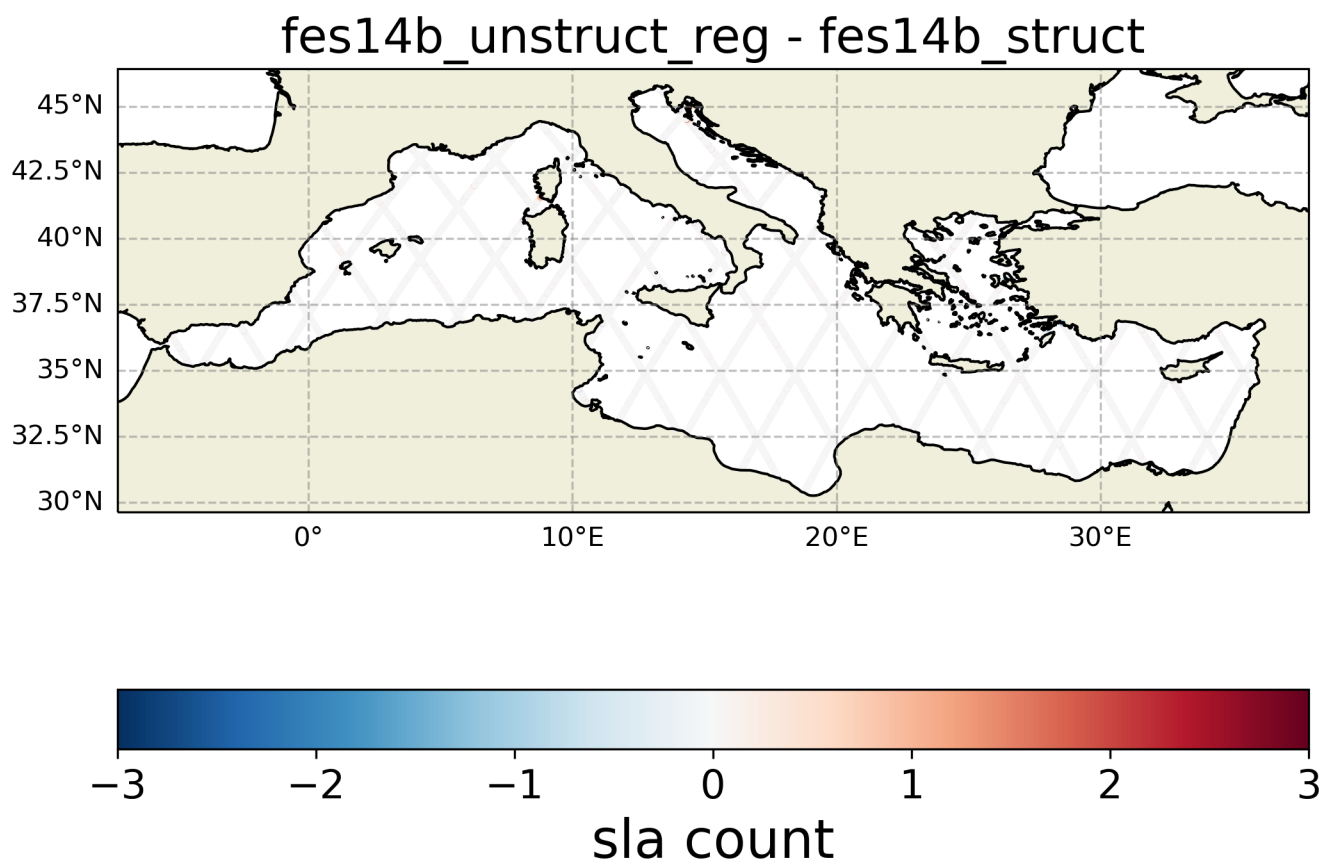


FIGURE 6 – Spatial coherence analysis of the Difference in sla 's count between fes14b_unstruct_reg and fes14b_struct

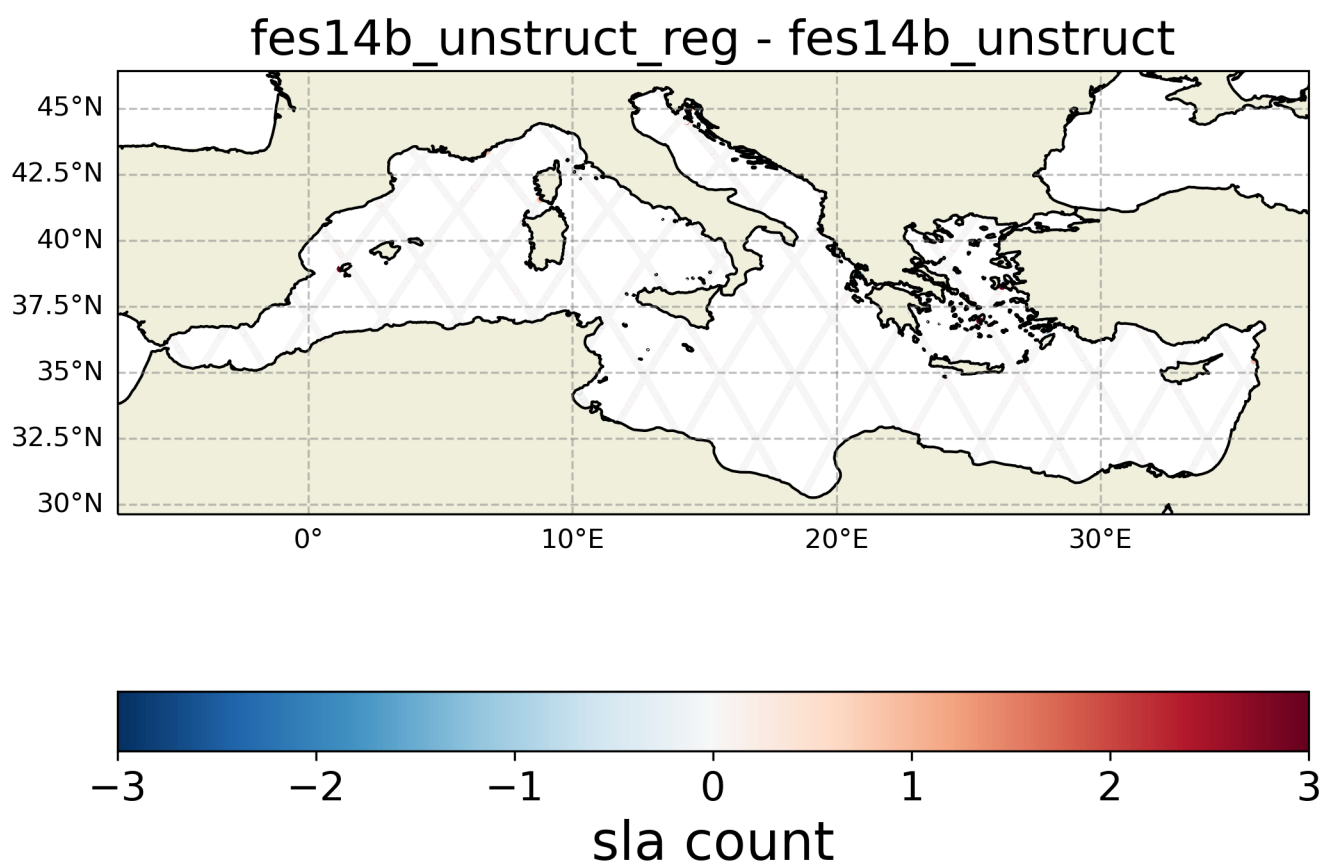


FIGURE 7 – Spatial coherence analysis of the Difference in sla 's count between fes14b_unstruct_reg and fes14b_unstruct

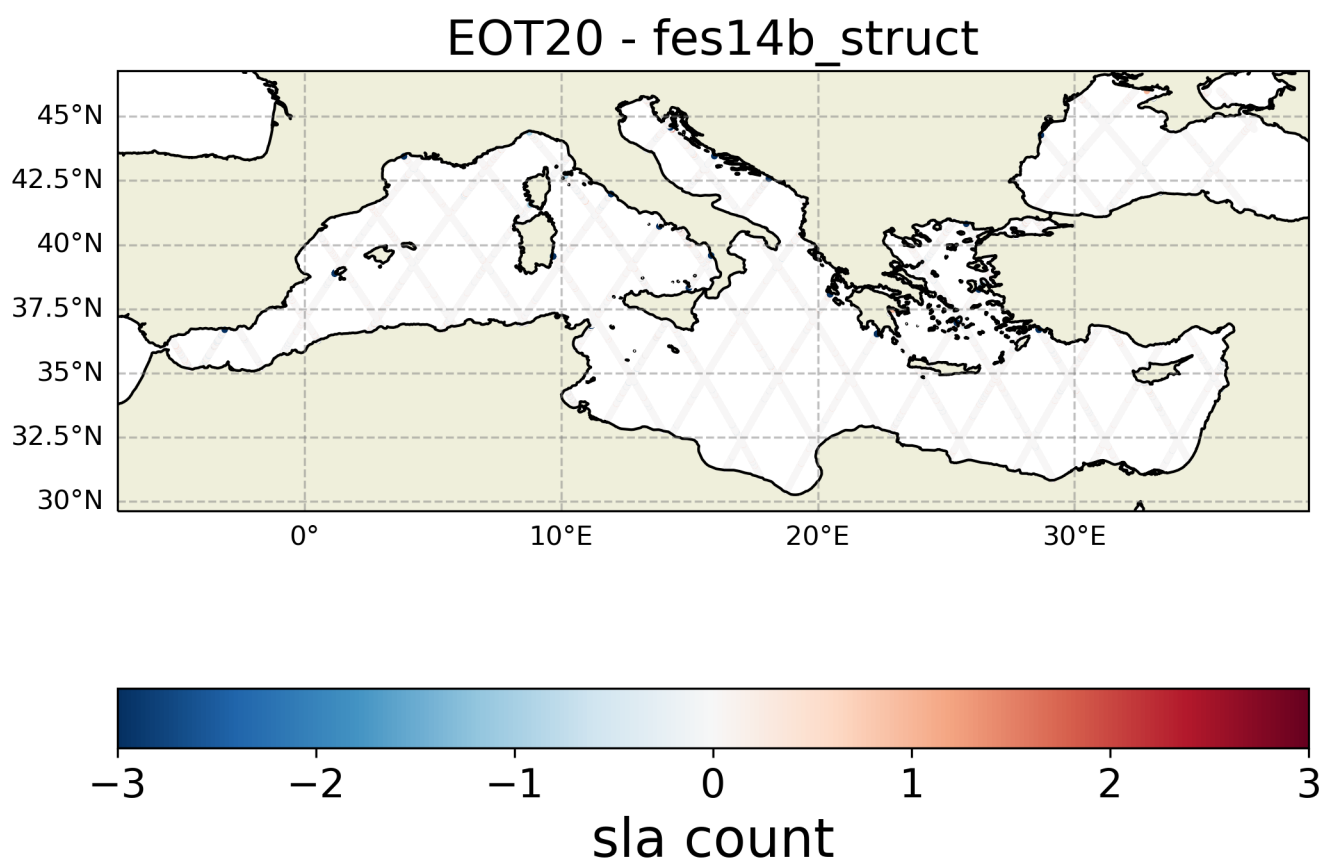


FIGURE 8 – Spatial coherence analysis of the Difference in sla 's count between EOT20 and fes14b_struct

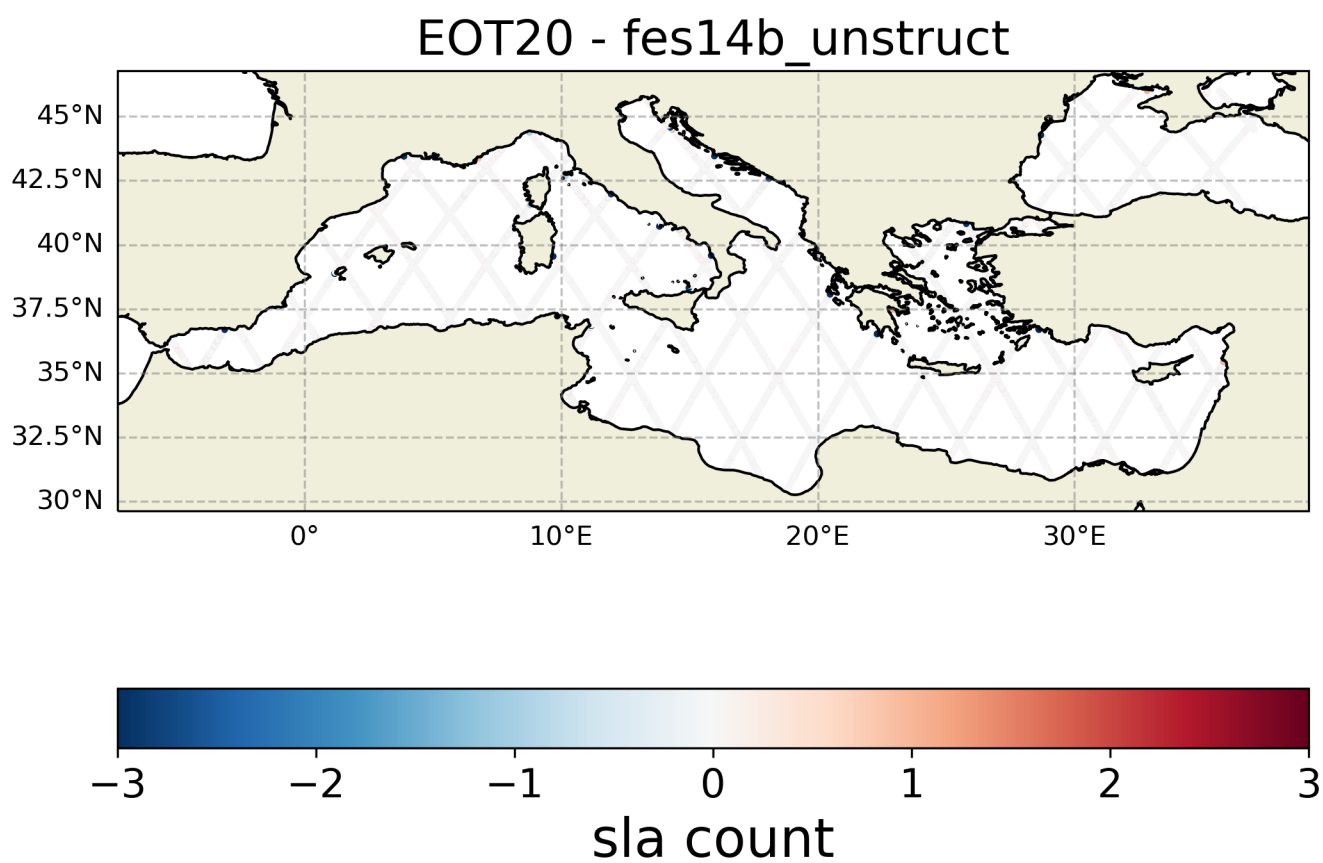


FIGURE 9 – Spatial coherence analysis of the Difference in sla 's count between EOT20 and fes14b_unstruct

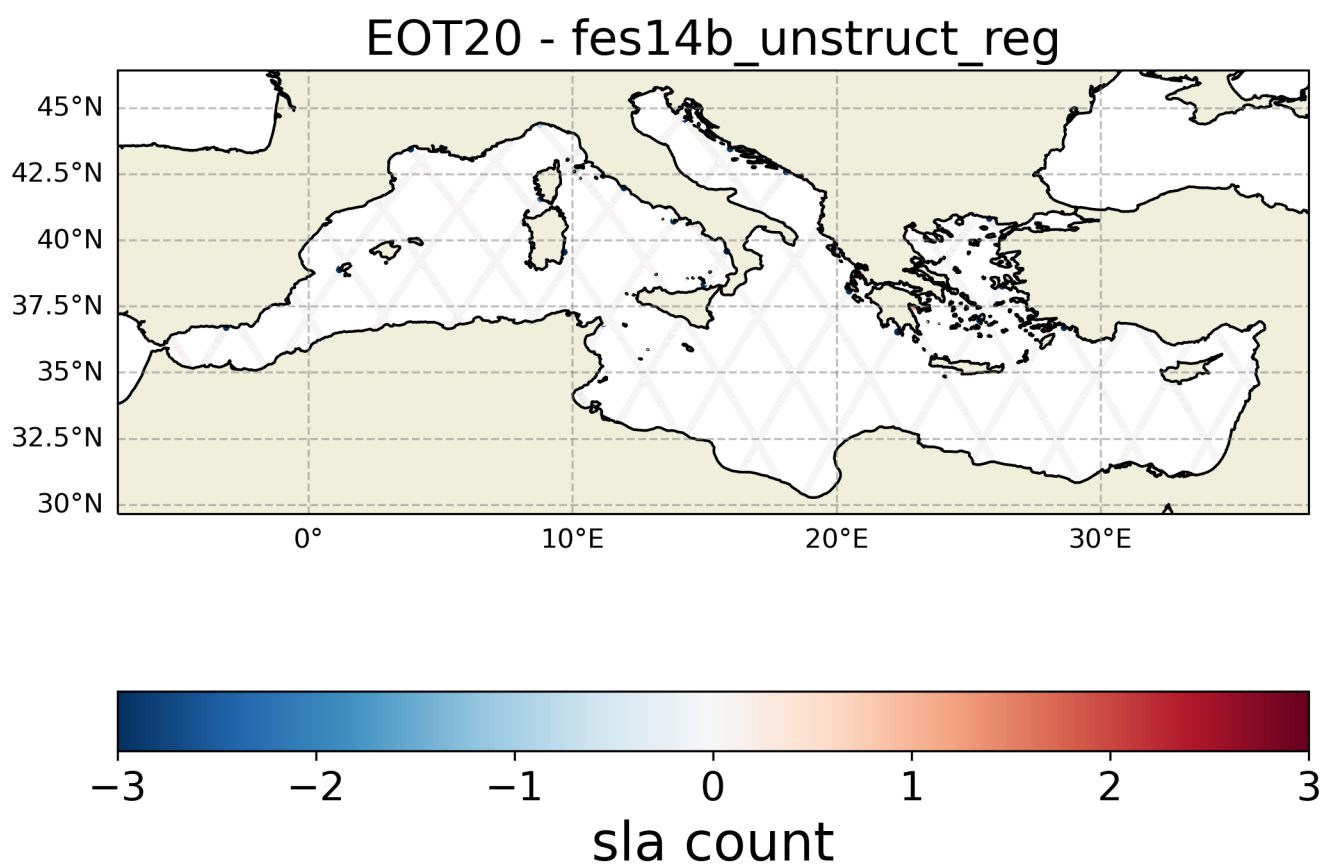


FIGURE 10 – Spatial coherence analysis of the Difference in sla 's count between EOT20 and fes14b_unstruct_reg

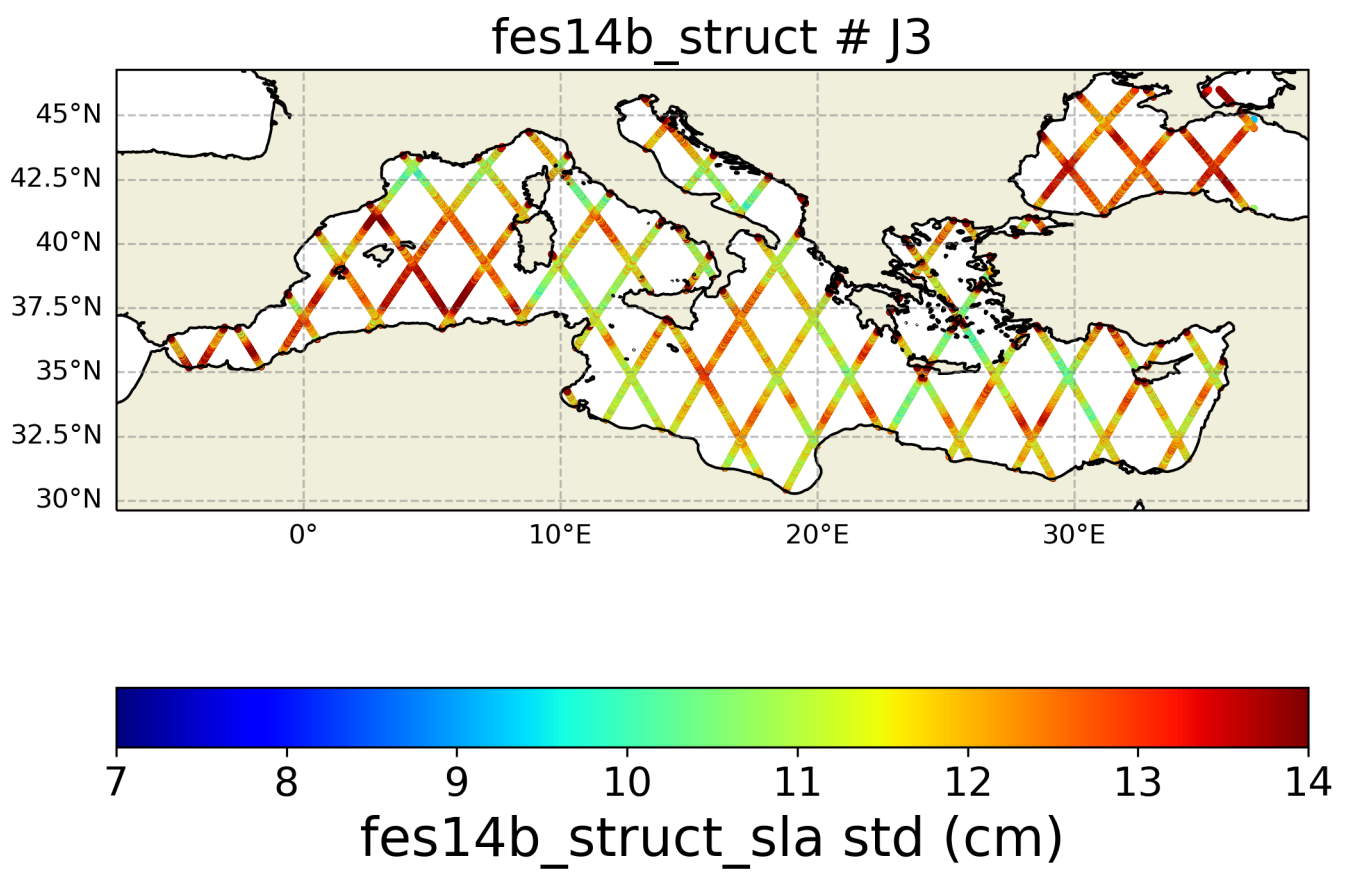


FIGURE 11 – Spatial coherence analysis of the std of the fes14b_struct version of sla variable

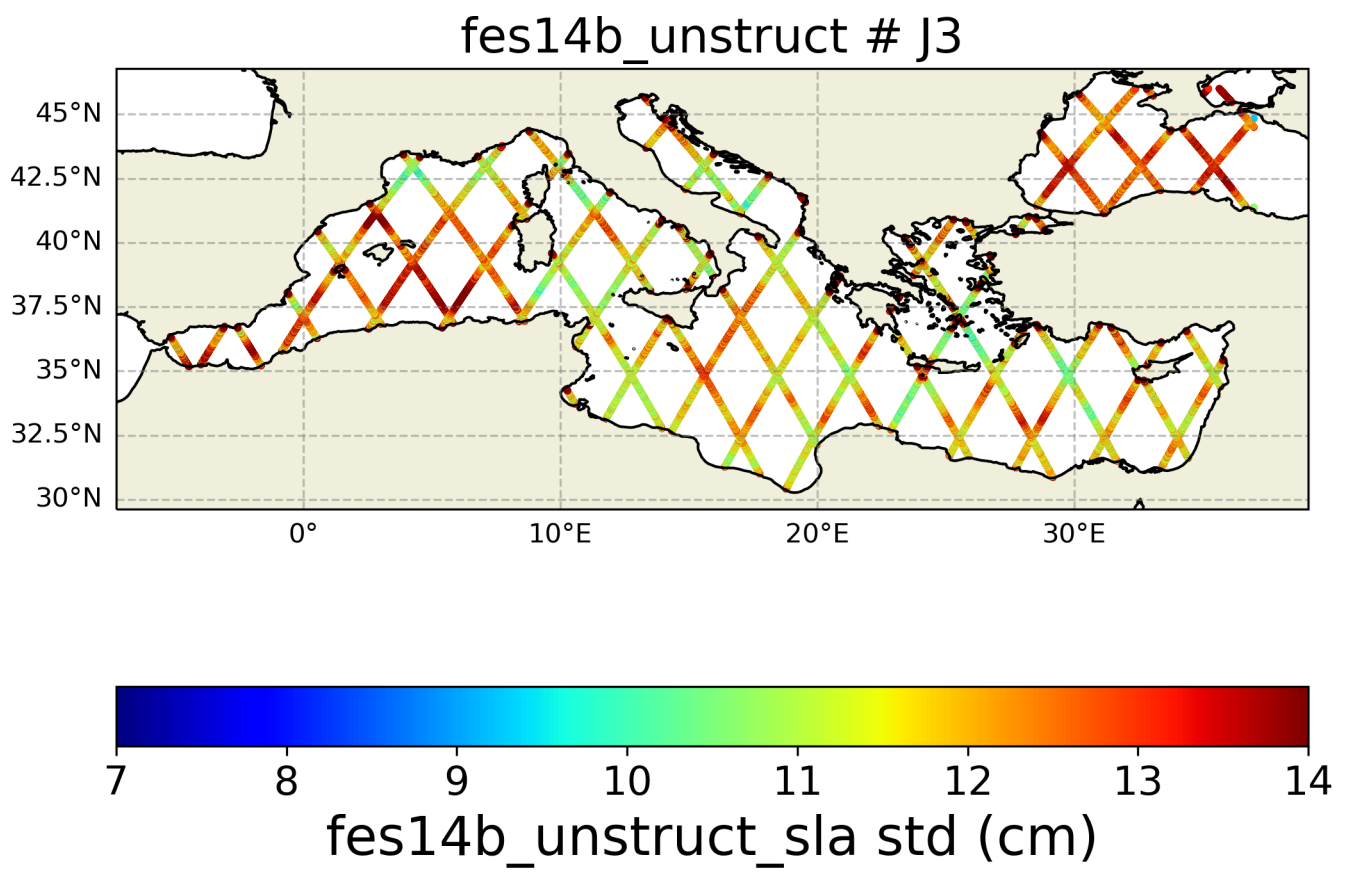


FIGURE 12 – Spatial coherence analysis of the std of the fes14b_unstruct version of sla variable

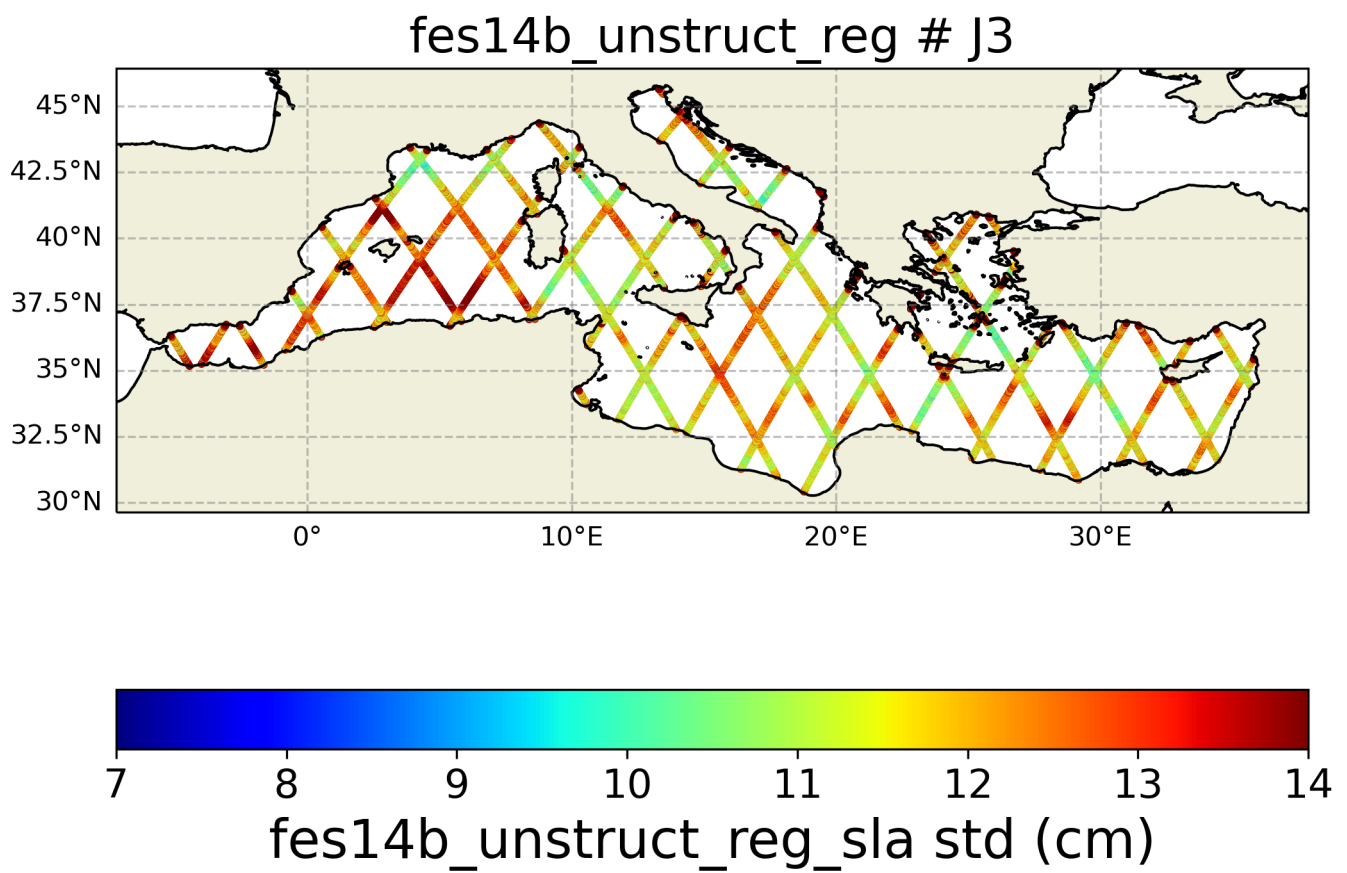


FIGURE 13 – Spatial coherence analysis of the std of the fes14b_unstruct_reg version of sla variable

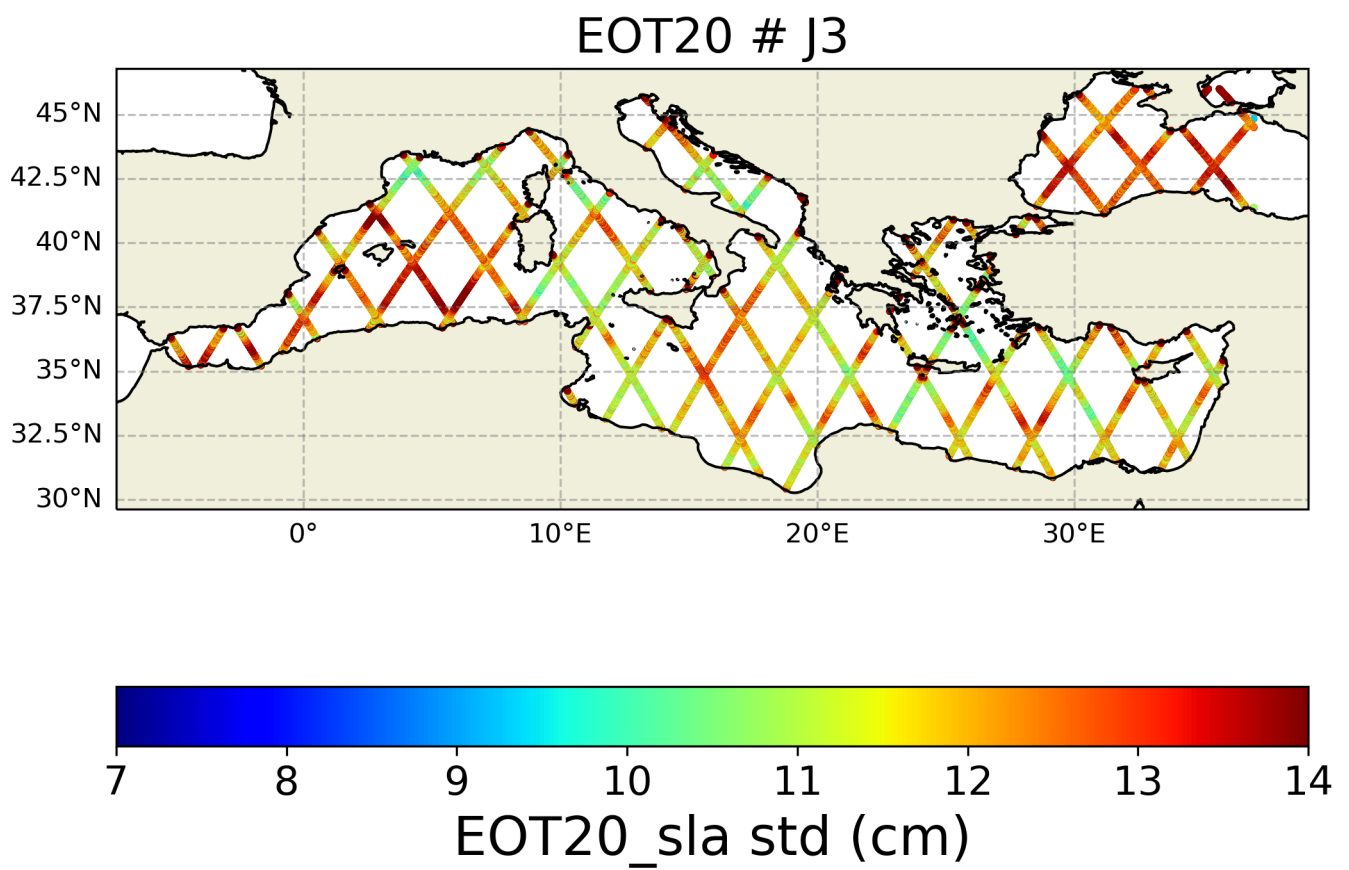


FIGURE 14 – Spatial coherence analysis of the std of the EOT20 version of sla variable

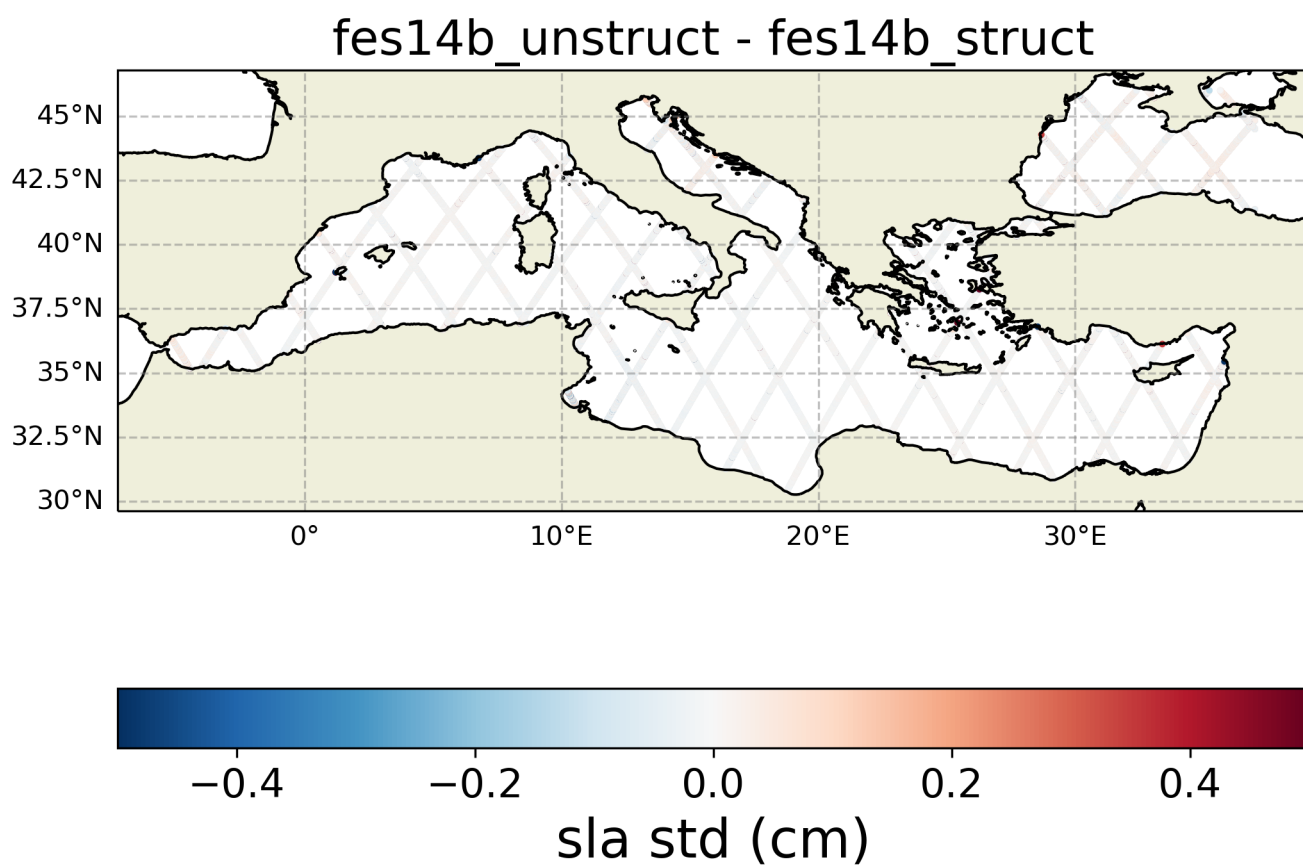


FIGURE 15 – Spatial coherence analysis of the Difference in sla 's std between fes14b_unstruct and fes14b_struct

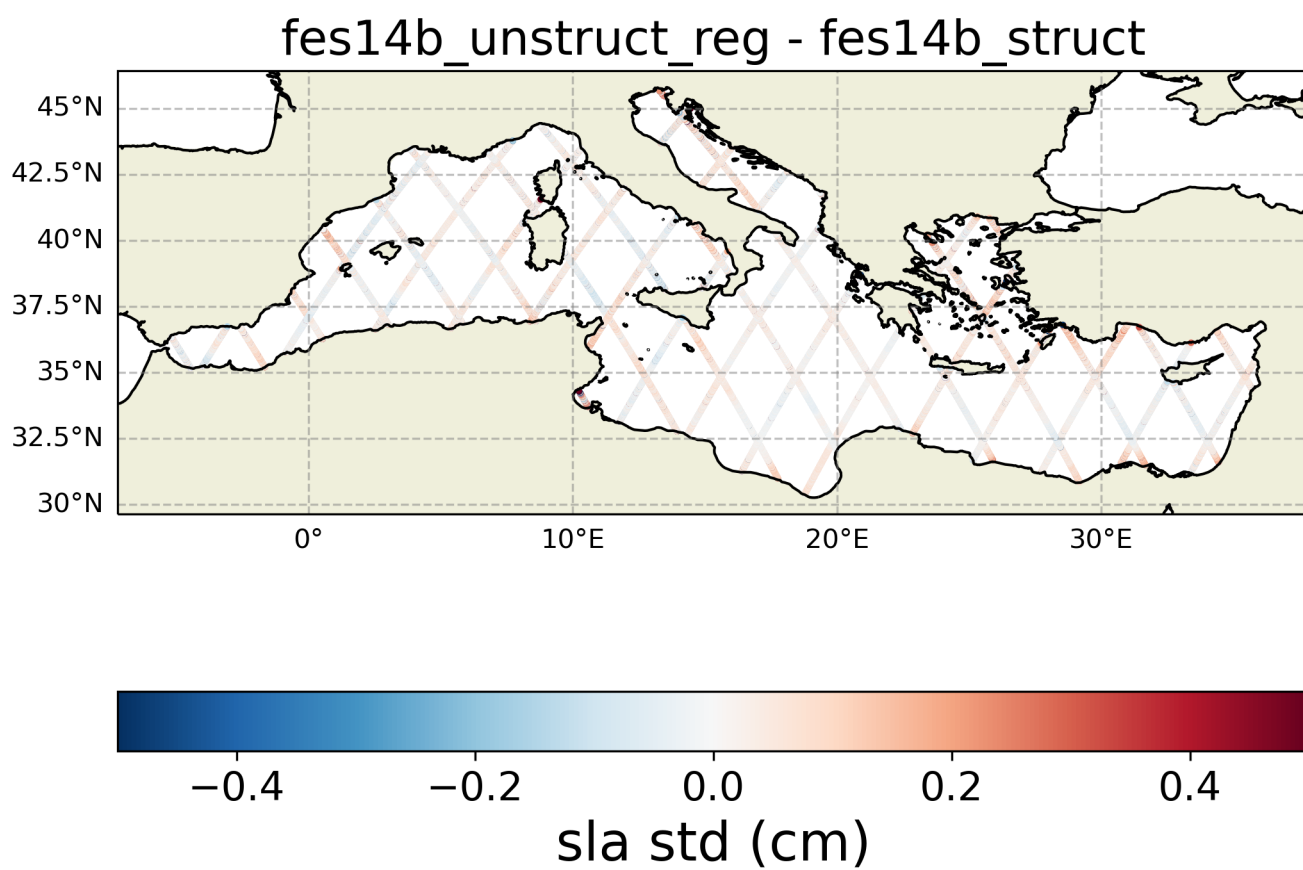


FIGURE 16 – Spatial coherence analysis of the Difference in sla 's std between fes14b_unstruct_reg and fes14b_struct

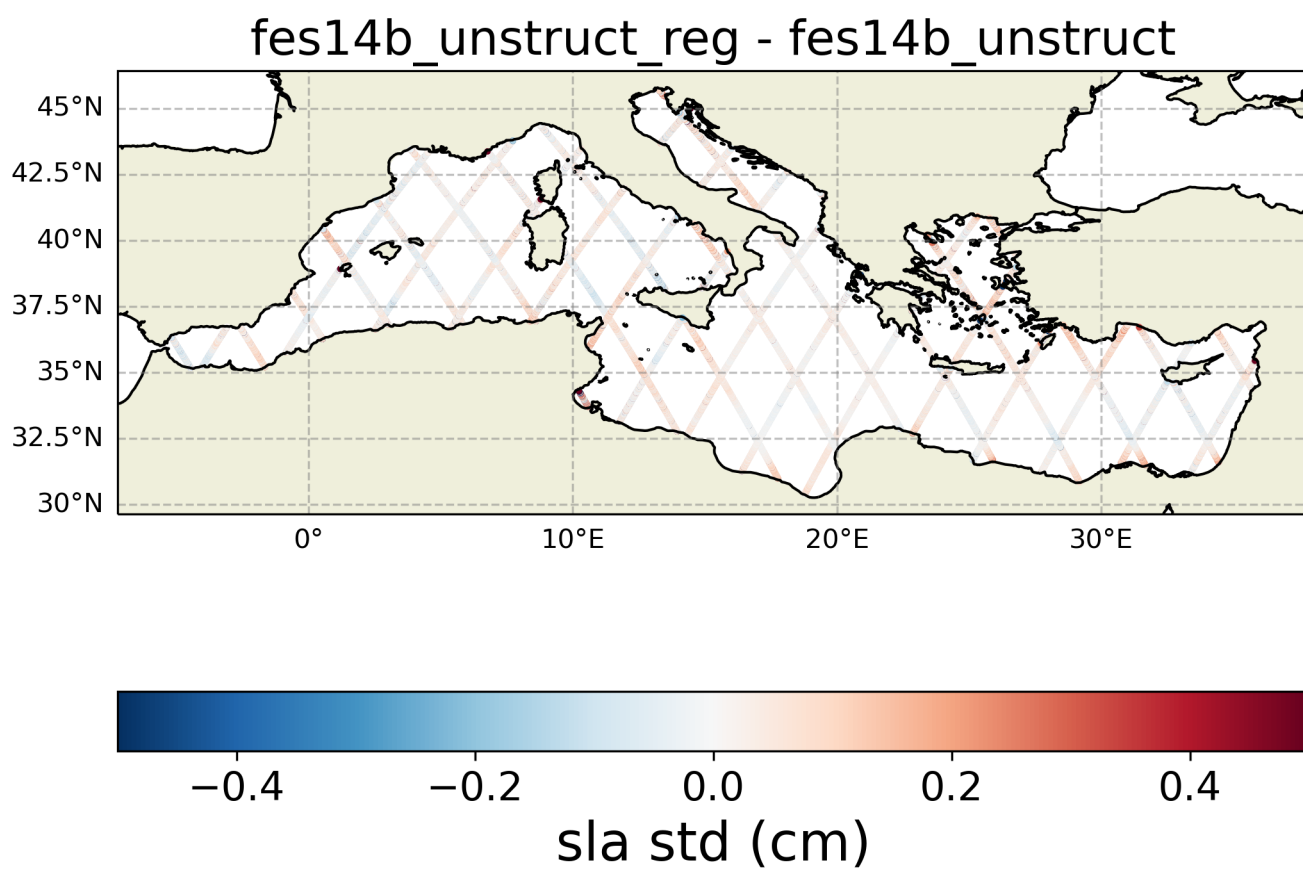


FIGURE 17 – Spatial coherence analysis of the Difference in sla 's std between fes14b_unstruct_reg and fes14b_unstruct

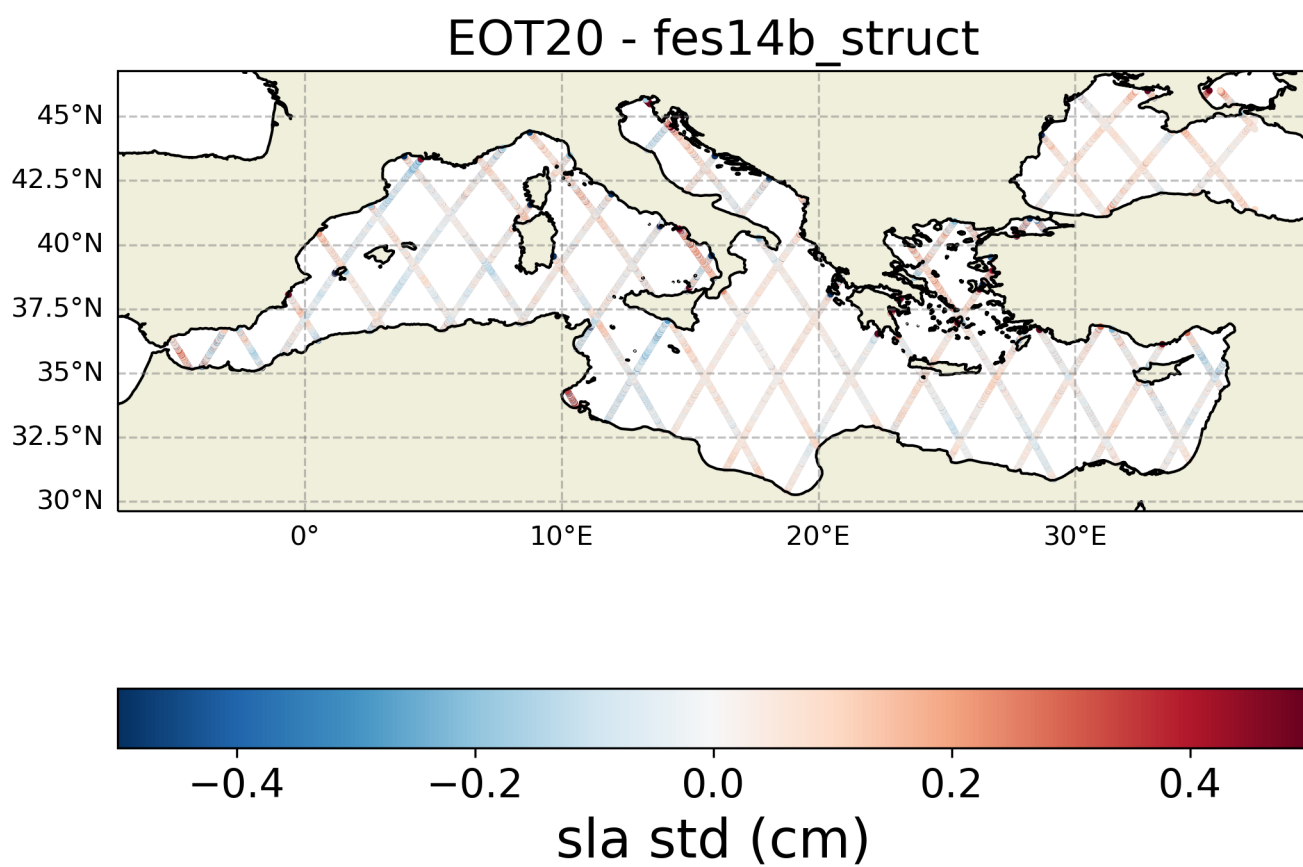


FIGURE 18 – Spatial coherence analysis of the Difference in sla 's std between EOT20 and fes14b_struct

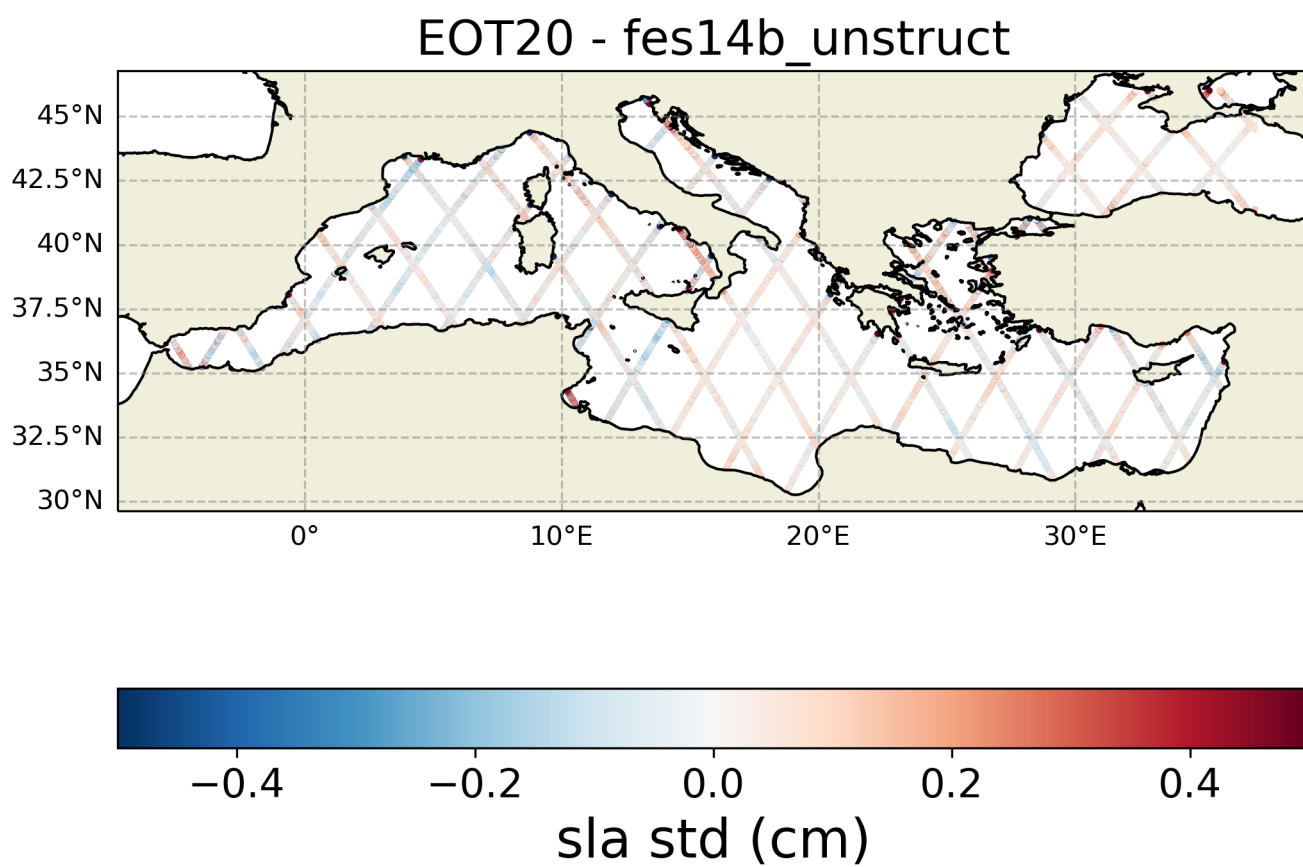


FIGURE 19 – Spatial coherence analysis of the Difference in sla 's std between EOT20 and fes14b_unstruct

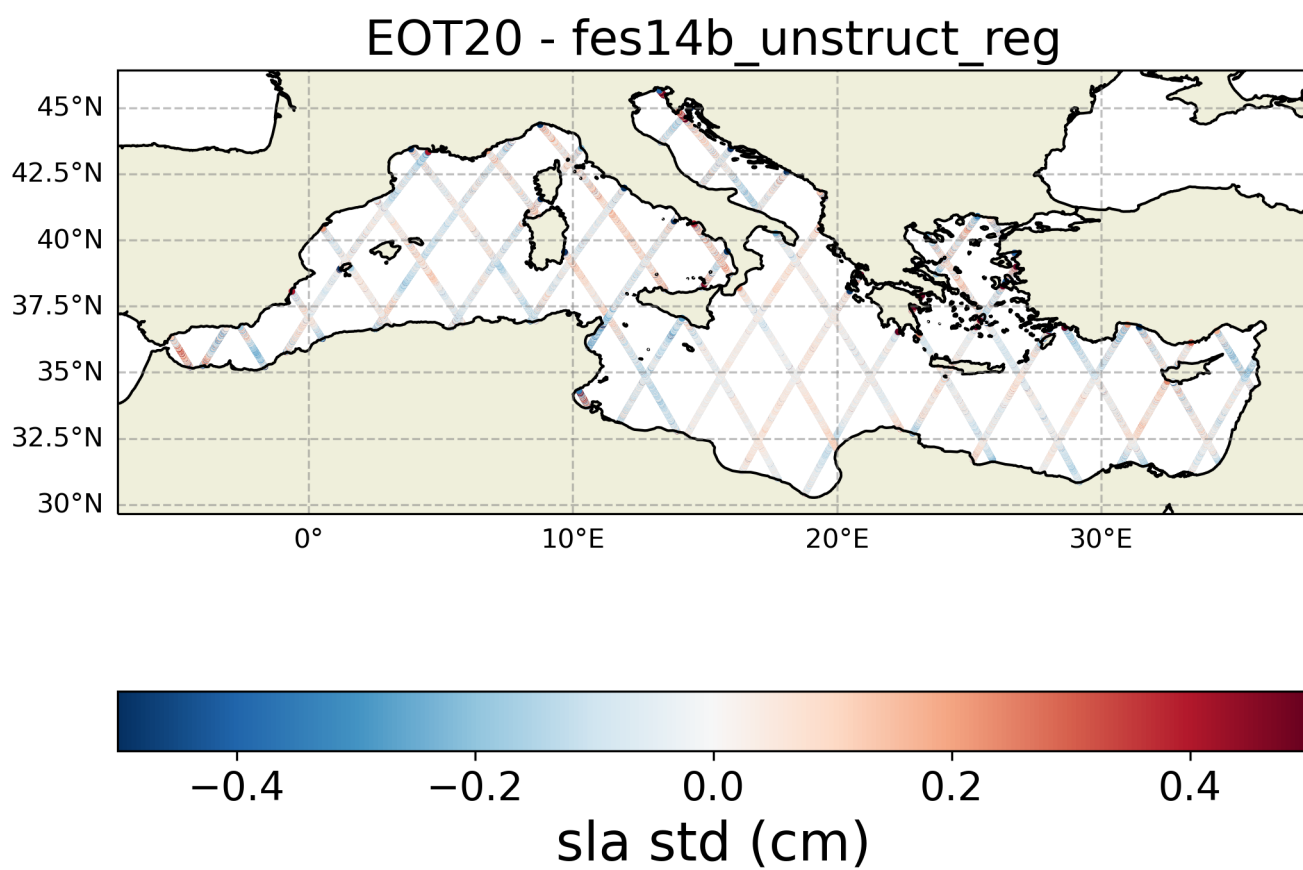


FIGURE 20 – Spatial coherence analysis of the Difference in sla 's std between EOT20 and fes14b_unstruct_reg

3.1.3 sla's mean

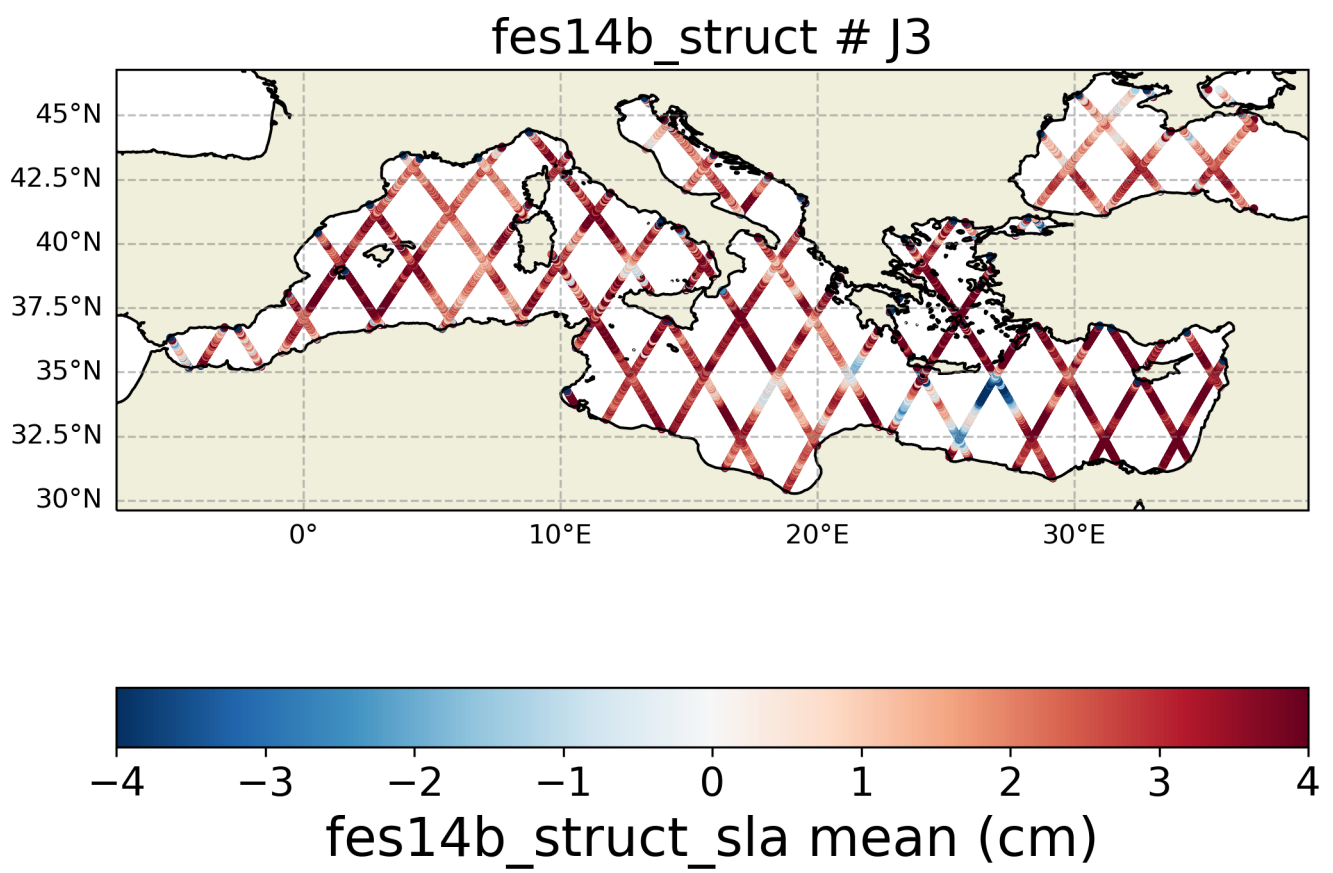


FIGURE 21 – Spatial coherence analysis of the mean of the fes14b_struct version of sla variable

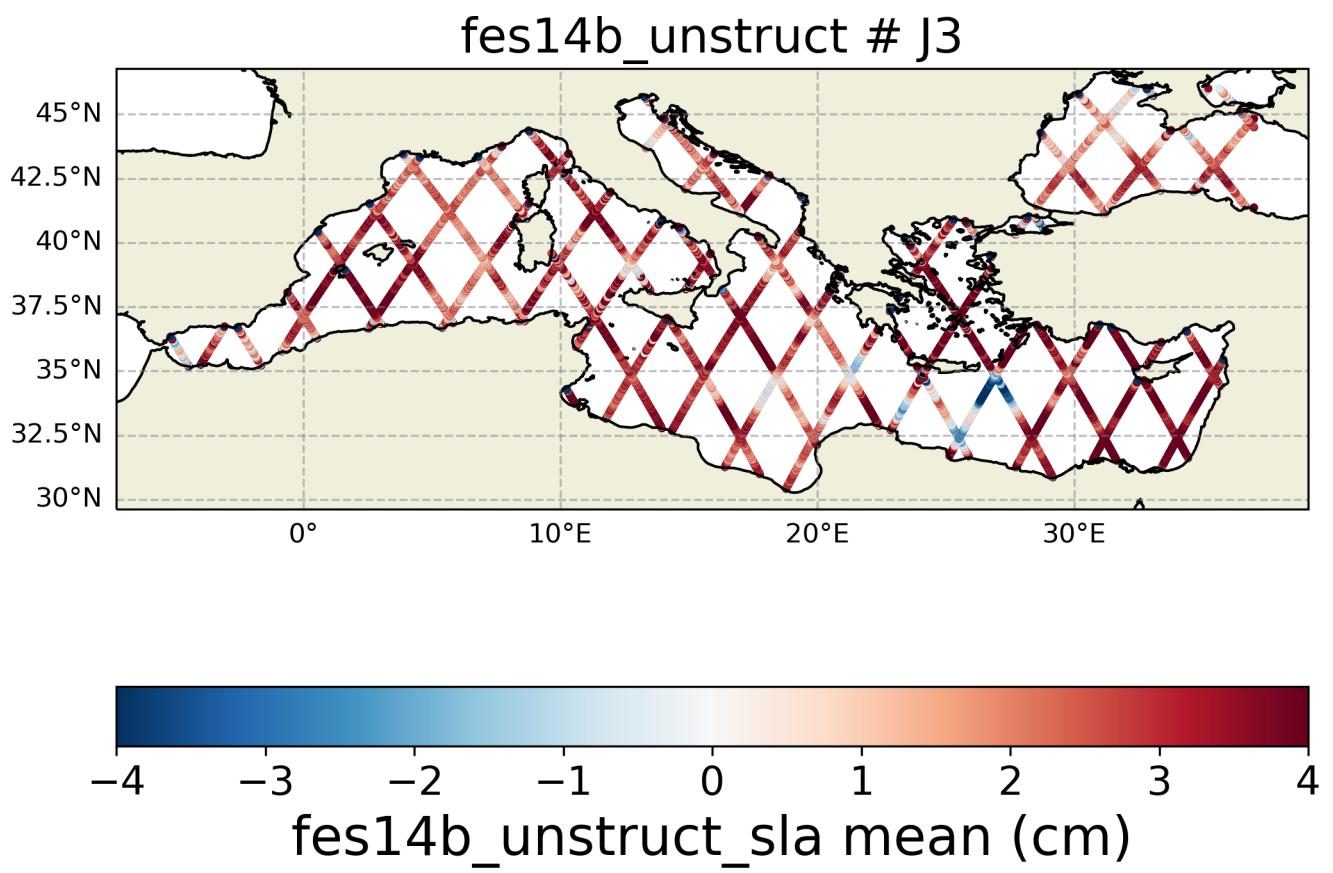


FIGURE 22 – Spatial coherence analysis of the mean of the fes14b_unstruct version of sla variable

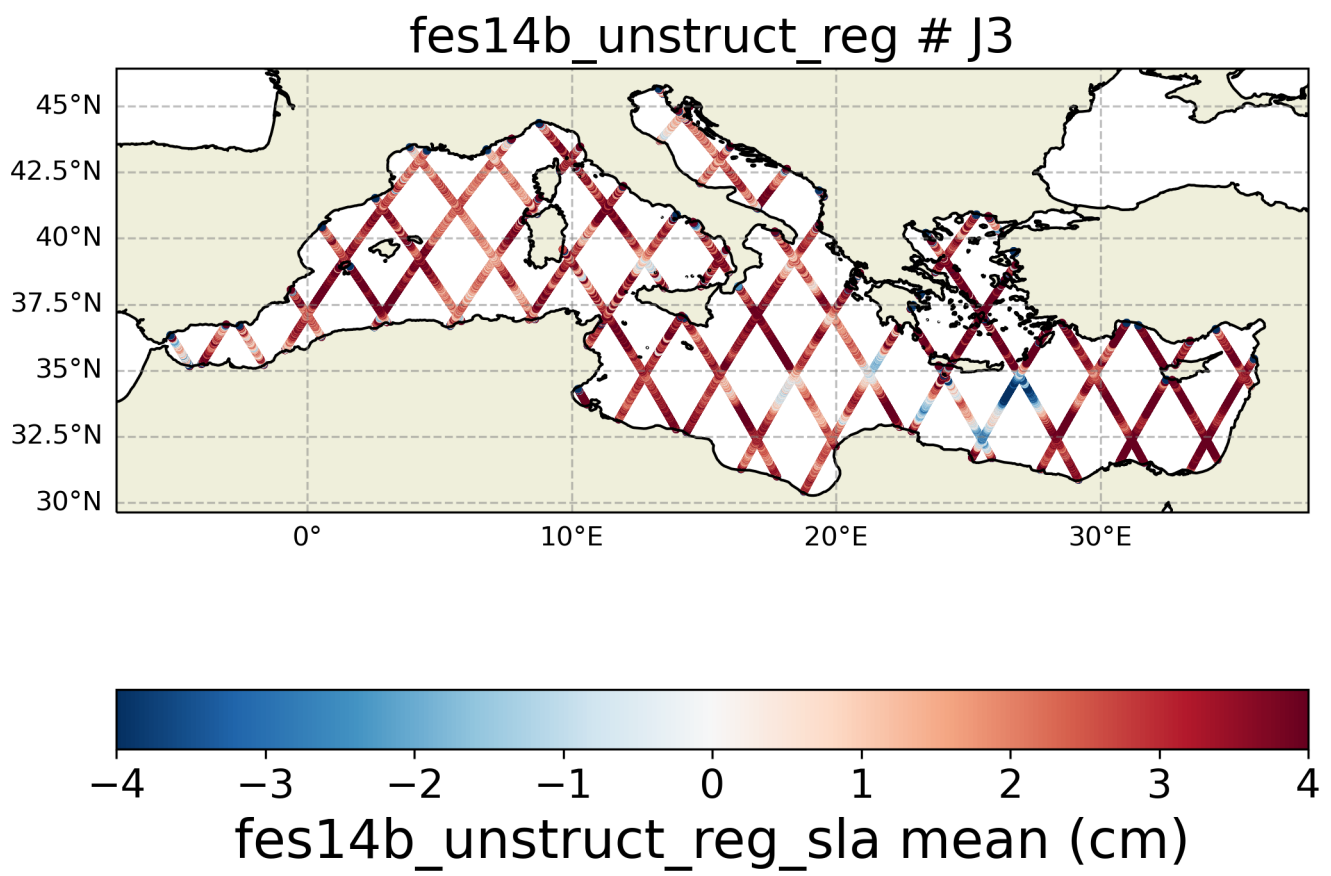


FIGURE 23 – Spatial coherence analysis of the mean of the fes14b_unstruct_reg version of sla variable

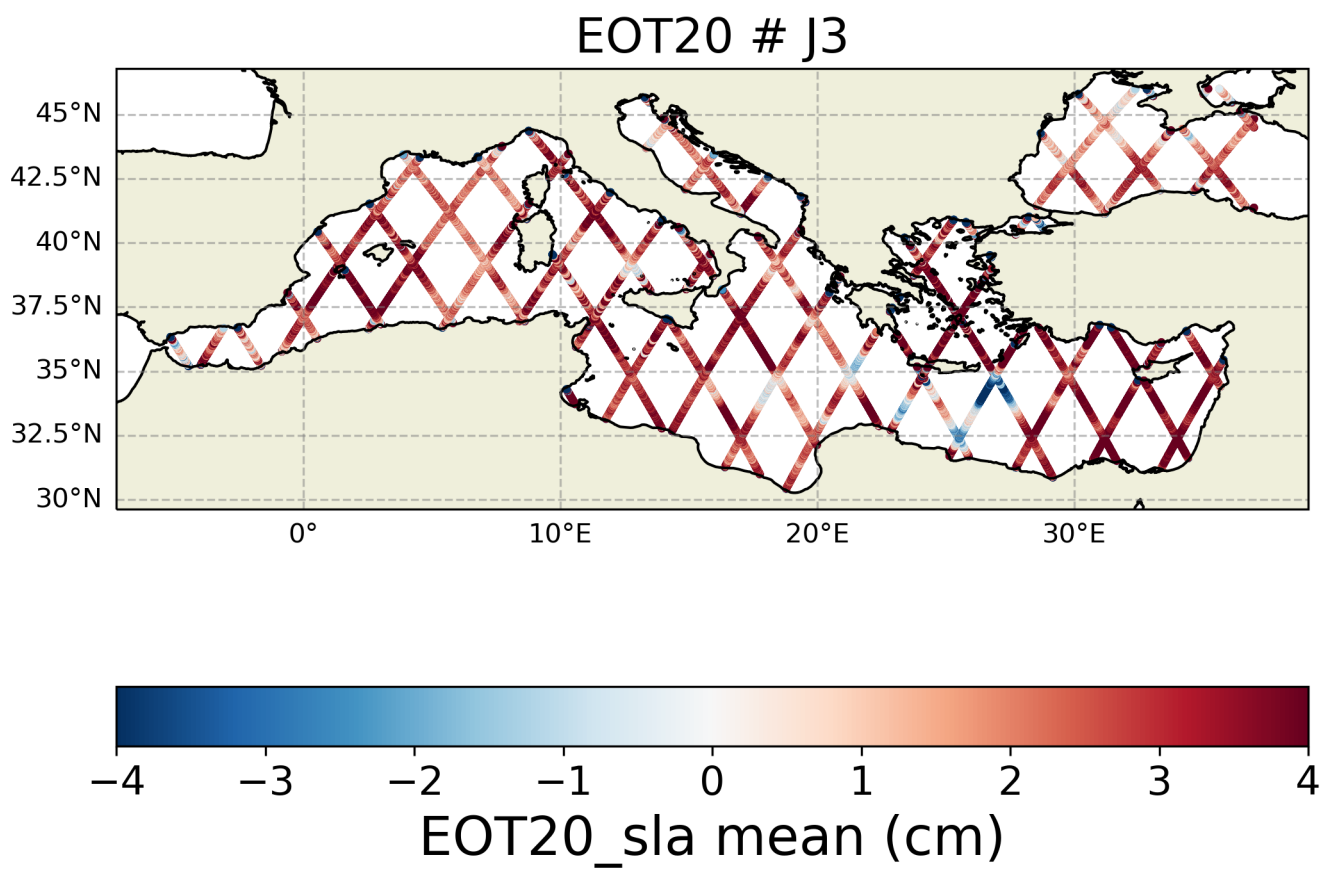


FIGURE 24 – Spatial coherence analysis of the mean of the EOT20 version of sla variable

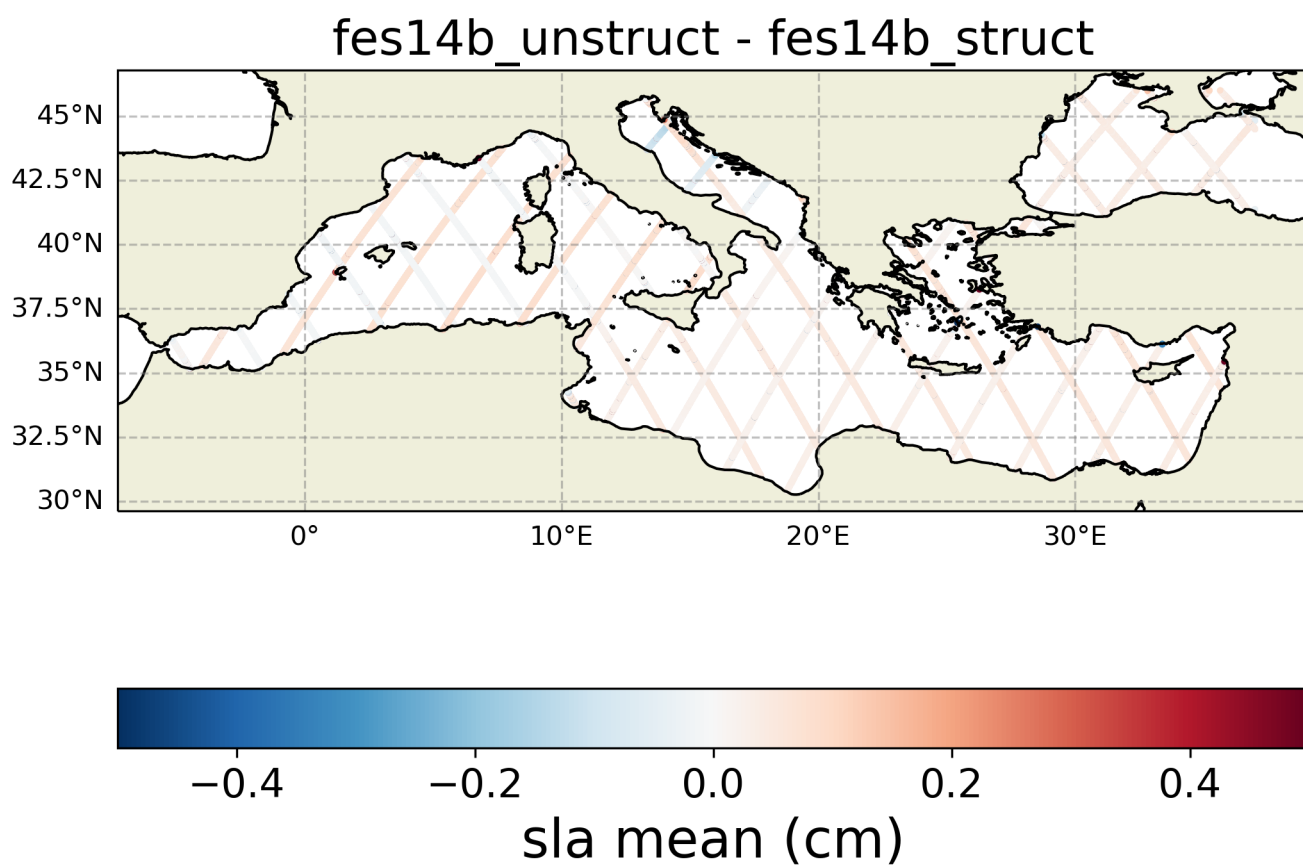


FIGURE 25 – Spatial coherence analysis of the Difference in sla 's mean between fes14b_unstruct and fes14b_struct

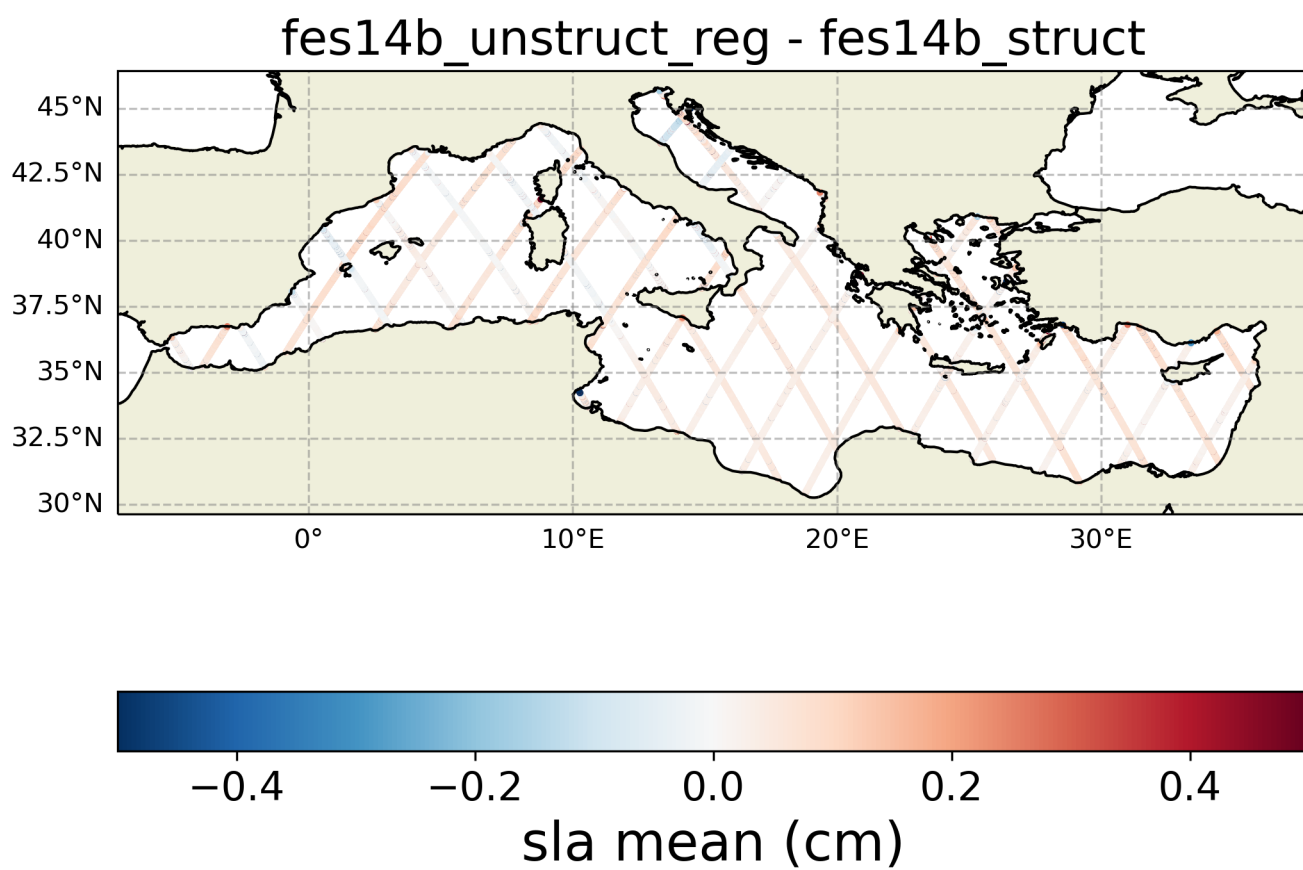


FIGURE 26 – Spatial coherence analysis of the Difference in sla 's mean between fes14b_unstruct_reg and fes14b_struct

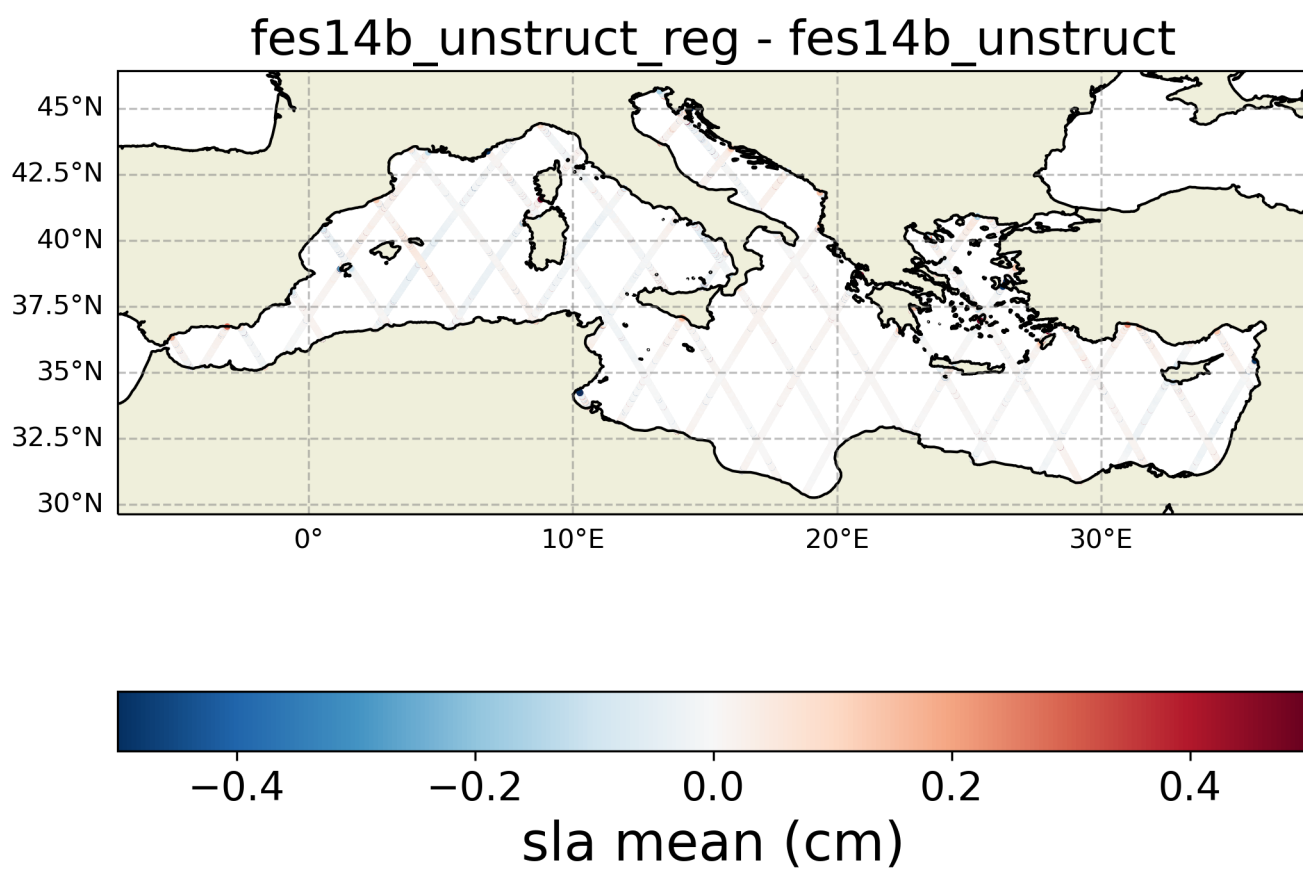


FIGURE 27 – Spatial coherence analysis of the Difference in sla 's mean between fes14b_unstruct_reg and fes14b_unstruct

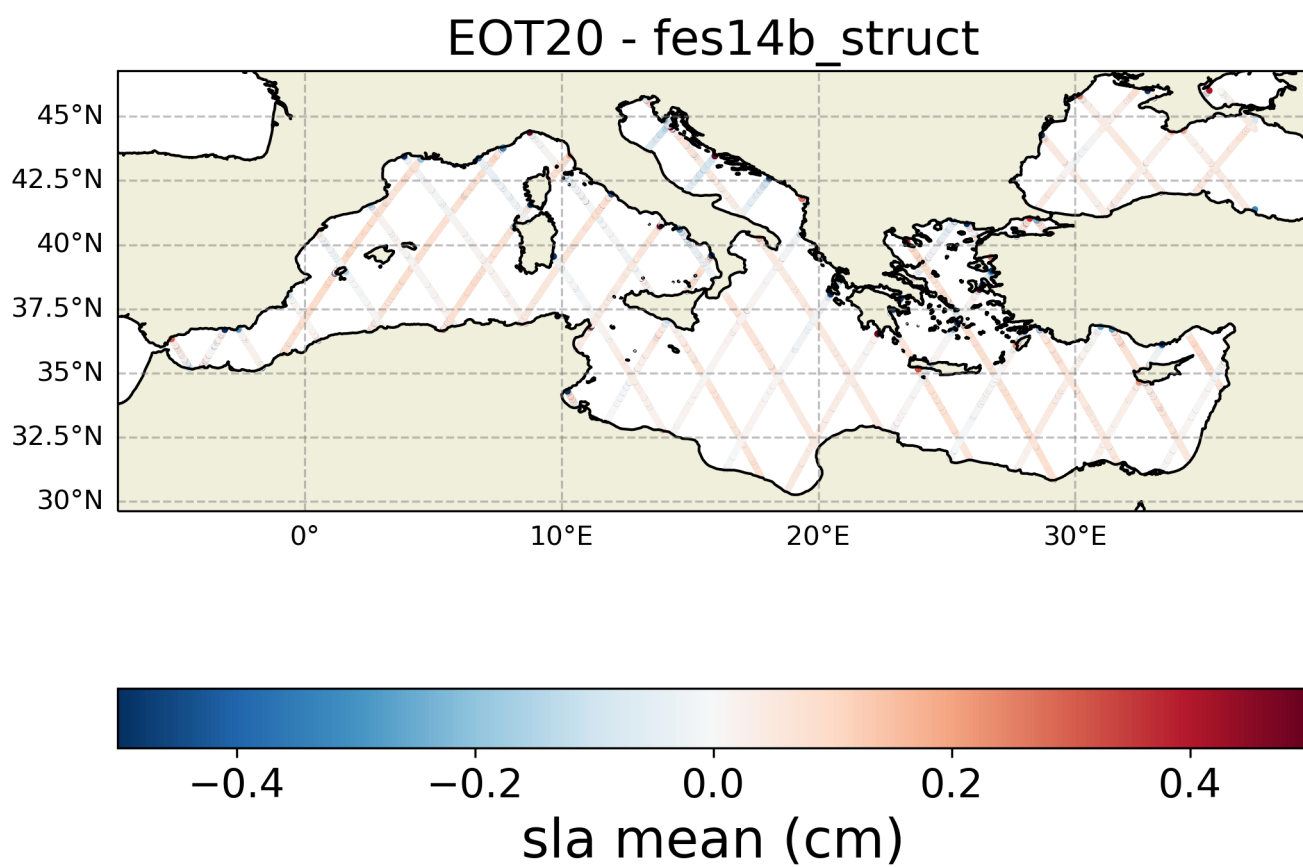


FIGURE 28 – Spatial coherence analysis of the Difference in sla 's mean between EOT20 and fes14b_struct

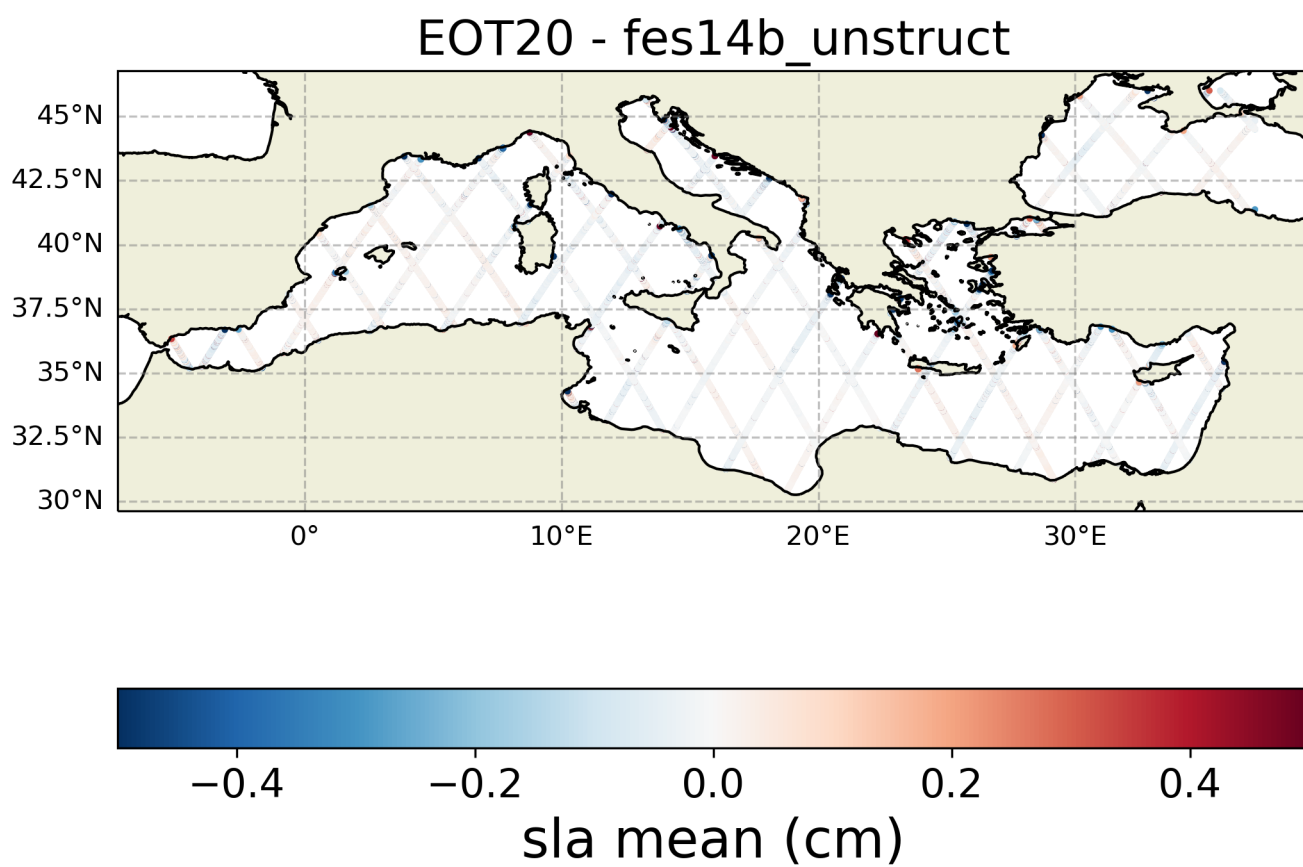


FIGURE 29 – Spatial coherence analysis of the Difference in sla 's mean between EOT20 and fes14b_unstruct

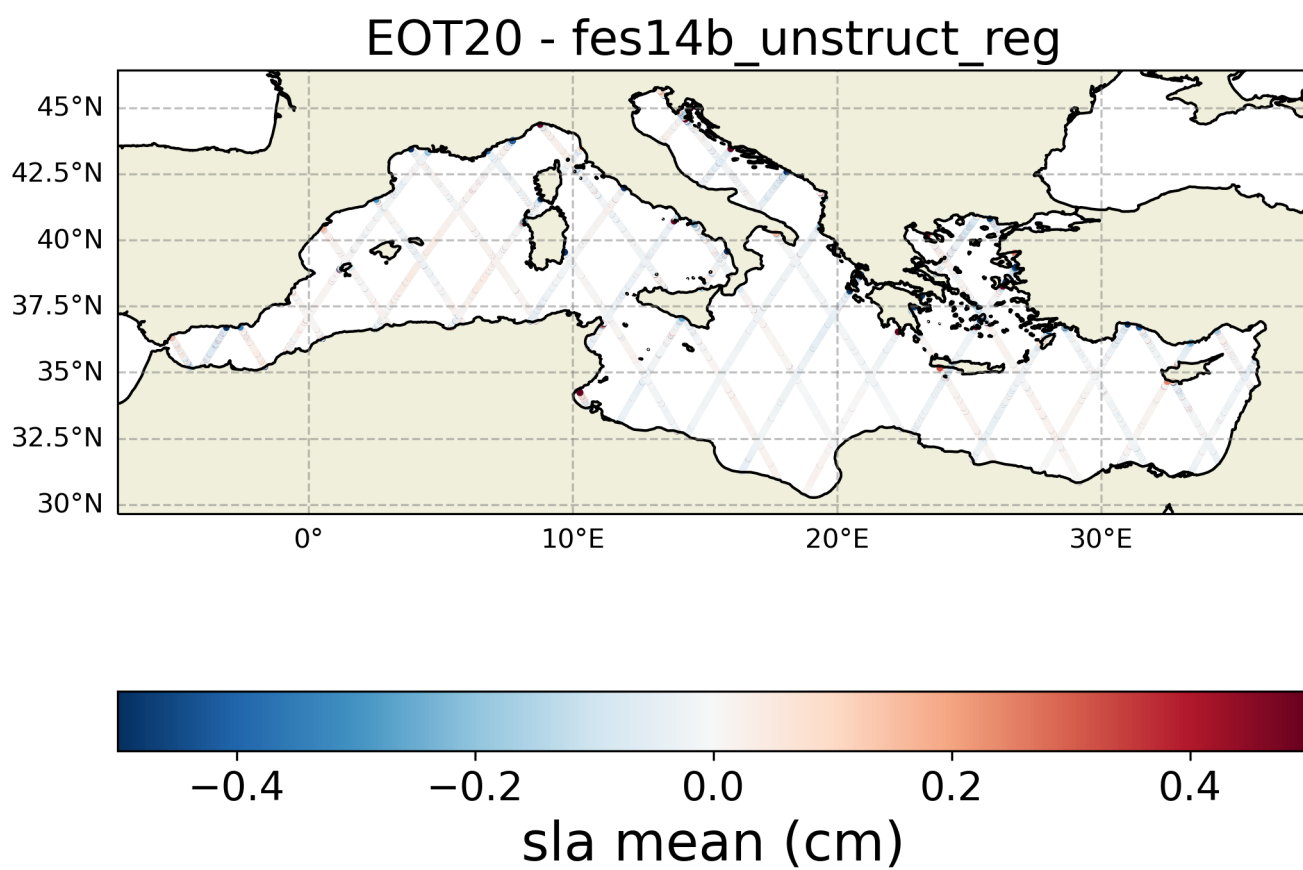


FIGURE 30 – Spatial coherence analysis of the Difference in sla 's mean between EOT20 and fes14b_unstruct_reg

3.2 Tide

3.2.1 Tide's count

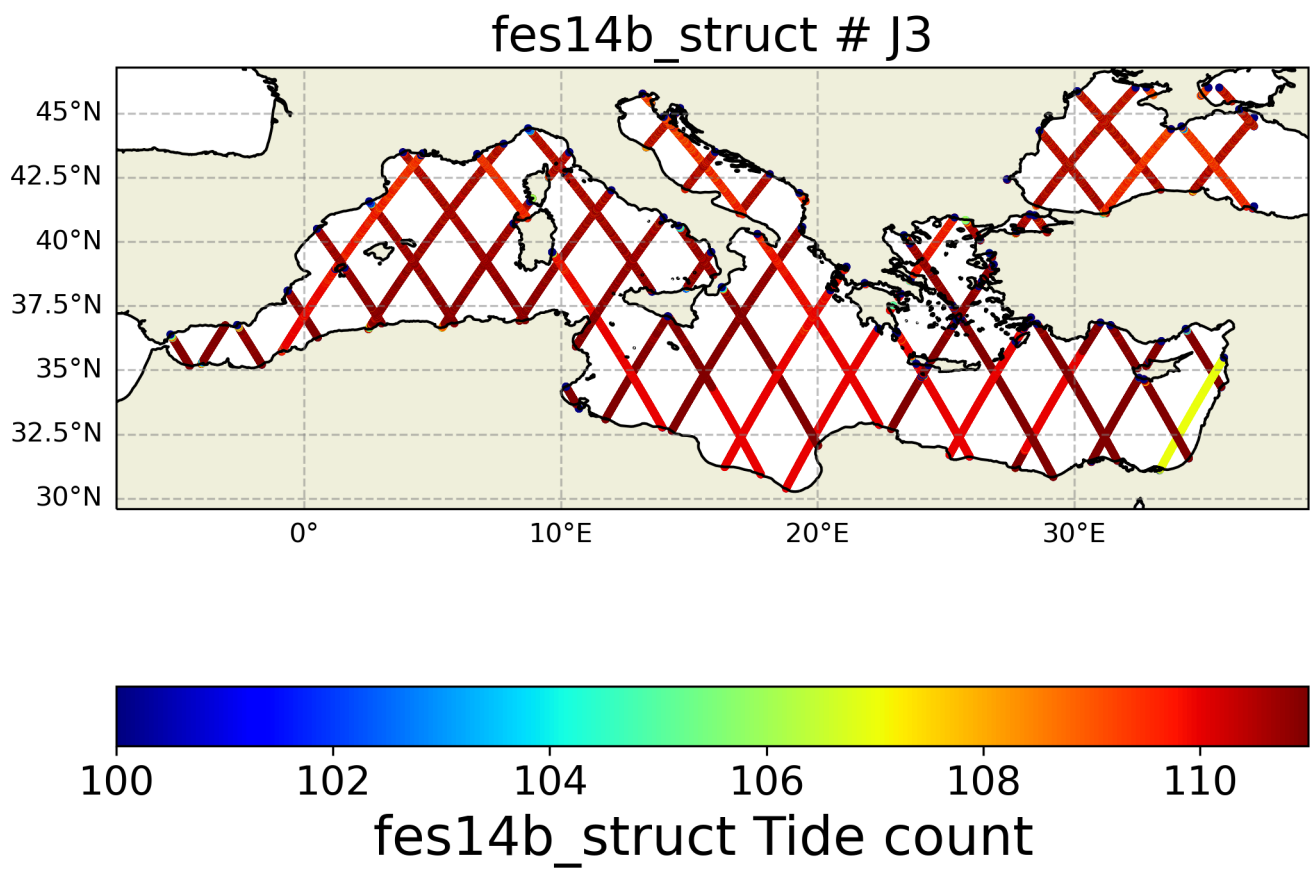


FIGURE 31 – Spatial coherence analysis of the count of the fes14b_struct version of Tide variable

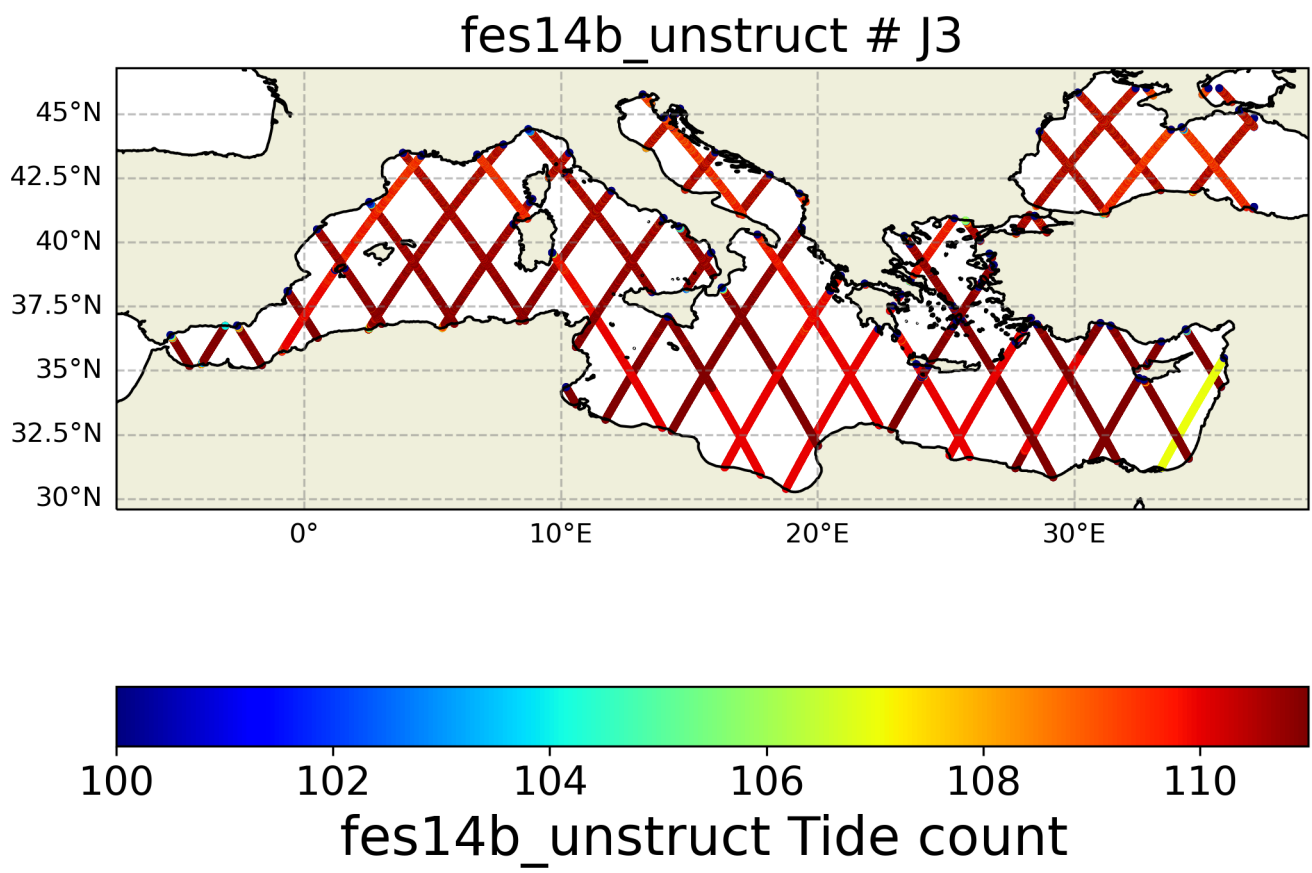


FIGURE 32 – Spatial coherence analysis of the count of the fes14b_unstruct version of Tide variable

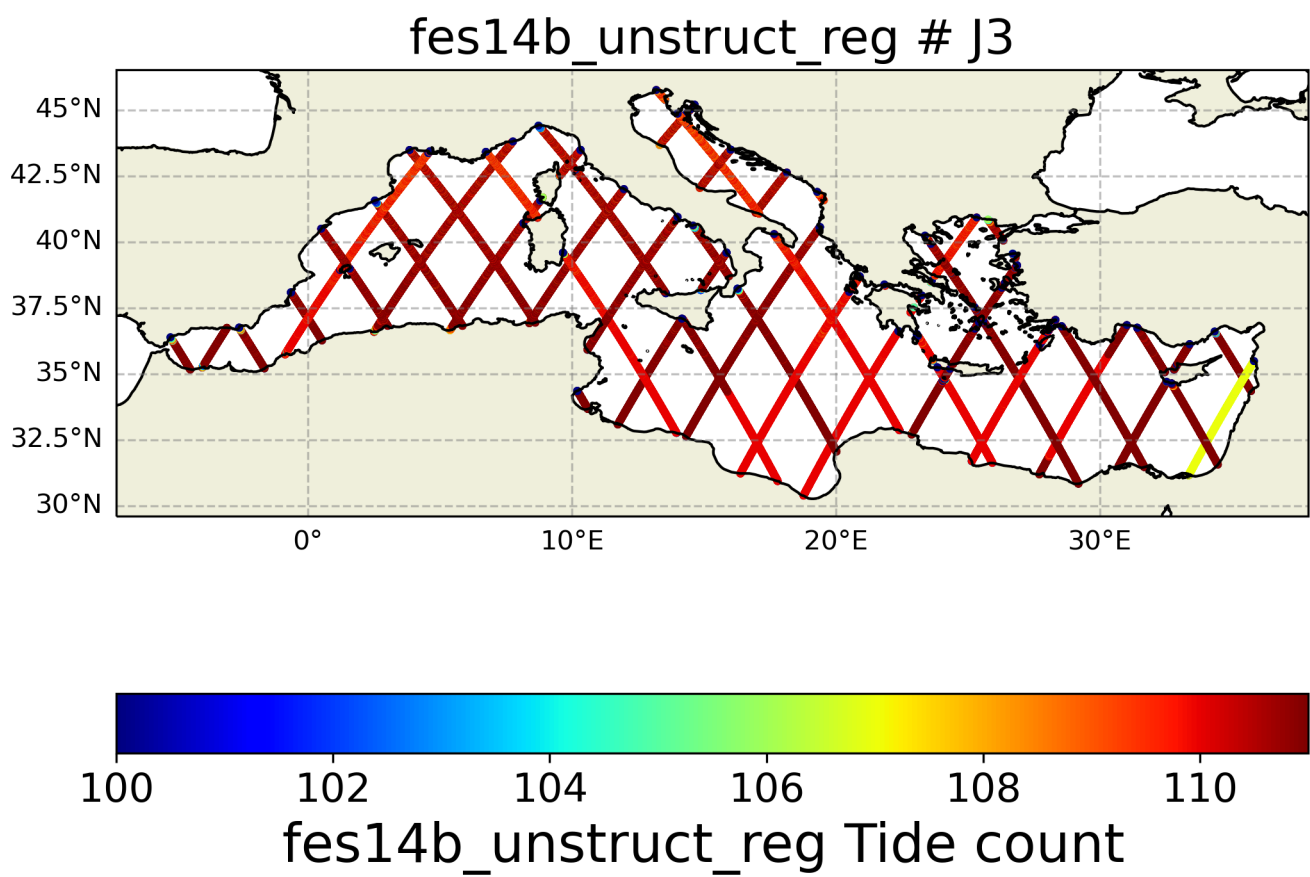


FIGURE 33 – Spatial coherence analysis of the count of the fes14b_unstruct_reg version of Tide variable

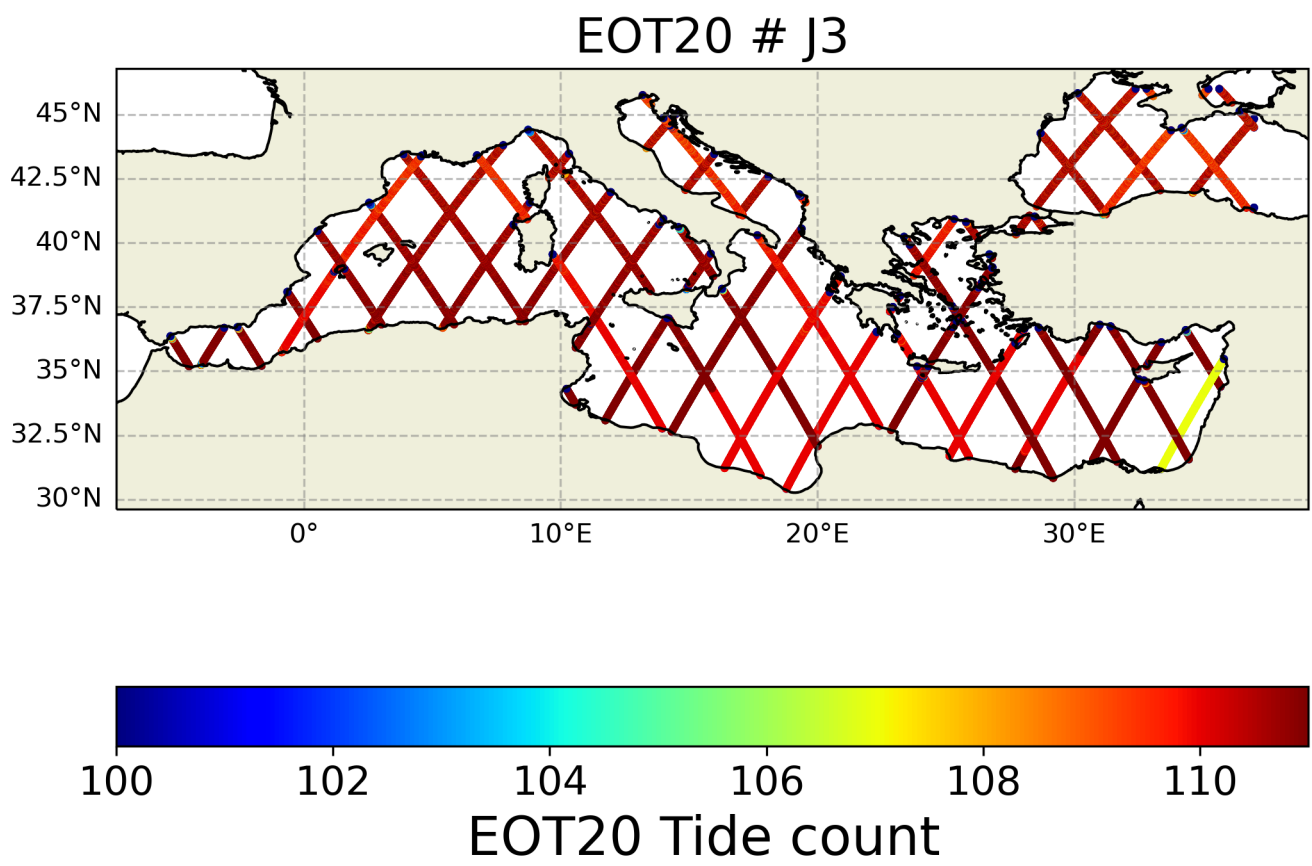


FIGURE 34 – Spatial coherence analysis of the count of the EOT20 version of Tide variable

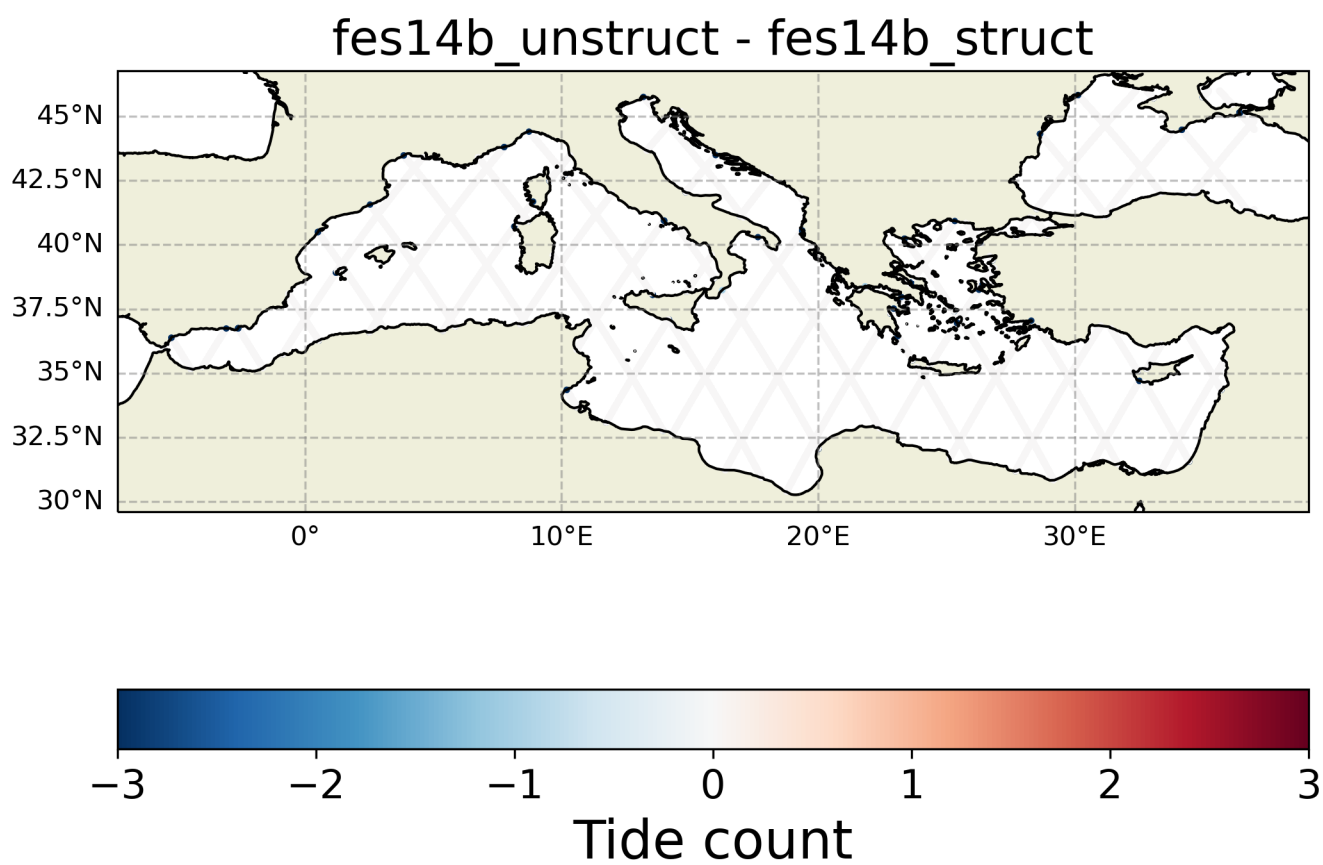


FIGURE 35 – Spatial coherence analysis of the Difference in Tide 's count between fes14b_unstruct and fes14b_struct

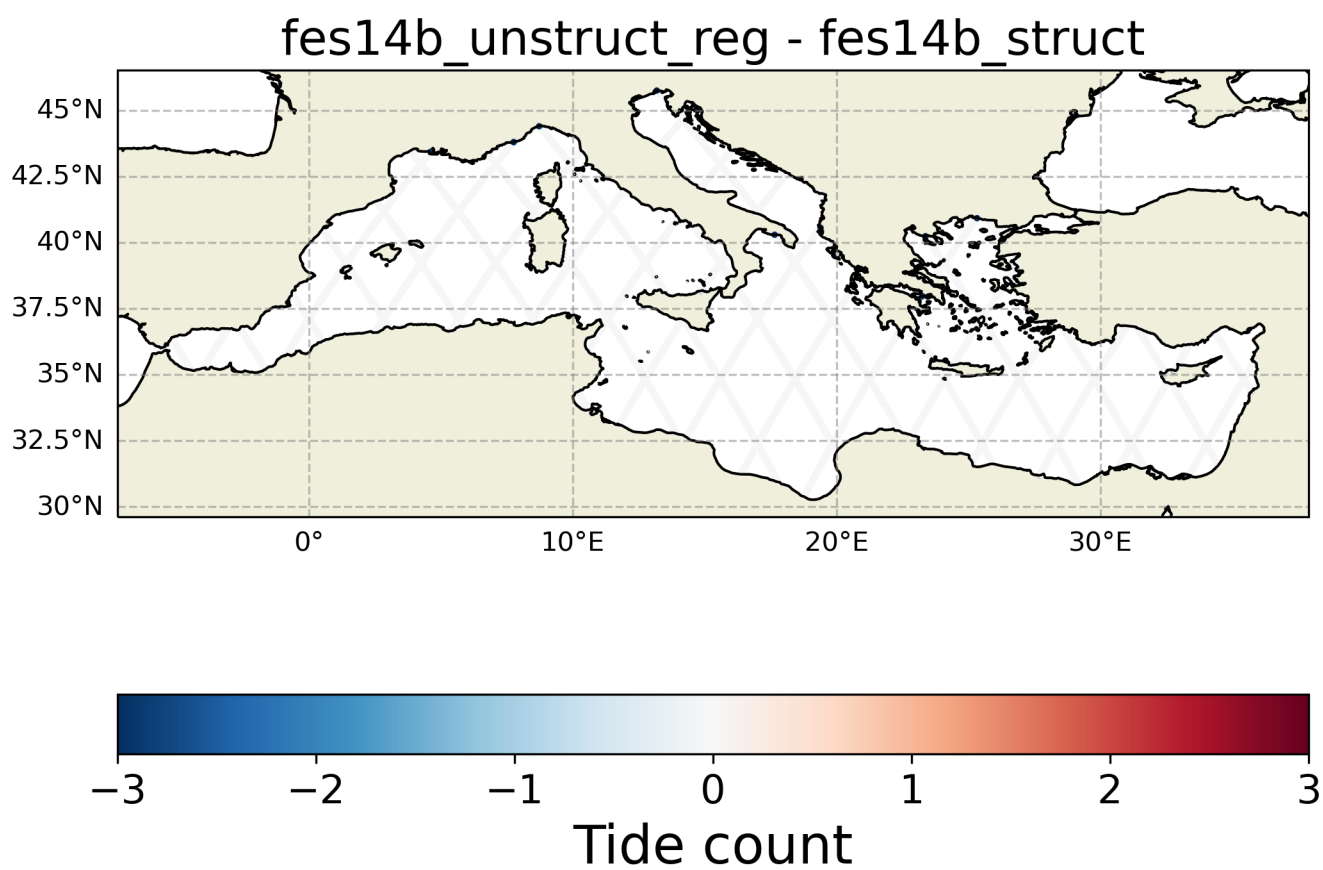


FIGURE 36 – Spatial coherence analysis of the Difference in Tide 's count between fes14b_unstruct_reg and fes14b_struct

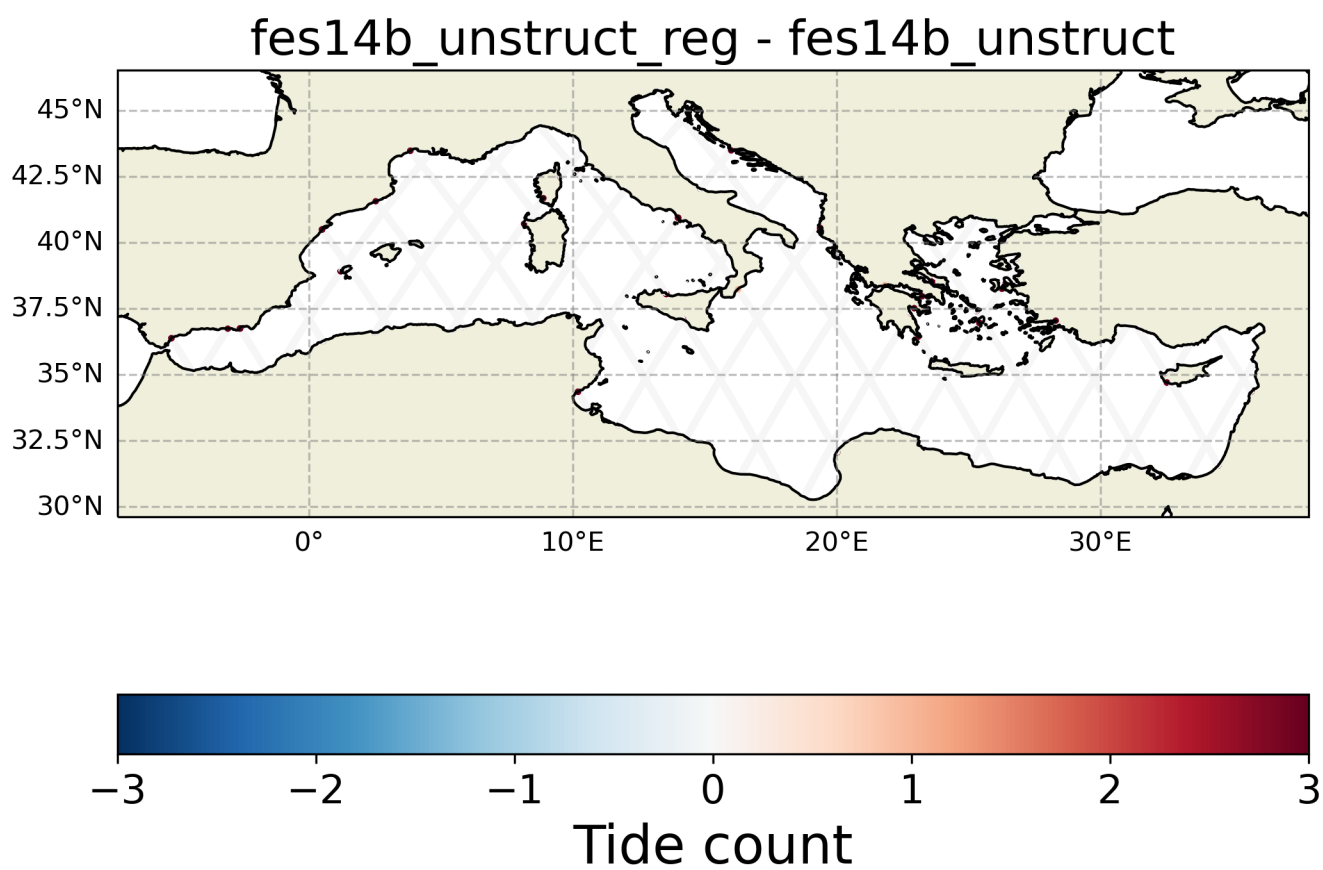


FIGURE 37 – Spatial coherence analysis of the Difference in Tide 's count between `fes14b_unstruct_reg` and `fes14b_unstruct`

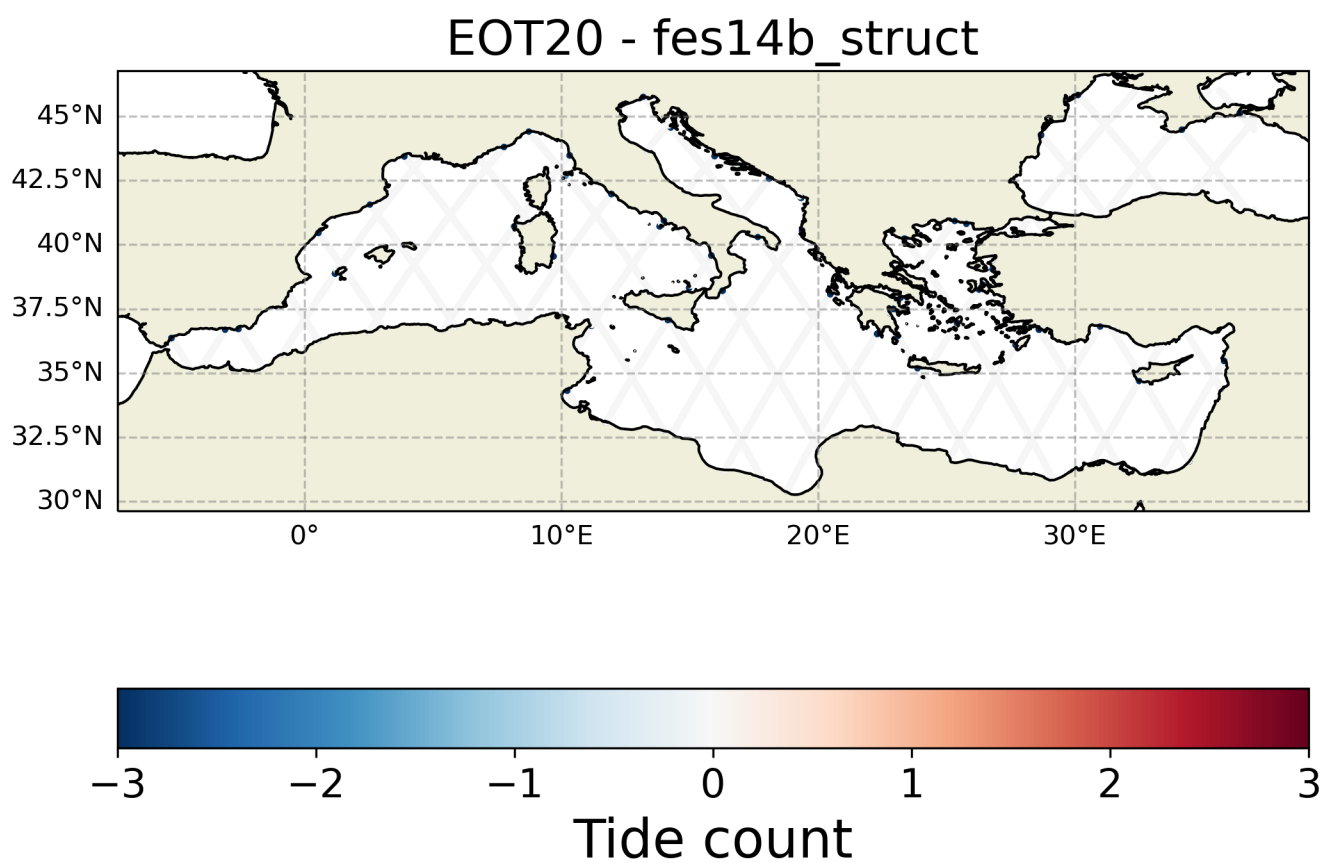


FIGURE 38 – Spatial coherence analysis of the Difference in Tide 's count between EOT20 and fes14b_struct

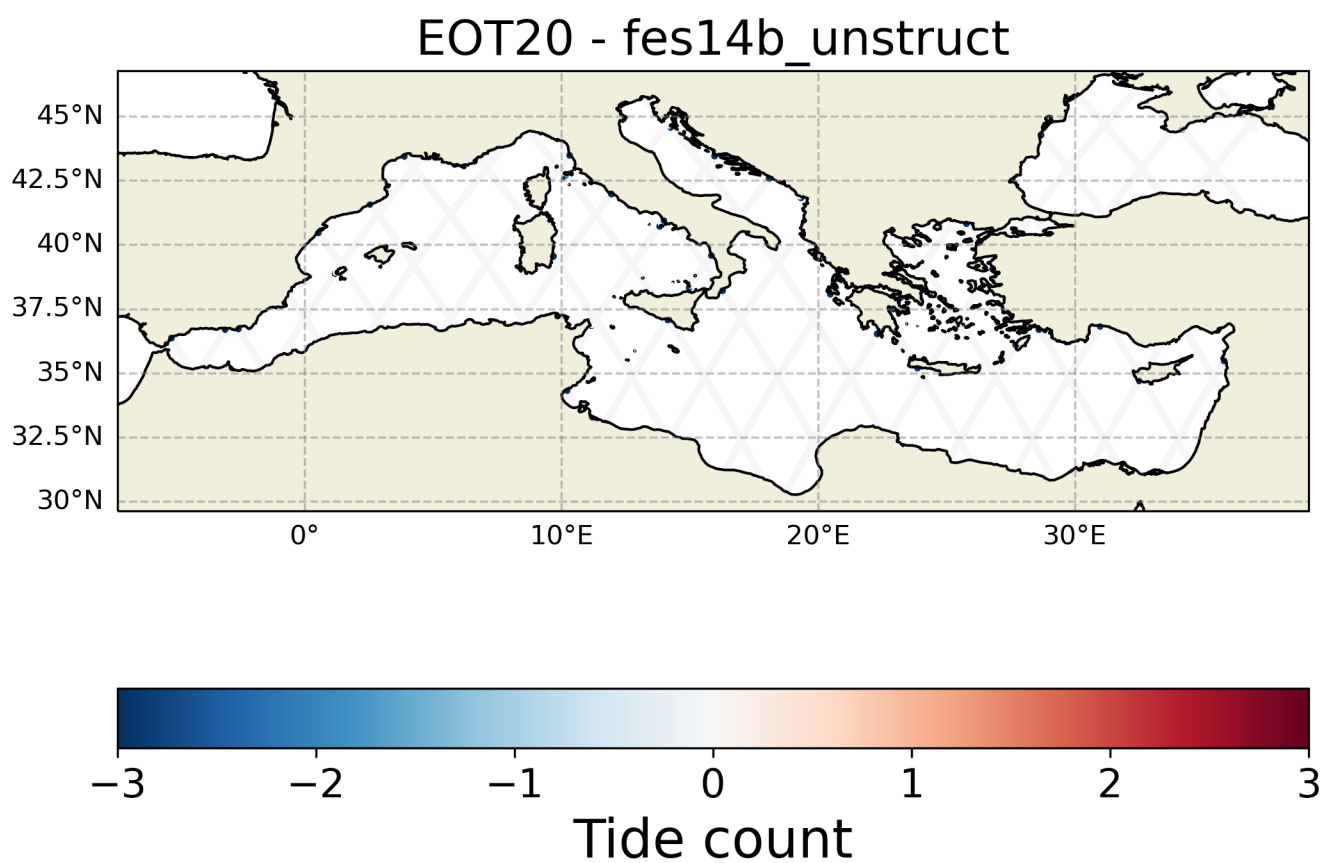


FIGURE 39 – Spatial coherence analysis of the Difference in Tide 's count between EOT20 and fes14b_unstruct

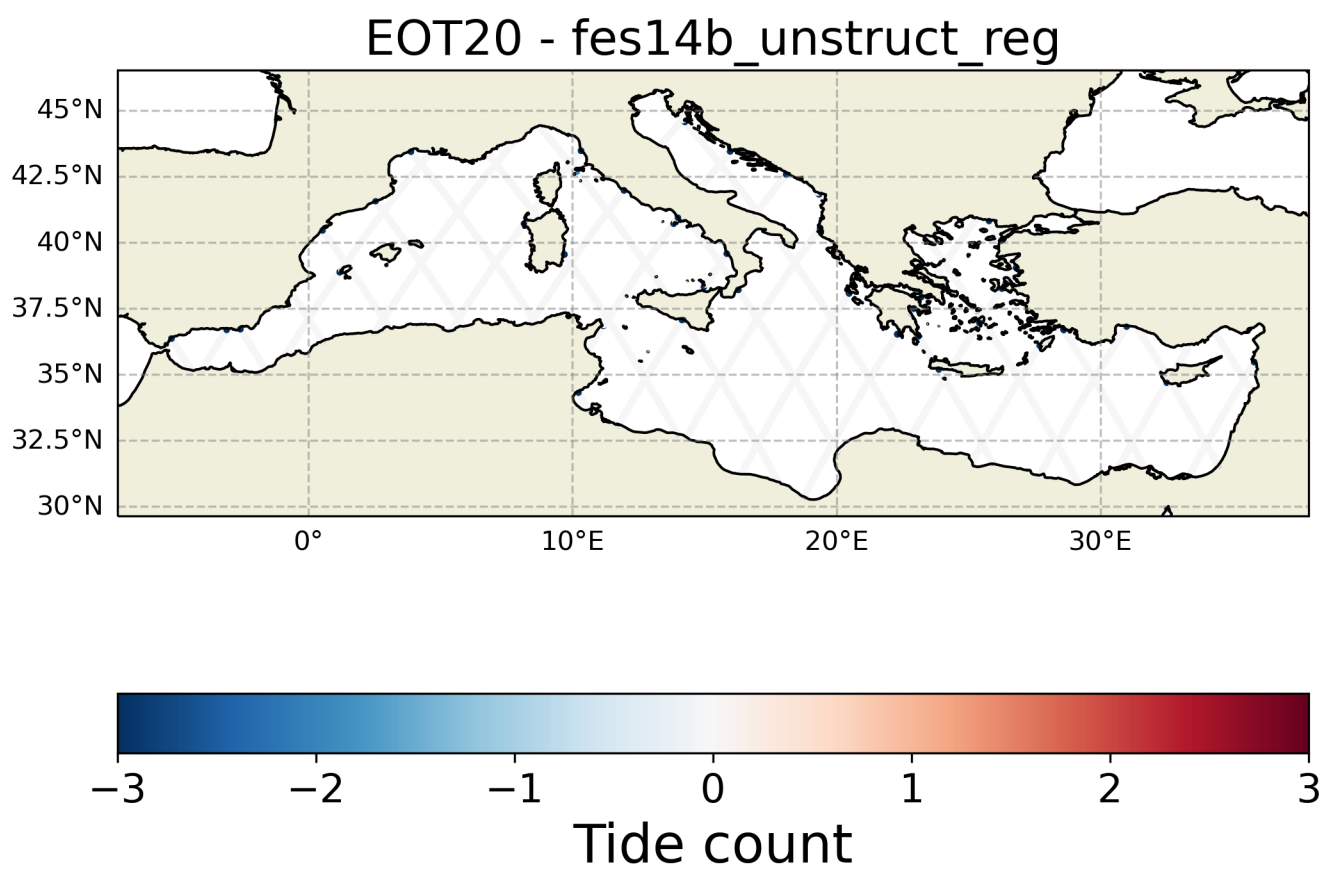


FIGURE 40 – Spatial coherence analysis of the Difference in Tide 's count between EOT20 and fes14b_unstruct_reg

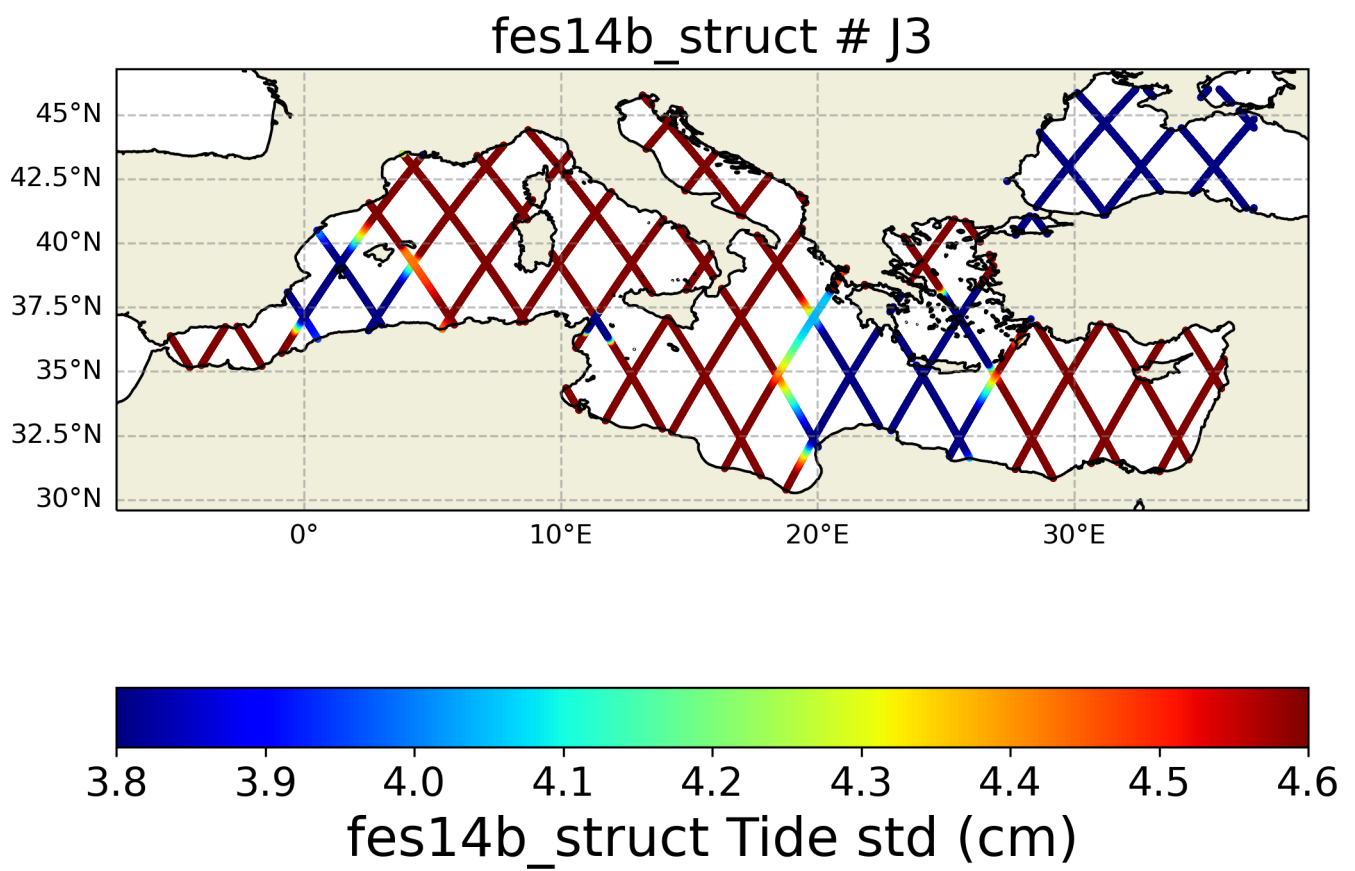


FIGURE 41 – Spatial coherence analysis of the std of the fes14b_struct version of Tide variable

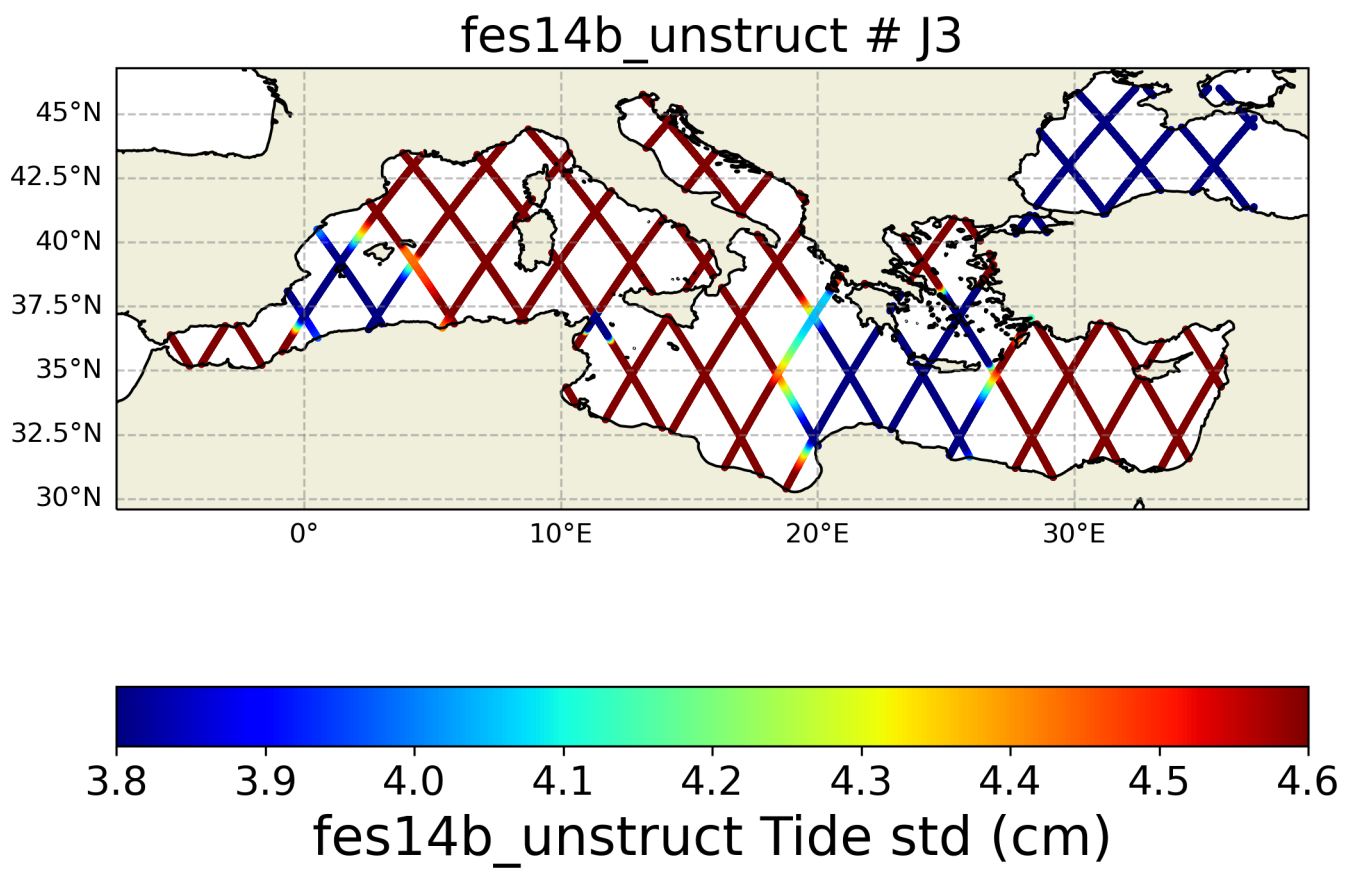


FIGURE 42 – Spatial coherence analysis of the std of the fes14b_unstruct version of Tide variable

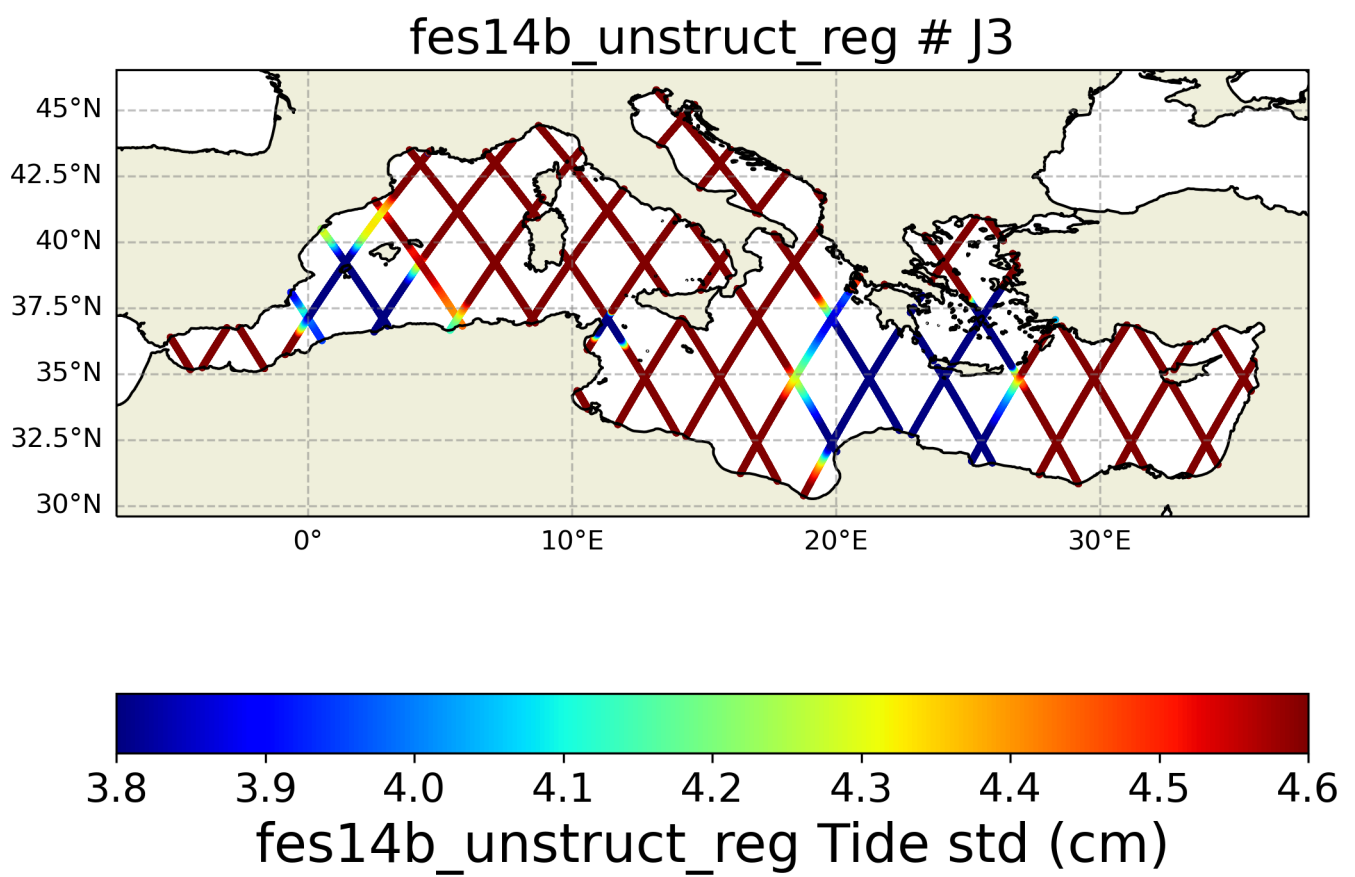


FIGURE 43 – Spatial coherence analysis of the std of the fes14b_unstruct_reg version of Tide variable

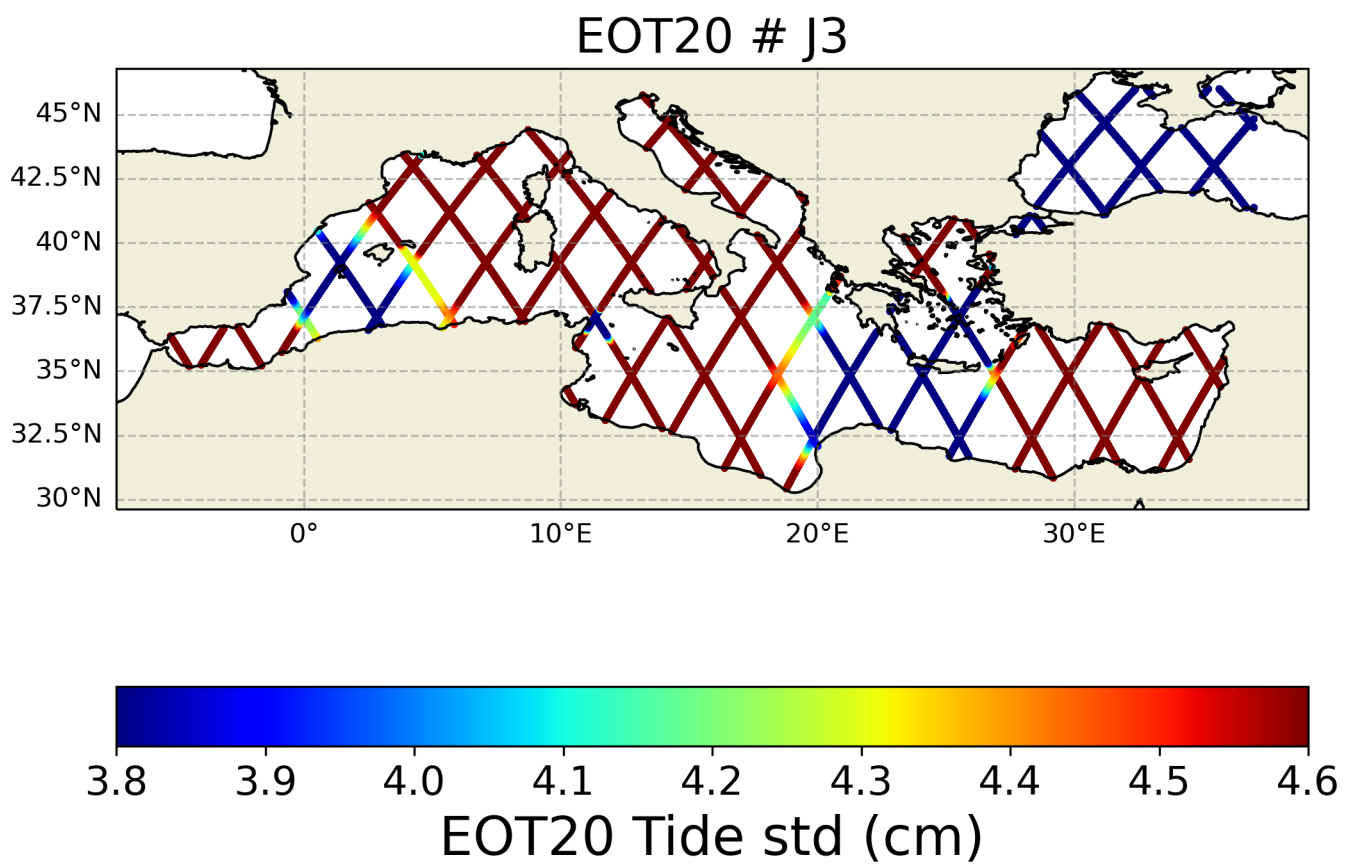


FIGURE 44 – Spatial coherence analysis of the std of the EOT20 version of Tide variable

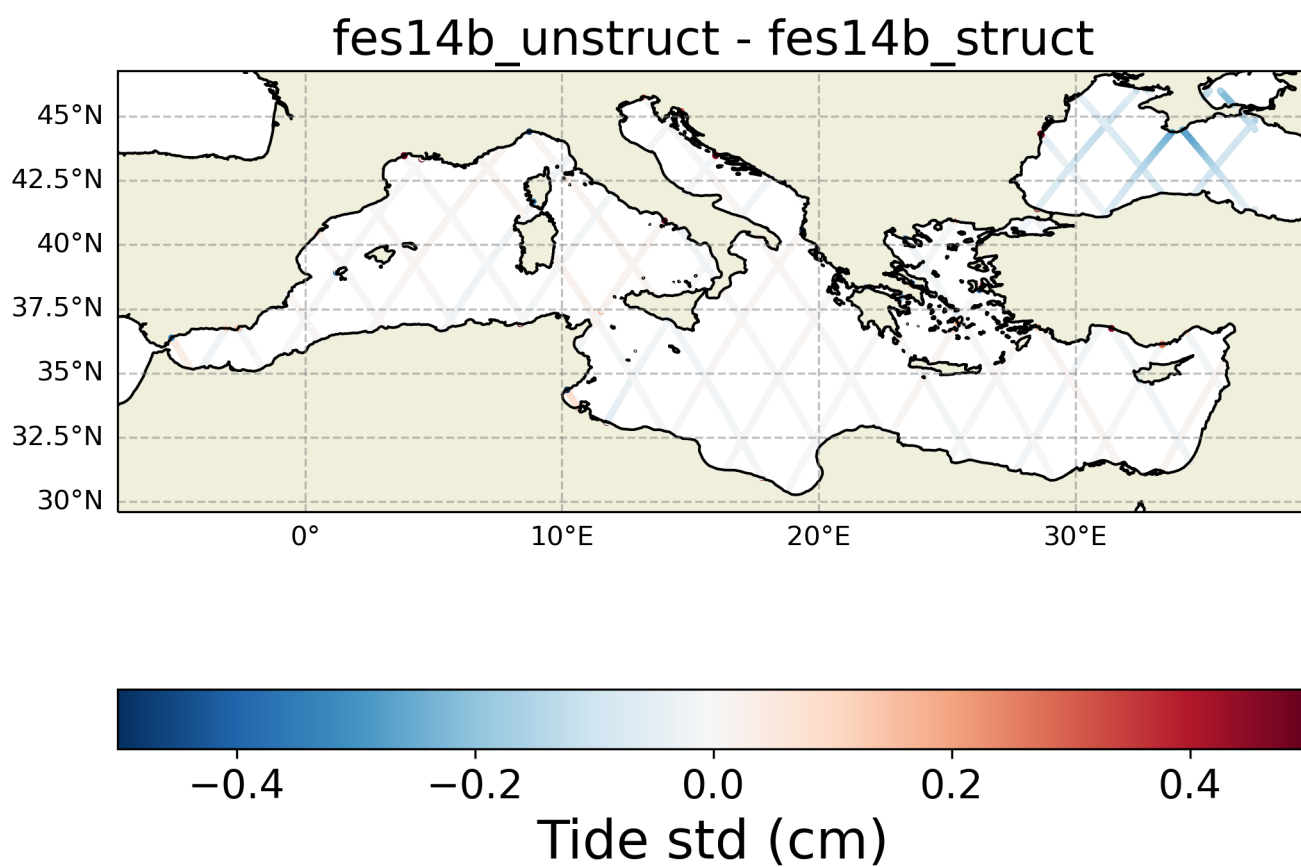


FIGURE 45 – Spatial coherence analysis of the Difference in Tide 's std between fes14b_unstruct and fes14b_struct

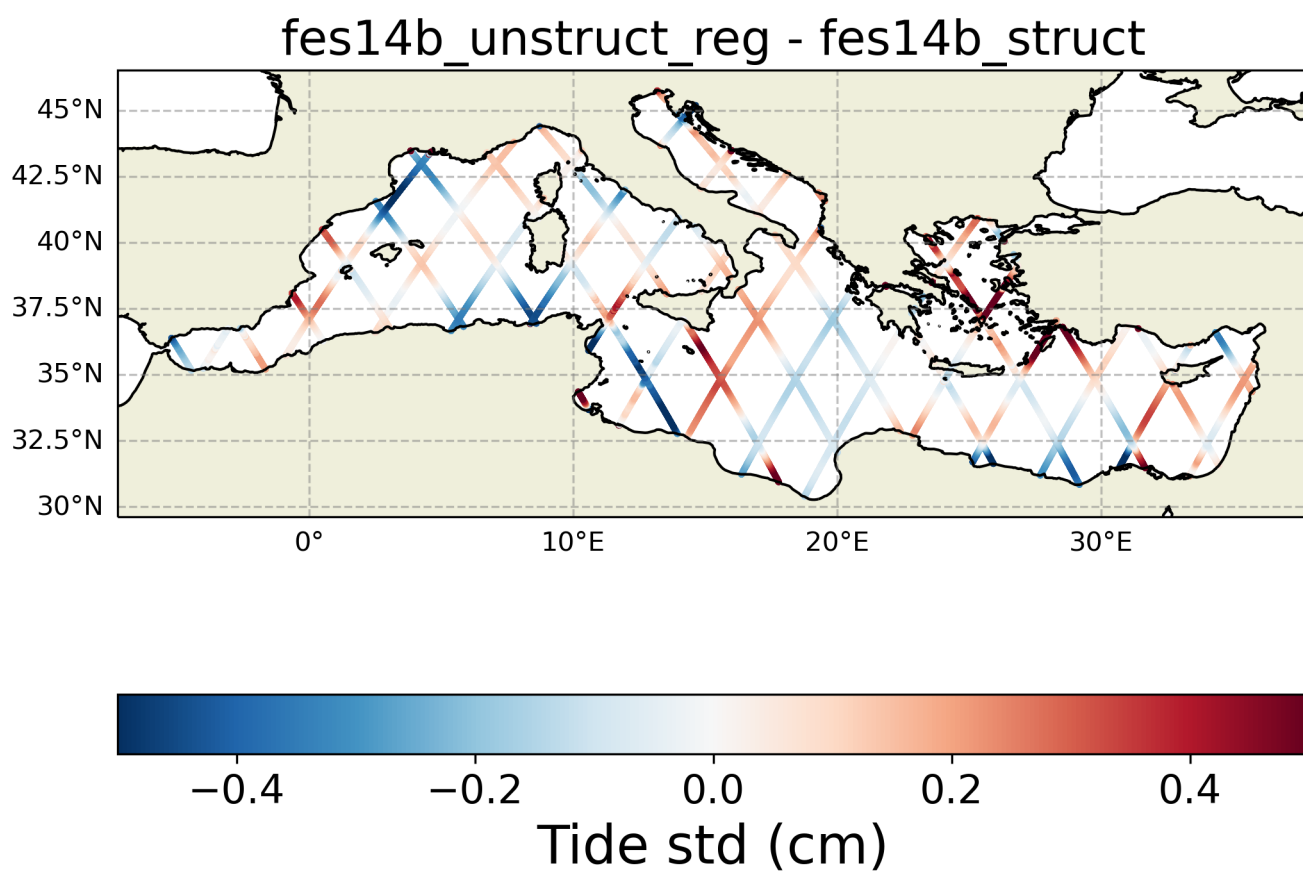


FIGURE 46 – Spatial coherence analysis of the Difference in Tide 's std between fes14b_unstruct_reg and fes14b_struct

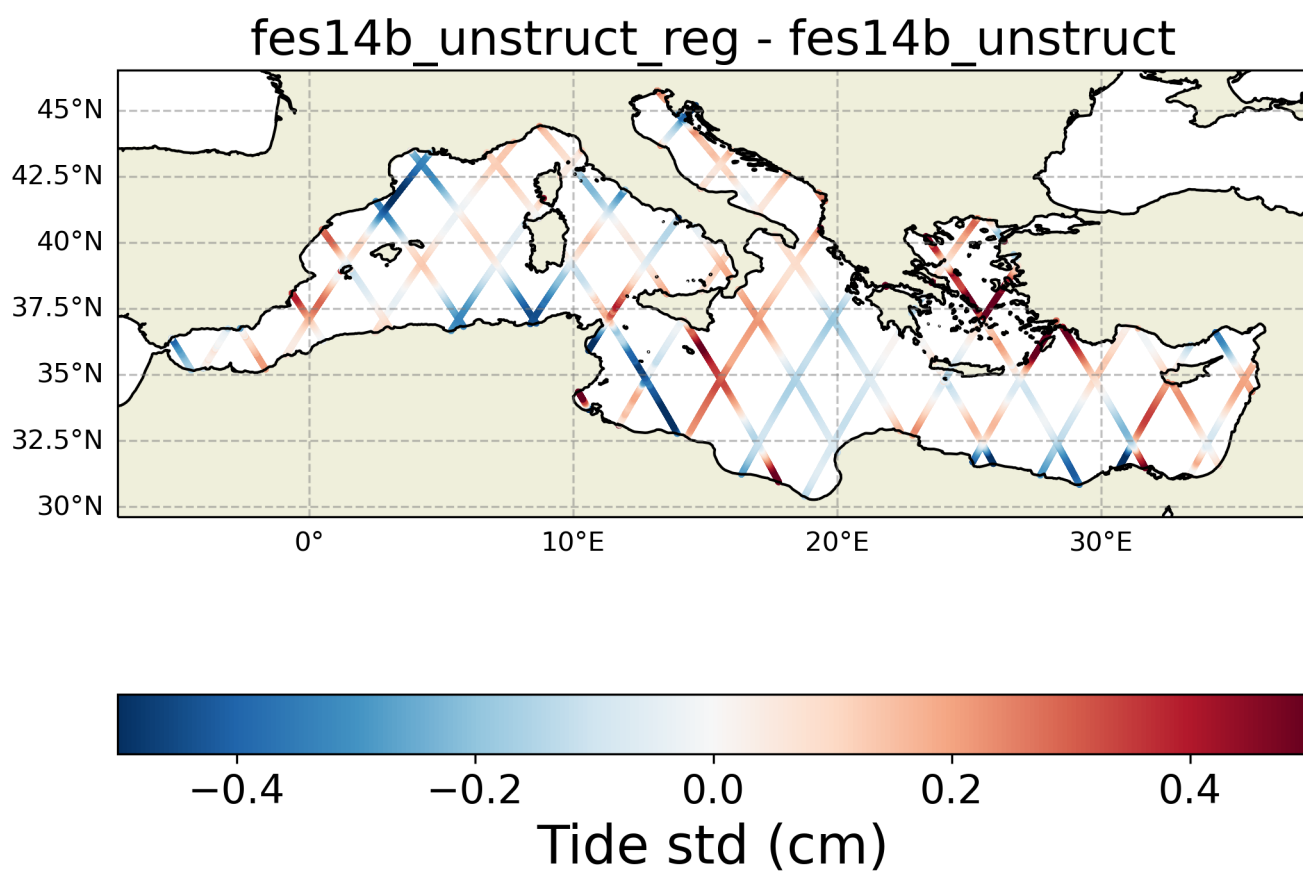


FIGURE 47 – Spatial coherence analysis of the Difference in Tide 's std between fes14b_unstruct_reg and fes14b_unstruct

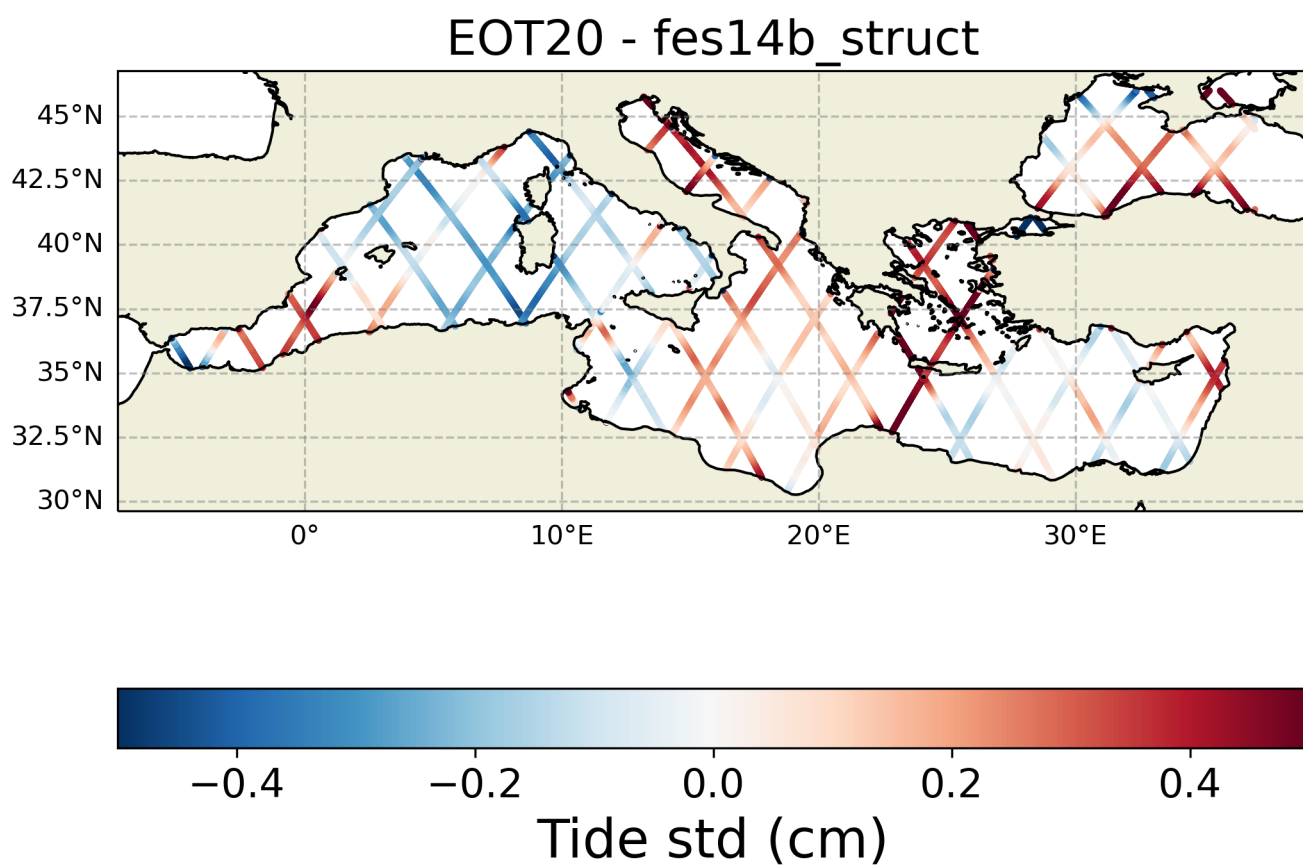


FIGURE 48 – Spatial coherence analysis of the Difference in Tide 's std between EOT20 and fes14b_struct

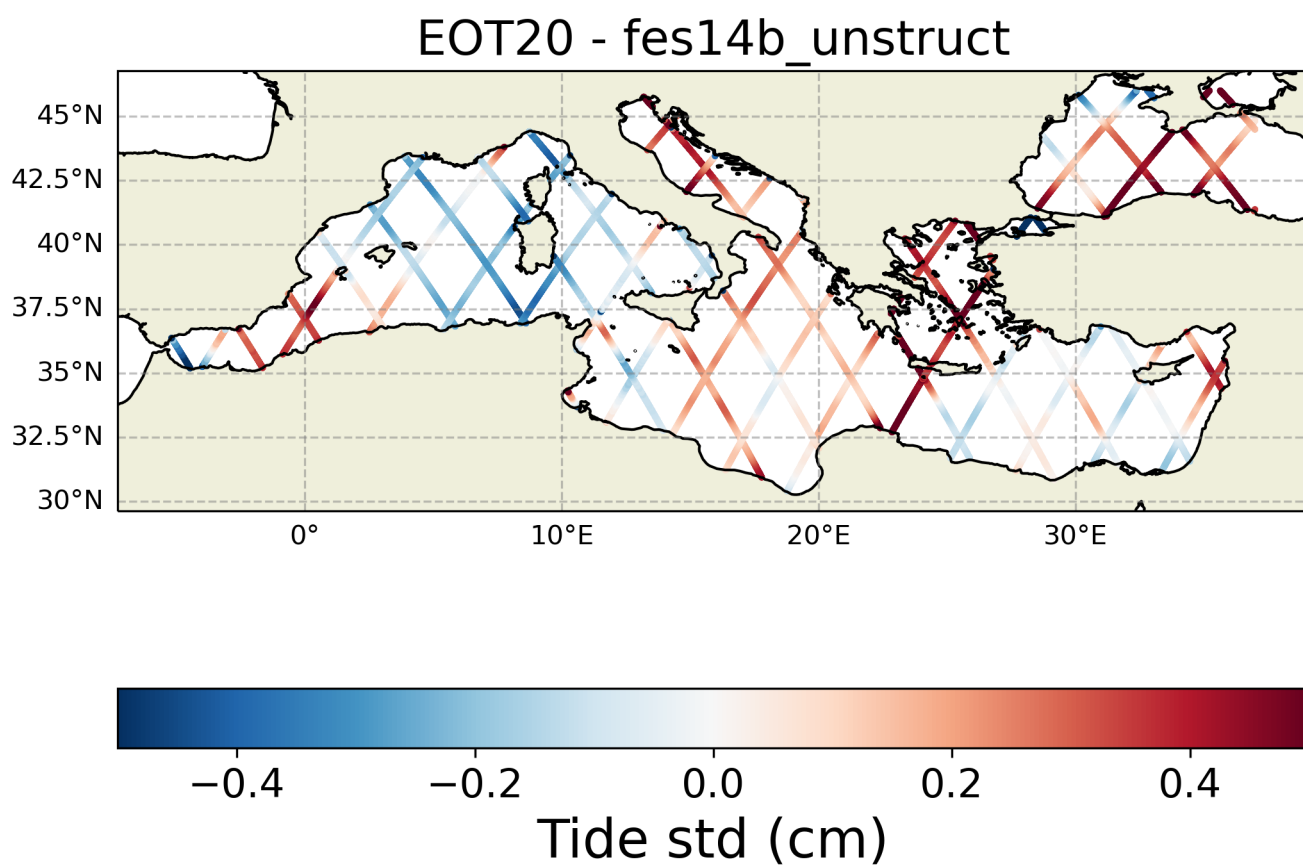


FIGURE 49 – Spatial coherence analysis of the Difference in Tide 's std between EOT20 and fes14b_unstruct

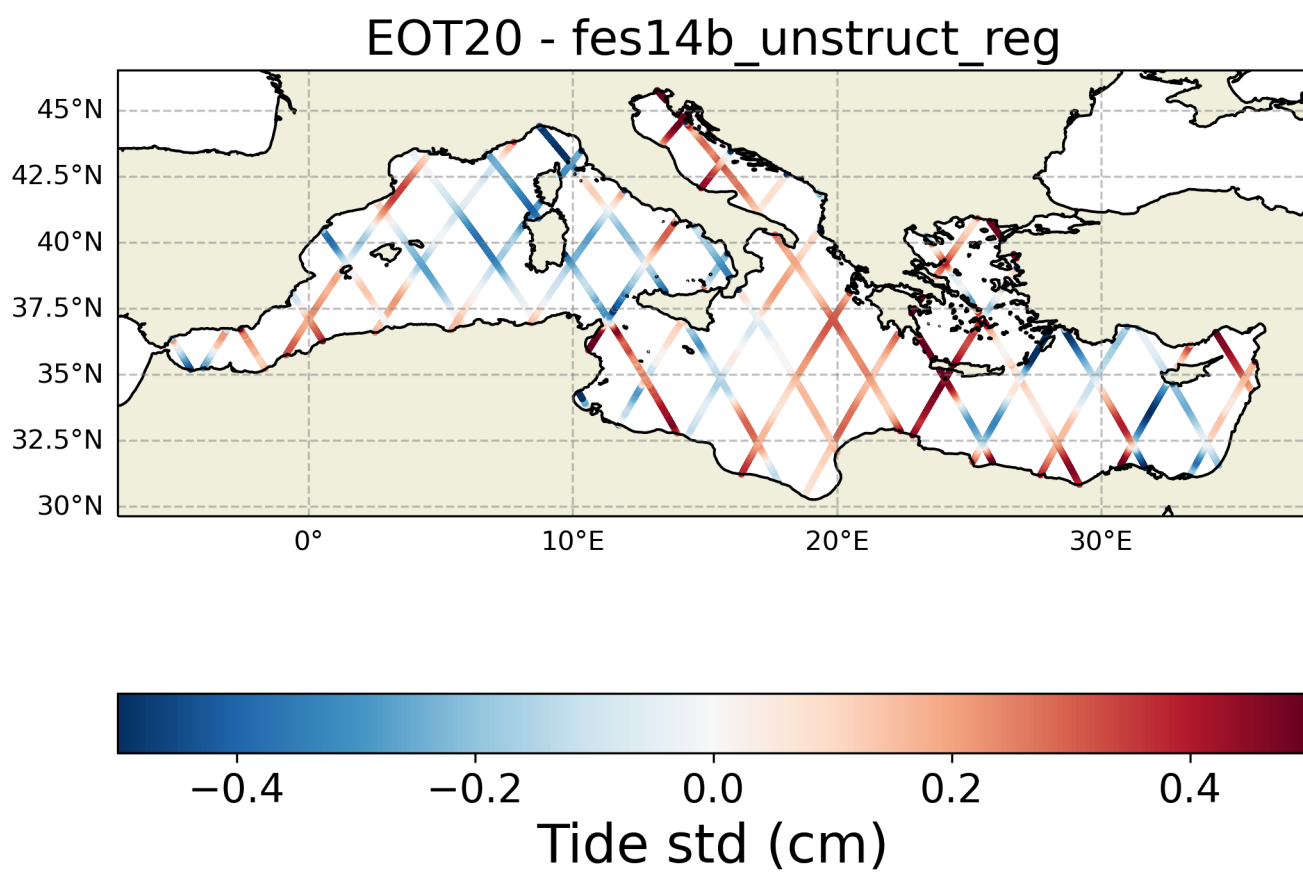


FIGURE 50 – Spatial coherence analysis of the Difference in Tide 's std between EOT20 and fes14b_unstruct_reg

3.2.3 Tide's mean

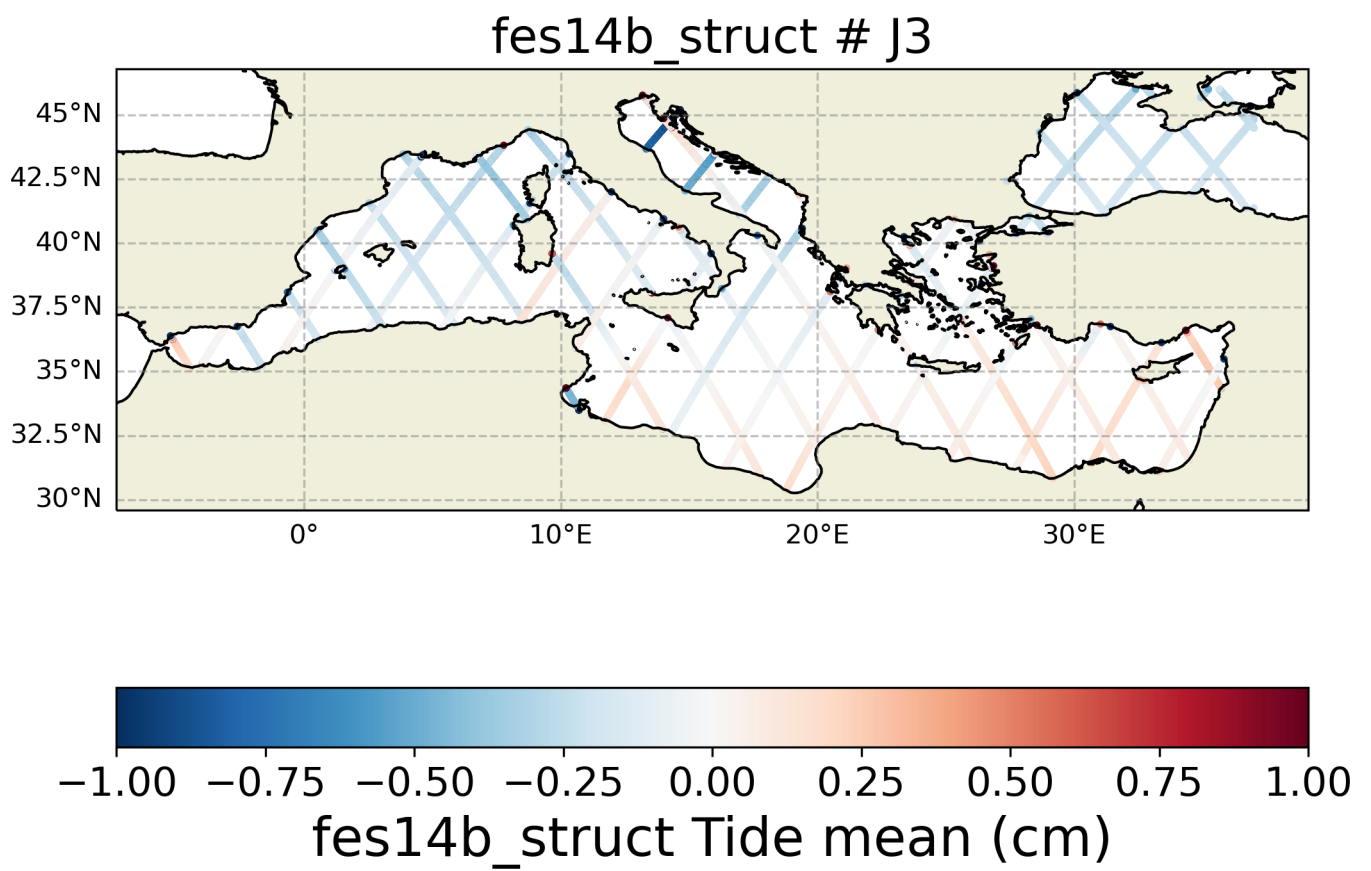


FIGURE 51 – Spatial coherence analysis of the mean of the fes14b_struct version of Tide variable

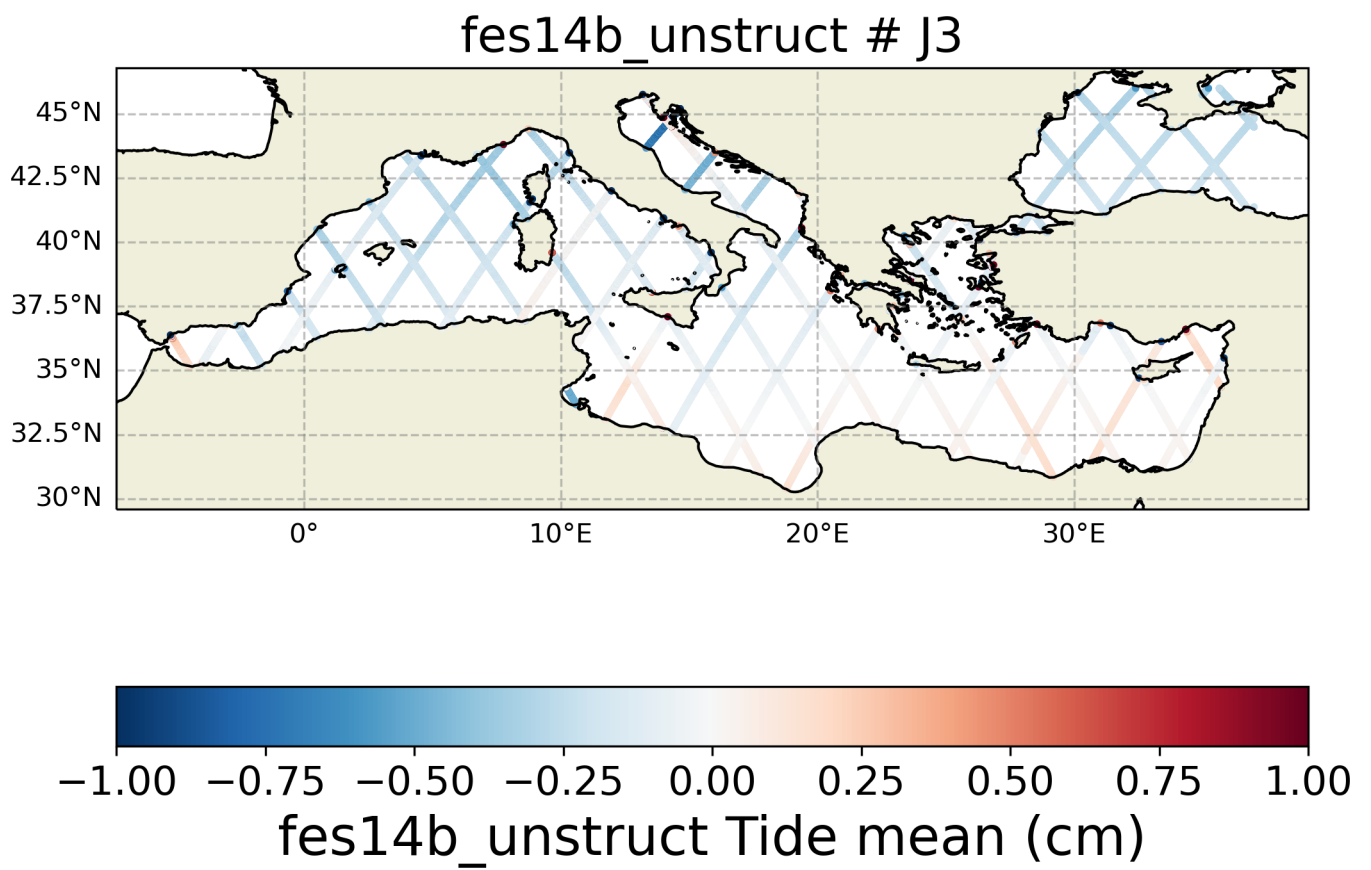


FIGURE 52 – Spatial coherence analysis of the mean of the fes14b_unstruct version of Tide variable

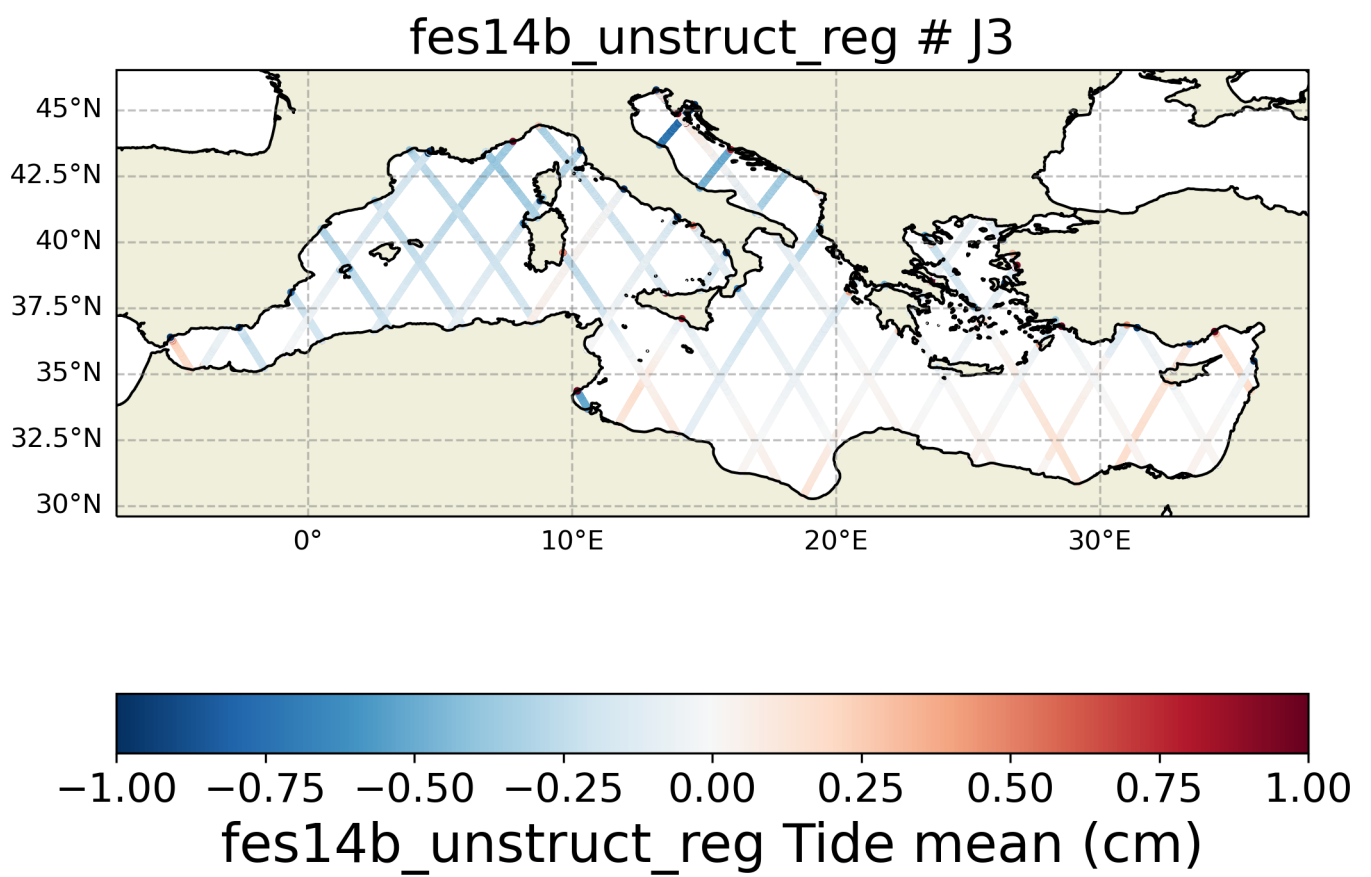


FIGURE 53 – Spatial coherence analysis of the mean of the fes14b_unstruct_reg version of Tide variable

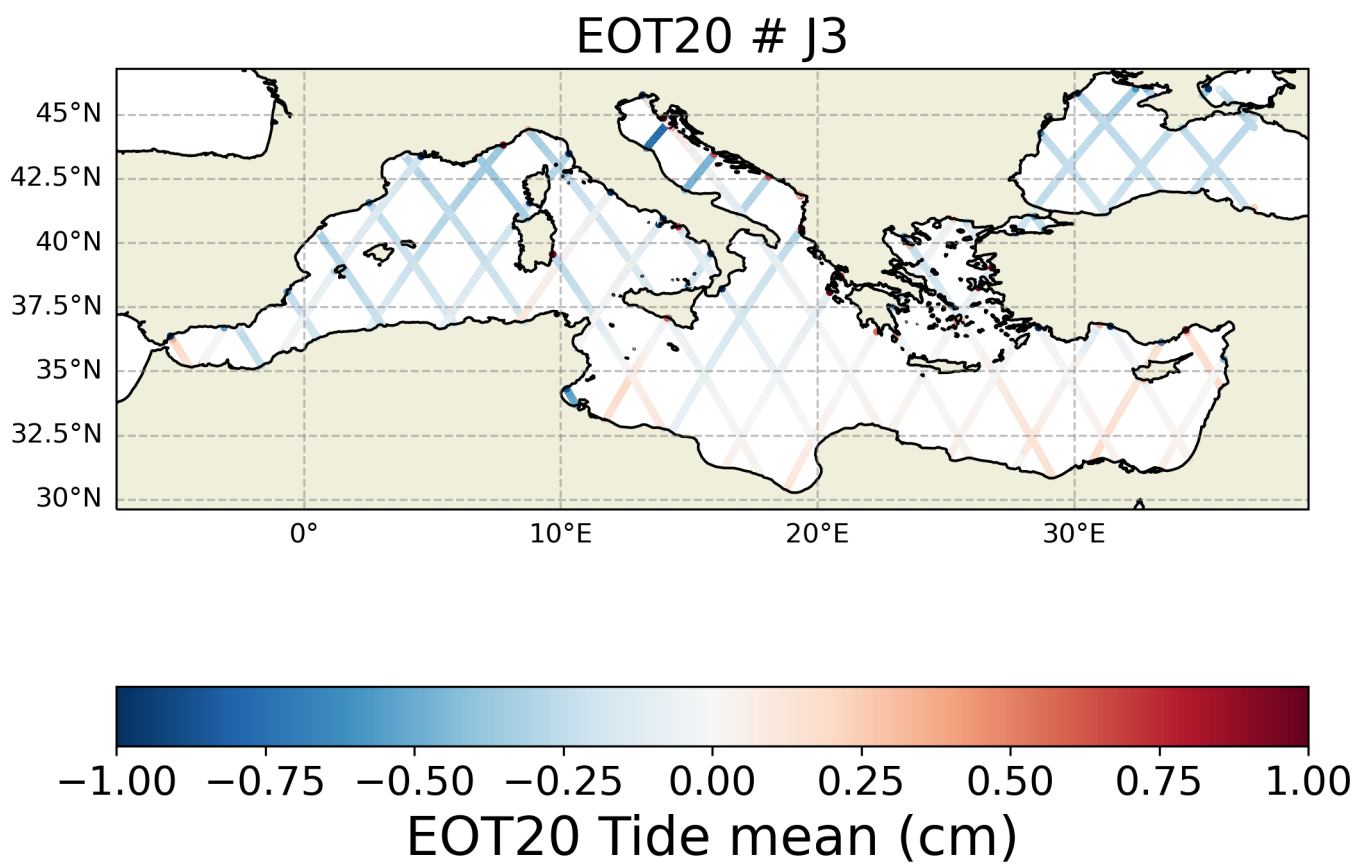


FIGURE 54 – Spatial coherence analysis of the mean of the EOT20 version of Tide variable

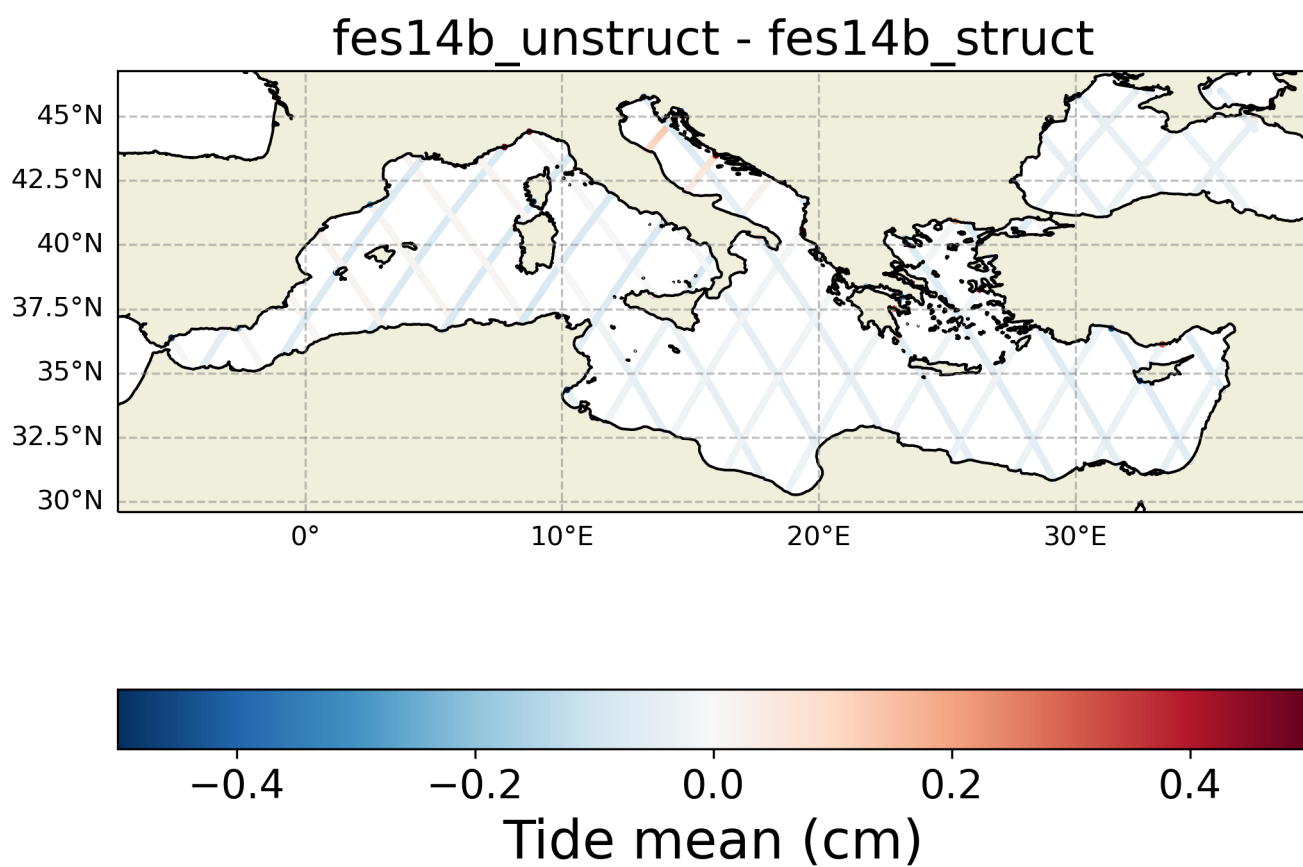


FIGURE 55 – Spatial coherence analysis of the Difference in Tide 's mean between fes14b_unstruct and fes14b_struct

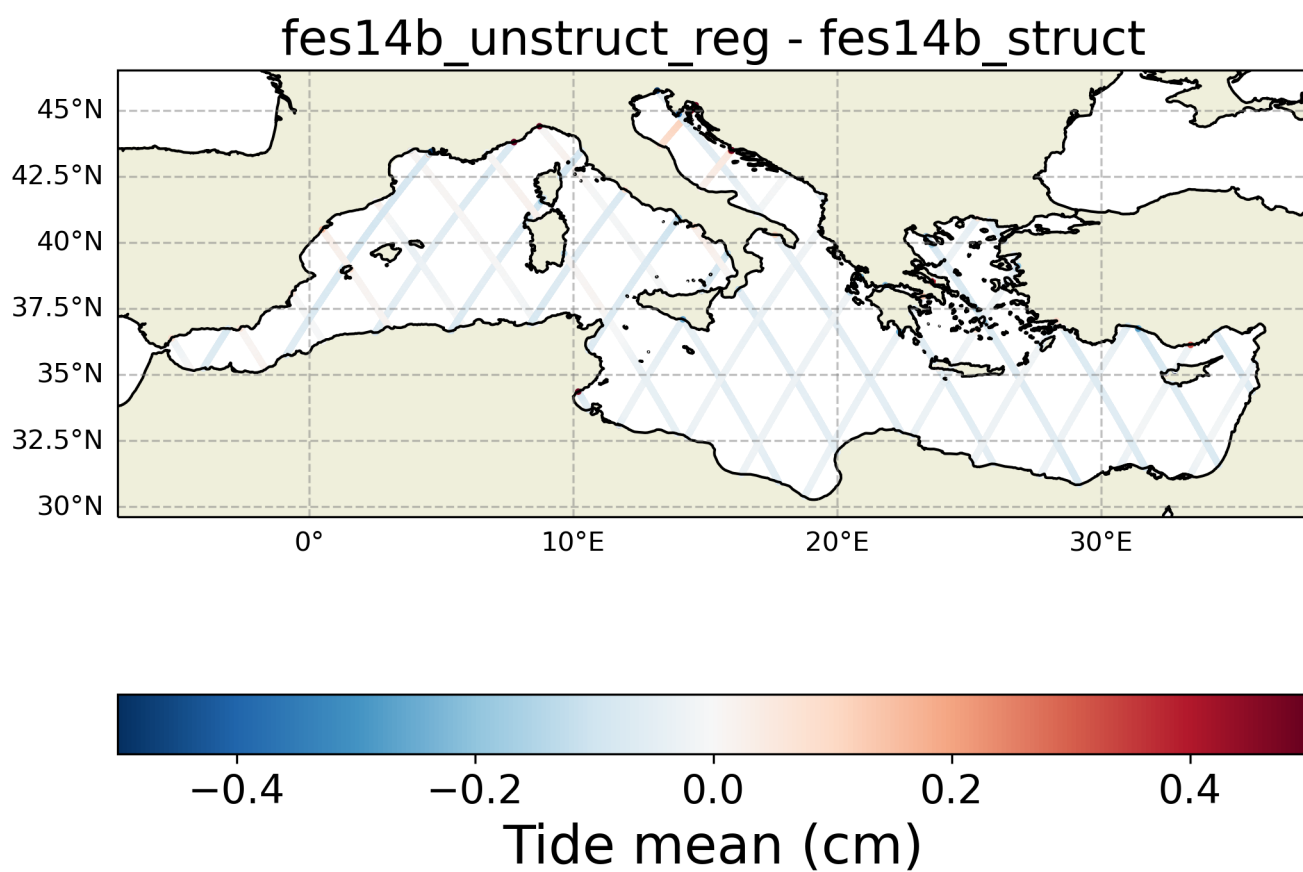


FIGURE 56 – Spatial coherence analysis of the Difference in Tide 's mean between fes14b_unstruct_reg and fes14b_struct

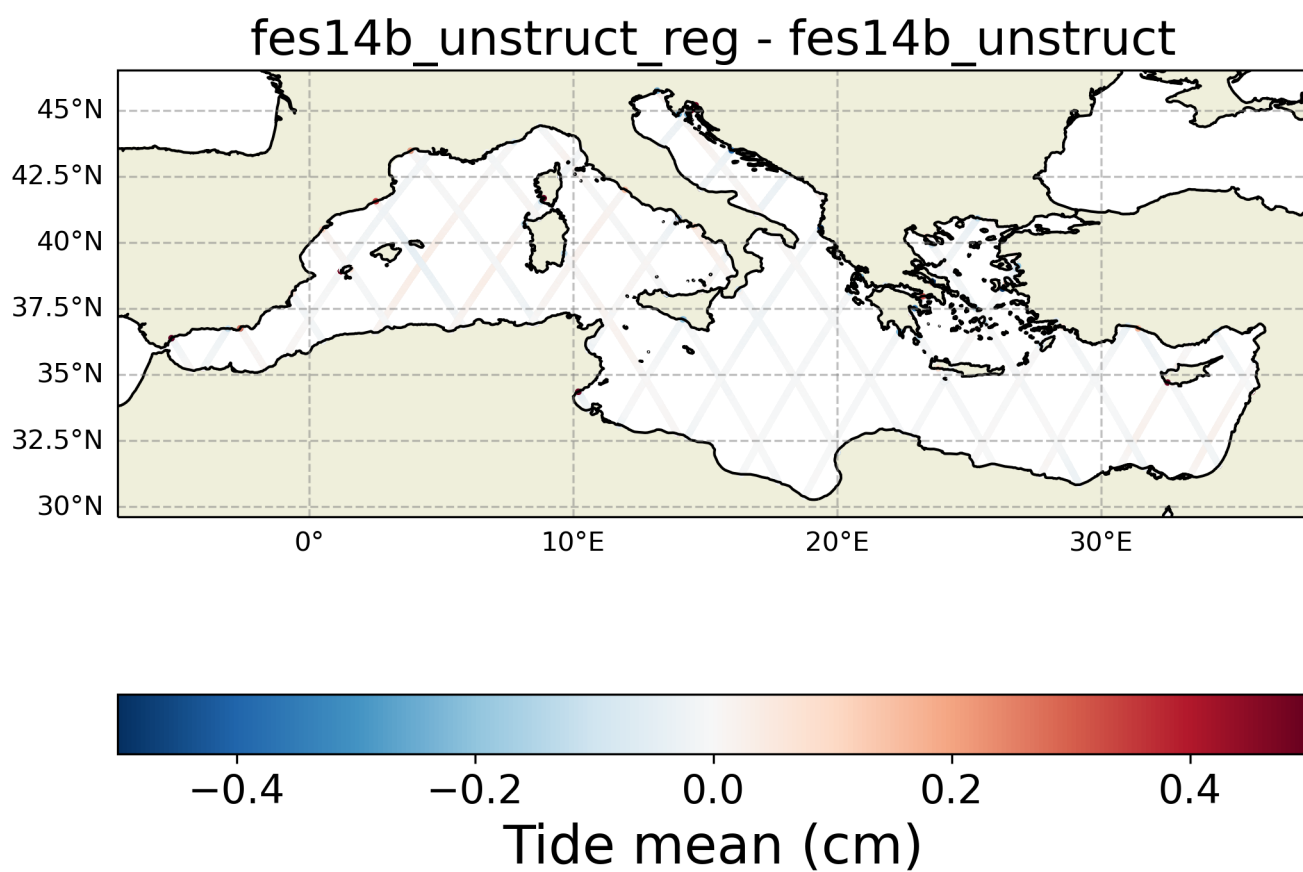


FIGURE 57 – Spatial coherence analysis of the Difference in Tide 's mean between fes14b_unstruct_reg and fes14b_unstruct

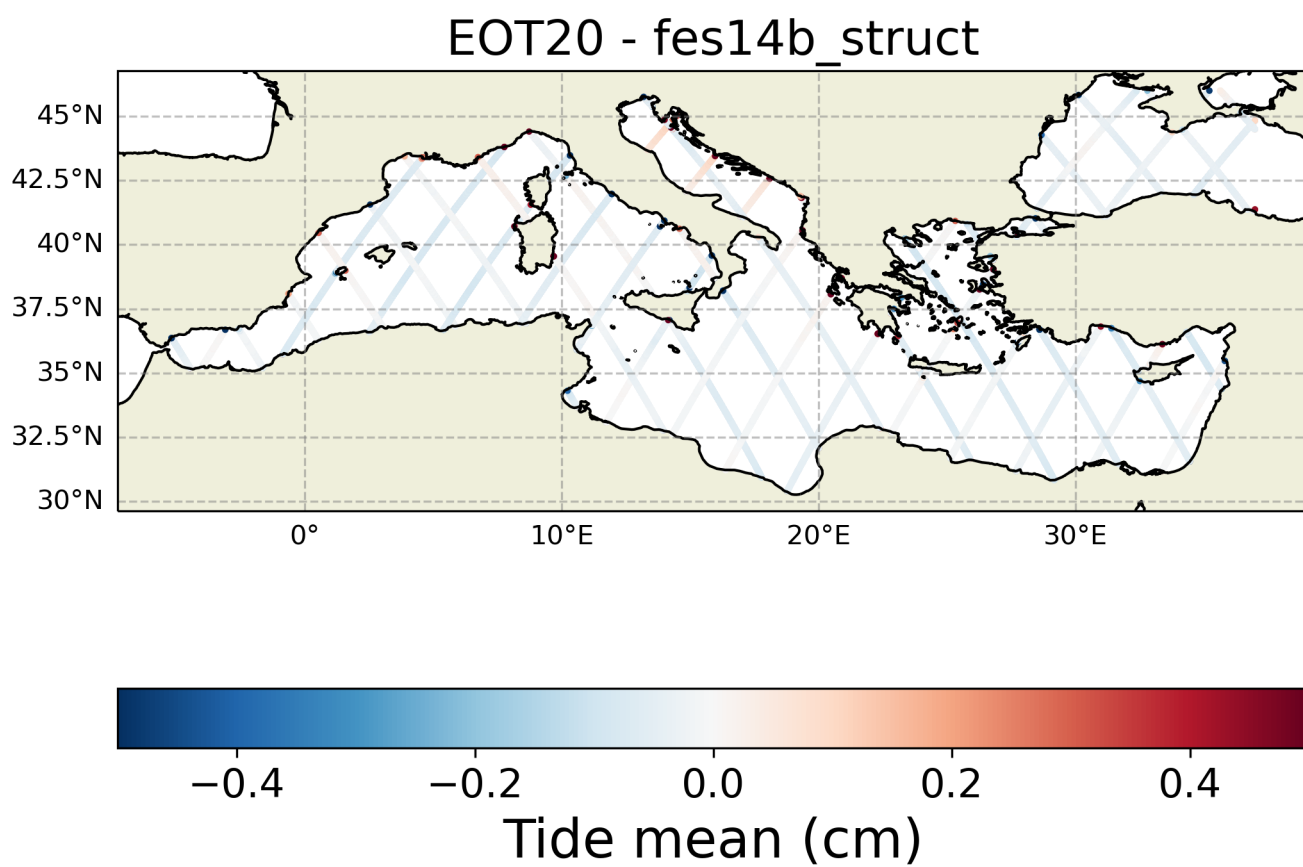


FIGURE 58 – Spatial coherence analysis of the Difference in Tide 's mean between EOT20 and fes14b_struct

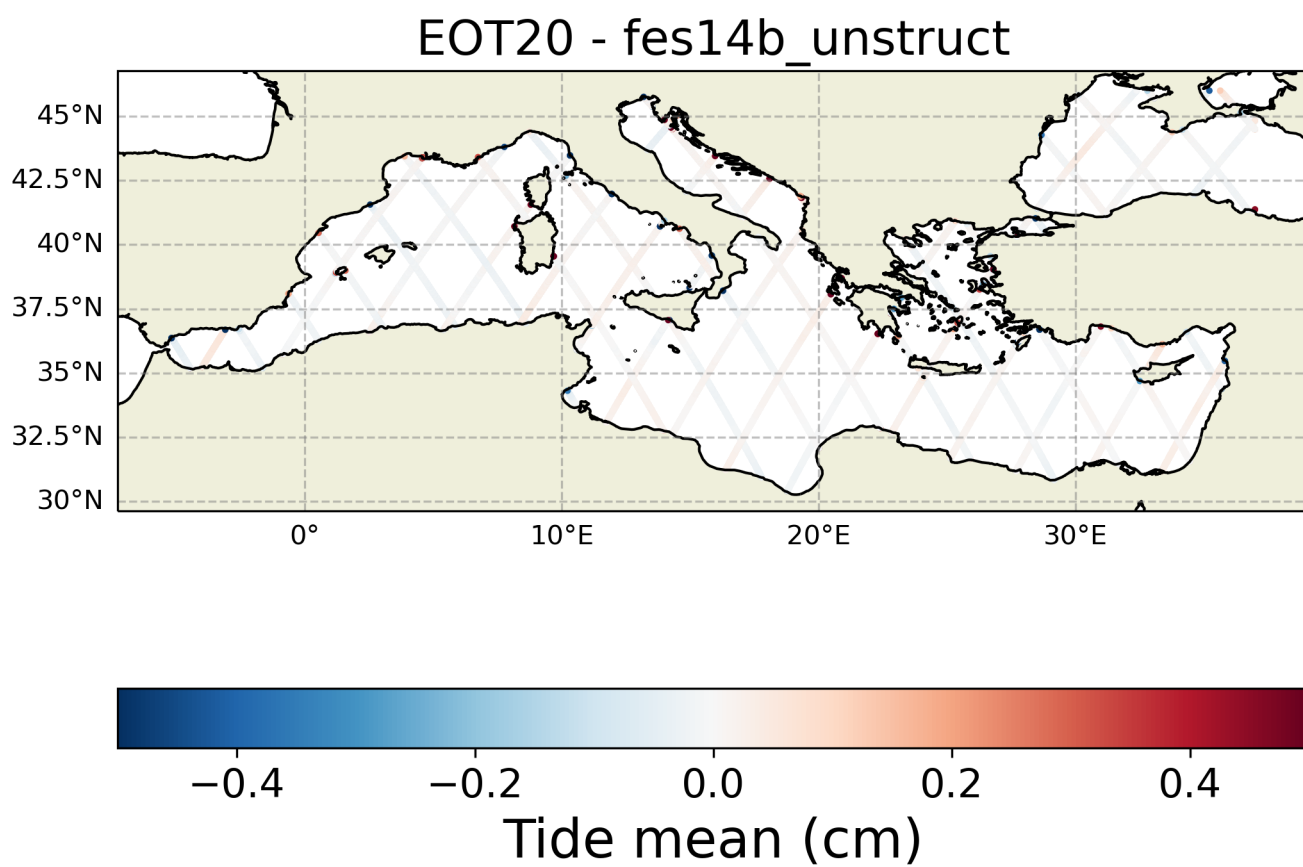


FIGURE 59 – Spatial coherence analysis of the Difference in Tide 's mean between EOT20 and fes14b_unstruct

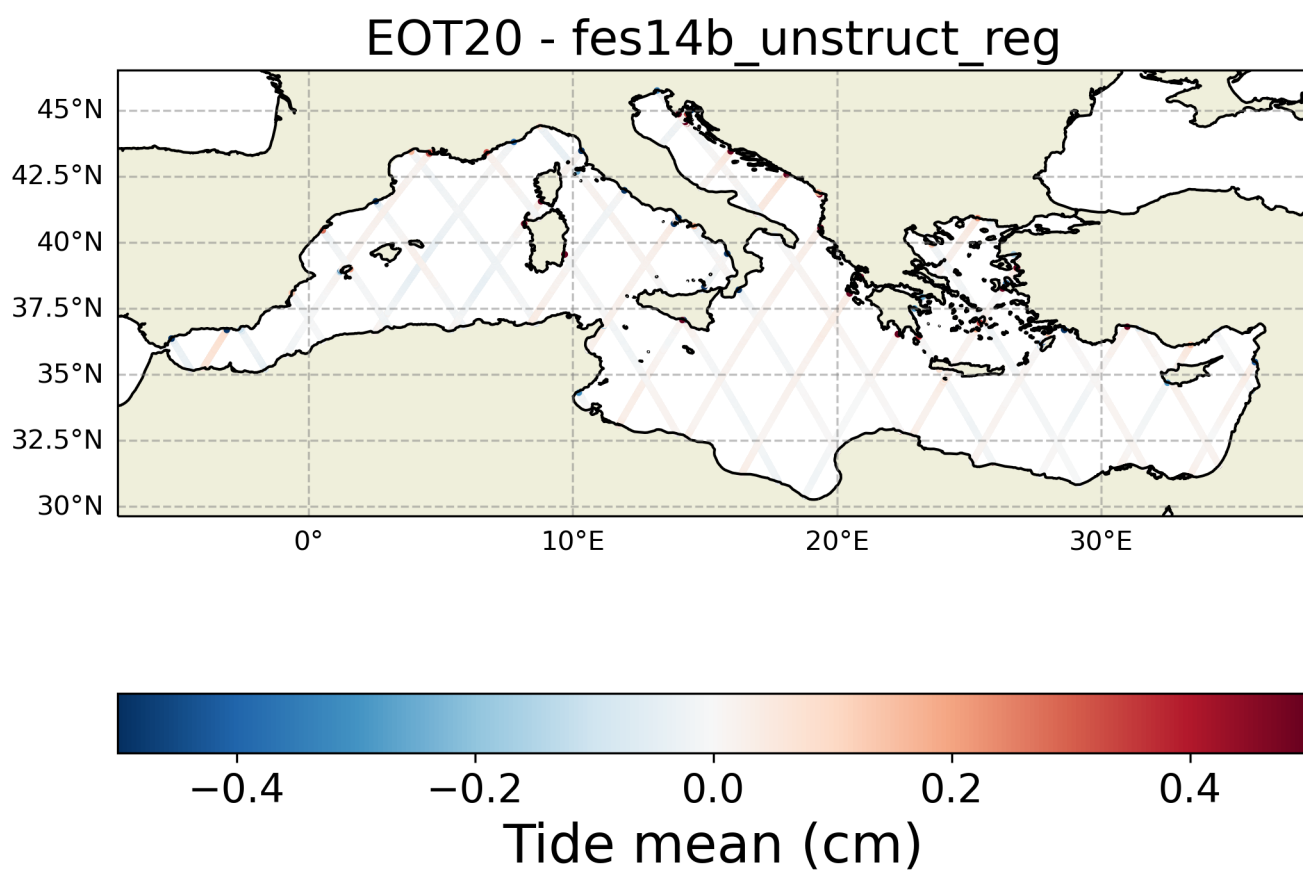


FIGURE 60 – Spatial coherence analysis of the Difference in Tide 's mean between EOT20 and fes14b_unstruct_reg

4 Histograms

4.1 Tide

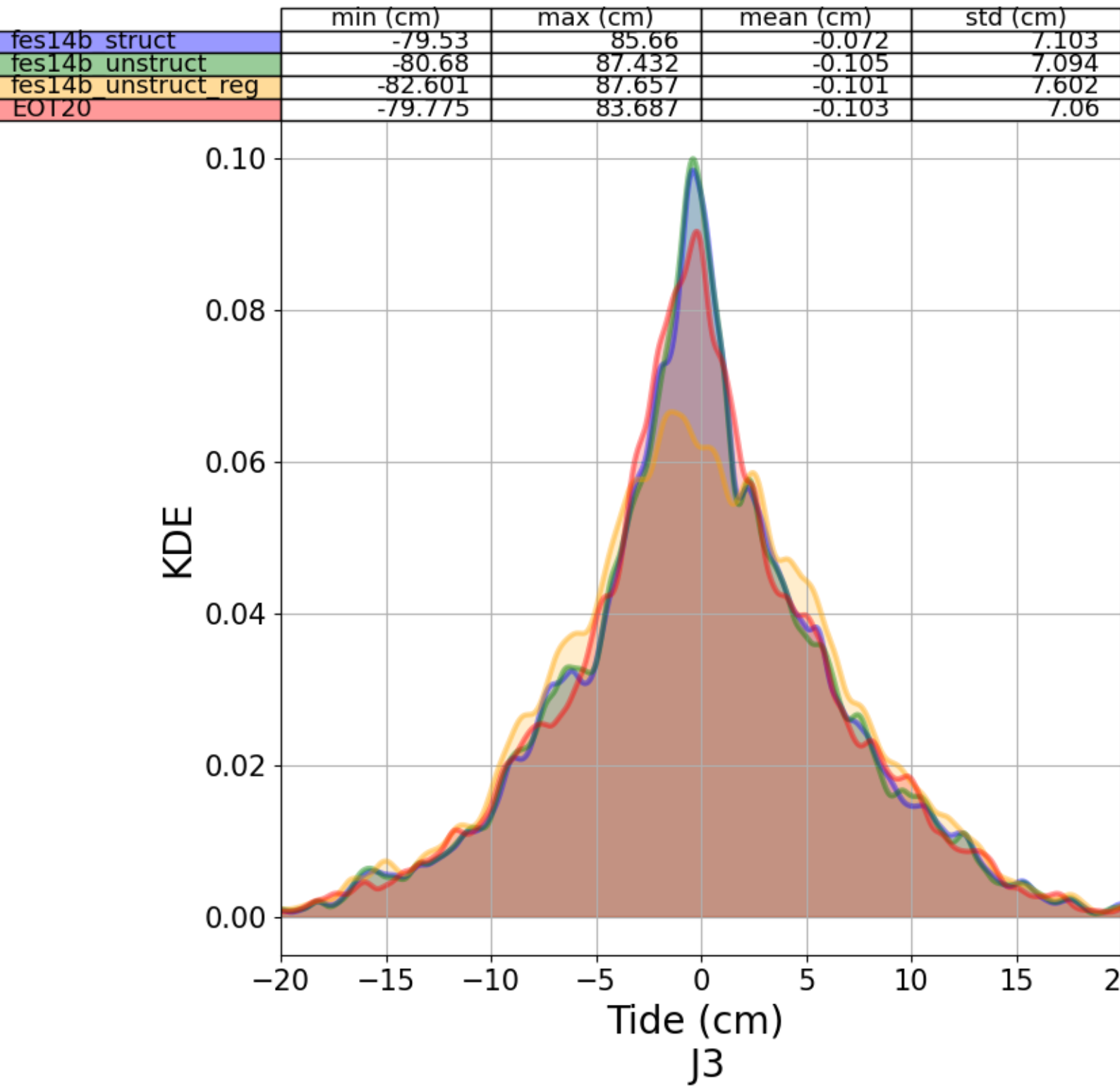


FIGURE 61 – Histogram of each of Tide version

	min (cm)	max (cm)	mean (cm)	std (cm)
14b unstruct - fes14b struct	-12.758	18.508	-0.034	0.000
14b unstruct reg - fes14b struct	-16.939	17.219	-0.036	0.000
T20 - fes14b struct	-12.335	10.109	-0.032	0.000
14b unstruct reg - fes14b unstruct	-16.765	16.828	-0.002	0.000
T20 - fes14b unstruct	-9.624	7.051	0.002	0.000
T20 - fes14b unstruct reg	-14.195	11.879	0.005	0.000

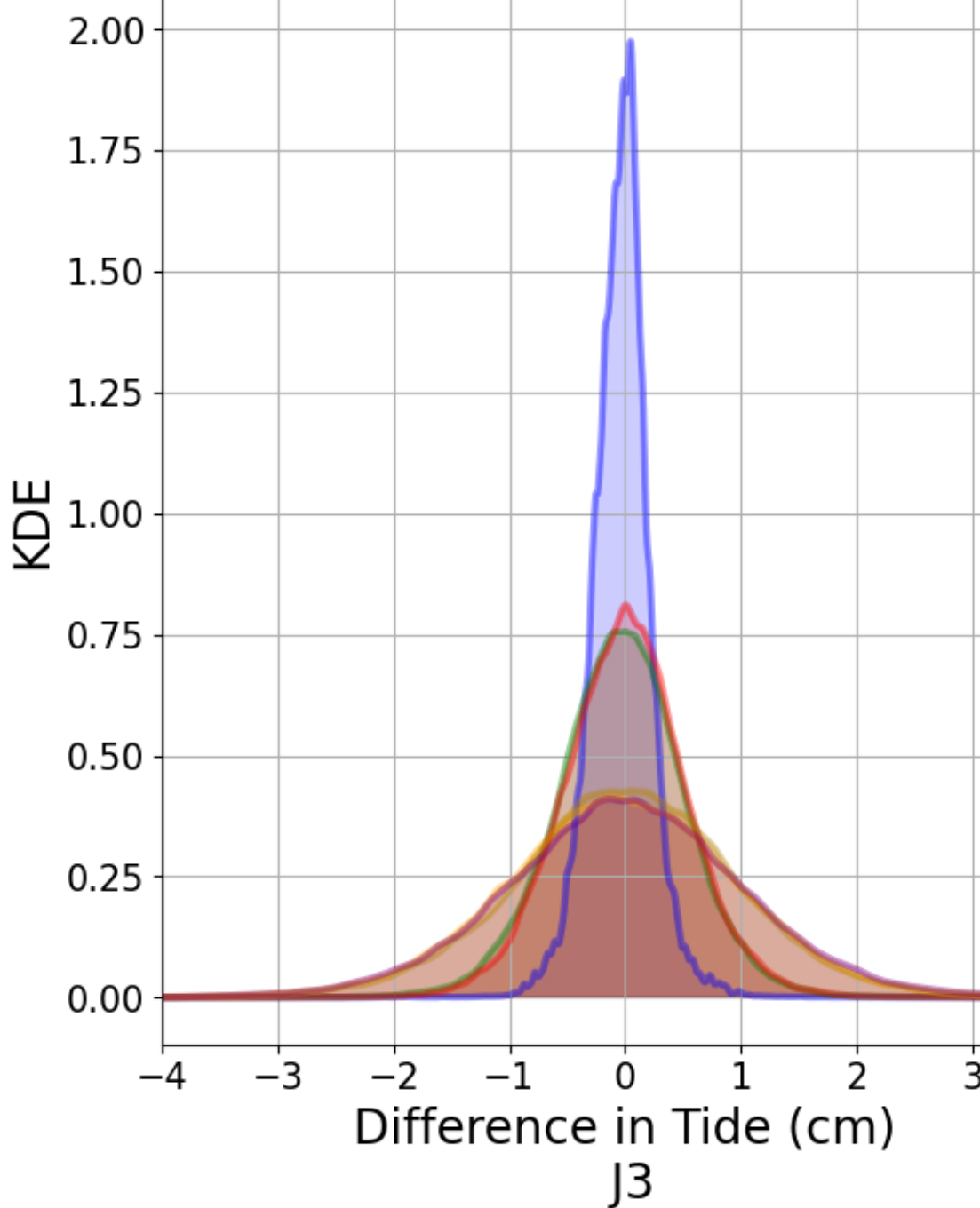


FIGURE 62 – Histograms of difference of each Tide version and reference one

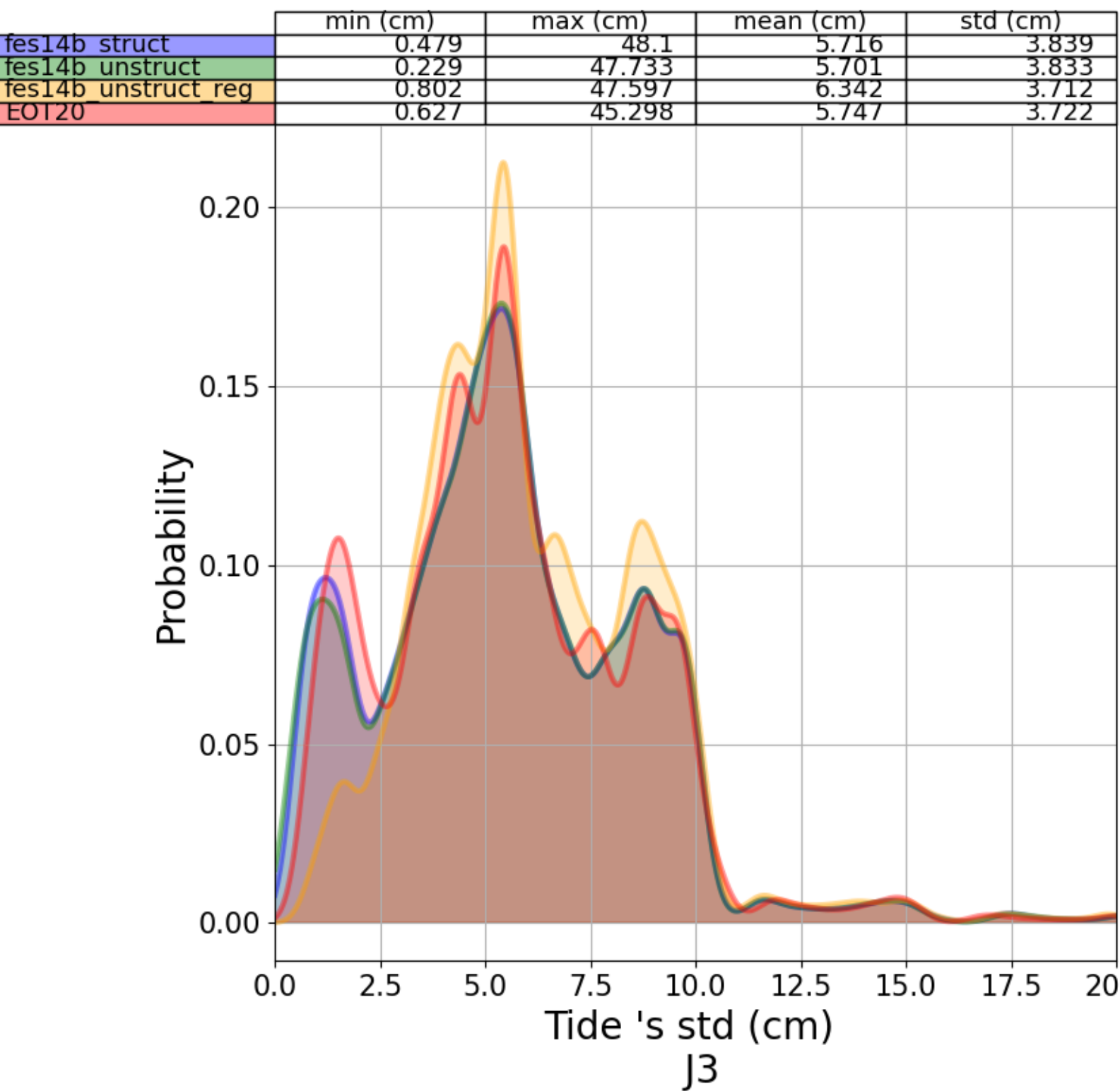


FIGURE 63 – Histograms of the standard deviation of each Tide version

4.2 sla

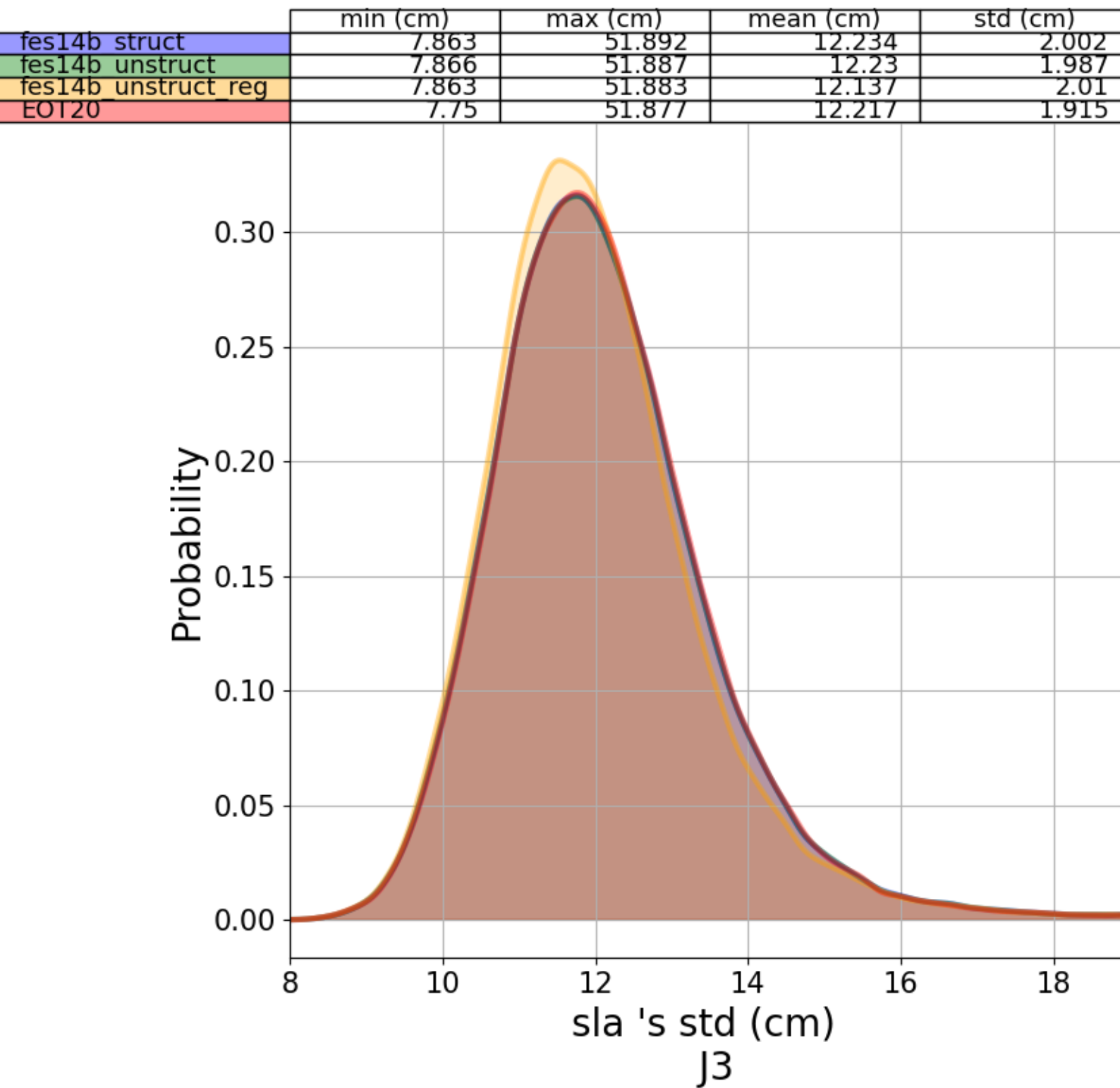


FIGURE 64 – Histograms of the standard deviation of each sla version

5 Along-track analysis

5.1 Tide

5.1.1 Tide 's count

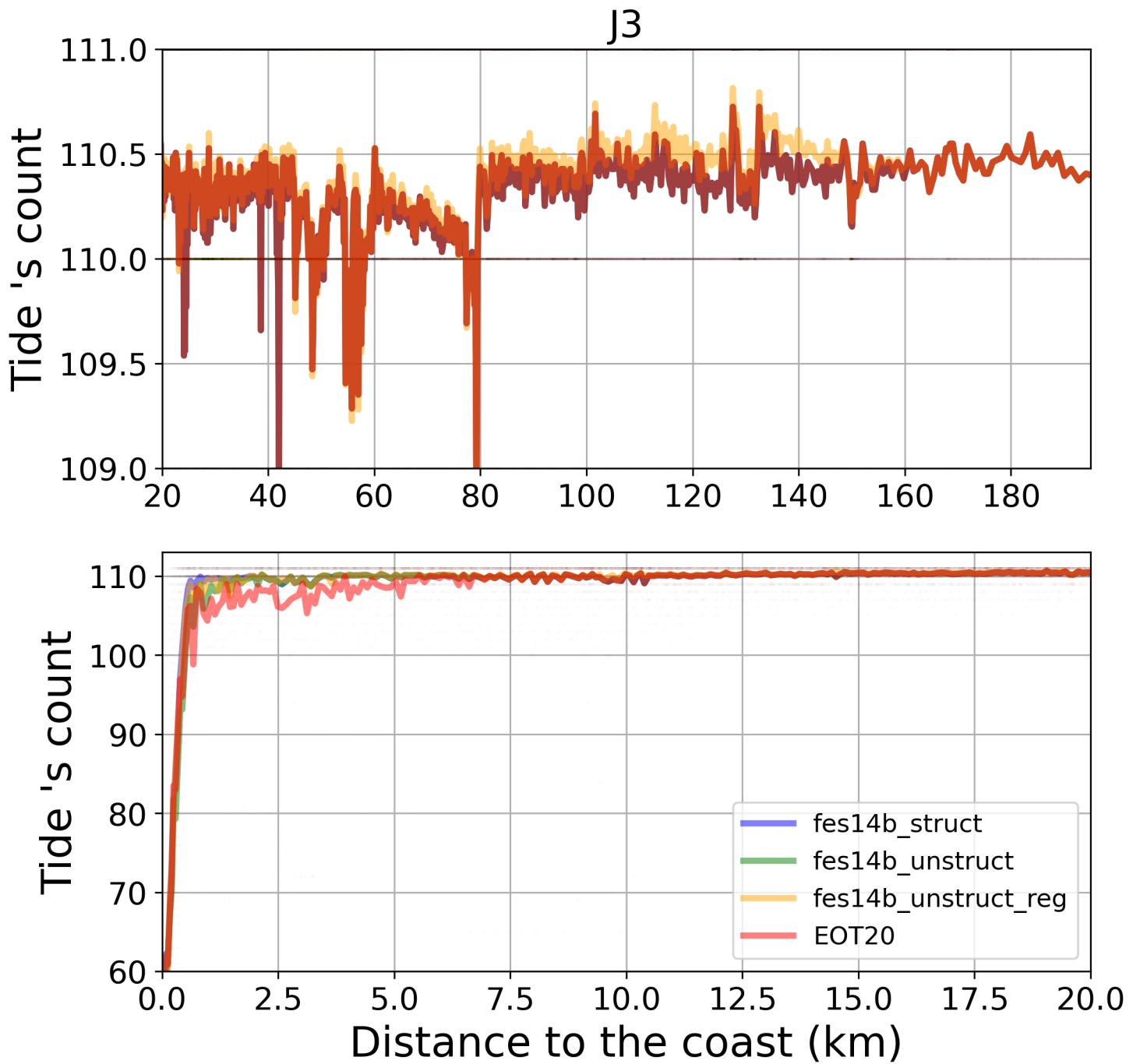


FIGURE 65 – Along-track analysis of Tide 's count

J3

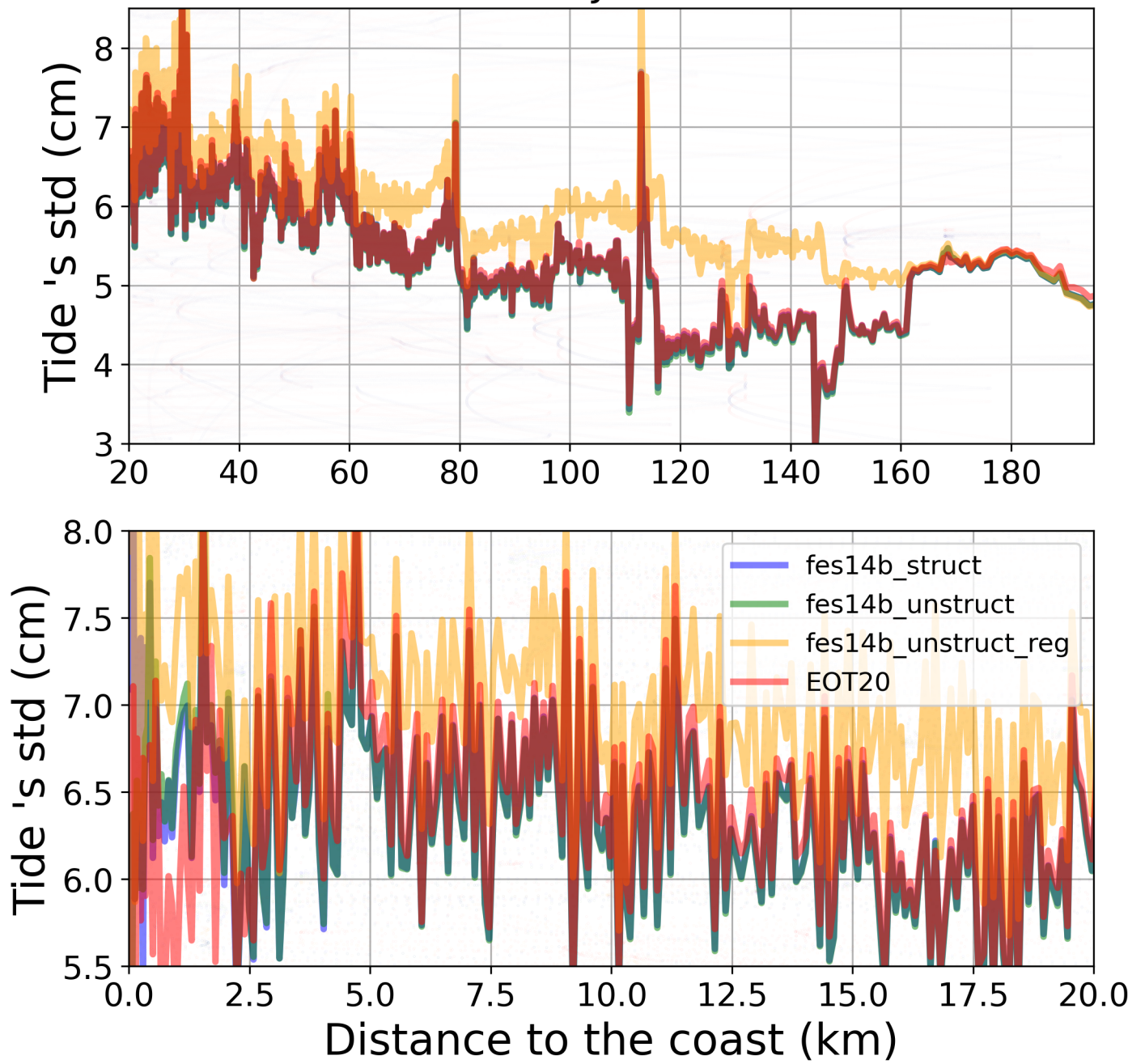


FIGURE 66 – Along-track analysis of Tide 's std

5.1.3 Tide 's mean

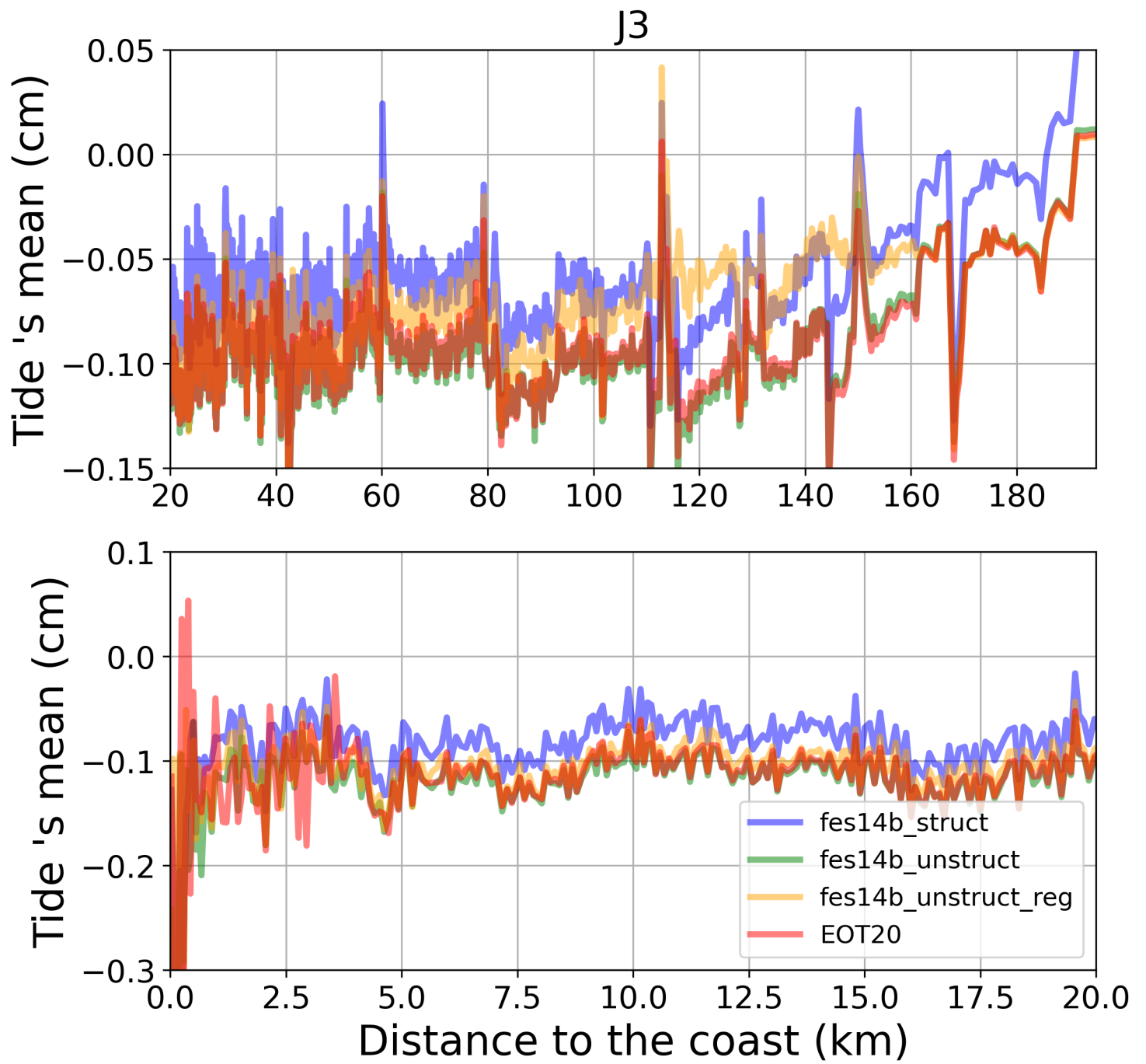


FIGURE 67 – Along-track analysis of Tide 's mean

5.2 sla

5.2.1 sla 's count

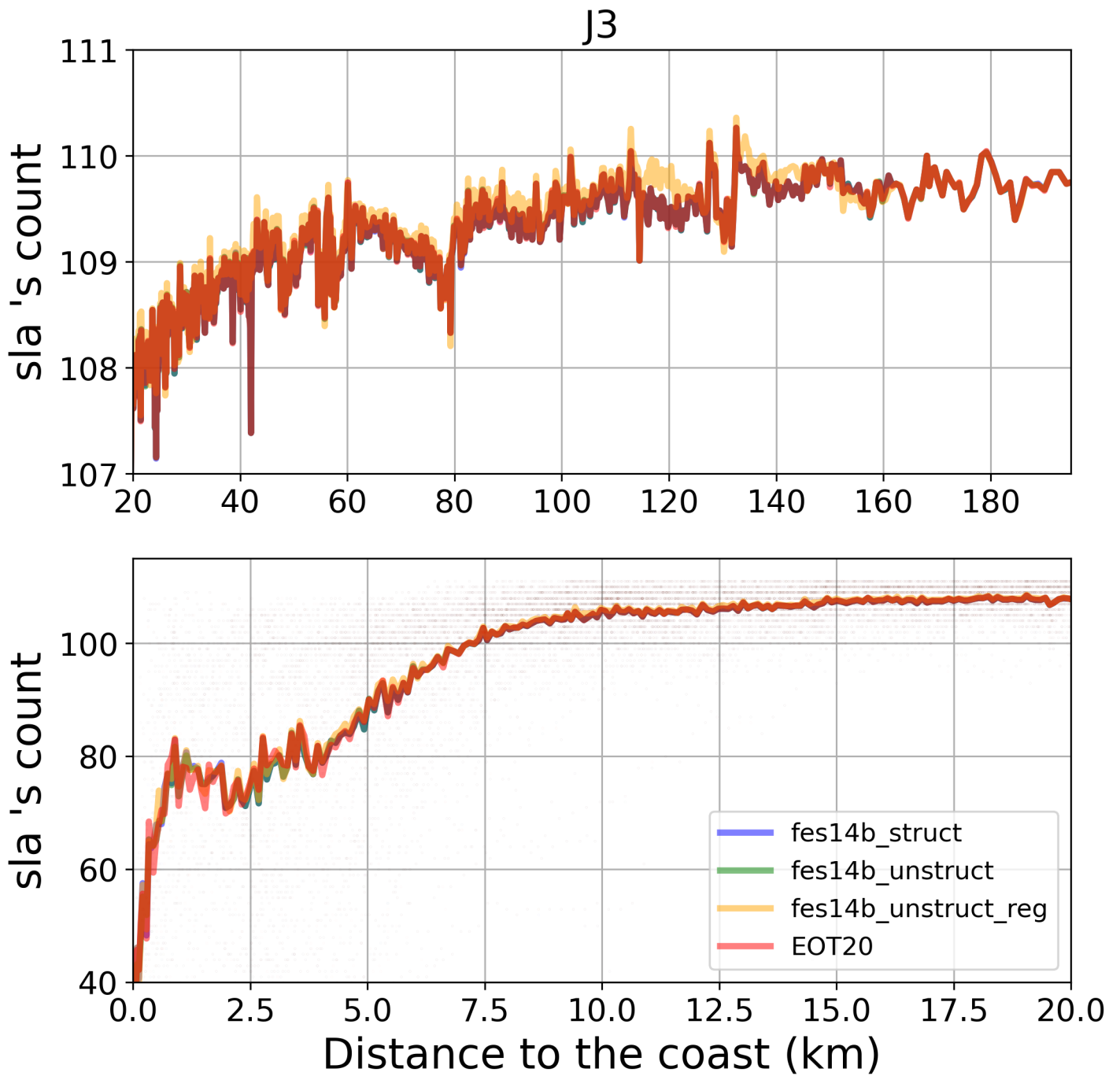


FIGURE 68 – Along-track analysis of sla 's count

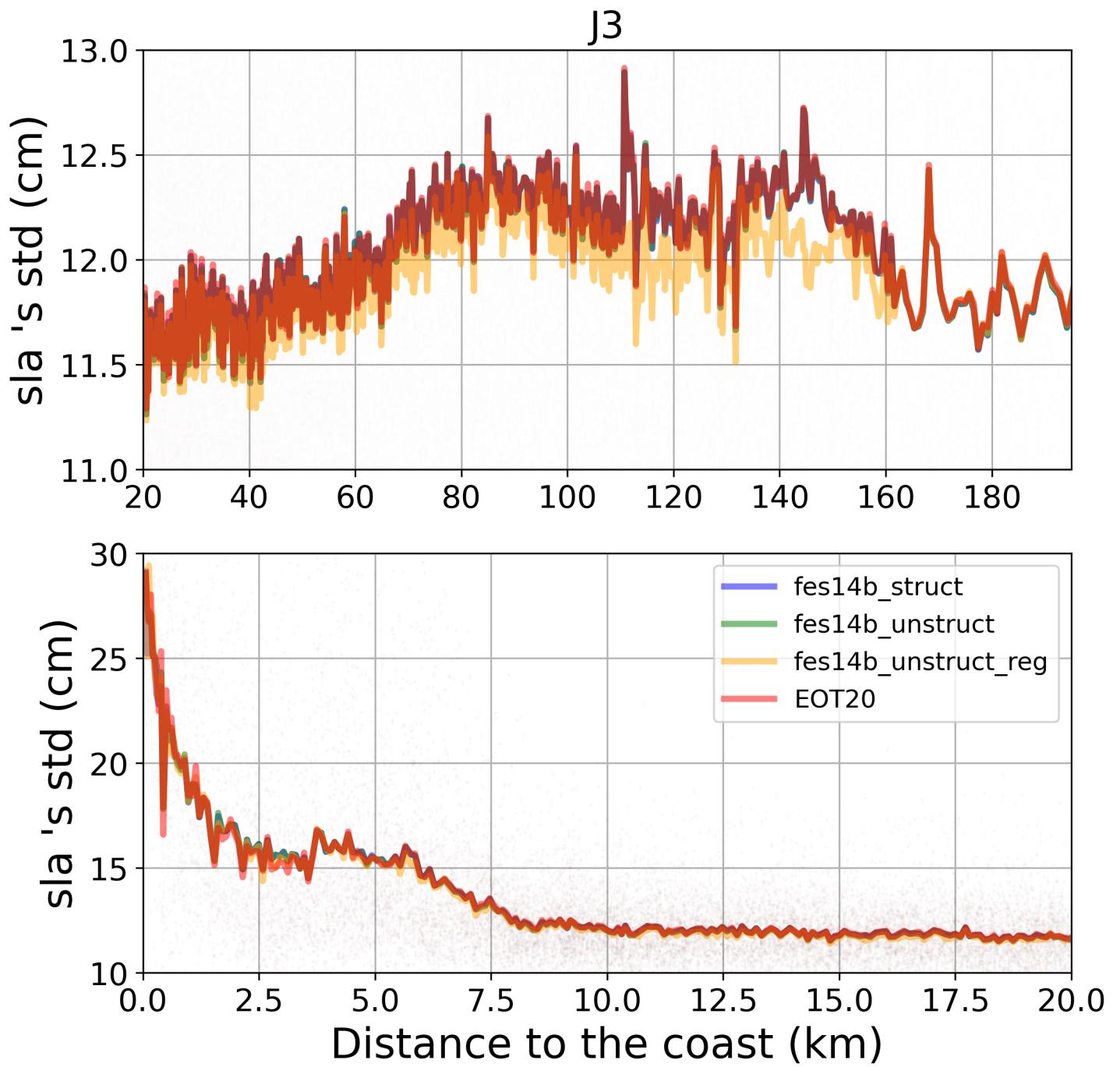


FIGURE 69 – Along-track analysis of sla 's std

J3

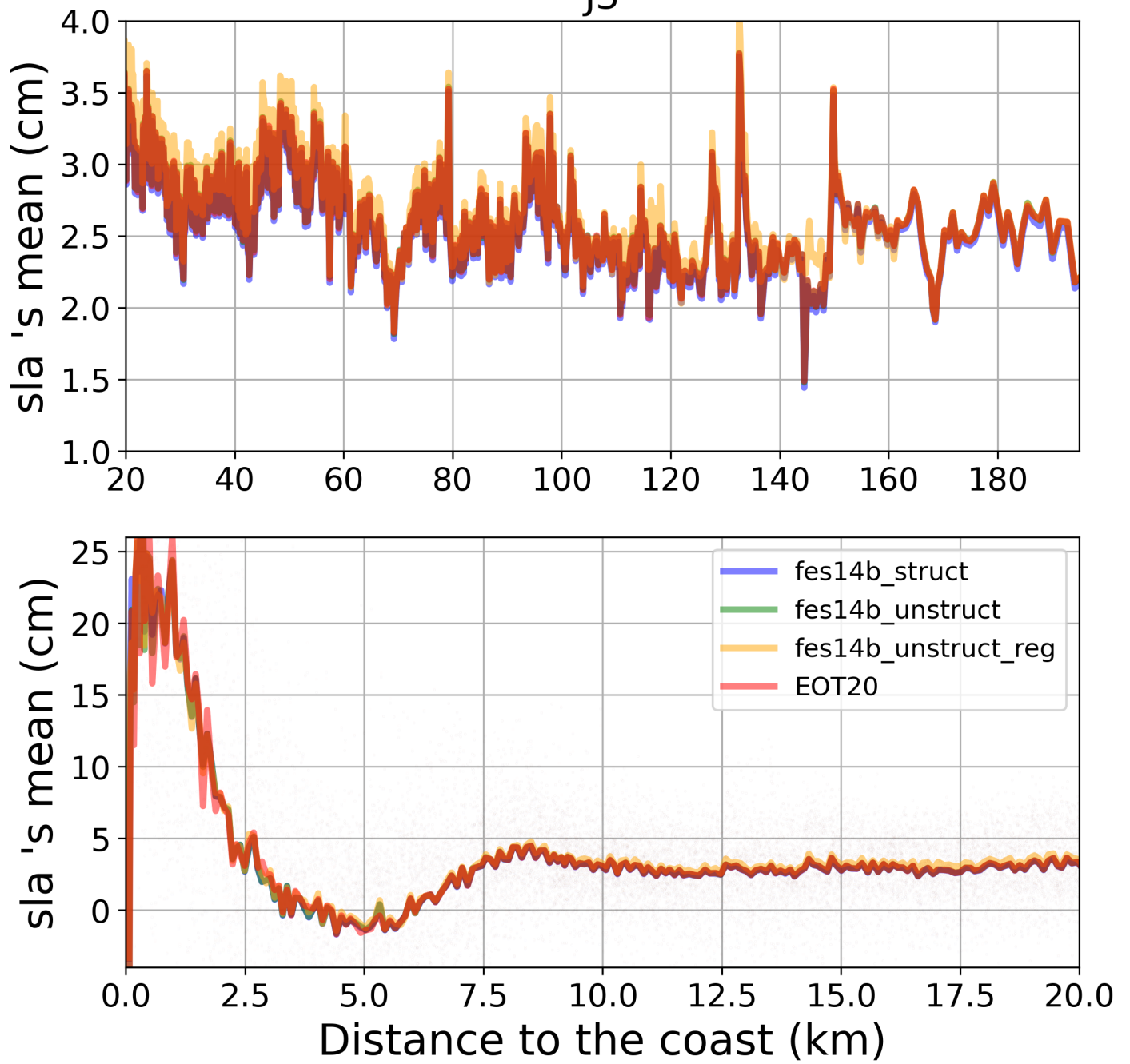


FIGURE 70 – Along-track analysis of sla 's mean

6 Comparison with Insitu Data (Tide Gauge)

The size of the marker representing each point in the figures below increase by getting closer to the coast

6.1 Station : SETE

- Nearest track to SETE station is the track number track146
- The area of interest is limited by :
 - A circle which it's center is the SETE tide gauge station location and has a Radius of 40 Km
 - Maximum distance to the coast : 20 Km

6.1.1 correlation visualization in maps view % SETE tide gauge

Correlation Altimetry data with respect to SETE Tide gauge data

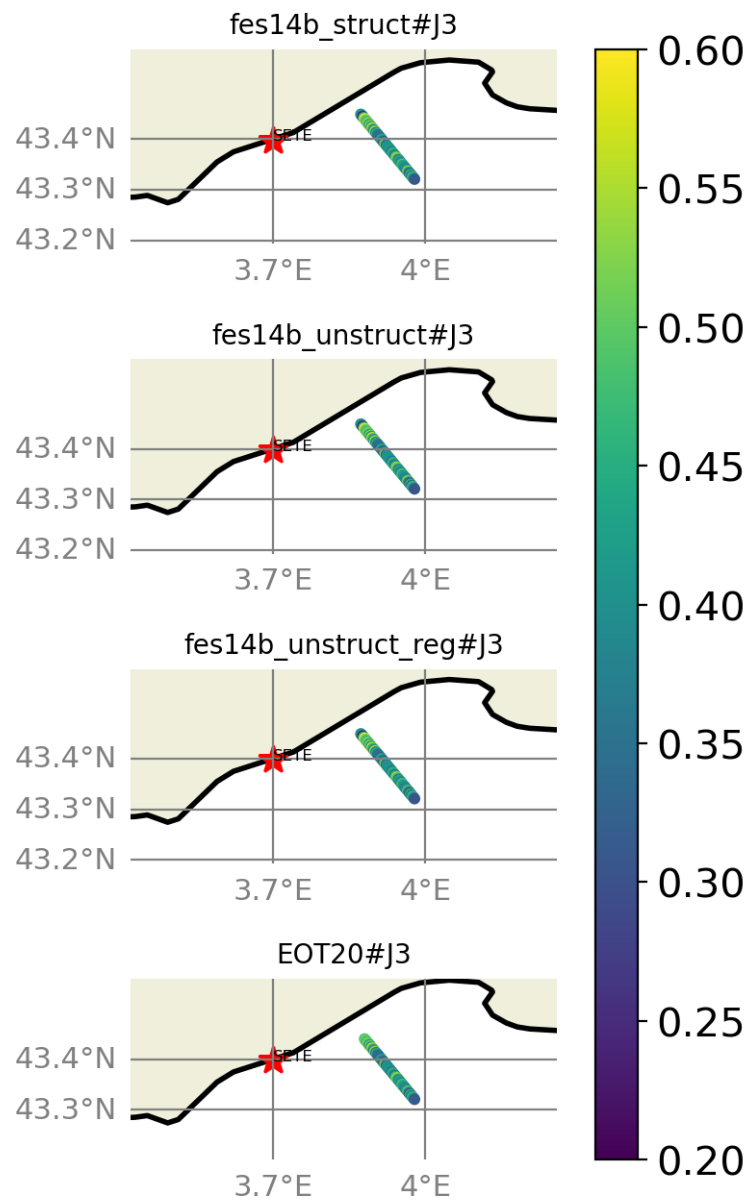


FIGURE 71 – correlation visualization in maps view % SETE tide gauge

6.1.2 rmsd visualization in maps view % SETE tide gauge

Rmsd (m) Altimetry data with respect to SETE Tide gauge data

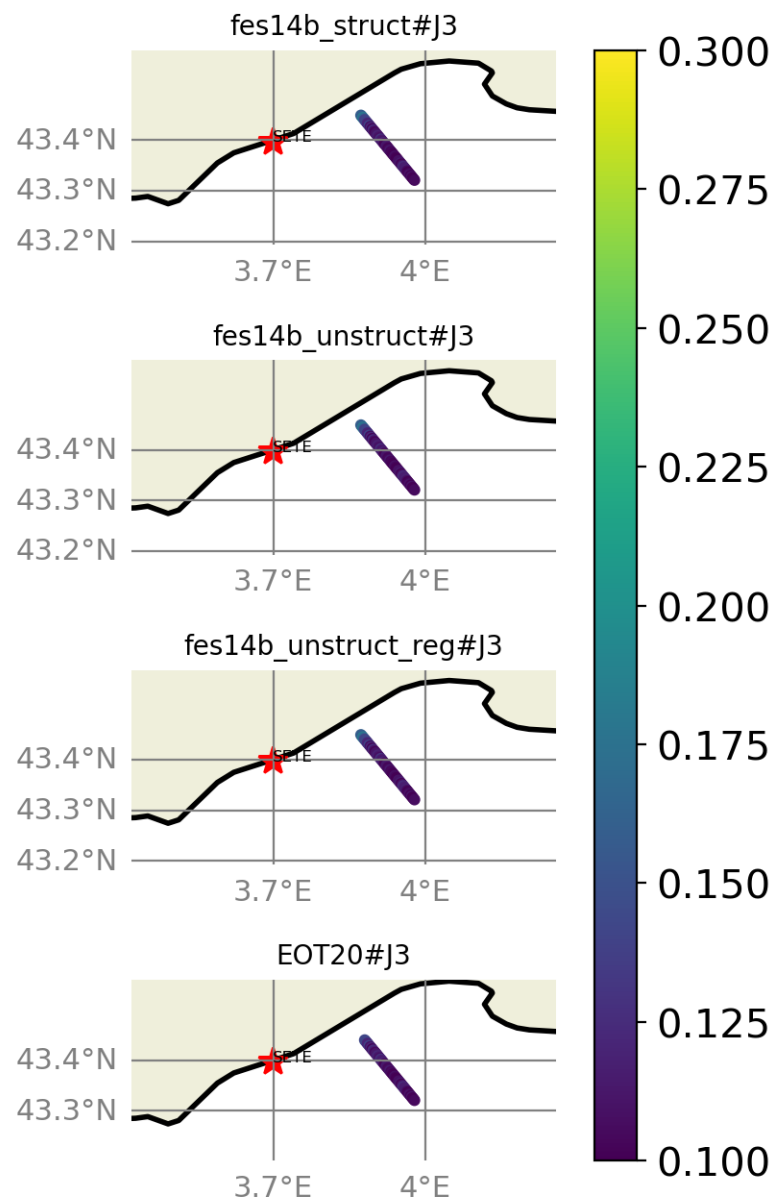


FIGURE 72 – rmsd visualization in maps view % SETE tide gauge

6.1.3 std visualization in maps view % SETE tide gauge

Std (m) Altimetry data with respect to SETE Tide gauge data

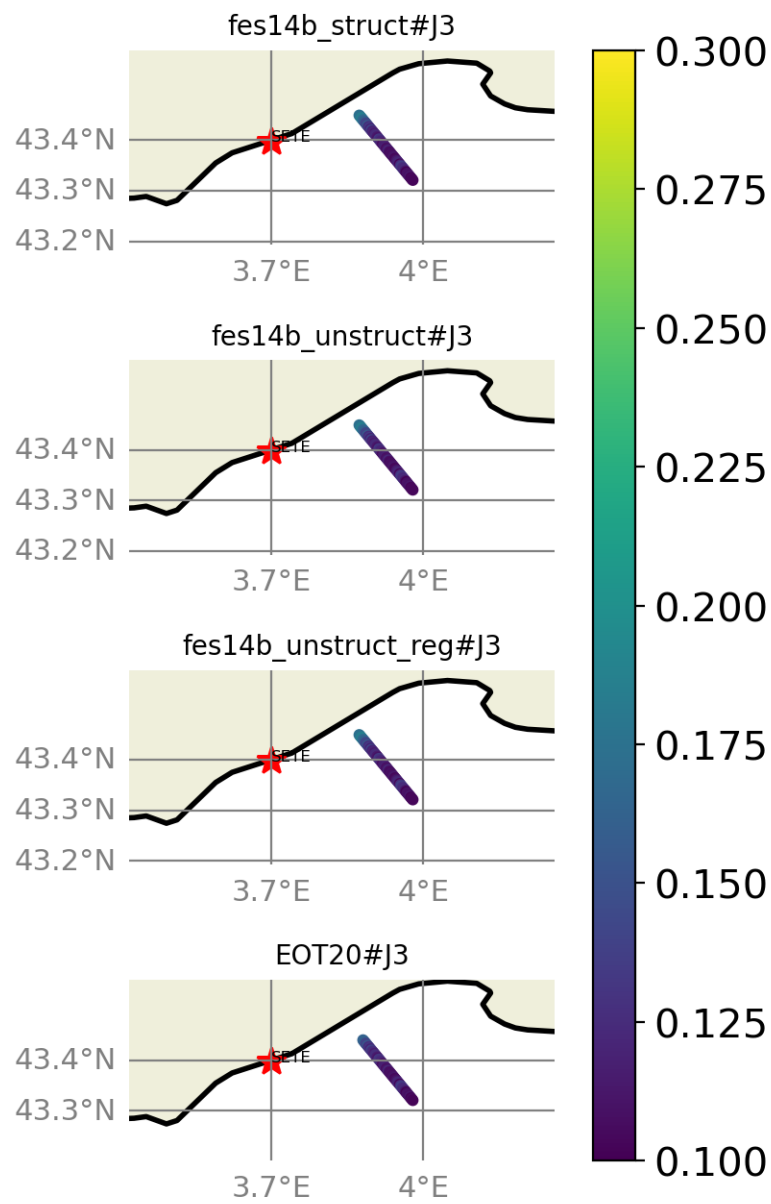


FIGURE 73 – std visualization in maps view % SETE tide gauge

6.1.4 valid_data_percent visualization in maps view % SETE tide gauge

Valid_Data_Percent (%) Altimetry data with respect to SETE Tide gauge data

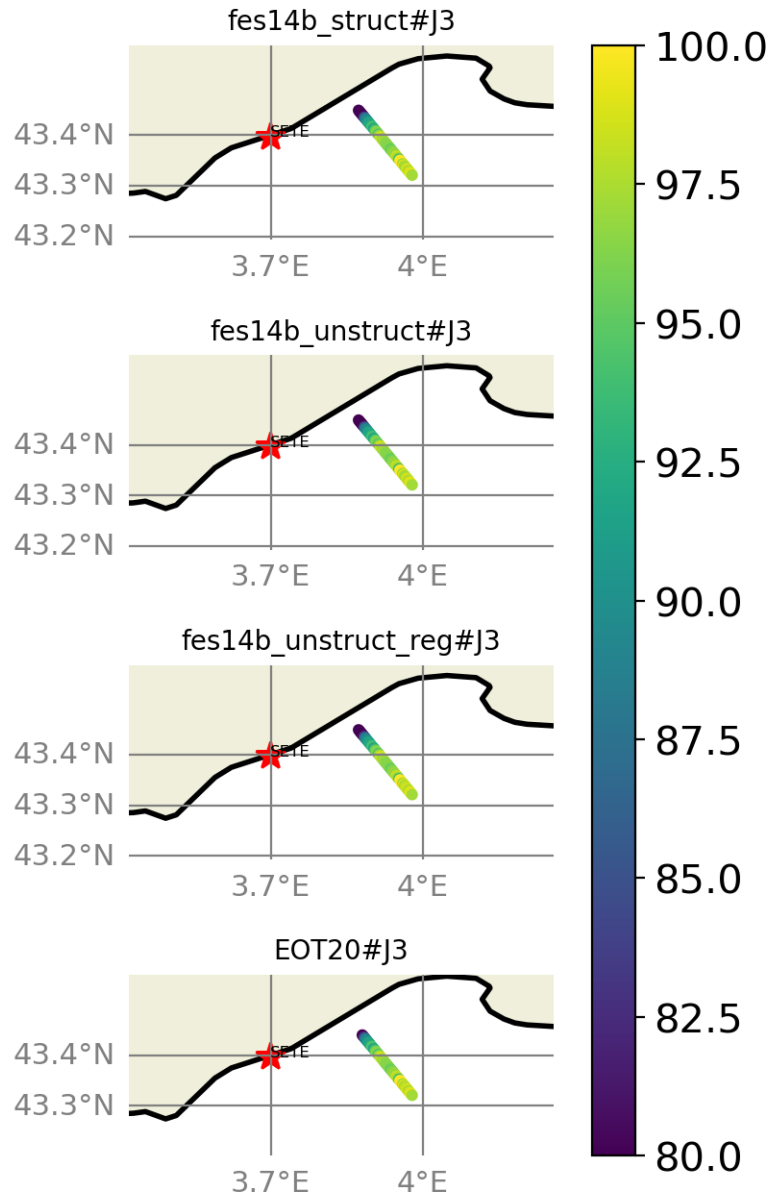


FIGURE 74 – valid_data_percent visualization in maps view % SETE tide gauge

6.1.5 Valid data (%) in function of distance to coast/SETE station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time series, i is the index of the time series, np is the number of the selected altimetry time series. $maxNB = 109$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

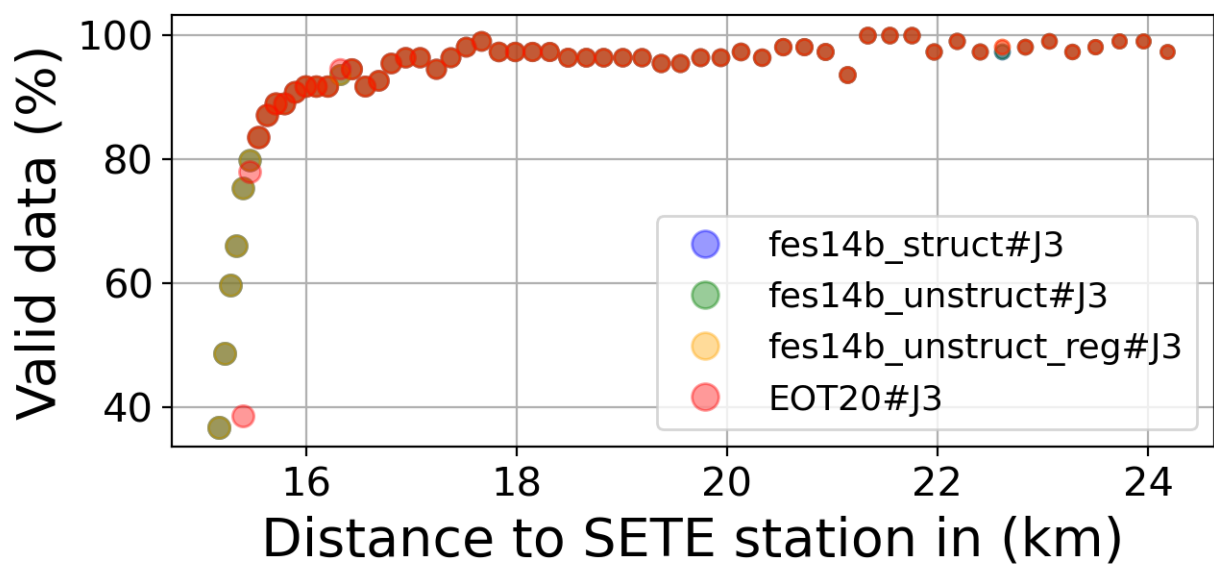
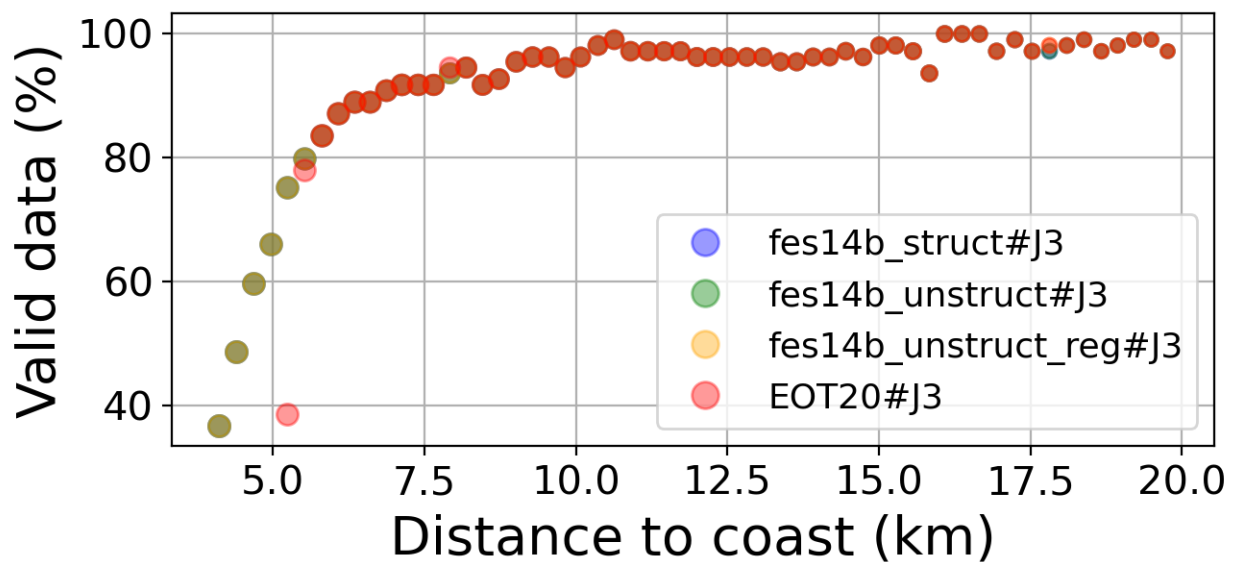


FIGURE 75 – Valid data (%) in function of distance to coast/SETE station

6.1.6 Std in function of distance to coast/SETE station

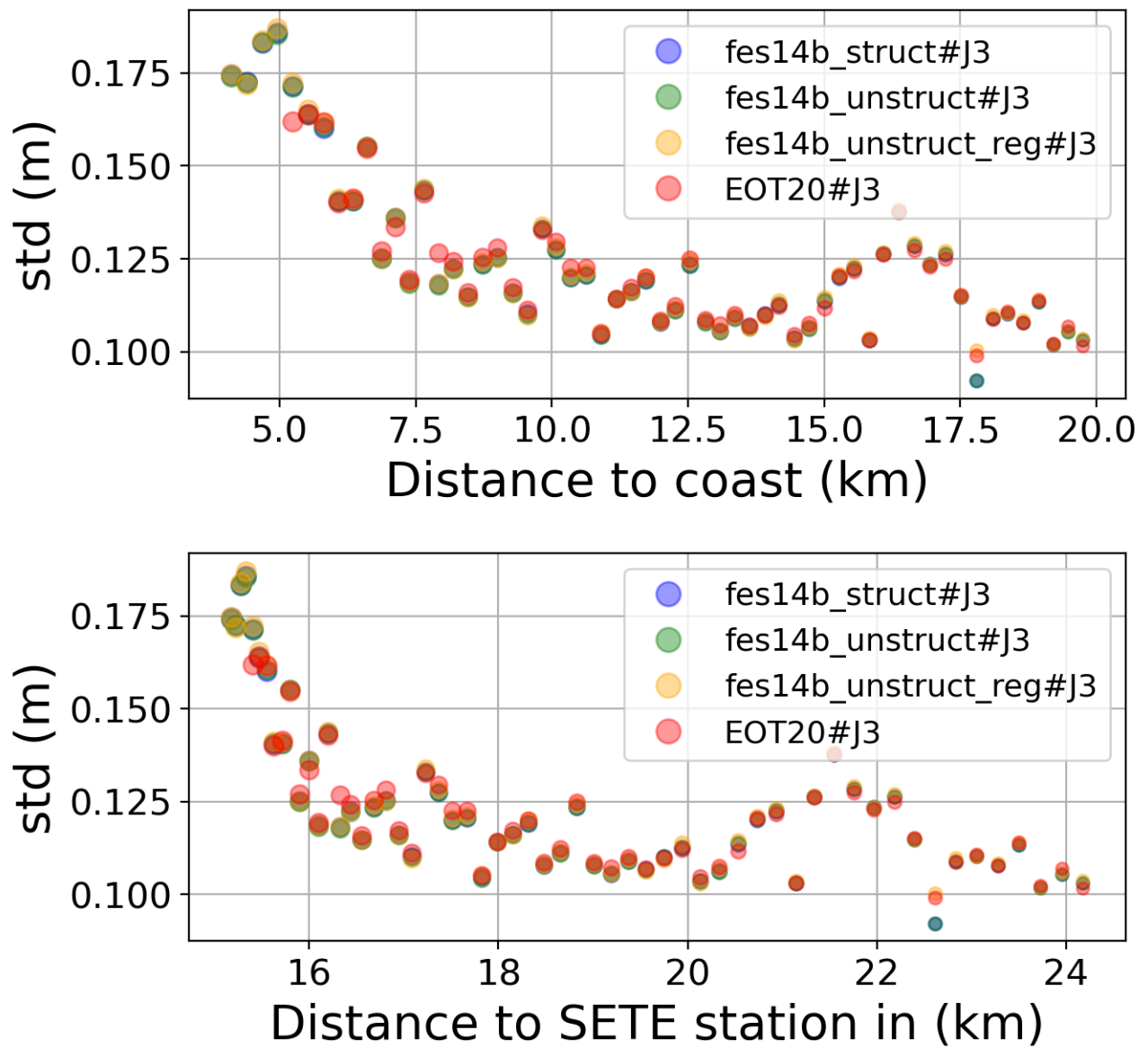


FIGURE 76 – Std in function of the distance to the coast/SETE station

6.1.7 Correlation in function of distance to coast/SETE station

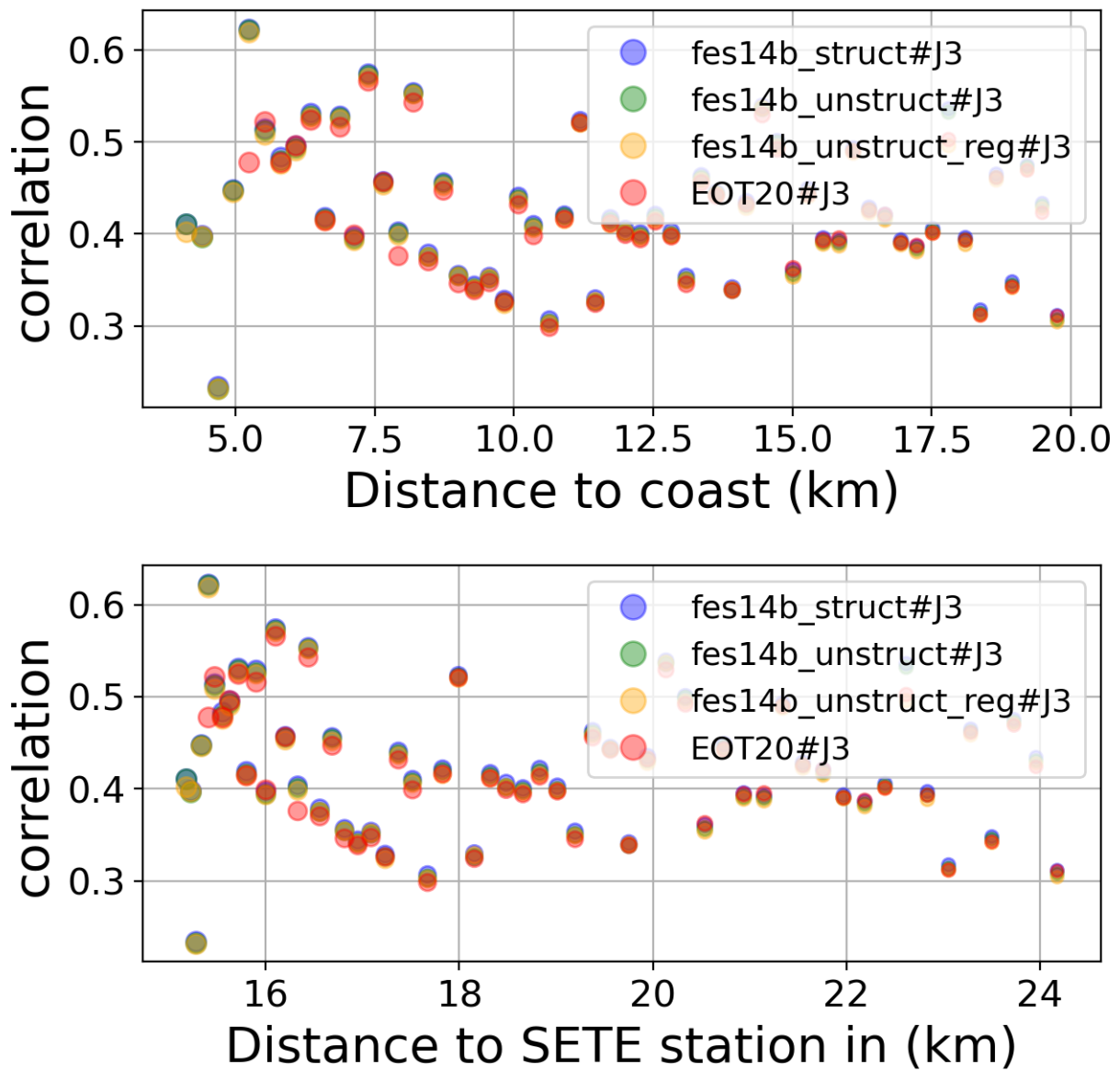


FIGURE 77 – Correlation in function of the distance to the coast/SETE station

6.1.8 Taylor Diagram

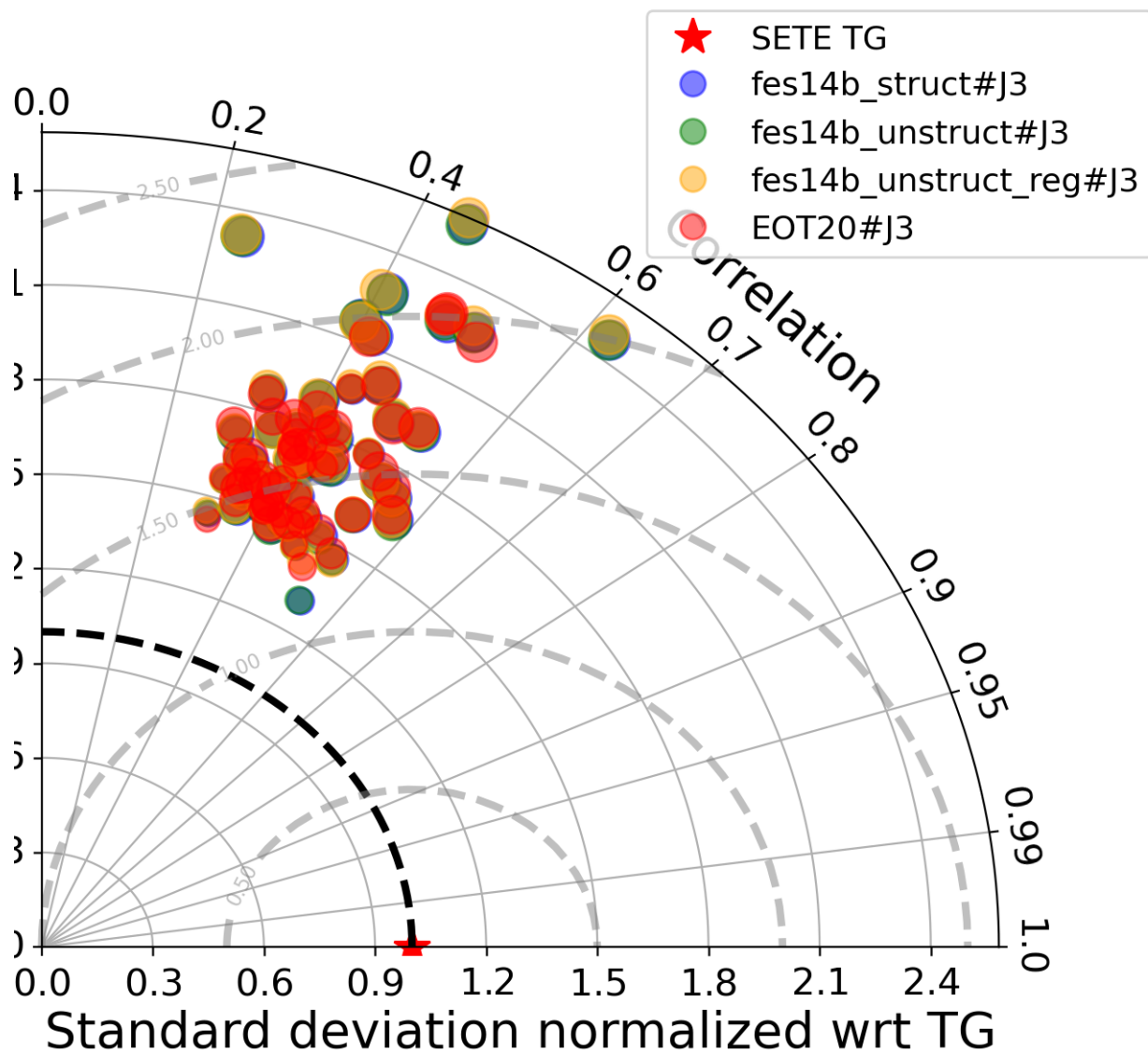


FIGURE 78 – Taylor diagram

6.1.9 Mean statistics table of products comparison with SETE tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	95.039	0.429	0.12	0.111
fes14b_unstruct#j3	95.039	0.426	0.12	0.111
fes14b_unstruct_reg#j3	95.056	0.424	0.121	0.112
EOT20#j3	94.359	0.421	0.121	0.112

FIGURE 79 – Mean statistics table of the common points in the altimetry products

6.1.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 109 point.

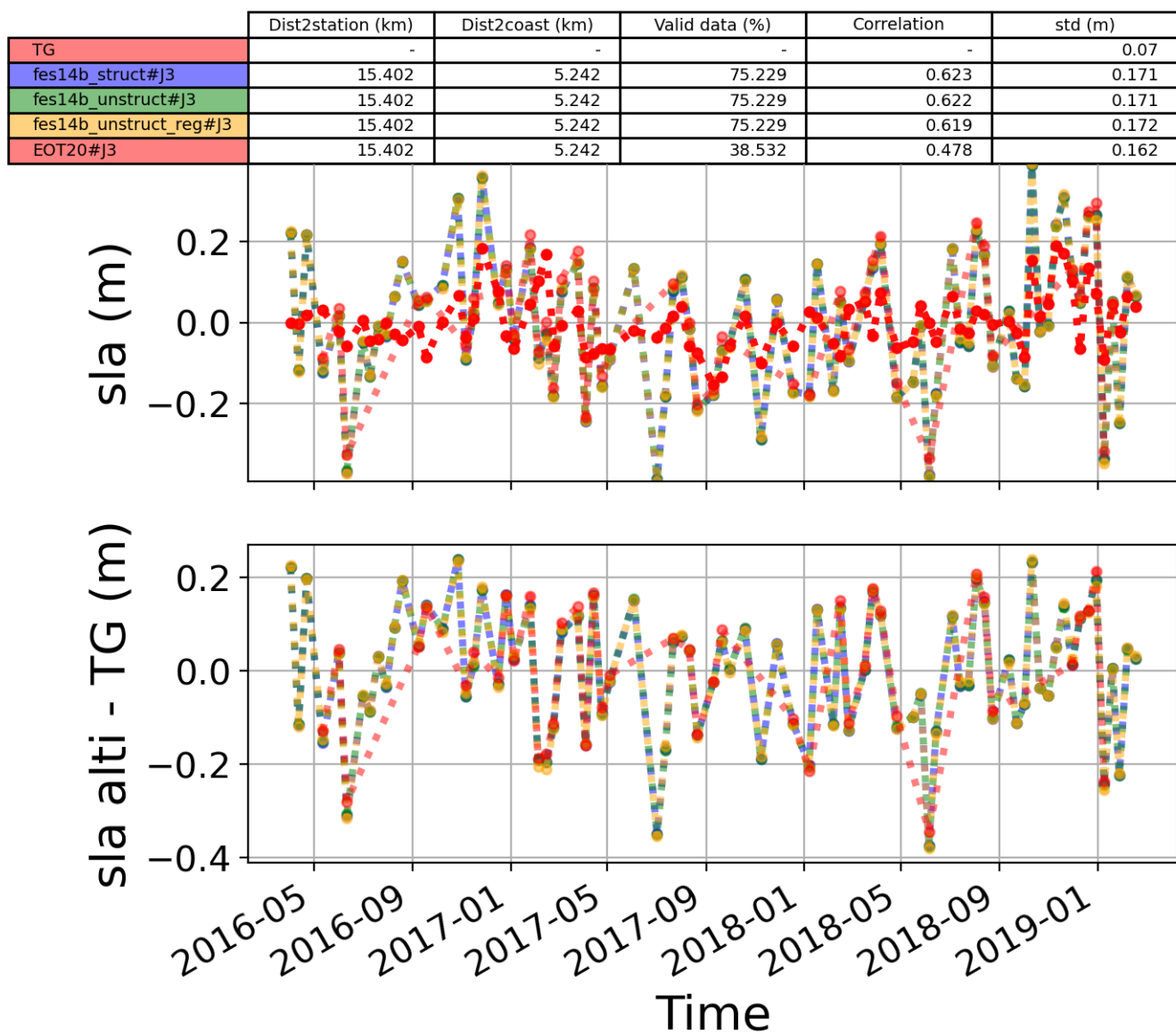


FIGURE 80 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

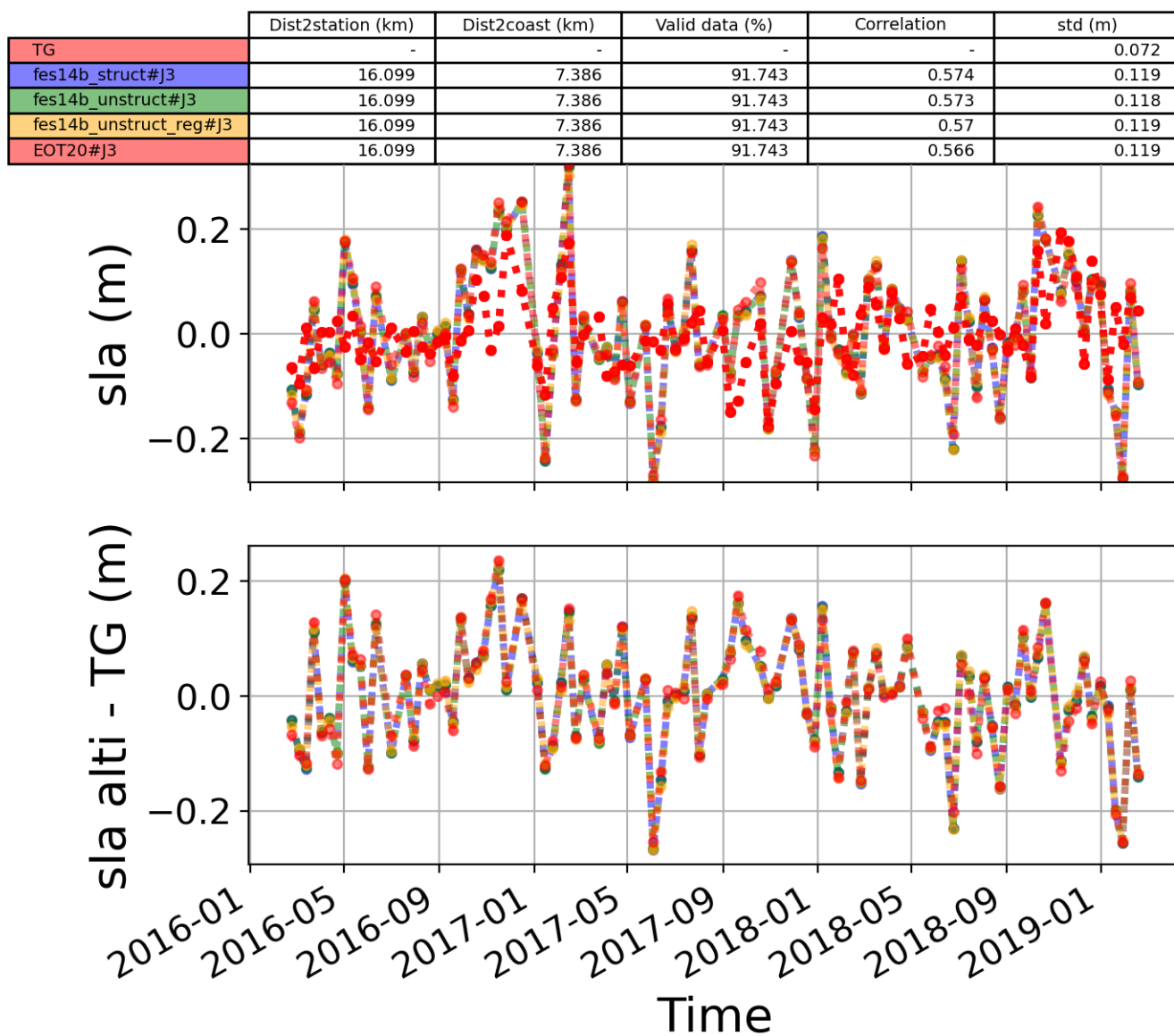


FIGURE 81 – The 2nd most correlated sla altimetry Time serie with tide gauge sla time serie

6.2 Station : Mentès

- Nearest track to Mentès station is the track number track109
- The area of interest is limited by :
 - A circle which it's center is the Mentès tide gauge station location and has a Radius of 40 Km
 - Maximum distance to the coast : 20 Km
 - Latitude limits : $[38.5, 39]^\circ$

6.2.1 correlation visualization in maps view % Mentos tide gauge

Correlation Altimetry data with respect to Mentos Tide gauge data

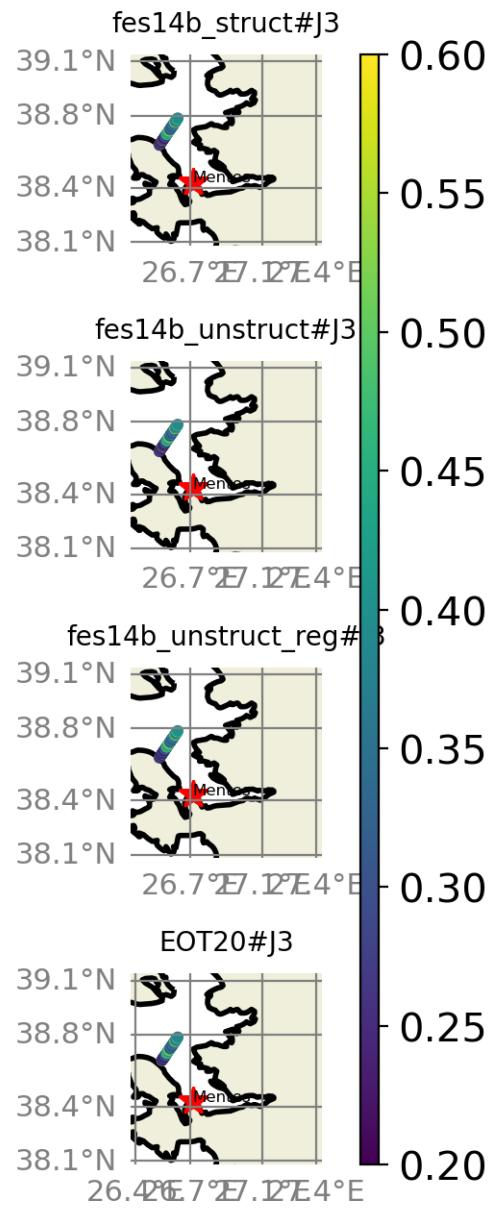


FIGURE 82 – correlation visualization in maps view % Mentos tide gauge

6.2.2 rmsd visualization in maps view % Mentès tide gauge

Rmsd (m) Altimetry data with respect to Mentès Tide gauge data

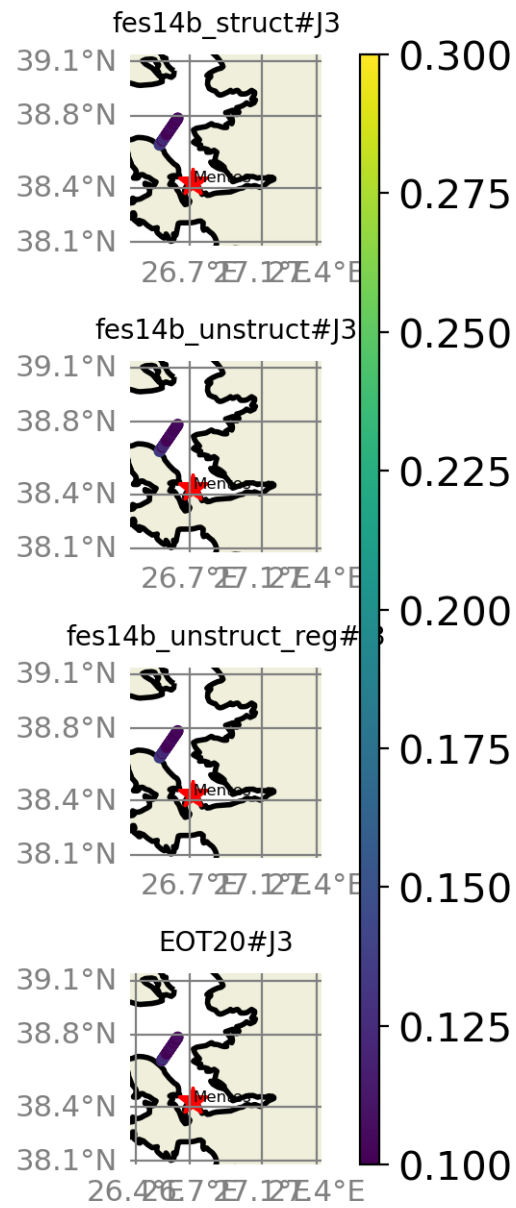


FIGURE 83 – rmsd visualization in maps view % Mentès tide gauge

6.2.3 std visualization in maps view % Mentos tide gauge

Std (m) Altimetry data with respect to Mentos Tide gauge data

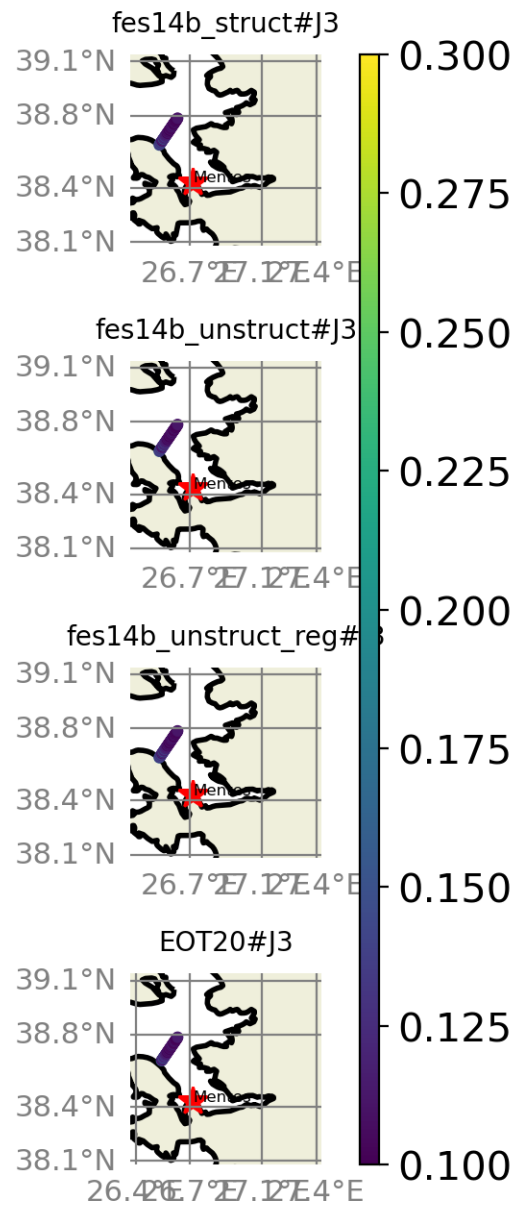


FIGURE 84 – std visualization in maps view % Mentos tide gauge

6.2.4 valid_data_percent visualization in maps view % Mentos tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Mentos Tide gauge data

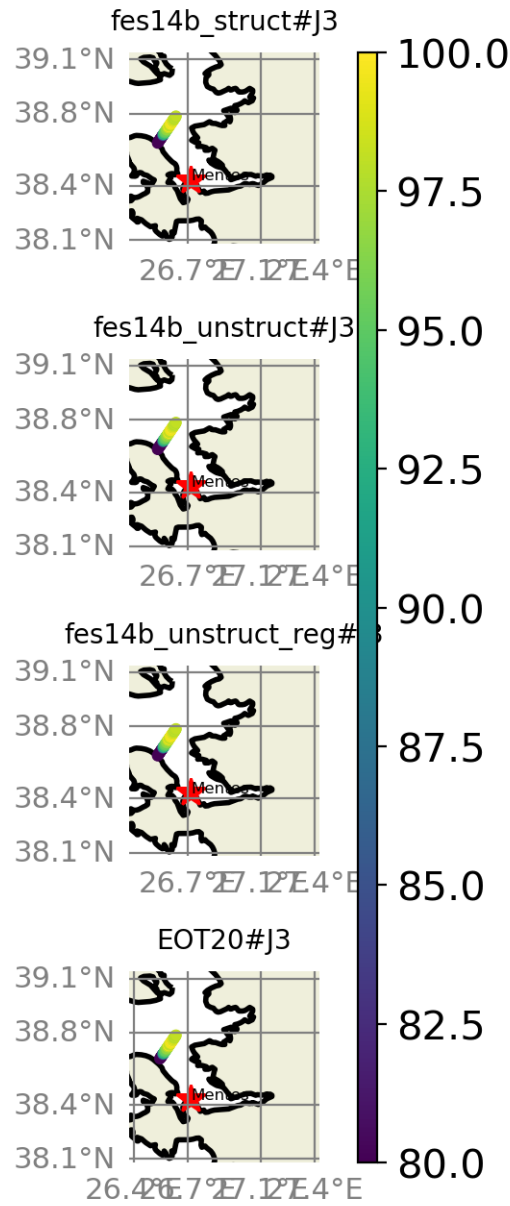


FIGURE 85 – valid_data_percent visualization in maps view % Mentos tide gauge

6.2.5 Valid data (%) in function of distance to coast/Mentos station

The formula to calculate the percentage of valid data in each time serie is ;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

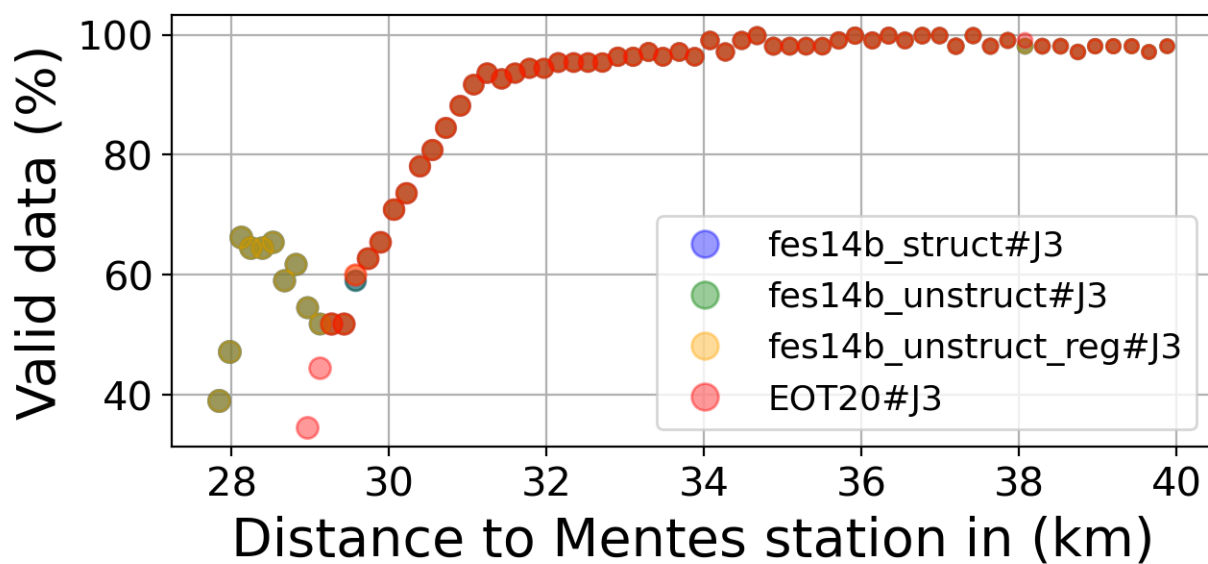
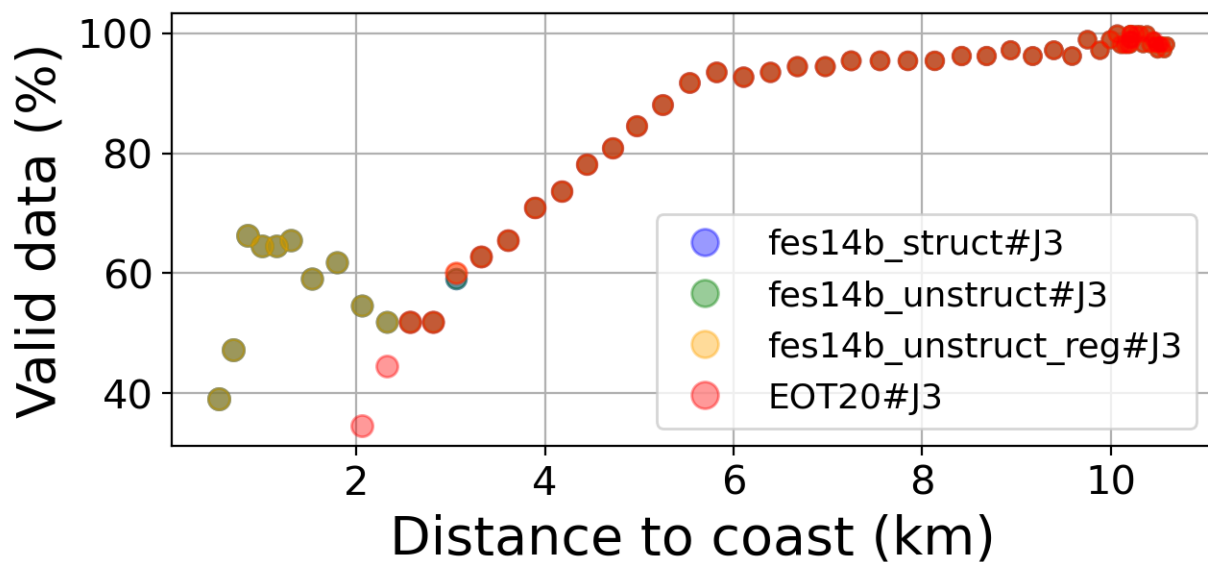


FIGURE 86 – Valid data (%) in function of distance to coast/Mentés station

6.2.6 Std in function of distance to coast/Mentes station

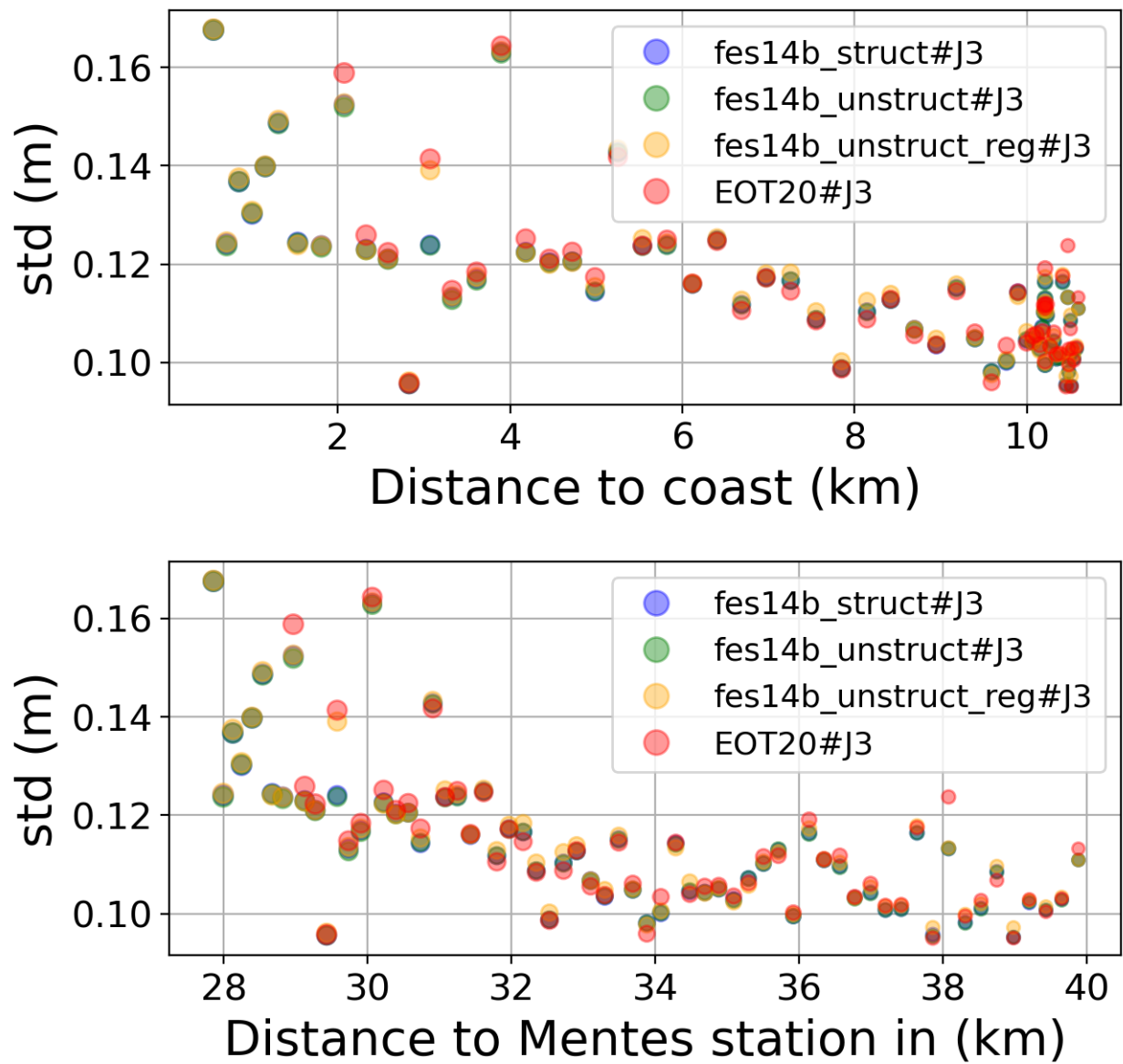


FIGURE 87 – Std in function of the distance to the coast/Mentes station

6.2.7 Correlation in function of distance to coast/Mentes station

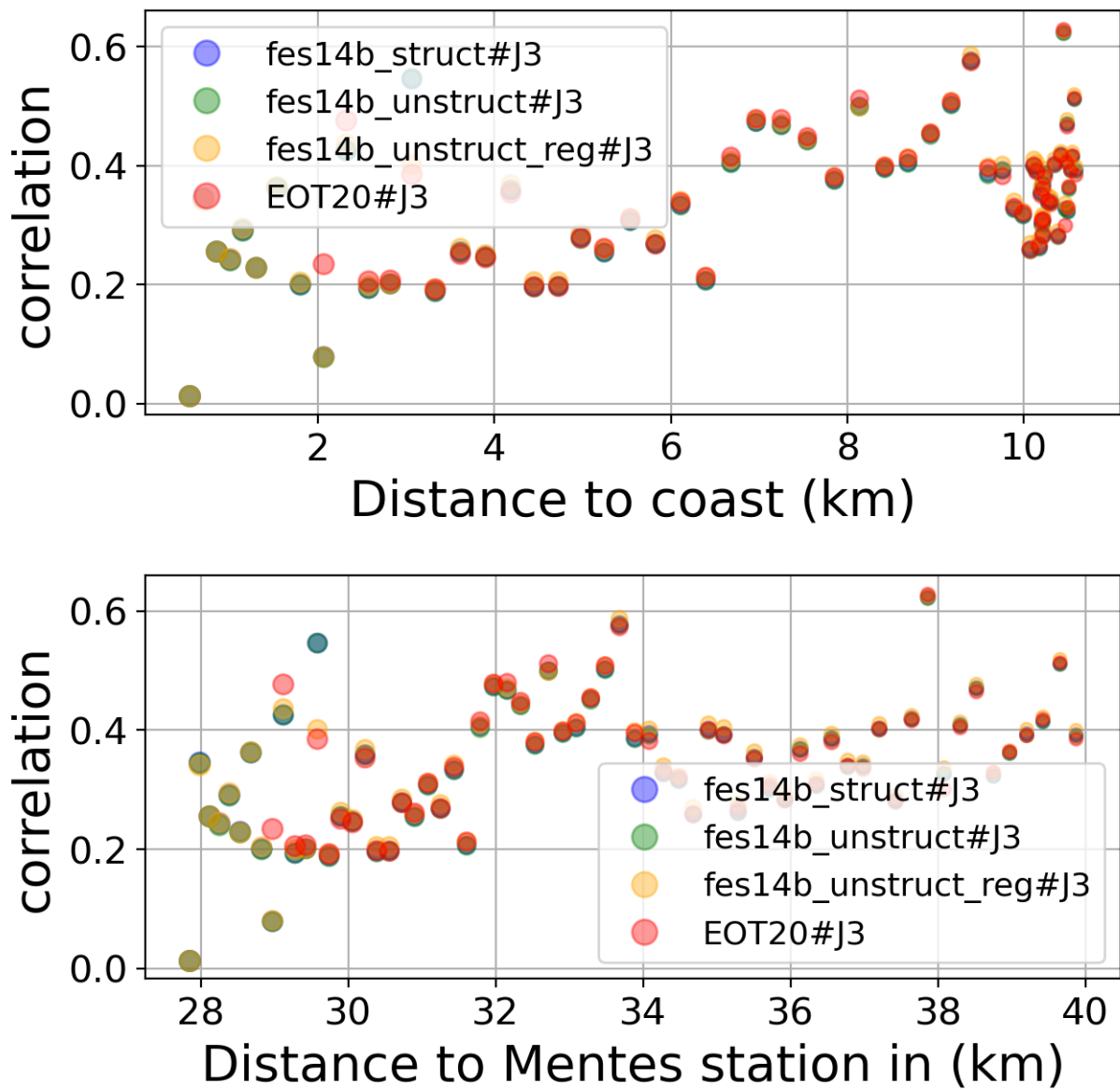


FIGURE 88 – Correlation in function of the distance to the coast/Mentes station

6.2.8 Taylor Diagram

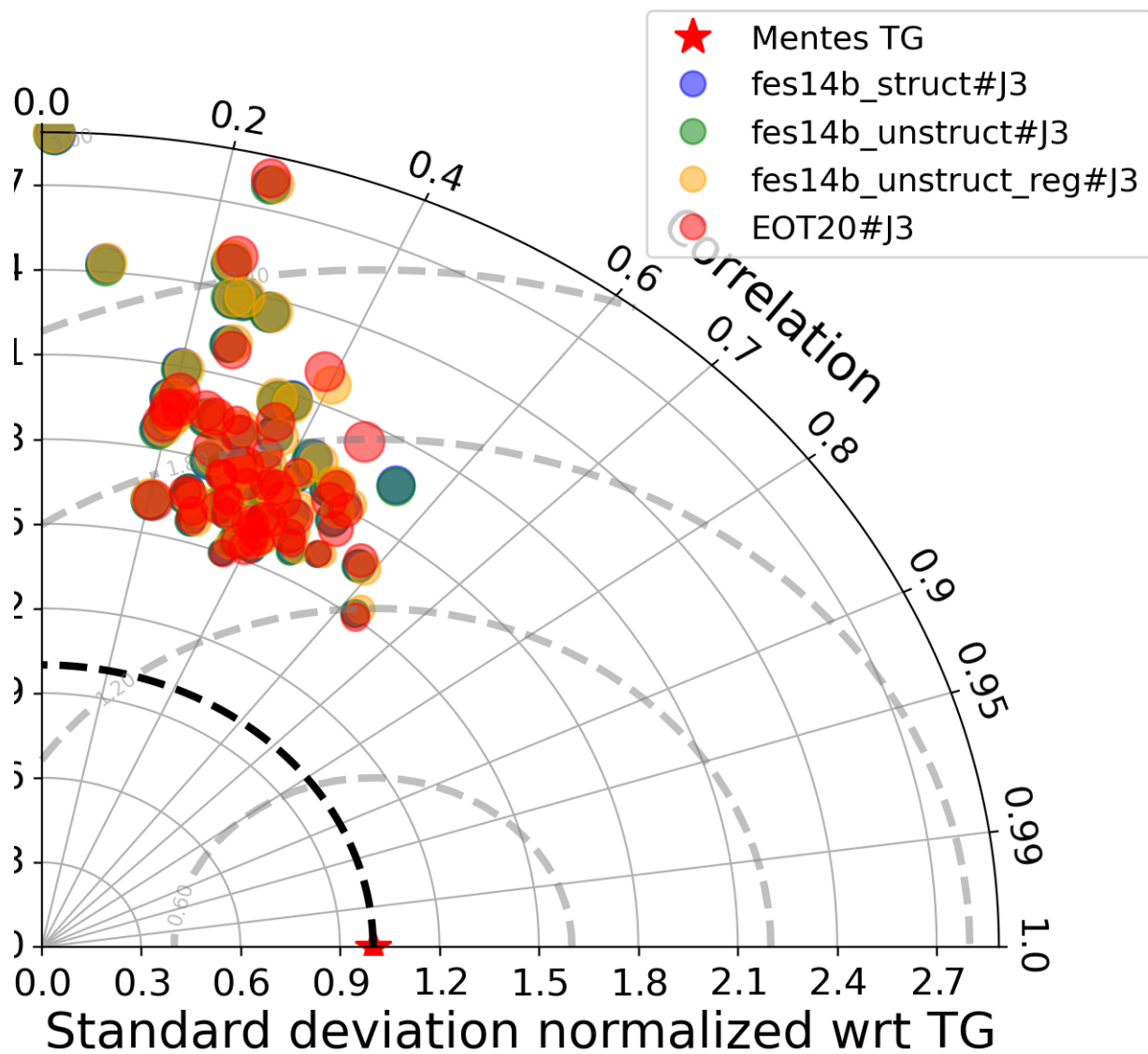


FIGURE 89 – Taylor diagram

6.2.9 Mean statistics table of products comparison with Menten tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	90.51	0.357	0.112	0.107
fes14b_unstruct#j3	90.51	0.355	0.112	0.107
fes14b_unstruct_reg#j3	90.526	0.361	0.113	0.108
EOT20#j3	90.064	0.358	0.113	0.108

FIGURE 90 – Mean statistics table of the common points in the altimetry products

6.2.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

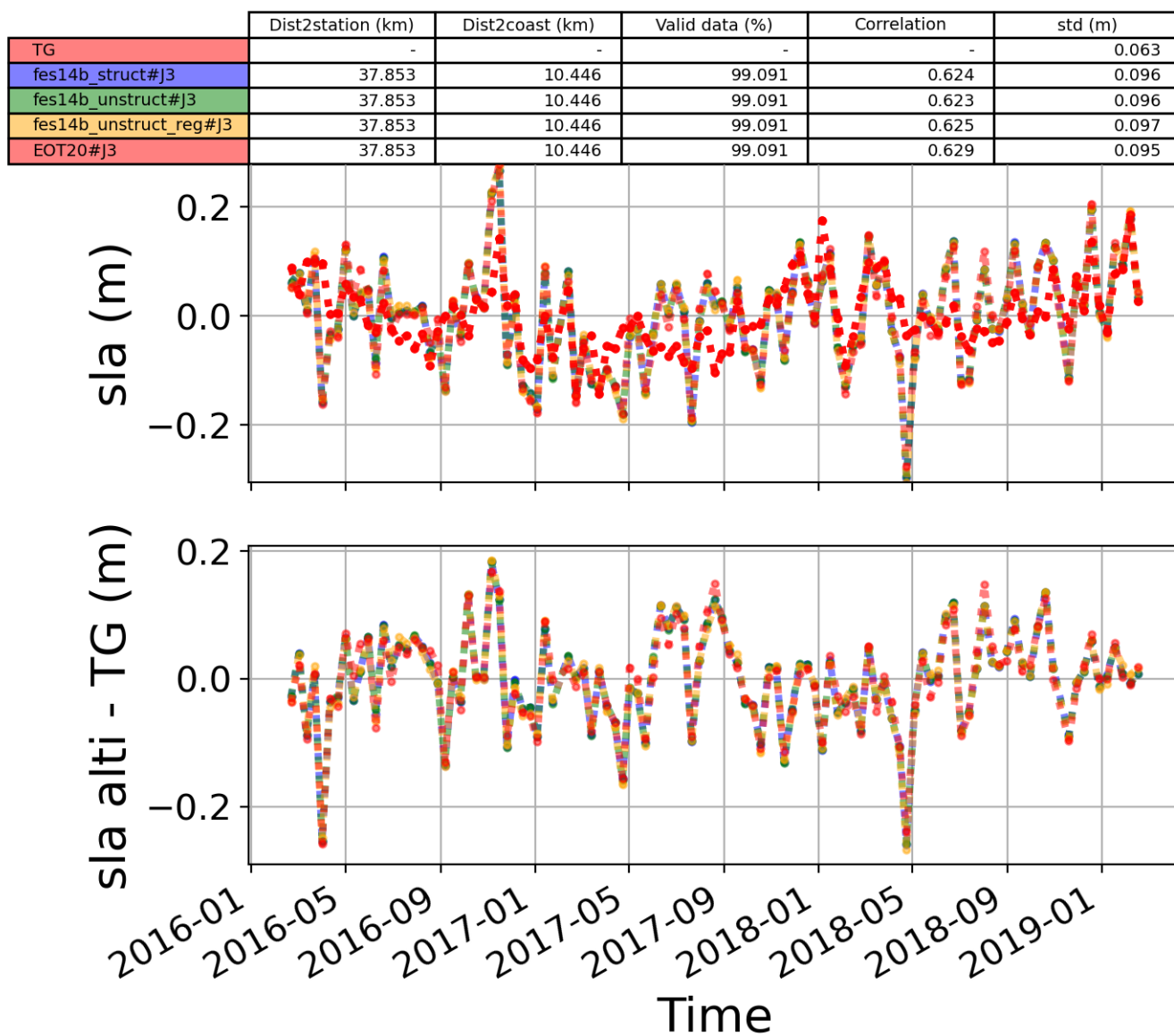


FIGURE 91 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.3 Station : Ibiza

- Nearest track to Ibiza station is the track number track248
- The area of interest is limited by :
 - A circle which it's center is the Ibiza tide gauge station location and has a Raduis of 40 Km
 - Maximum distance to the coast : 20 Km
 - Latitude limits : [38.6, 39.05] °

6.3.1 correlation visualization in maps view % Ibiza tide gauge

Correlation Altimetry data with respect to Ibiza Tide gauge data

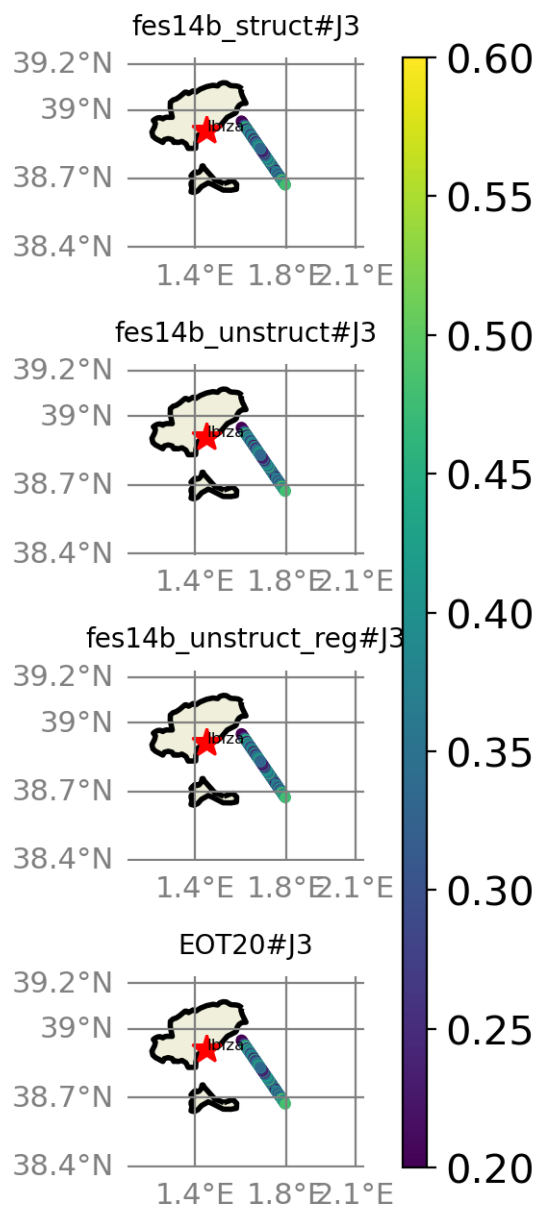


FIGURE 92 – correlation visualization in maps view % Ibiza tide gauge

6.3.2 rmsd visualization in maps view % Ibiza tide gauge

Rmsd (m) Altimetry data with respect to Ibiza Tide gauge data

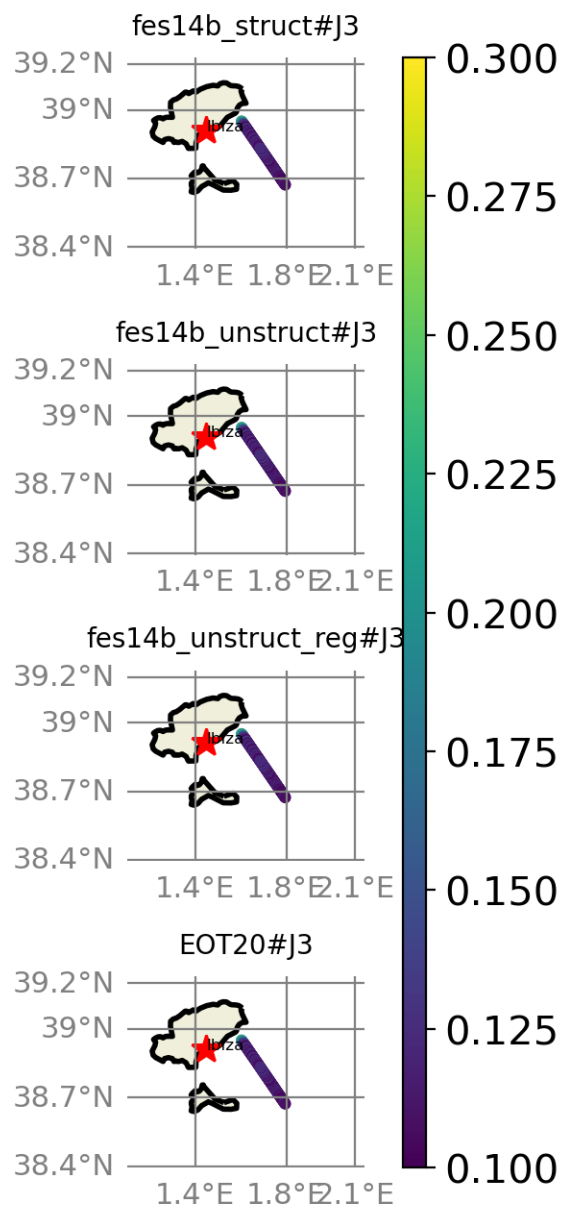


FIGURE 93 – rmsd visualization in maps view % Ibiza tide gauge

6.3.3 std visualization in maps view % Ibiza tide gauge

Std (m) Altimetry data with respect to Ibiza Tide gauge data

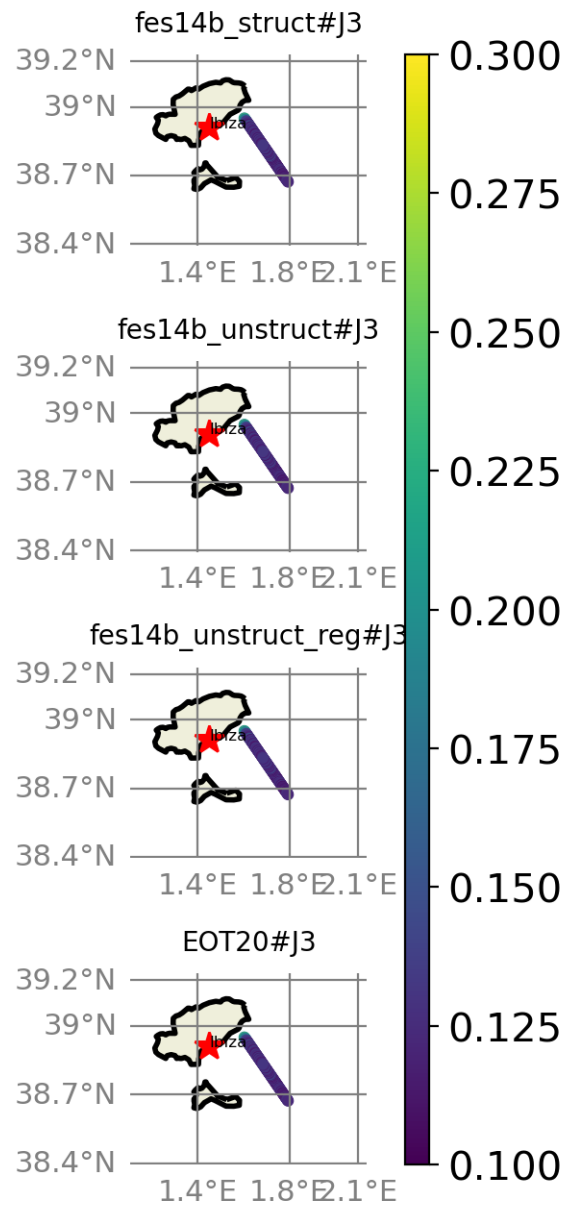


FIGURE 94 – std visualization in maps view % Ibiza tide gauge

6.3.4 valid_data_percent visualization in maps view % Ibiza tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Ibiza Tide gauge data

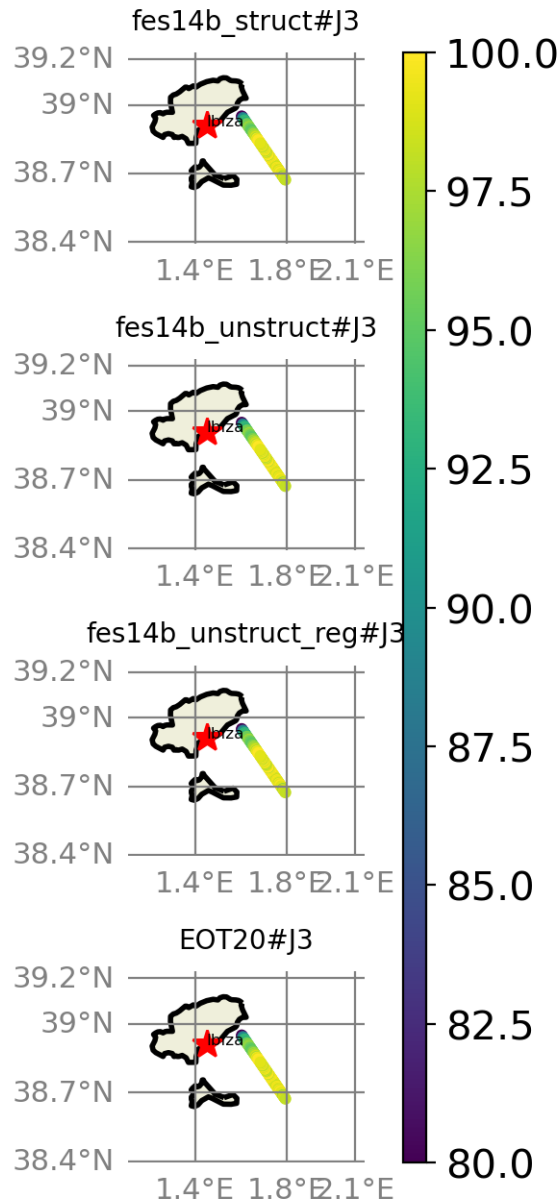


FIGURE 95 – valid_data_percent visualization in maps view % Ibiza tide gauge

6.3.5 Valid data (%) in function of distance to coast/Ibiza station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

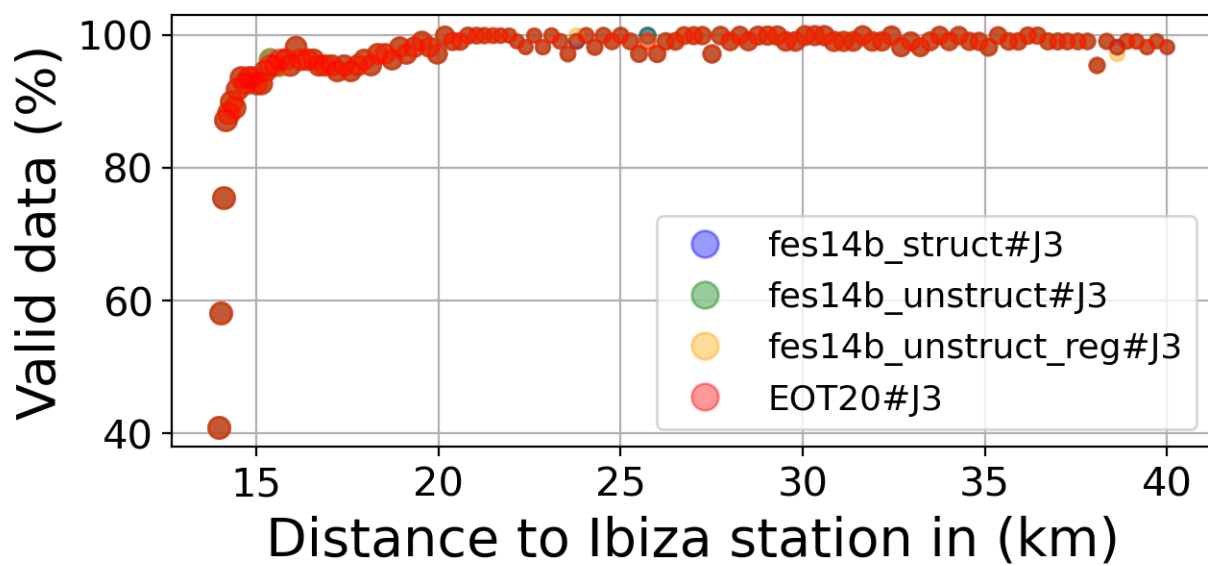
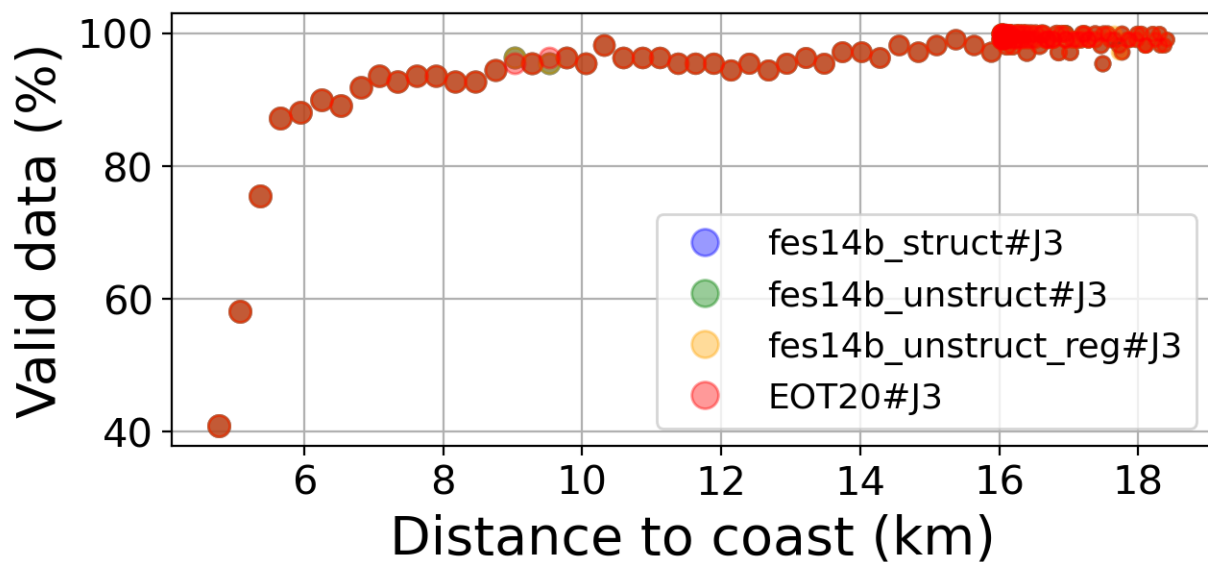


FIGURE 96 – Valid data (%) in function of distance to coast/Ibiza station

6.3.6 Std in function of distance to coast/Ibiza station

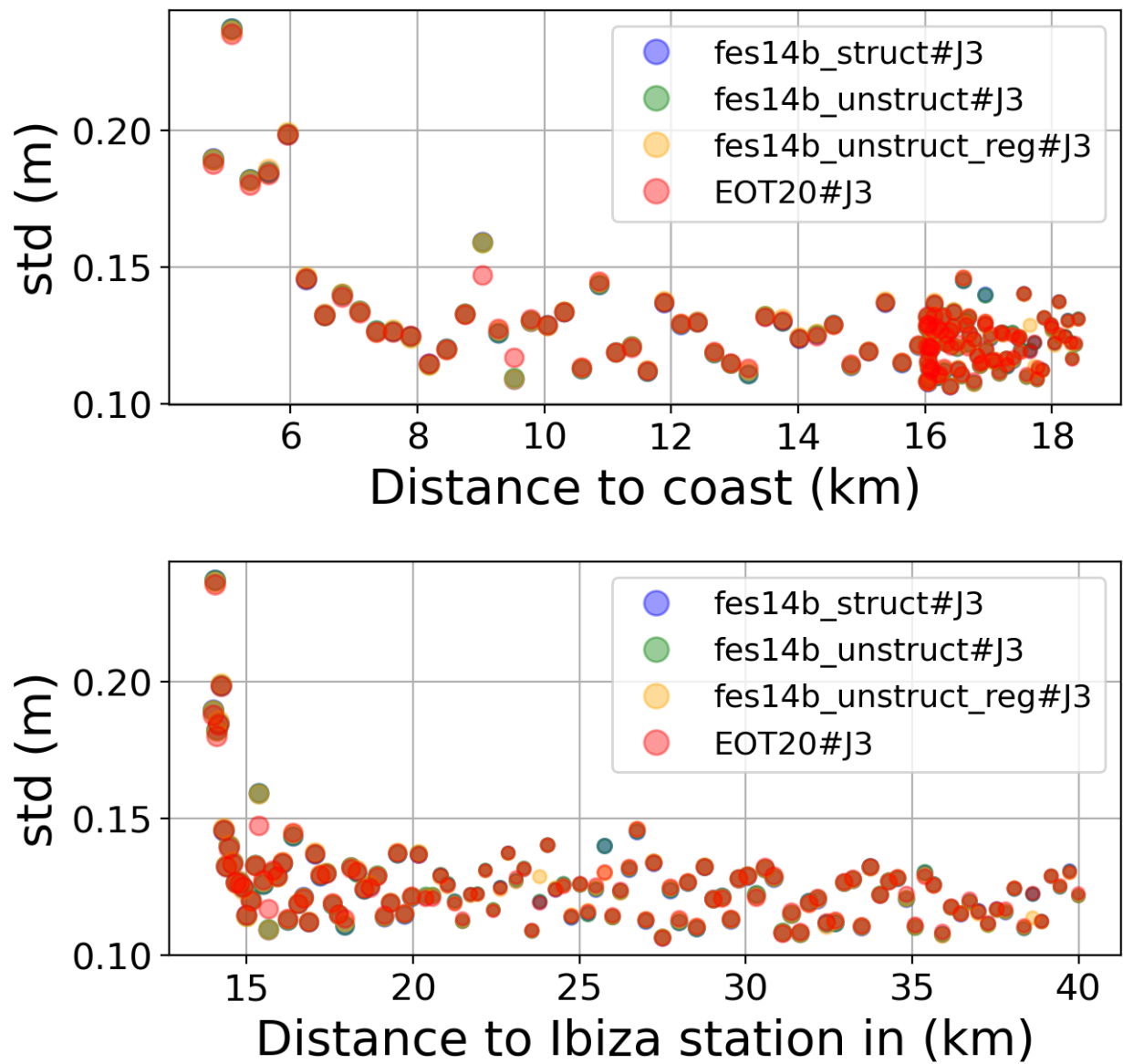


FIGURE 97 – Std in function of the distance to the coast/Ibiza station

6.3.7 Correlation in function of distance to coast/Ibiza station

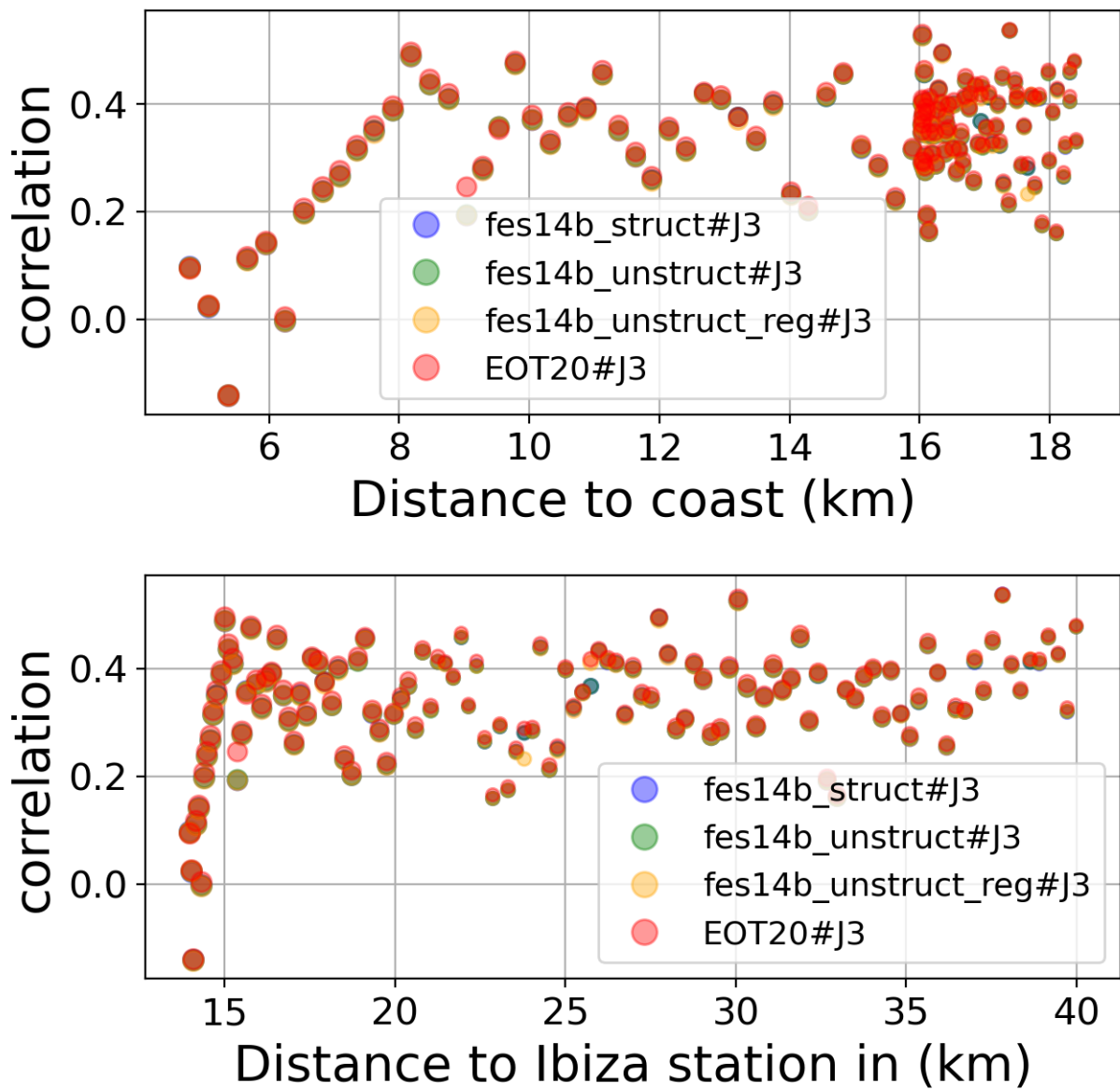


FIGURE 98 – Correlation in function of the distance to the coast/Ibiza station

6.3.8 Taylor Diagram

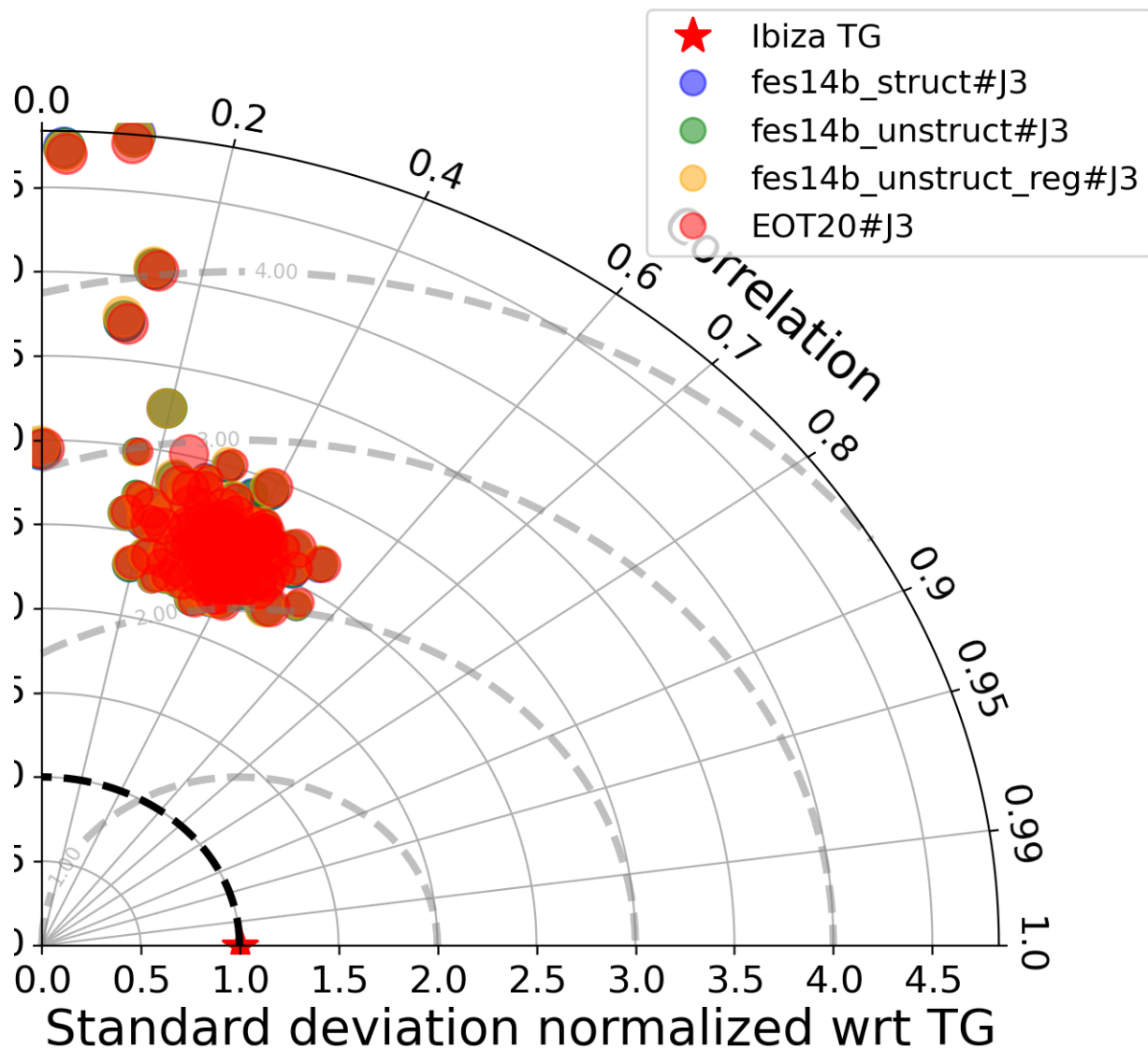


FIGURE 99 – Taylor diagram

6.3.9 Mean statistics table of products comparison with Ibiza tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	96.822	0.336	0.127	0.119
fes14b_unstruct#j3	96.822	0.336	0.127	0.12
fes14b_unstruct_reg#j3	96.814	0.336	0.127	0.12
EOT20#j3	96.814	0.343	0.127	0.119

FIGURE 100 – Mean statistics table of the common points in the altimetry products

6.3.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

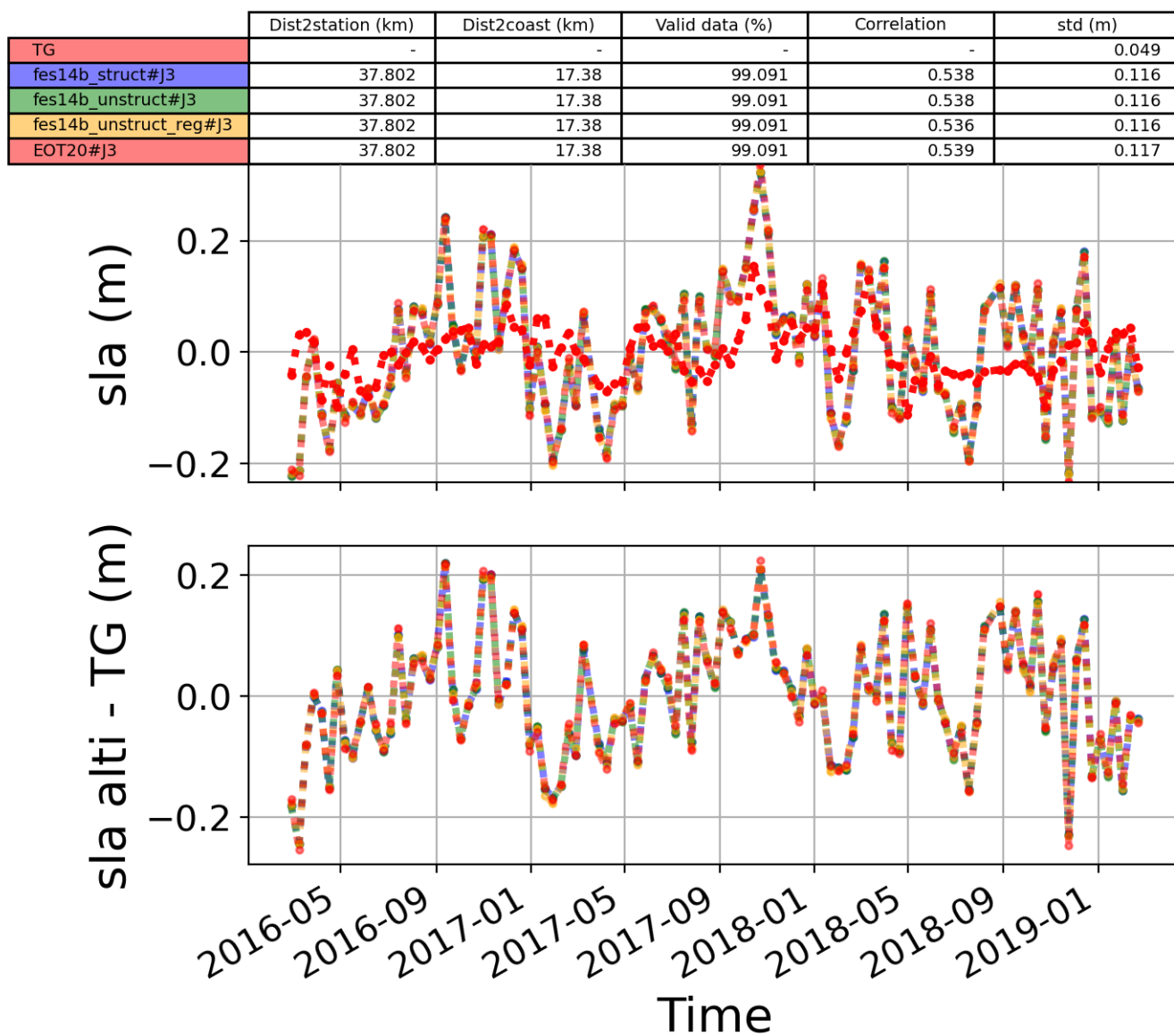


FIGURE 101 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.4 Station : LA_FIGUEIRETTE

- Nearest track to LA_FIGUEIRETTE station is the track number track222
- The area of interest is limited by :
 - A circle which it's center is the LA_FIGUEIRETTE tide gauge station location and has a Radius of 40 Km
 - Maximum distance to the coast : 20 Km

6.4.1 correlation visualization in maps view % LA_FIGUEIRETTE tide gauge

Correlation Altimetry data with respect to LA_FIGUEIRETTE Tide gauge data

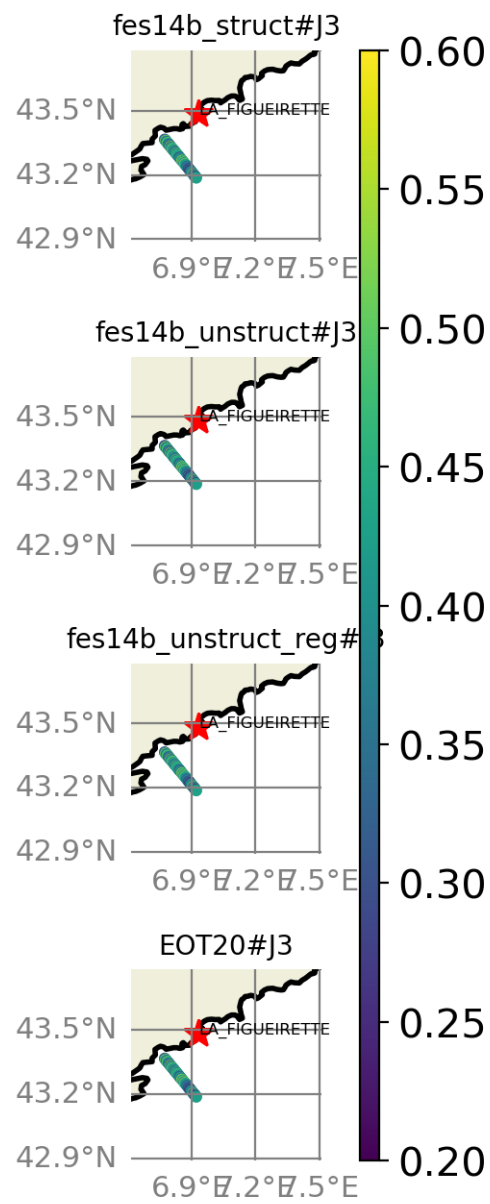


FIGURE 102 – correlation visualization in maps view % LA_FIGUEIRETTE tide gauge

6.4.2 rmsd visualization in maps view % LA_FIGUEIRETTE tide gauge

Rmsd (m) Altimetry data with respect to LA_FIGUEIRETTE Tide gauge data

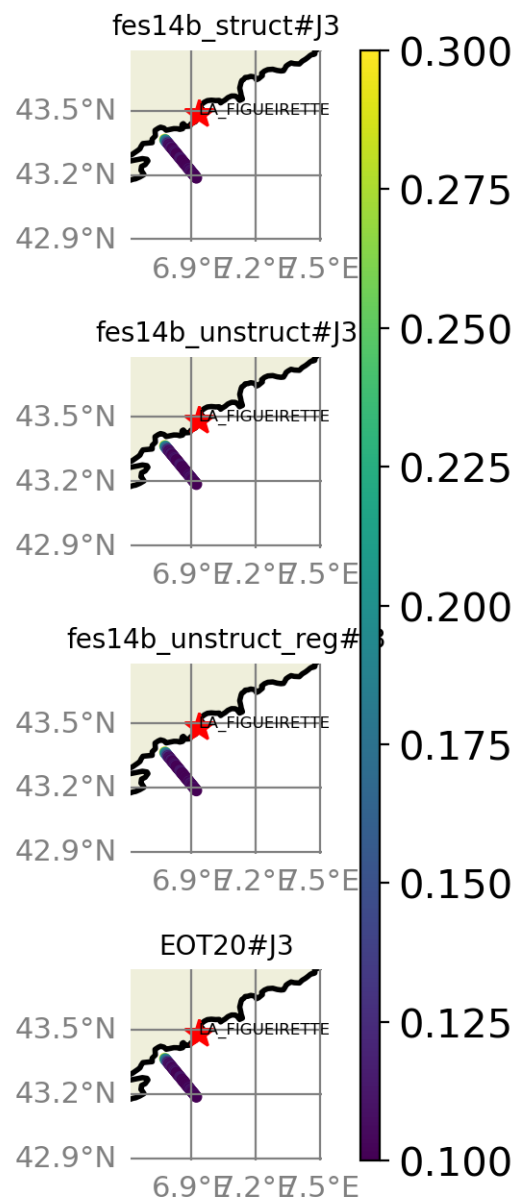


FIGURE 103 – rmsd visualization in maps view % LA_FIGUEIRETTE tide gauge

6.4.3 std visualization in maps view % LA_FIGUEIRETTE tide gauge

Std (m) Altimetry data with respect to LA_FIGUEIRETTE Tide gauge data

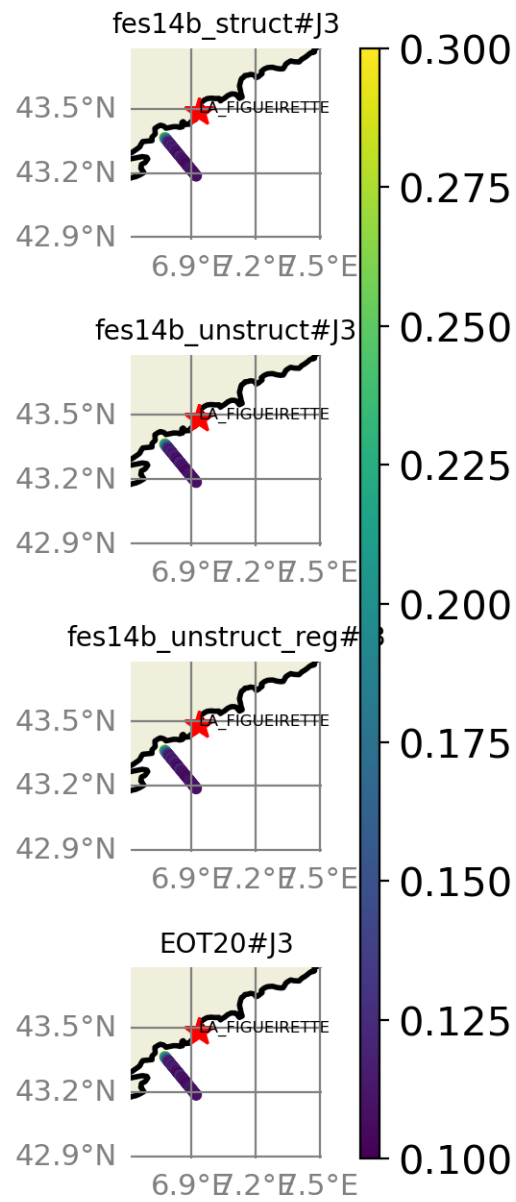


FIGURE 104 – std visualization in maps view % LA_FIGUEIRETTE tide gauge

6.4.4 valid_data_percent visualization in maps view % LA_FIGUEIRETTE tide gauge

Valid_Data_Percent (%) Altimetry data with respect to LA_FIGUEIRETTE Tide gauge data

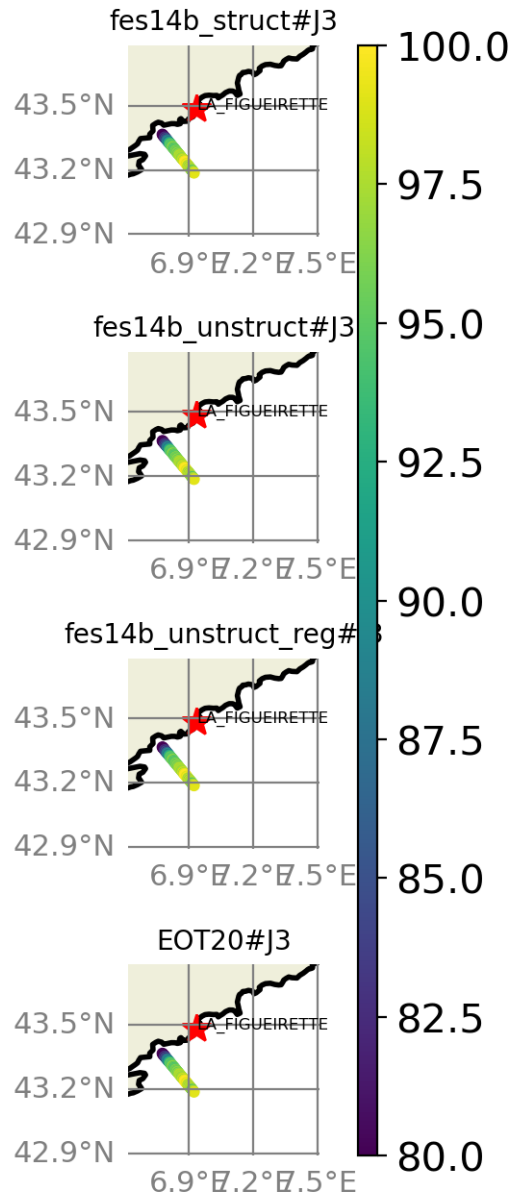


FIGURE 105 – valid_data_percent visualization in maps view % LA_FIGUEIRETTE tide gauge

6.4.5 Valid data (%) in function of distance to coast/LA_FIGUEIRETTE station

The formula to calculate the percentage of valid data in each time serie is ;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

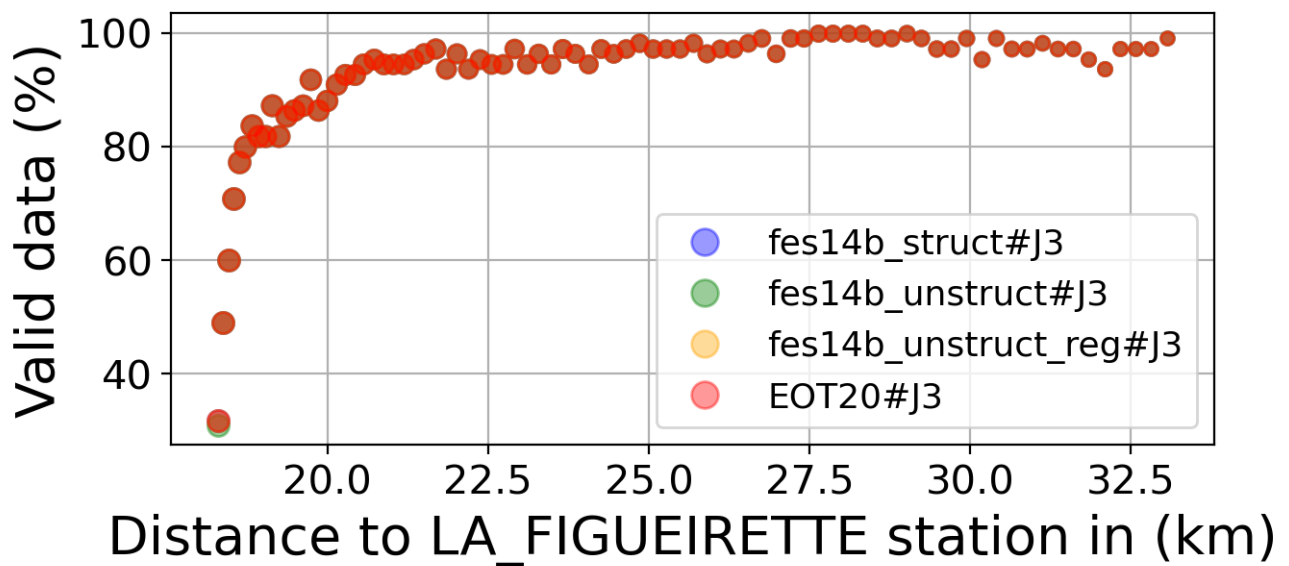
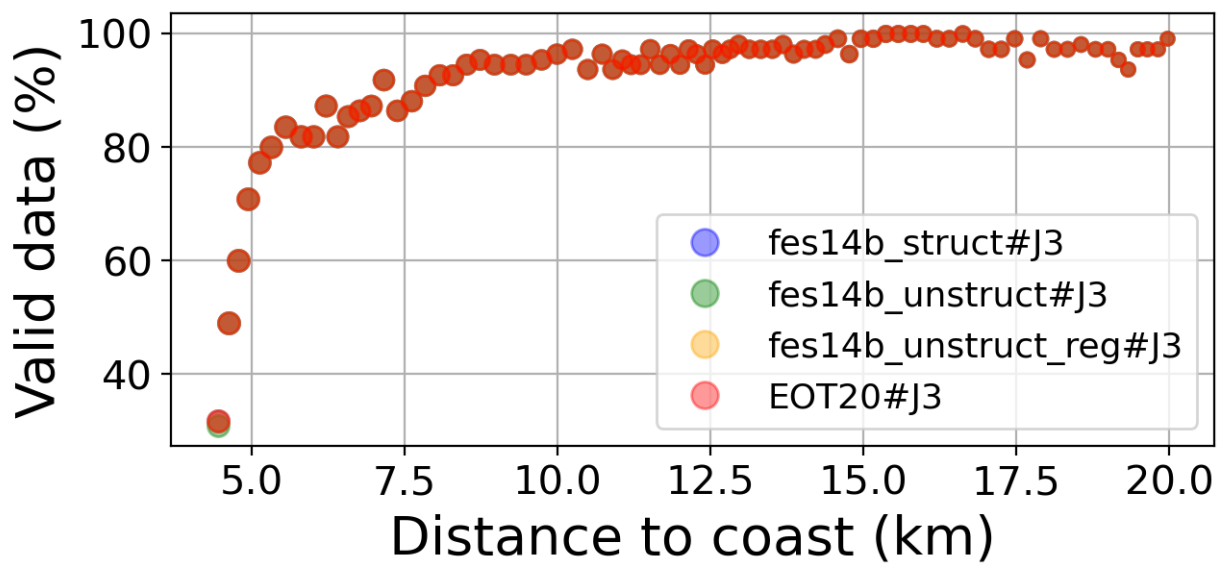


FIGURE 106 – Valid data (%) in function of distance to coast/LA_FIGUEIRETTE station

6.4.6 Std in function of distance to coast/LA_FIGUEIRETTE station

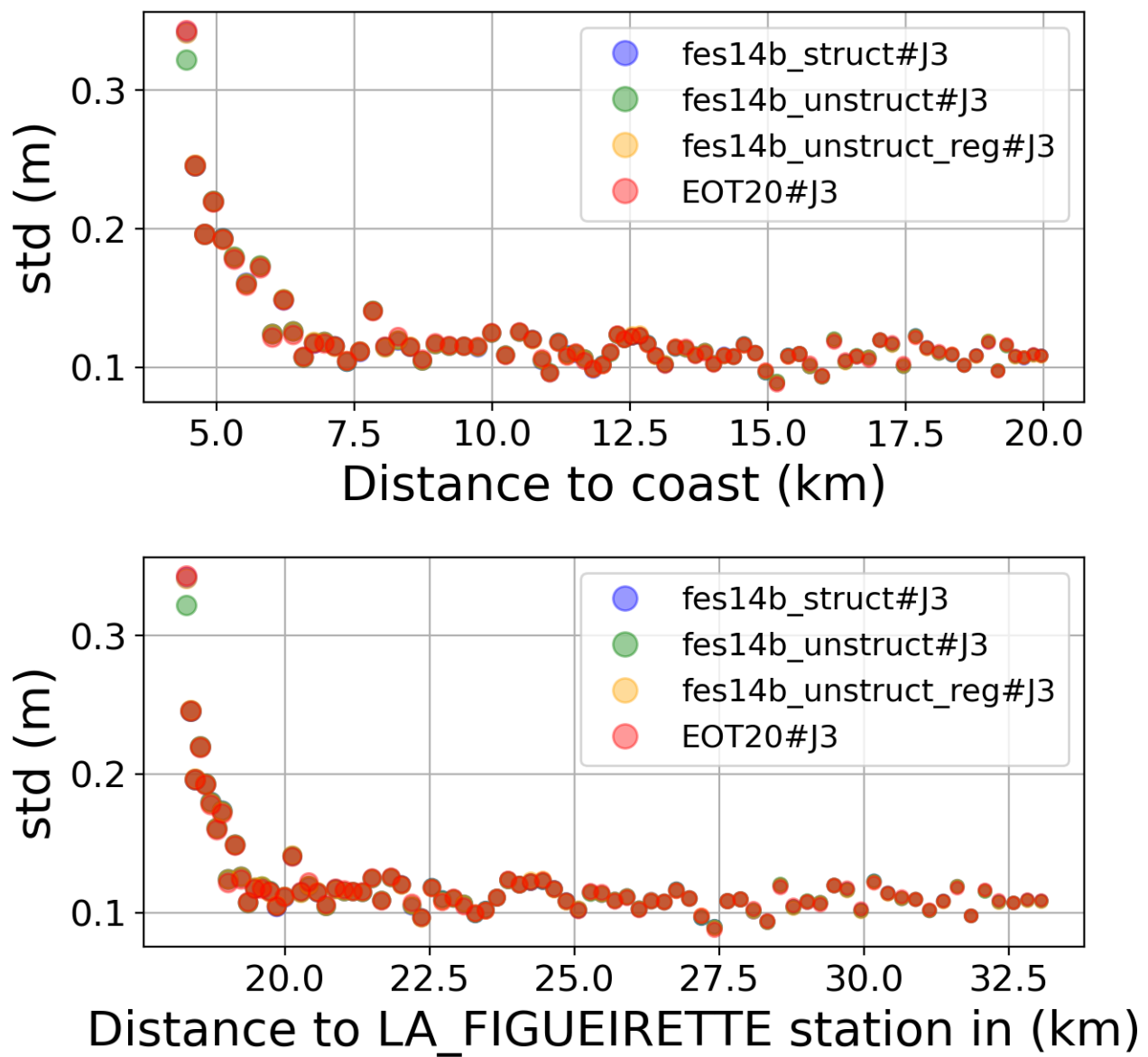


FIGURE 107 – Std in function of the distance to the coast/LA_FIGUEIRETTE station

6.4.7 Correlation in function of distance to coast/LA_FIGUEIRETTE station

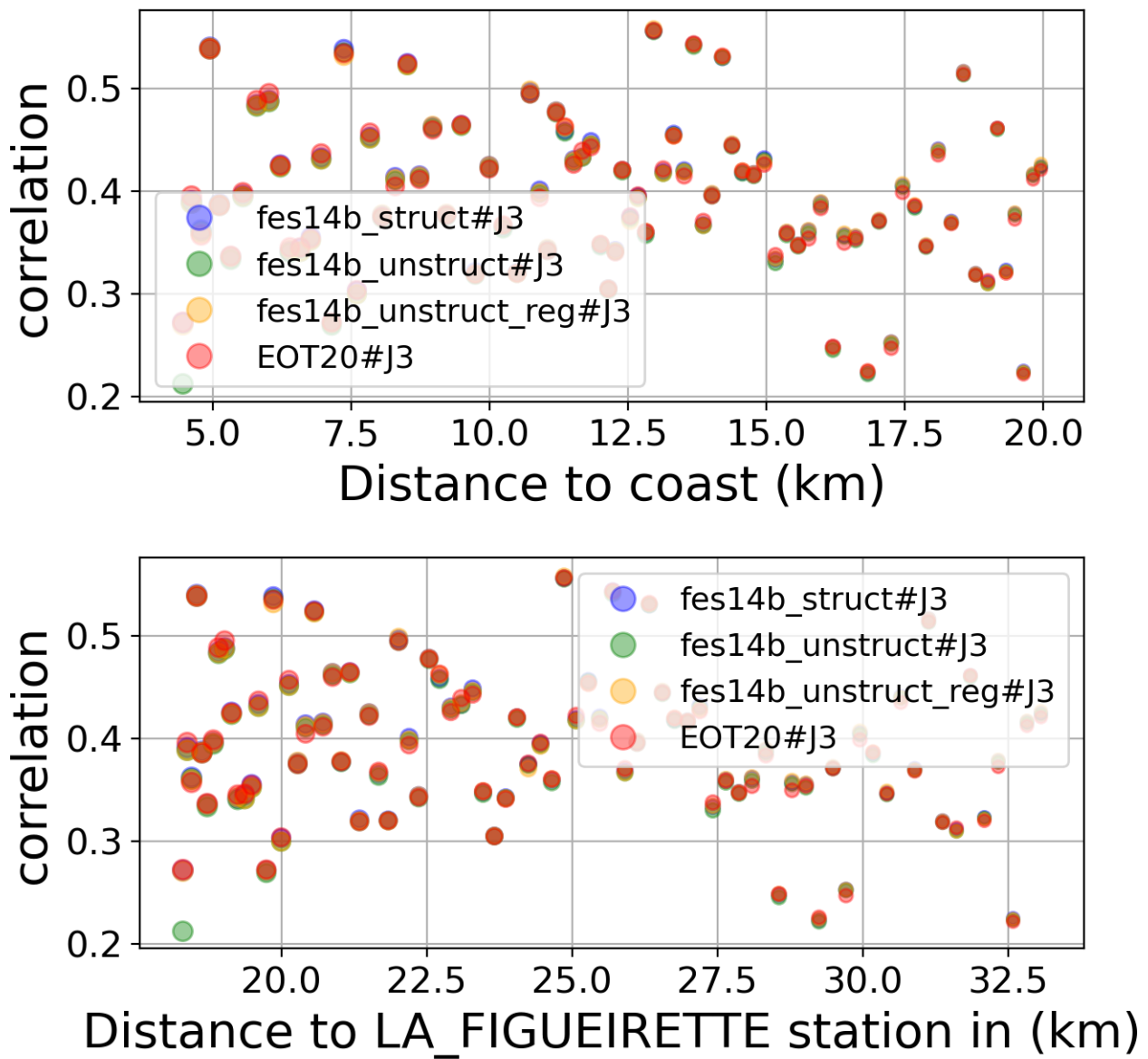


FIGURE 108 – Correlation in function of the distance to the coast/LA_FIGUEIRETTE station

6.4.8 Taylor Diagram

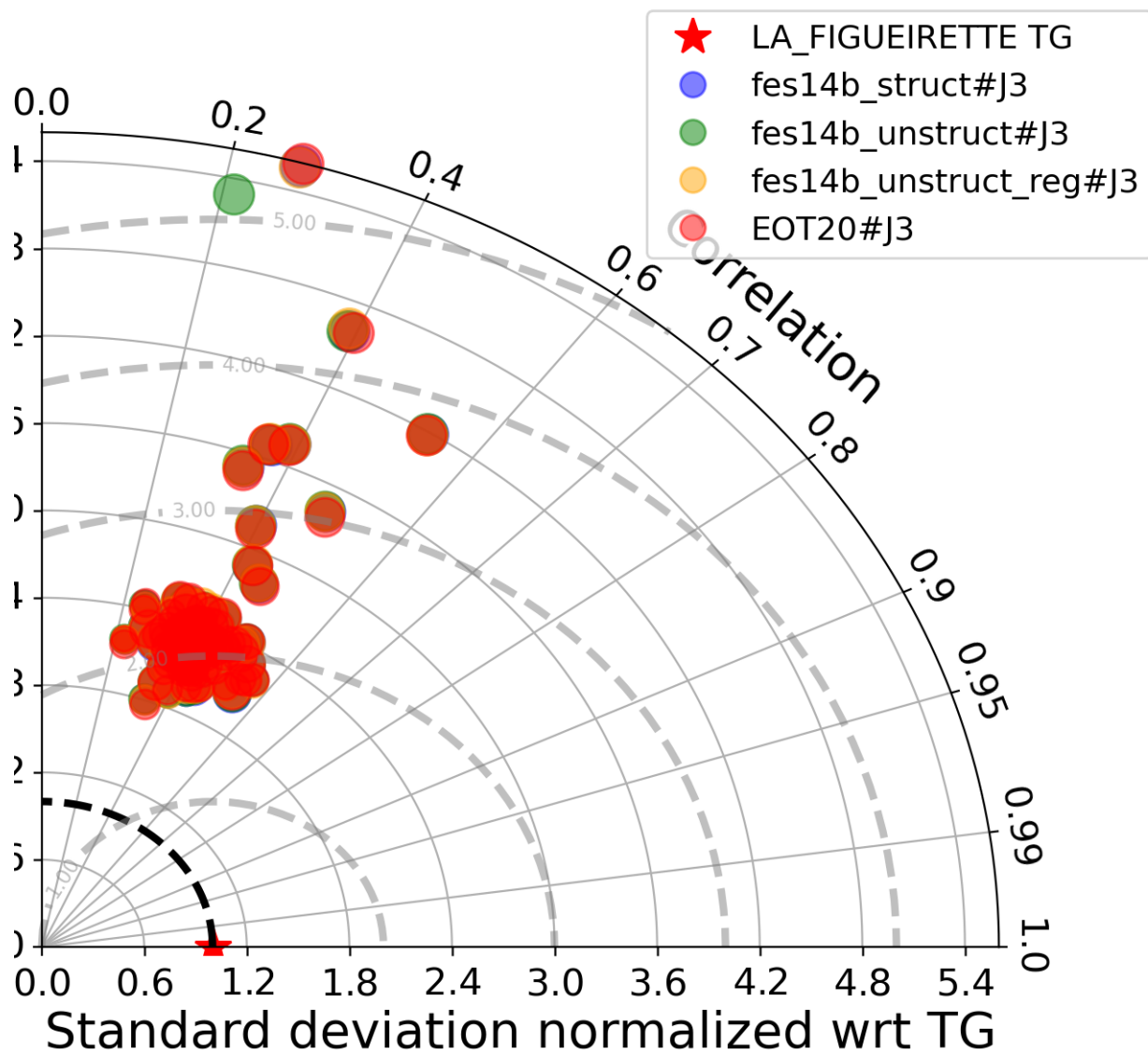


FIGURE 109 – Taylor diagram

6.4.9 Mean statistics table of products comparison with LA_FIGUEIRETTE tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	92.637	0.395	0.122	0.113
fes14b_unstruct#j3	92.626	0.392	0.122	0.113
fes14b_unstruct_reg#j3	92.637	0.394	0.122	0.113
EOT20#j3	92.637	0.394	0.122	0.113

FIGURE 110 – Mean statistics table of the common points in the altimetry products

6.4.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

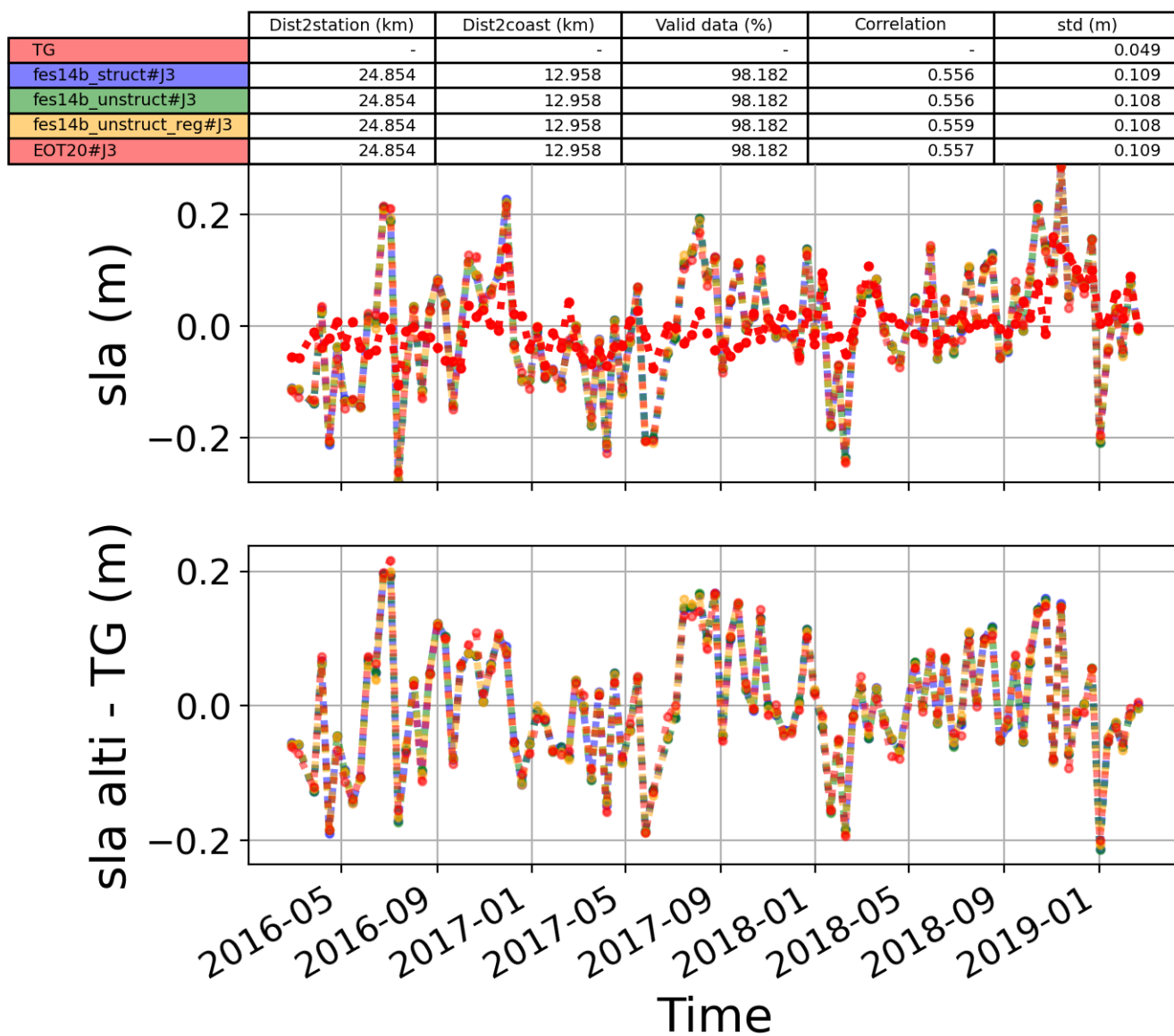


FIGURE 111 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.5 Station : Ancona

- Nearest track to Ancona station is the track number track161
- The area of interest is limited by :
 - A circle which it's center is the Ancona tide gauge station location and has a Raduis of 40 Km
 - Maximum distance to the coast : 20 Km

6.5.1 correlation visualization in maps view % Ancona tide gauge

Correlation Altimetry data with respect to Ancona Tide gauge data

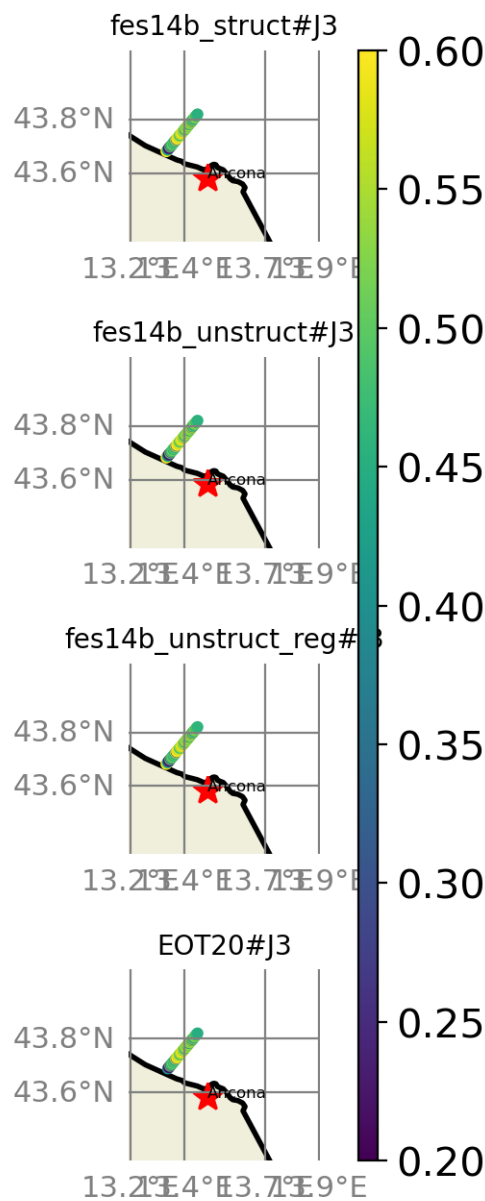


FIGURE 112 – correlation visualization in maps view % Ancona tide gauge

6.5.2 rmsd visualization in maps view % Ancona tide gauge

Rmsd (m) Altimetry data with respect to Ancona Tide gauge data

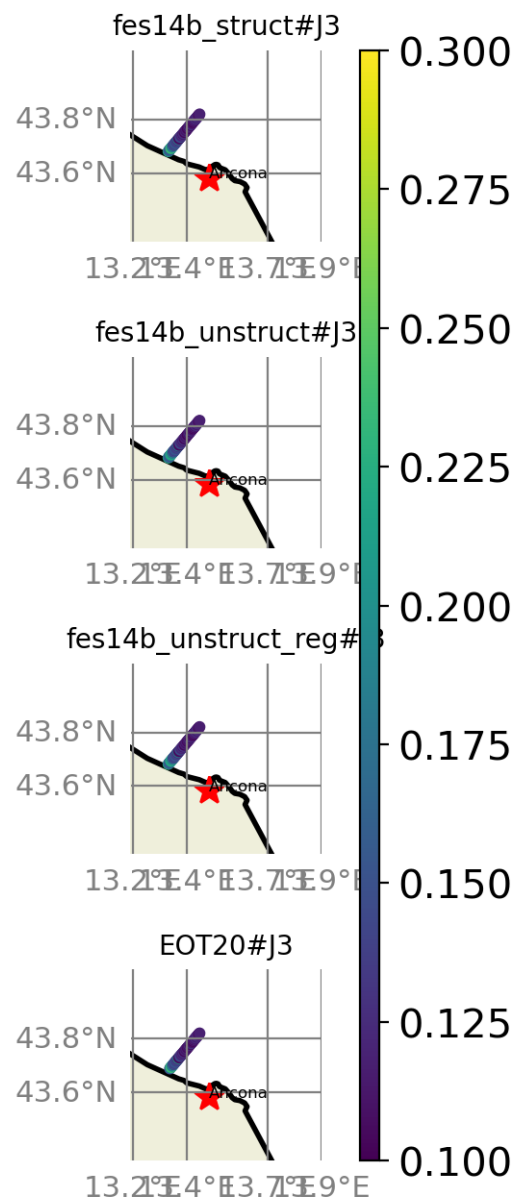


FIGURE 113 – rmsd visualization in maps view % Ancona tide gauge

6.5.3 std visualization in maps view % Ancona tide gauge

Std (m) Altimetry data with respect to Ancona Tide gauge data

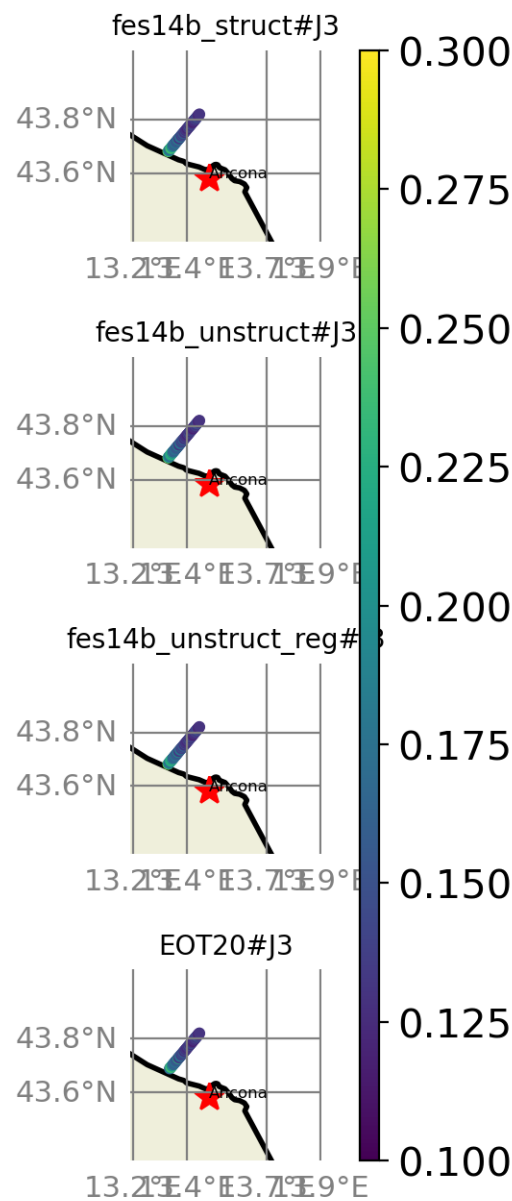


FIGURE 114 – std visualization in maps view % Ancona tide gauge

6.5.4 valid_data_percent visualization in maps view % Ancona tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Ancona Tide gauge data

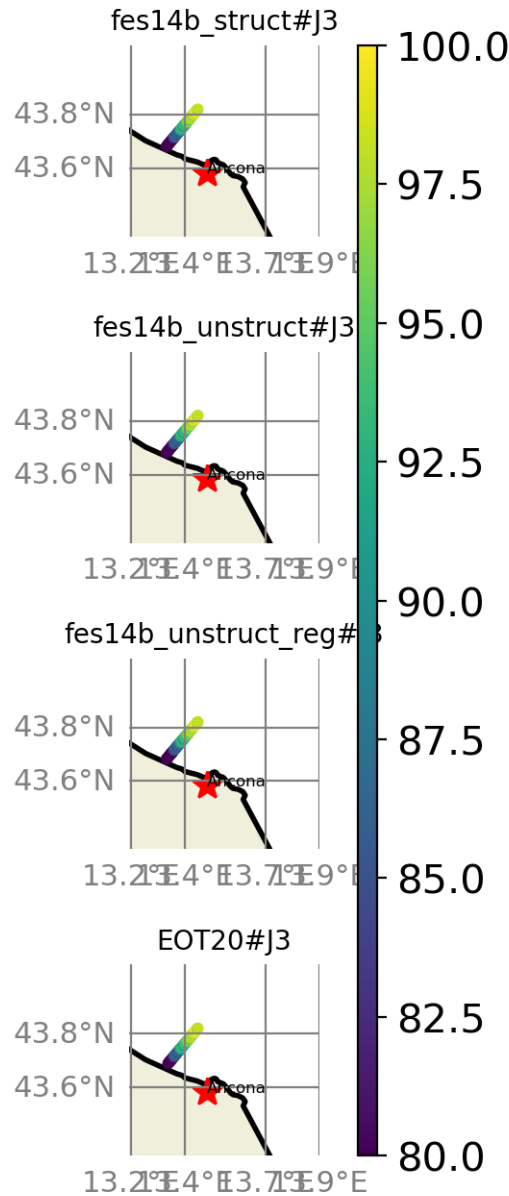


FIGURE 115 – valid_data_percent visualization in maps view % Ancona tide gauge

6.5.5 Valid data (%) in function of distance to coast/Ancona station

The formula to calculate the percentage of valid data in each time serie is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

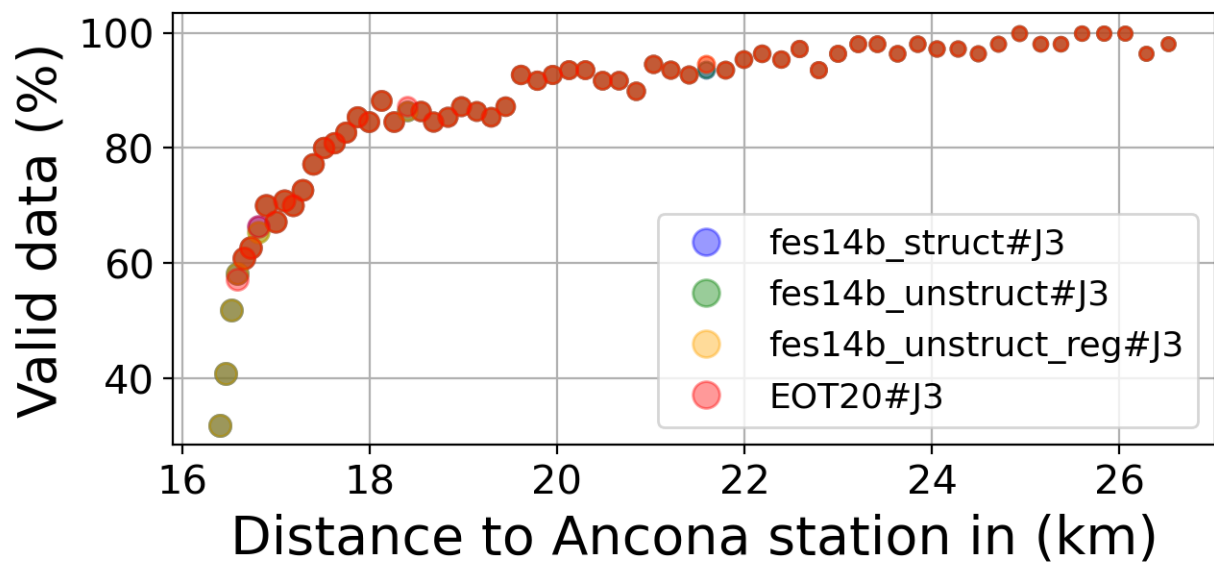
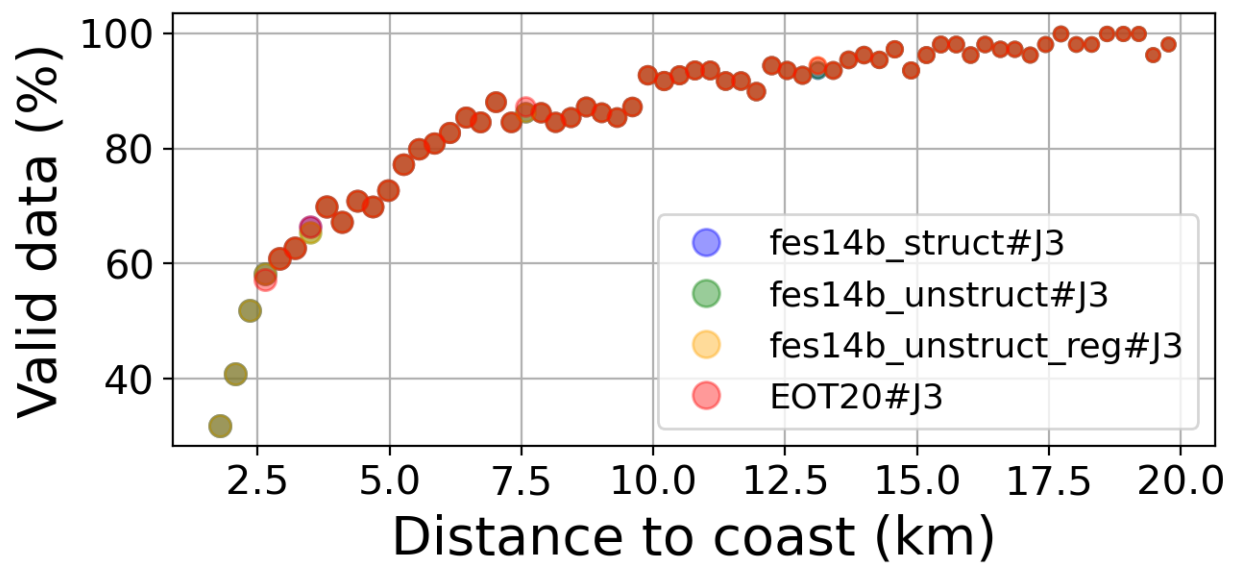


FIGURE 116 – Valid data (%) in function of distance to coast/Ancona station

6.5.6 Std in function of distance to coast/Ancona station

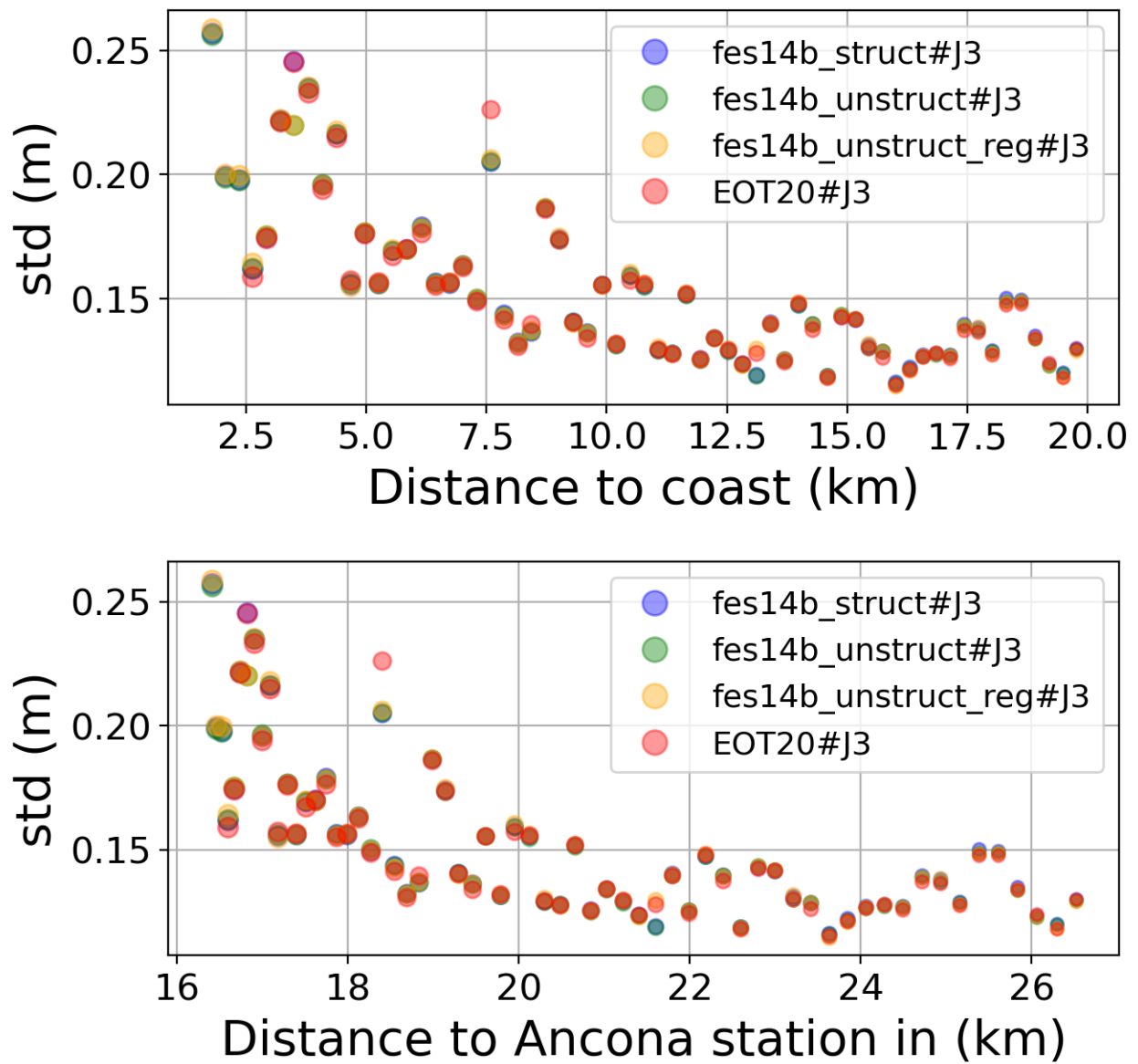


FIGURE 117 – Std in function of the distance to the coast/Ancona station

6.5.7 Correlation in function of distance to coast/Ancona station

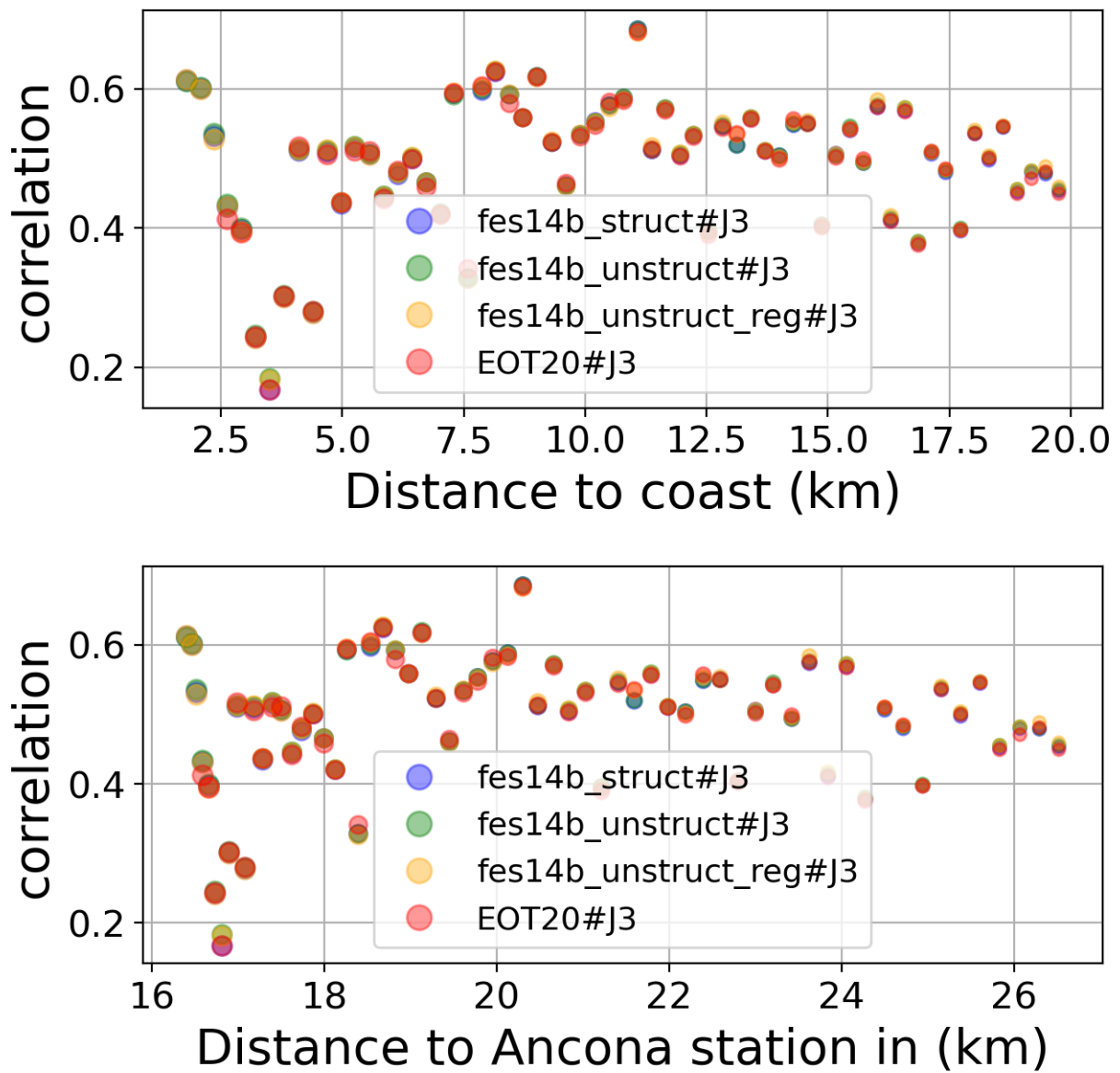


FIGURE 118 – Correlation in function of the distance to the coast/Ancona station

6.5.8 Taylor Diagram

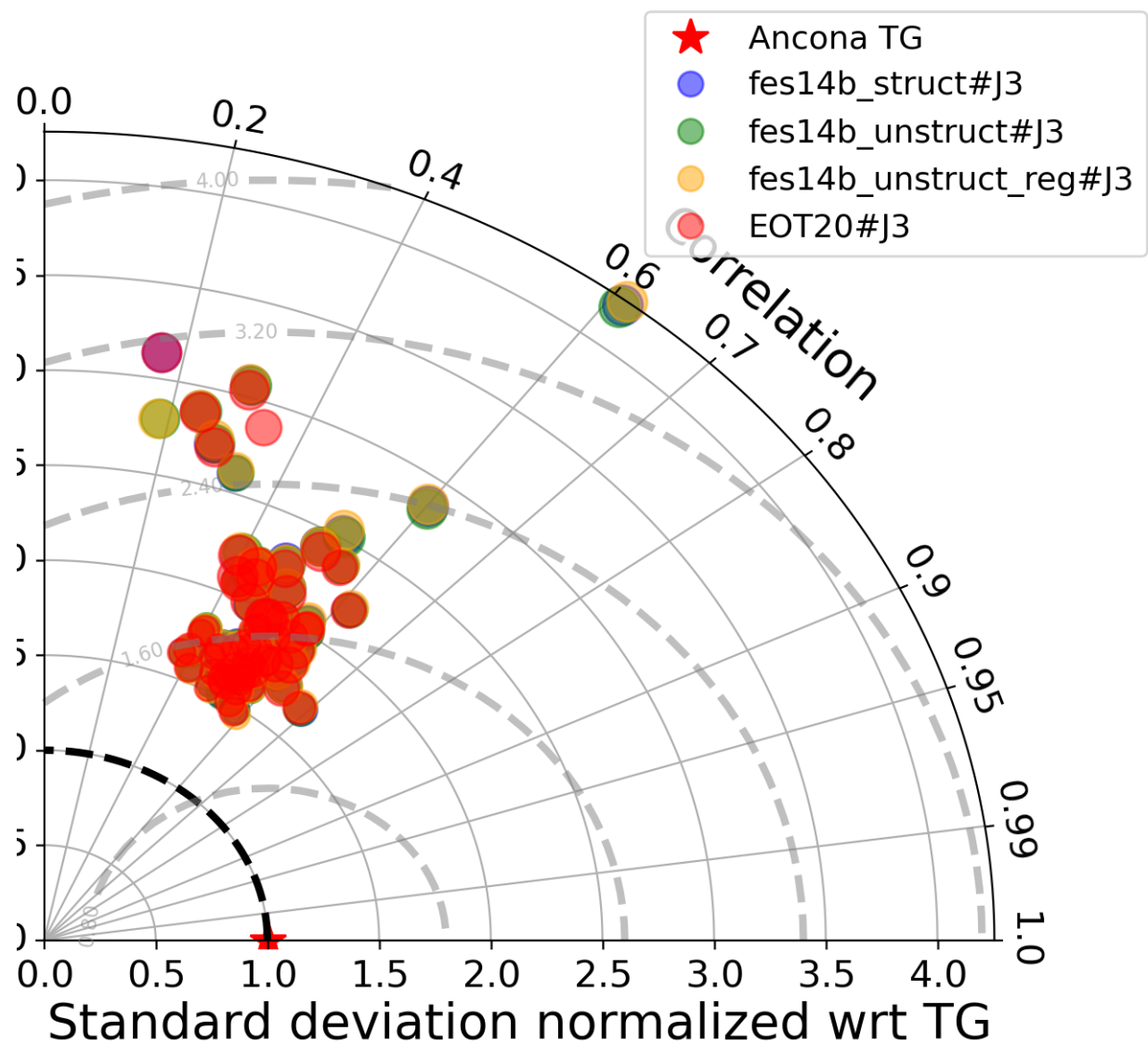


FIGURE 119 – Taylor diagram

6.5.9 Mean statistics table of products comparison with Ancona tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	88.394	0.49	0.151	0.132
fes14b_unstruct#j3	88.379	0.492	0.15	0.131
fes14b_unstruct_reg#j3	88.394	0.492	0.15	0.131
EOT20#j3	88.409	0.49	0.15	0.132

FIGURE 120 – Mean statistics table of the common points in the altimetry products

6.5.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

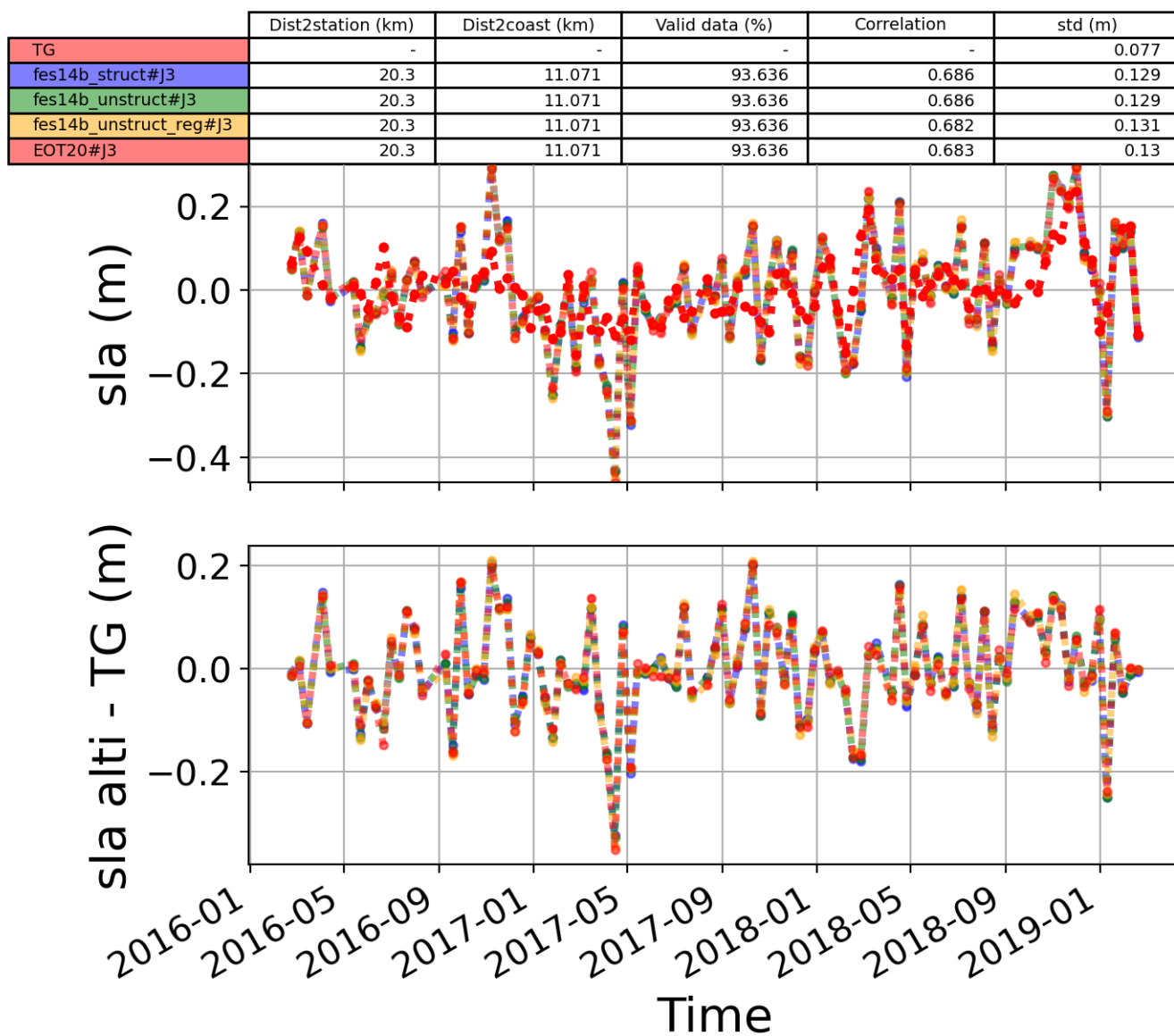


FIGURE 121 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.6 Station : Livourne

- Nearest track to Livourne station is the track number track85
- The area of interest is limited by :
 - A circle which it's center is the Livourne tide gauge station location and has a Radius of 40 Km
 - Maximum distance to the coast : 20 Km

6.6.1 correlation visualization in maps view % Livourne tide gauge

Correlation Altimetry data with respect to Livourne Tide gauge data

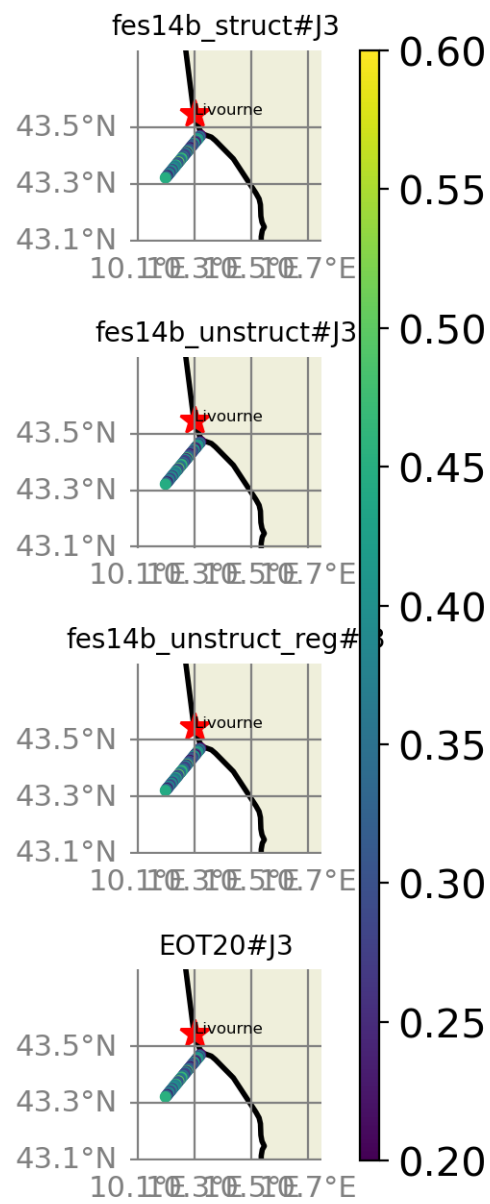


FIGURE 122 – correlation visualization in maps view % Livourne tide gauge

6.6.2 rmsd visualization in maps view % Livourne tide gauge

Rmsd (m) Altimetry data with respect to Livourne Tide gauge data

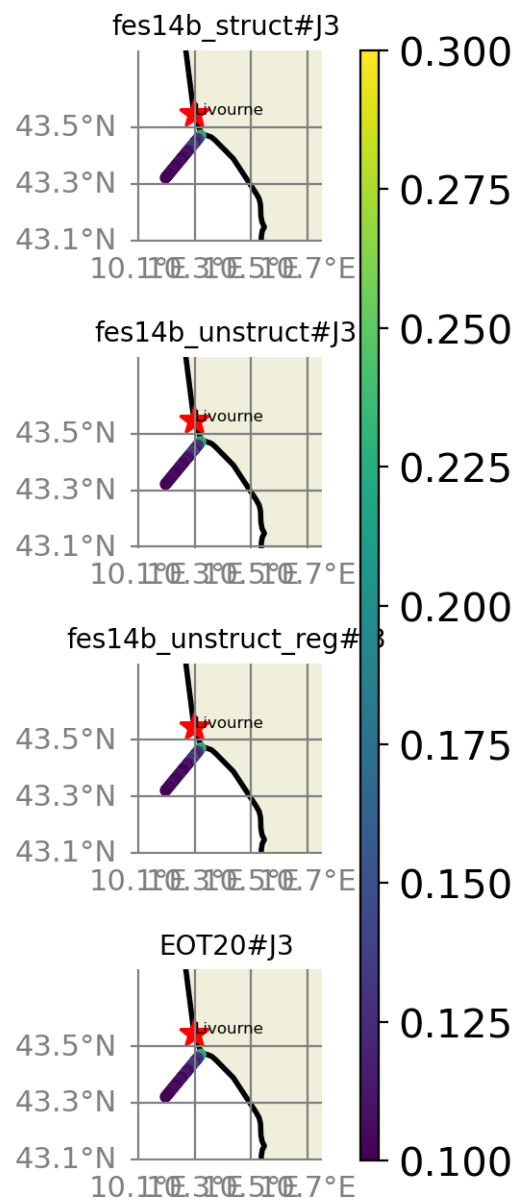


FIGURE 123 – rmsd visualization in maps view % Livourne tide gauge

6.6.3 std visualization in maps view % Livourne tide gauge

Std (m) Altimetry data with respect to Livourne Tide gauge data

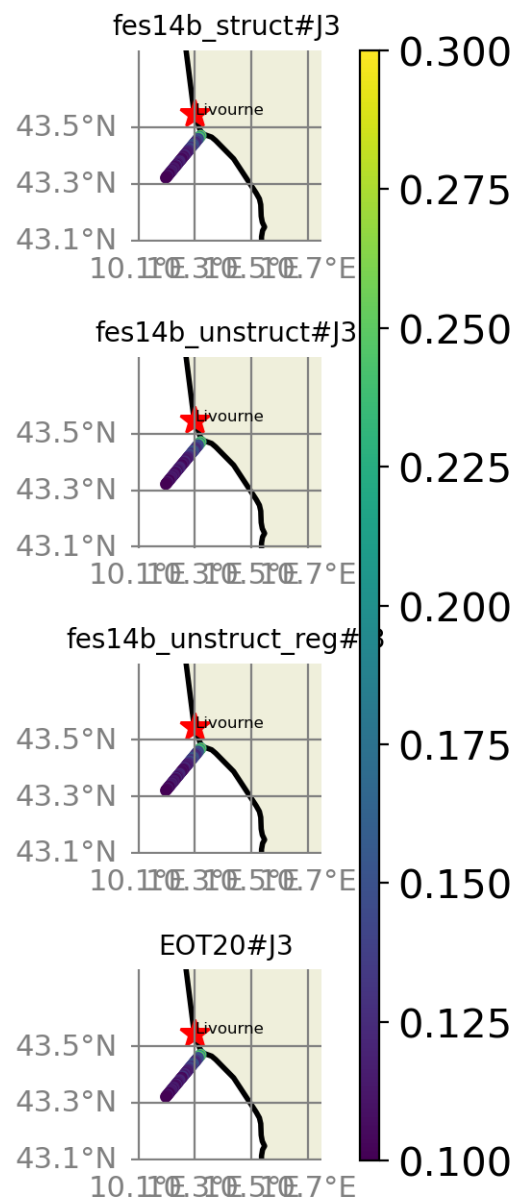


FIGURE 124 – std visualization in maps view % Livourne tide gauge

6.6.4 valid_data_percent visualization in maps view % Livourne tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Livourne Tide gauge data

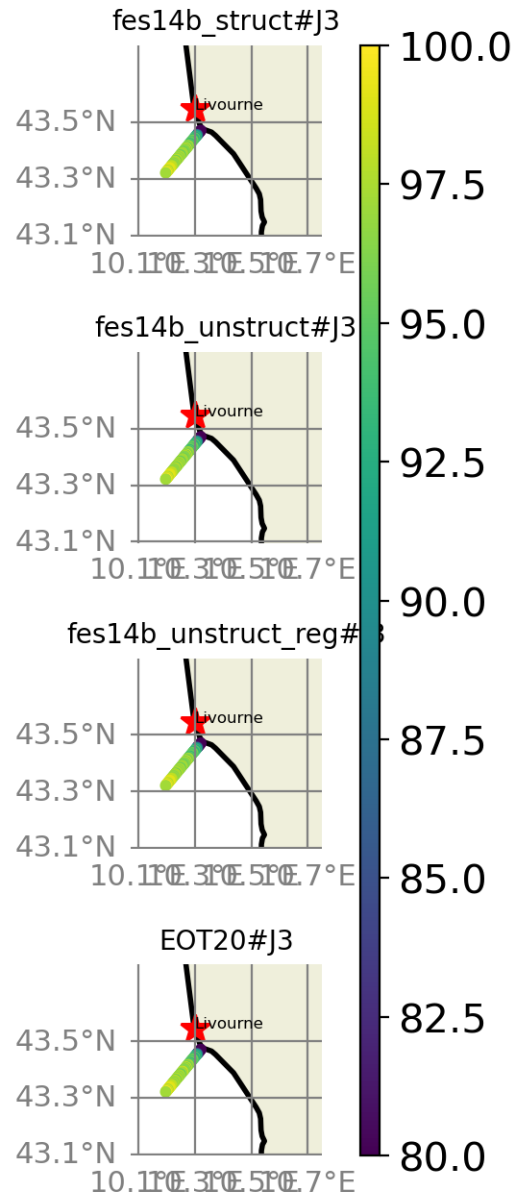


FIGURE 125 – valid_data_percent visualization in maps view % Livourne tide gauge

6.6.5 Valid data (%) in function of distance to coast/Livourne station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time series, respectively in the time series, i is the index of the time series, np is the number of the selected altimetry time series. $maxNB = 109$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time series.

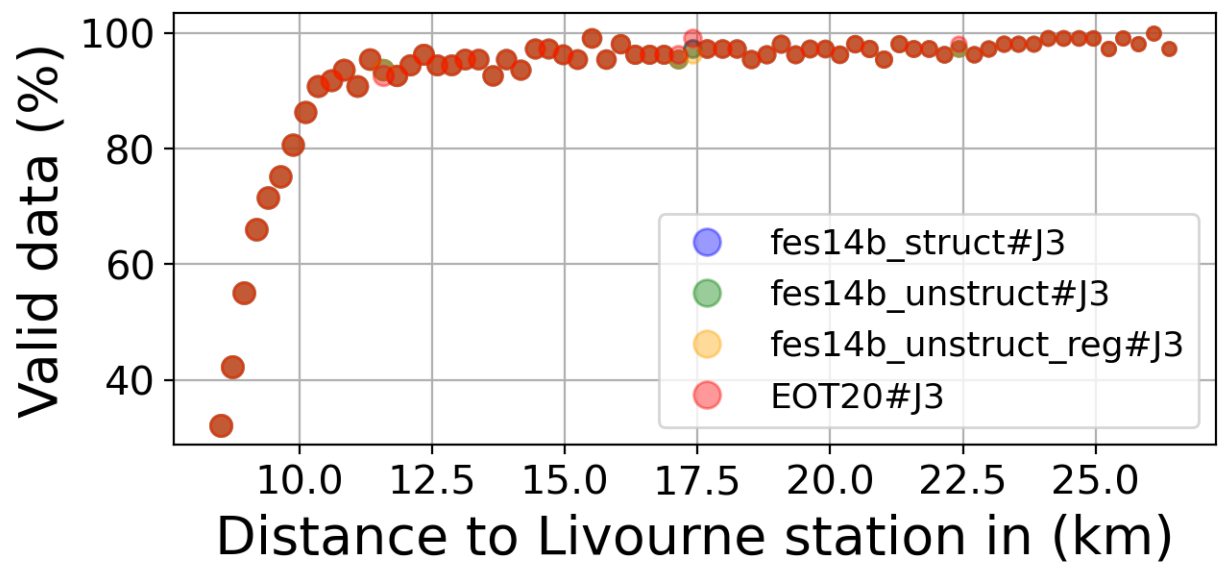
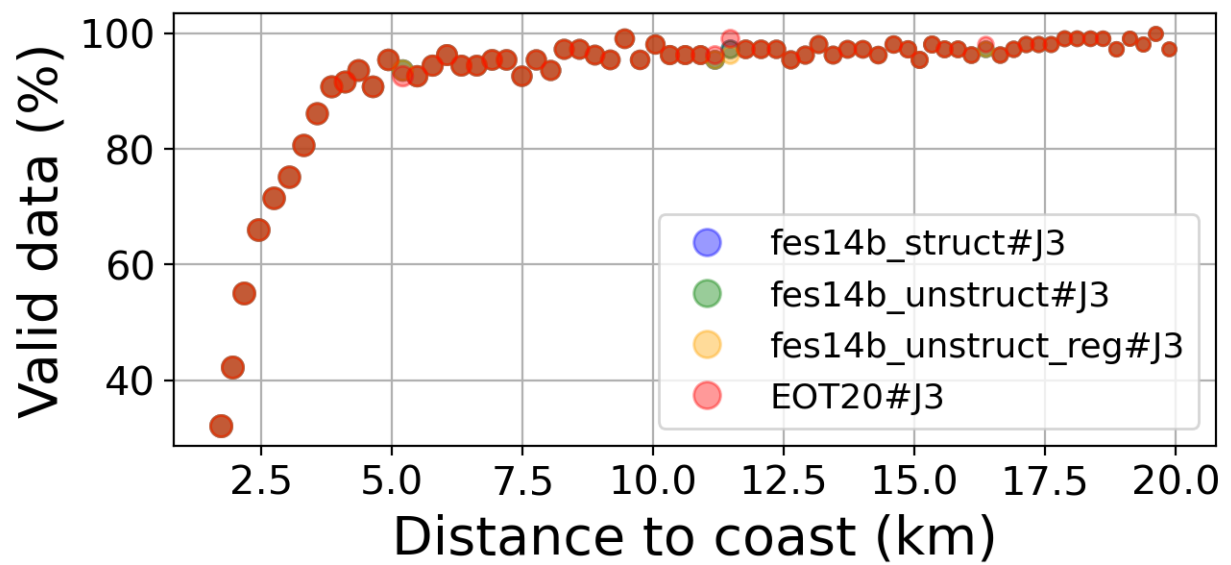


FIGURE 126 – Valid data (%) in function of distance to coast/Livourne station

6.6.6 Std in function of distance to coast/Livourne station

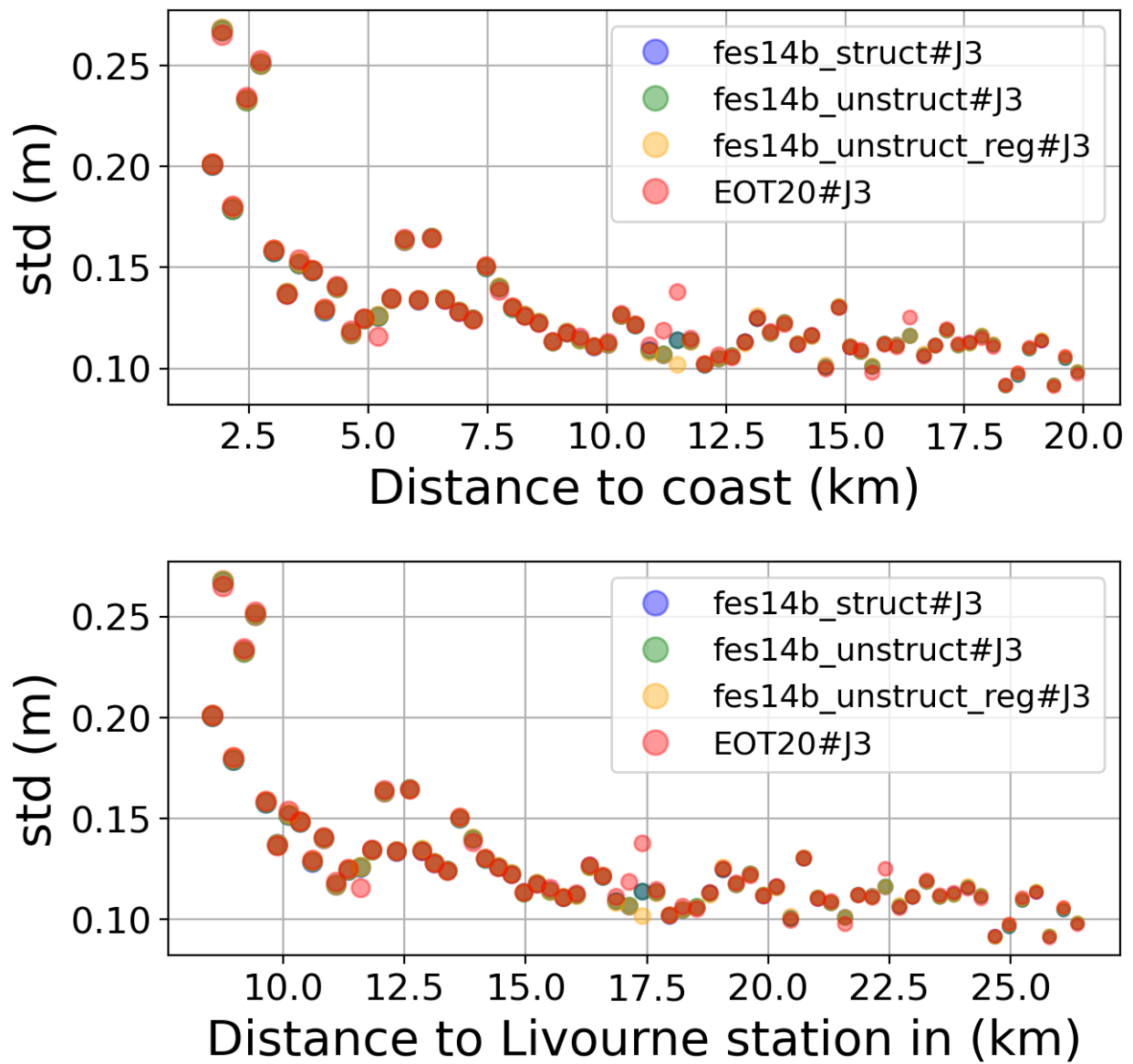


FIGURE 127 – Std in function of the distance to the coast/Livourne station

6.6.7 Correlation in function of distance to coast/Livourne station

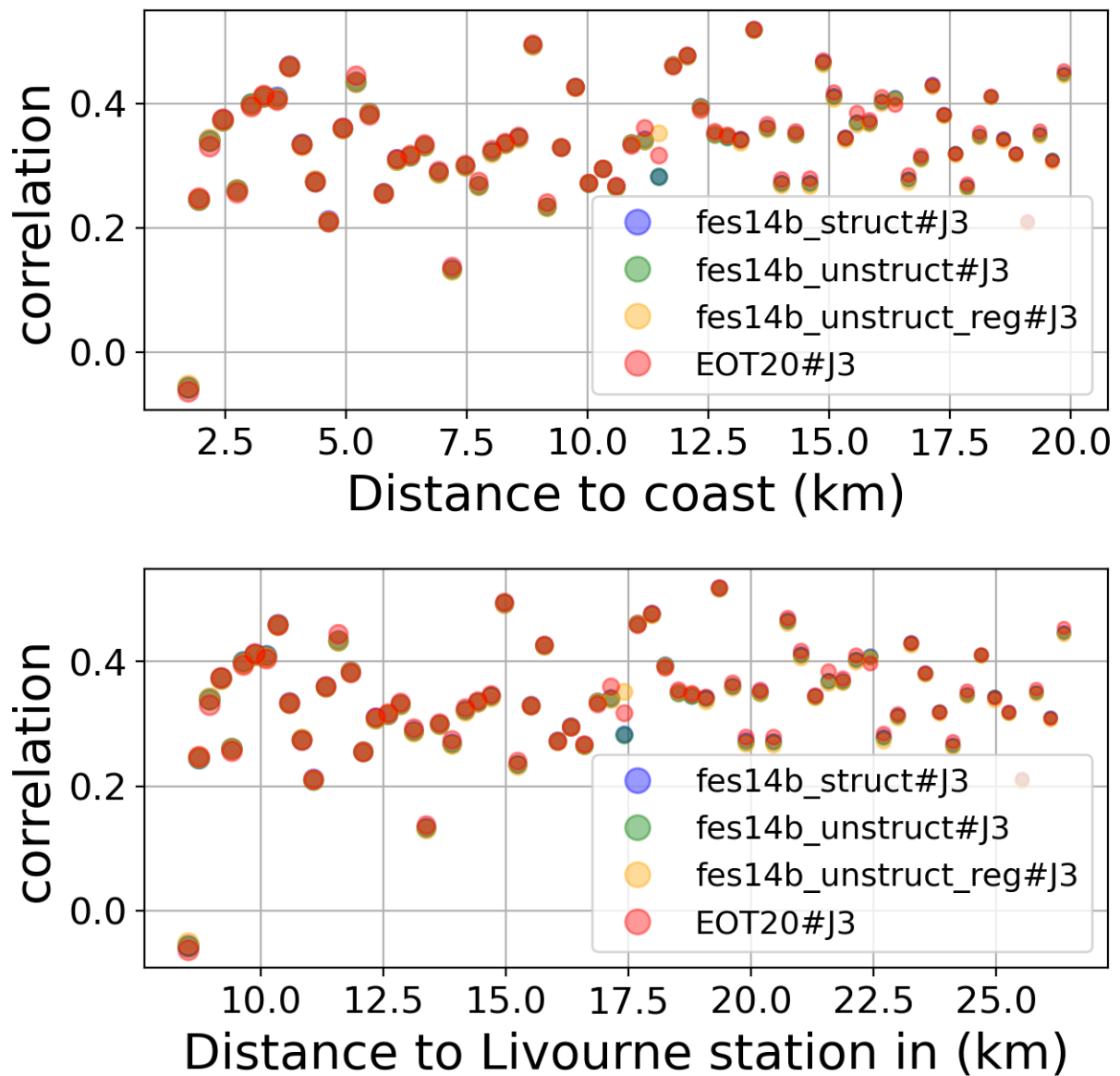


FIGURE 128 – Correlation in function of the distance to the coast/Livourne station

6.6.8 Taylor Diagram

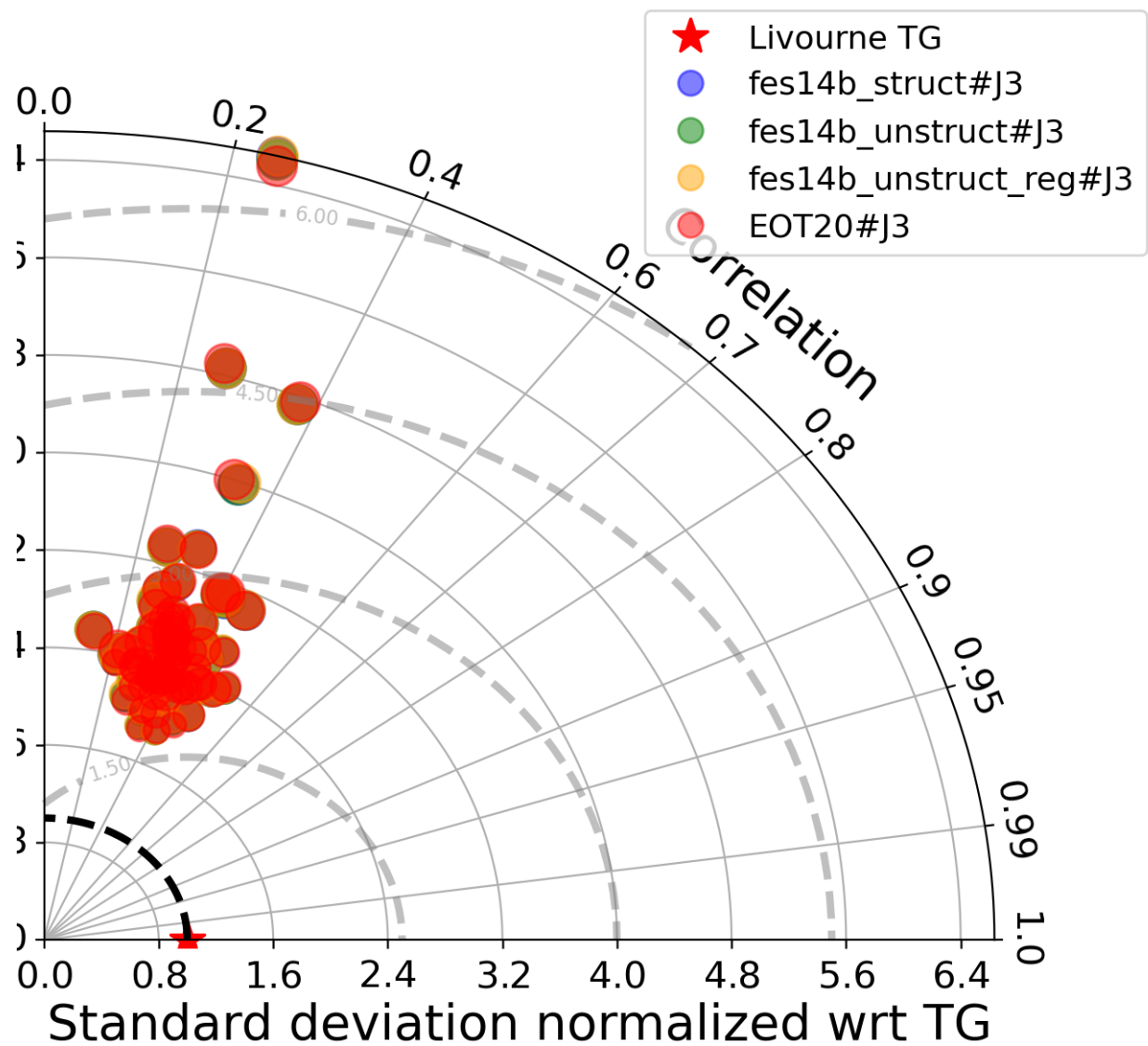


FIGURE 129 – Taylor diagram

6.6.9 Mean statistics table of products comparison with Livourne tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	92.539	0.338	0.128	0.121
fes14b_unstruct#j3	92.539	0.337	0.128	0.121
fes14b_unstruct_reg#j3	92.526	0.337	0.128	0.121
EOT20#j3	92.58	0.34	0.128	0.121

FIGURE 130 – Mean statistics table of the common points in the altimetry products

6.6.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 109 point.

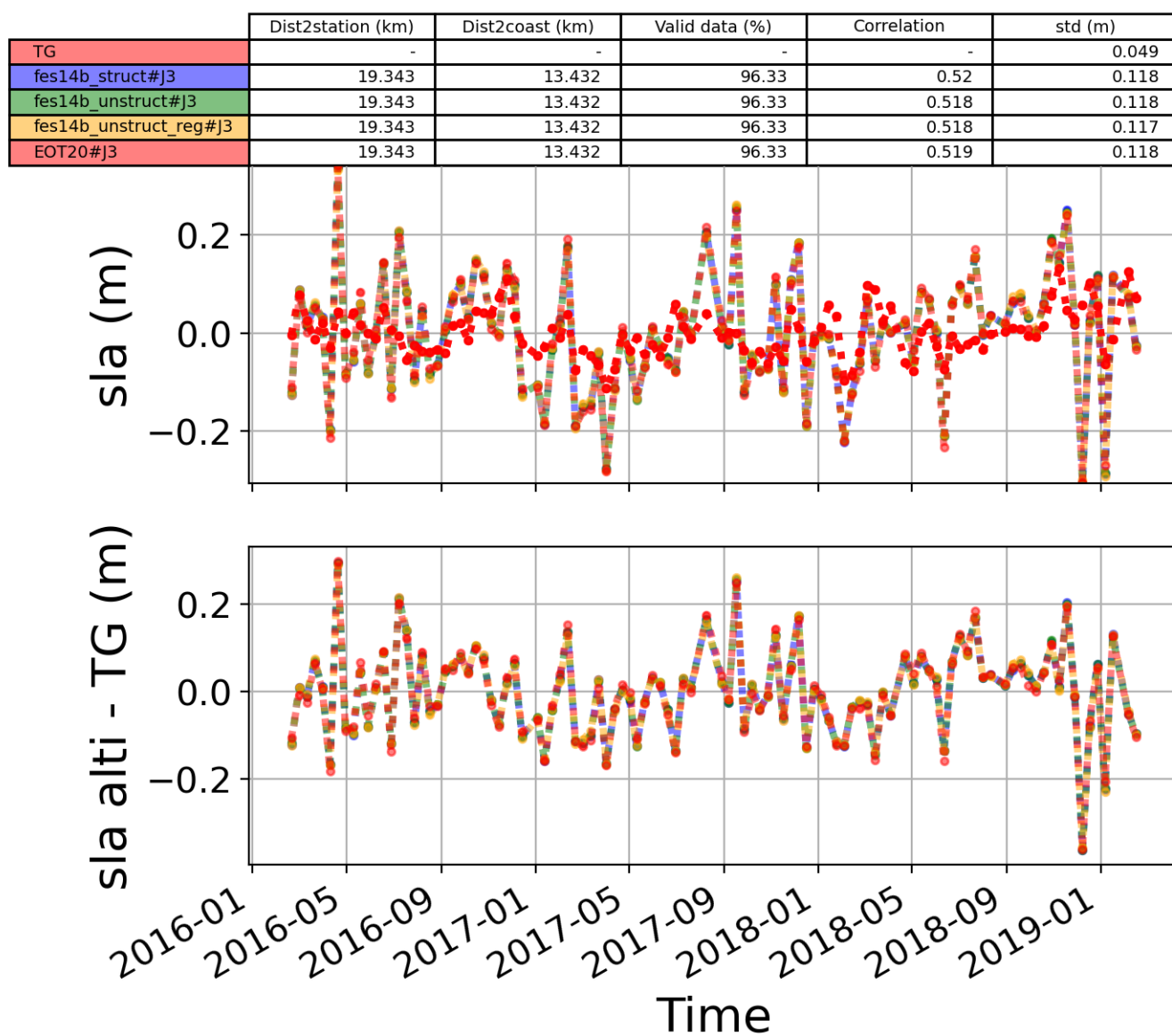


FIGURE 131 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.7 Station : MONACO_FONTVIEILLE

- Nearest track to MONACO_FONTVIEILLE station is the track number track9
- The area of interest is limited by :
 - A circle which it's center is the MONACO_FONTVIEILLE tide gauge station location and has a Radius of 40 Km

6.7.1 correlation visualization in maps view % MONACO_FONTVIEILLE tide gauge

Correlation Altimetry data with respect to MONACO_FONTVIEILLE Tide gauge data

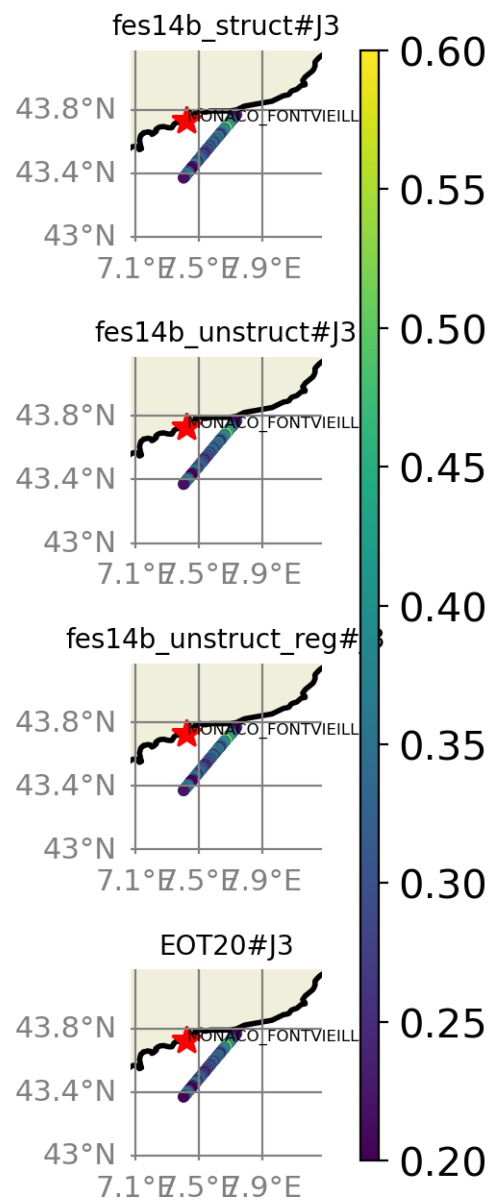


FIGURE 132 – correlation visualization in maps view % MONACO_FONTVIEILLE tide gauge

6.7.2 rmsd visualization in maps view % MONACO_FONTVIEILLE tide gauge

Rmsd (m) Altimetry data with respect to MONACO_FONTVIEILLE Tide gauge data

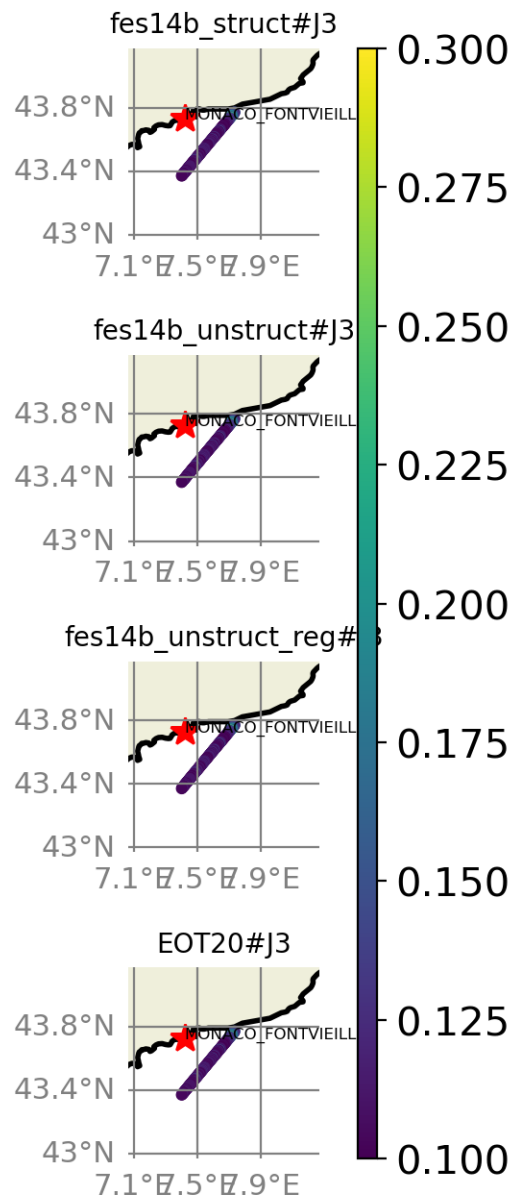


FIGURE 133 – rmsd visualization in maps view % MONACO_FONTVIEILLE tide gauge

6.7.3 std visualization in maps view % MONACO_FONTVIEILLE tide gauge

Std (m) Altimetry data with respect to MONACO_FONTVIEILLE Tide gauge data

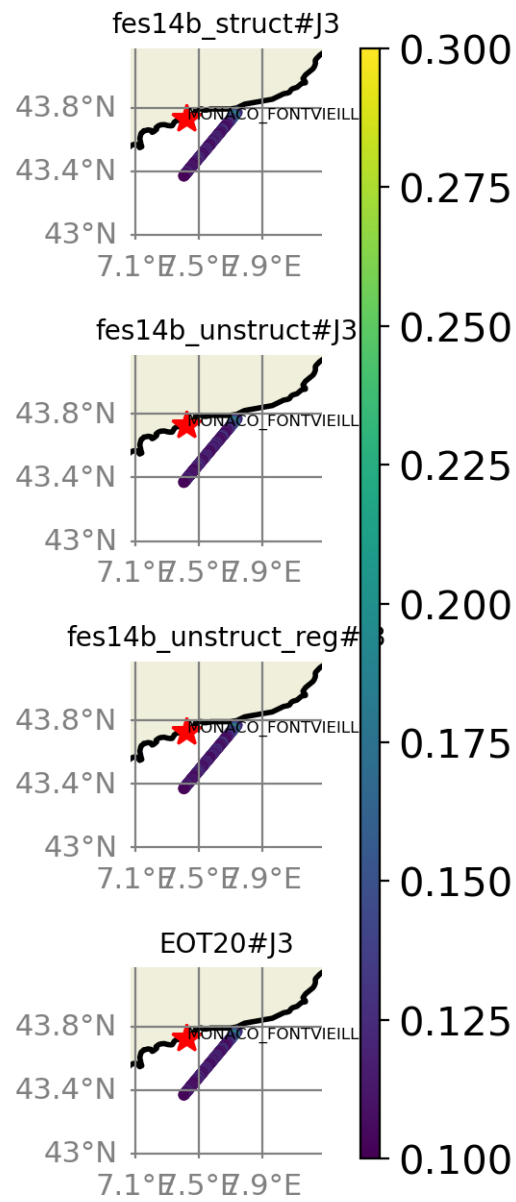


FIGURE 134 – std visualization in maps view % MONACO_FONTVIEILLE tide gauge

6.7.4 valid_data_percent visualization in maps view % MONACO_FONTVIEILLE tide gauge

Valid_Data_Percent (%) Altimetry data with respect to MONACO_FONTVIEILLE Tide gauge data

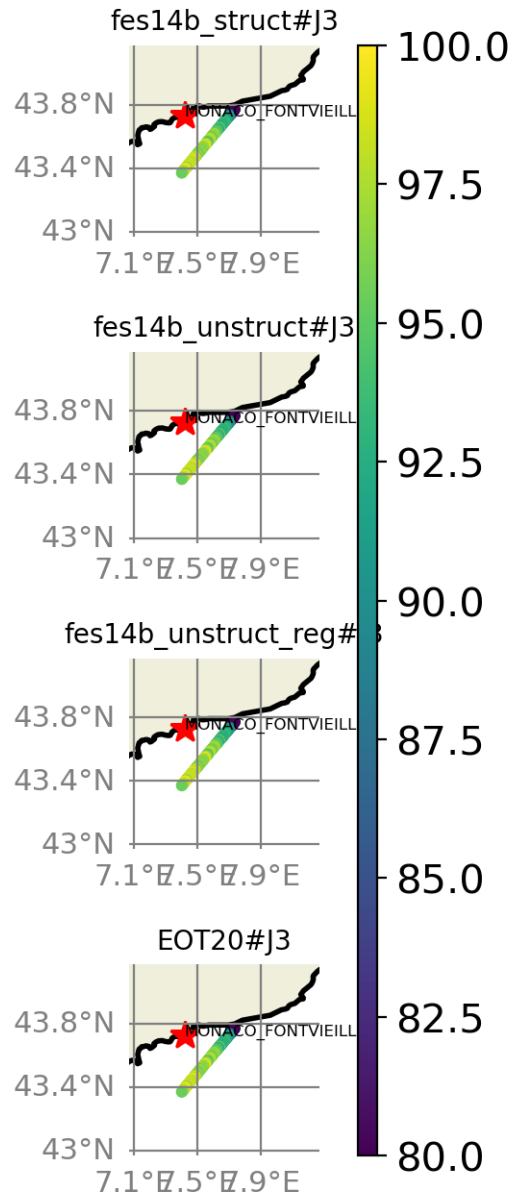


FIGURE 135 – valid_data_percent visualization in maps view % MONACO_FONTVIEILLE tide gauge

6.7.5 Valid data (%) in function of distance to coast/MONACO_FONTVIEILLE station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time series, respectively in the time series, i is the index of the time series, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time series.

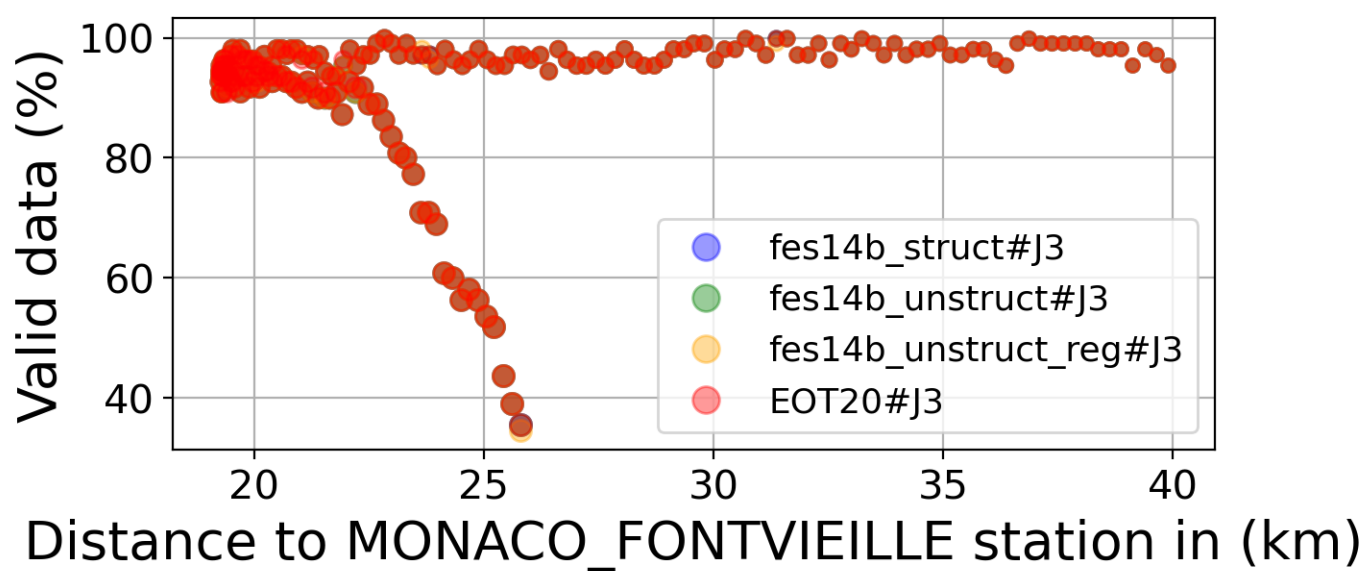
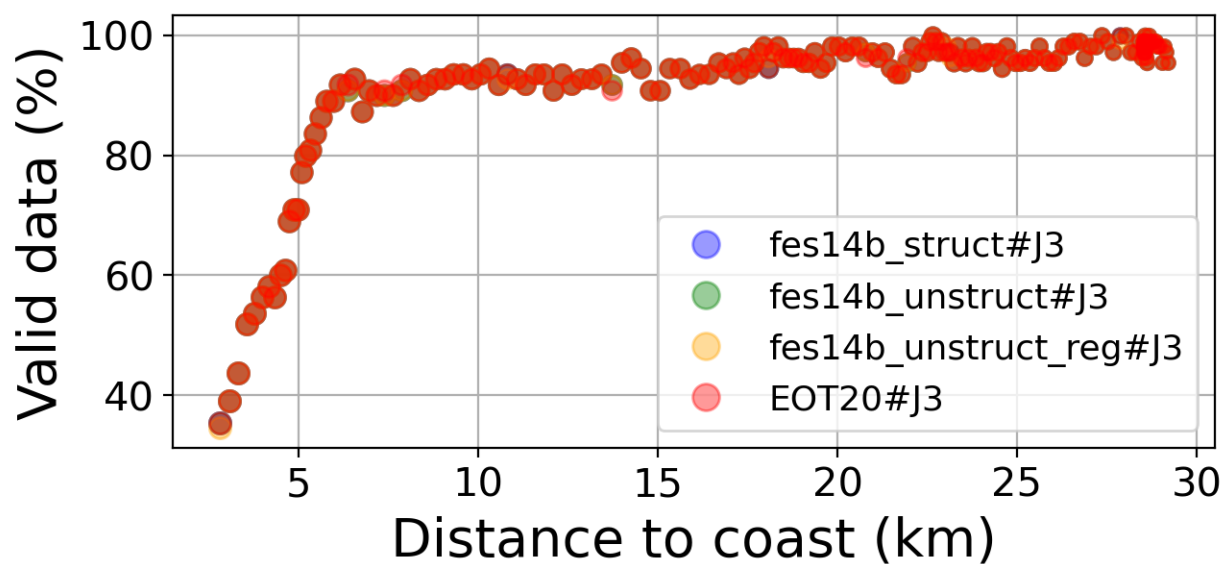


FIGURE 136 – Valid data (%) in function of distance to coast/MONACO_FONTVIEILLE station

6.7.6 Std in function of distance to coast/MONACO_FONTVIEILLE station

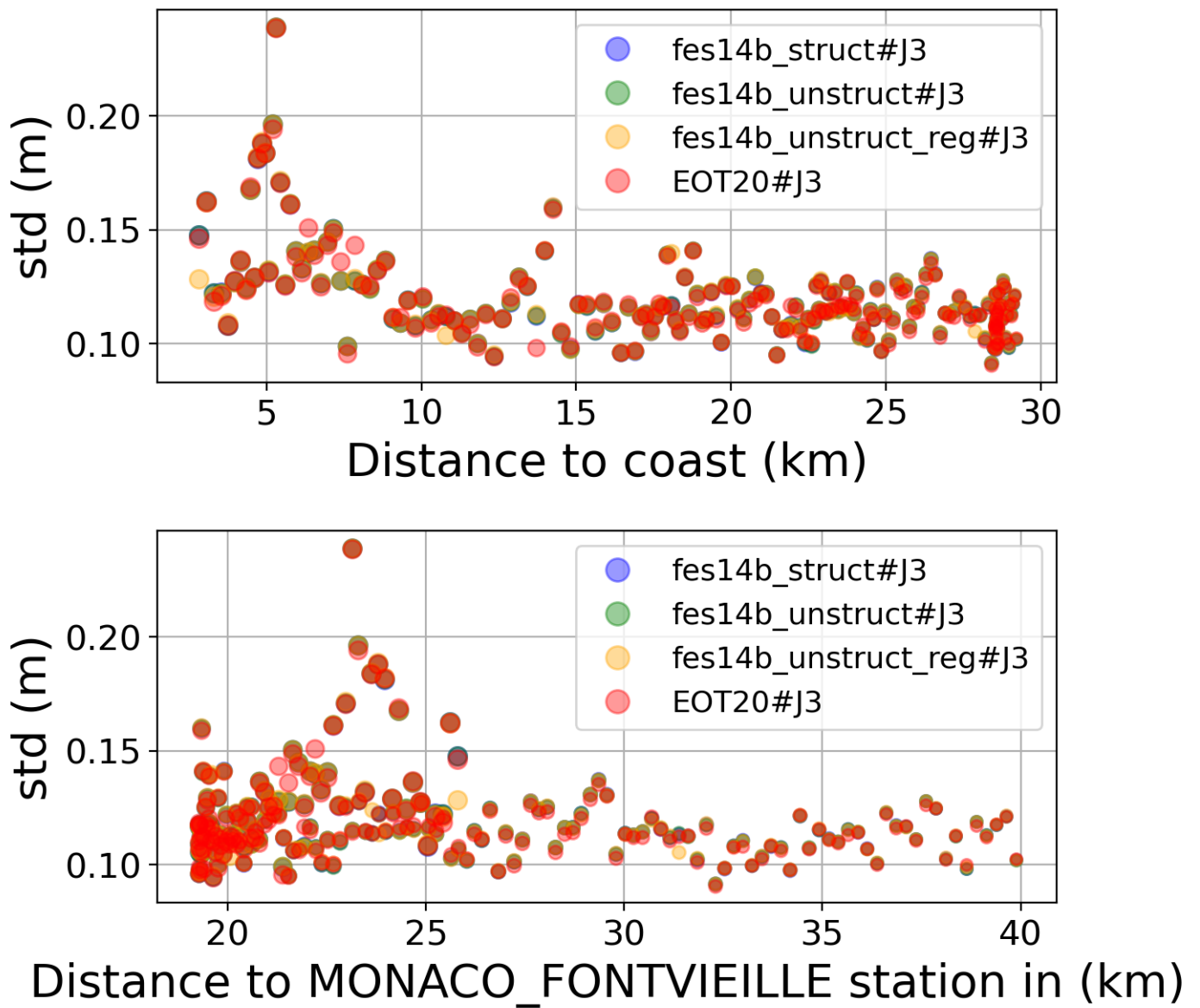


FIGURE 137 – Std in function of the distance to the coast/MONACO_FONTVIEILLE station

6.7.7 Correlation in function of distance to coast/MONACO_FONTVIEILLE station

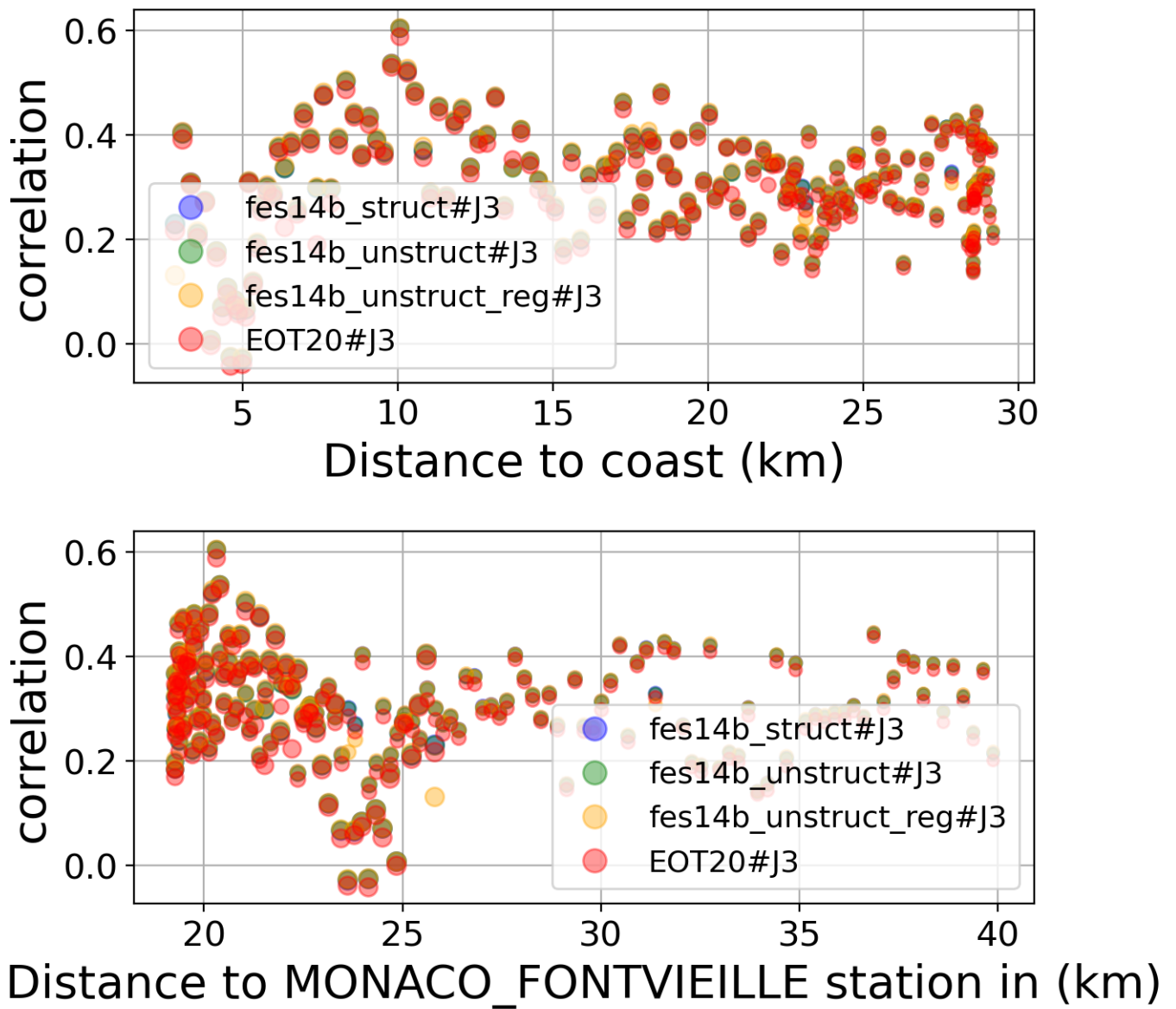


FIGURE 138 – Correlation in function of the distance to the coast/MONACO_FONTVIEILLE station

6.7.8 Taylor Diagram

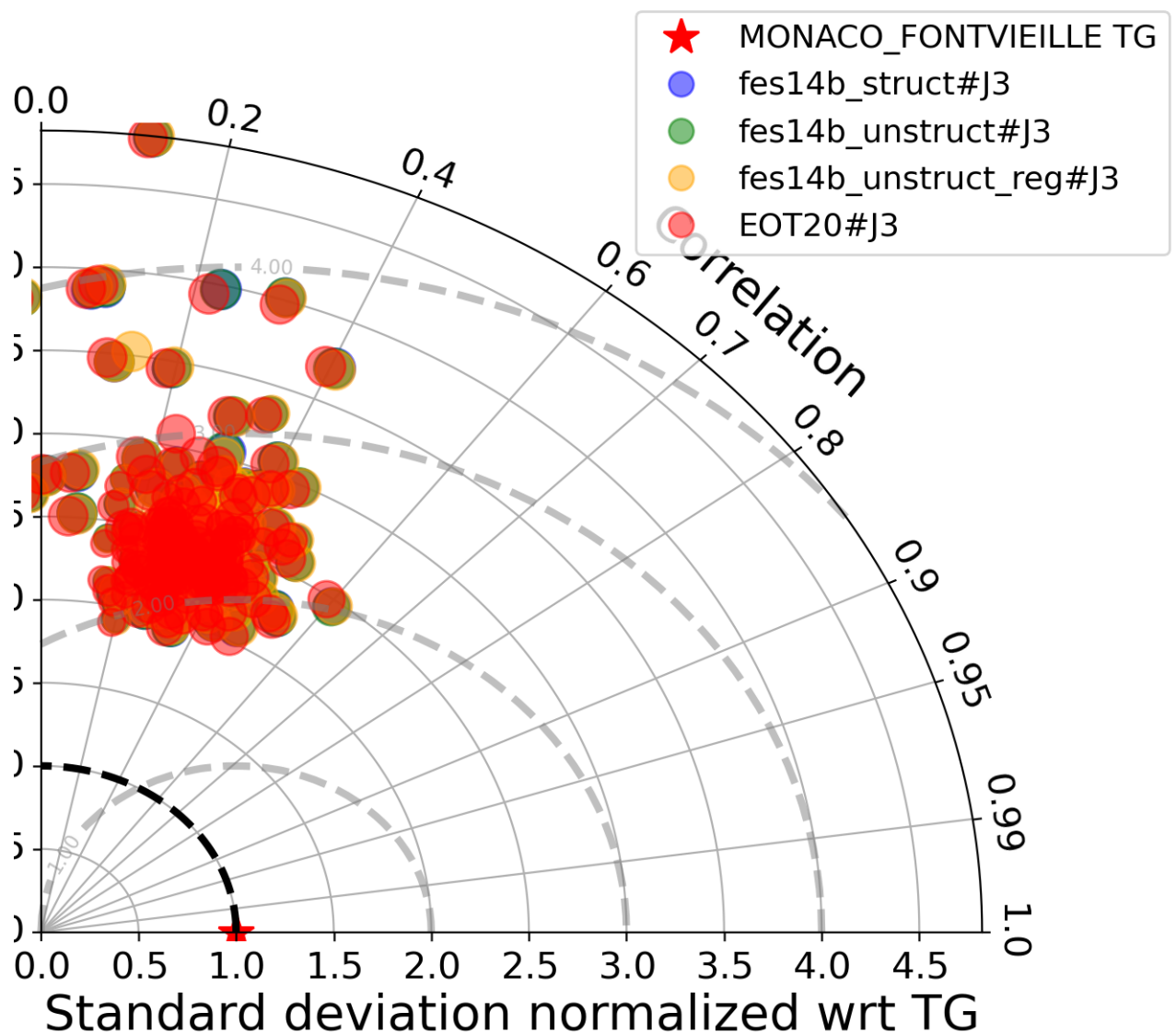


FIGURE 139 – Taylor diagram

6.7.9 Mean statistics table of products comparison with MONACO_FONTVIEILLE tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	92.586	0.311	0.12	0.114
fes14b_unstruct#j3	92.586	0.31	0.12	0.114
fes14b_unstruct_reg#j3	92.581	0.311	0.12	0.114
EOT20#j3	92.596	0.298	0.119	0.115

FIGURE 140 – Mean statistics table of the common points in the altimetry products

6.7.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

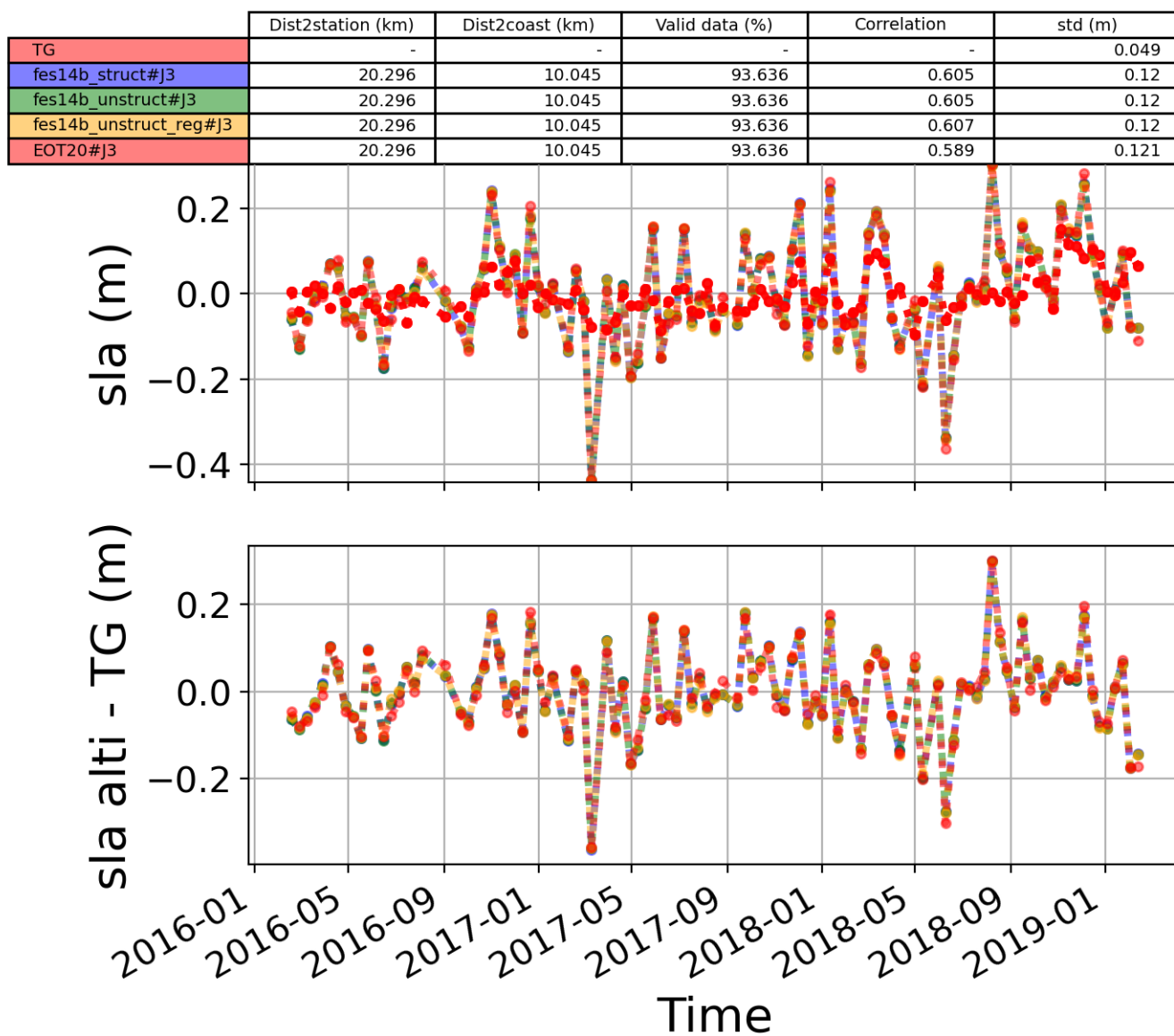


FIGURE 141 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.8 Station : Erdemli

- Nearest track to Erdemli station is the track number track68
- The area of interest is limited by :
 - A circle which it's center is the Erdemli tide gauge station location and has a Raduis of 40 Km

6.8.1 correlation visualization in maps view % Erdemli tide gauge

Correlation Altimetry data with respect to Erdemli Tide gauge data

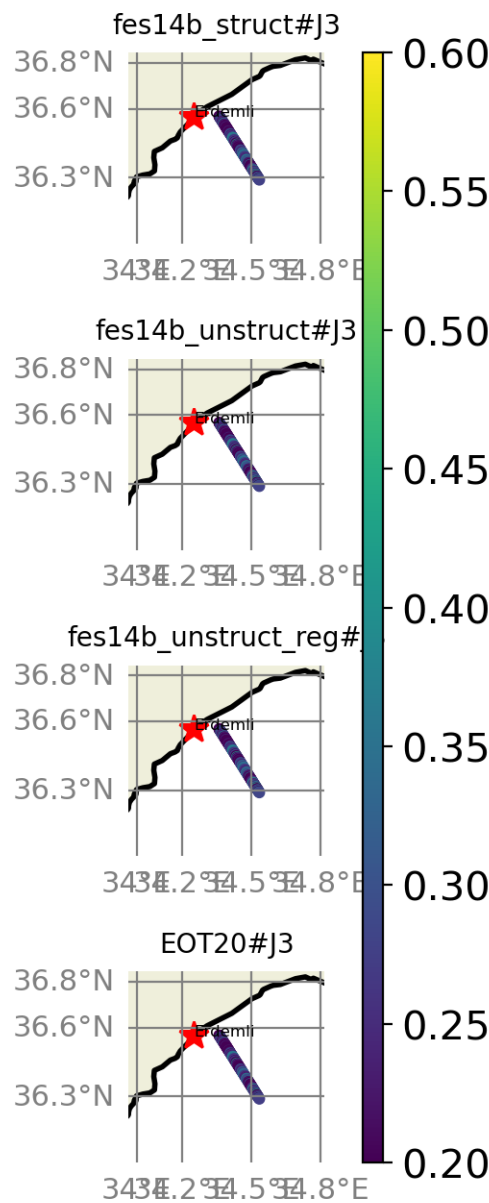


FIGURE 142 – correlation visualization in maps view % Erdemli tide gauge

6.8.2 rmsd visualization in maps view % Erdemli tide gauge

Rmsd (m) Altimetry data with respect to Erdemli Tide gauge data

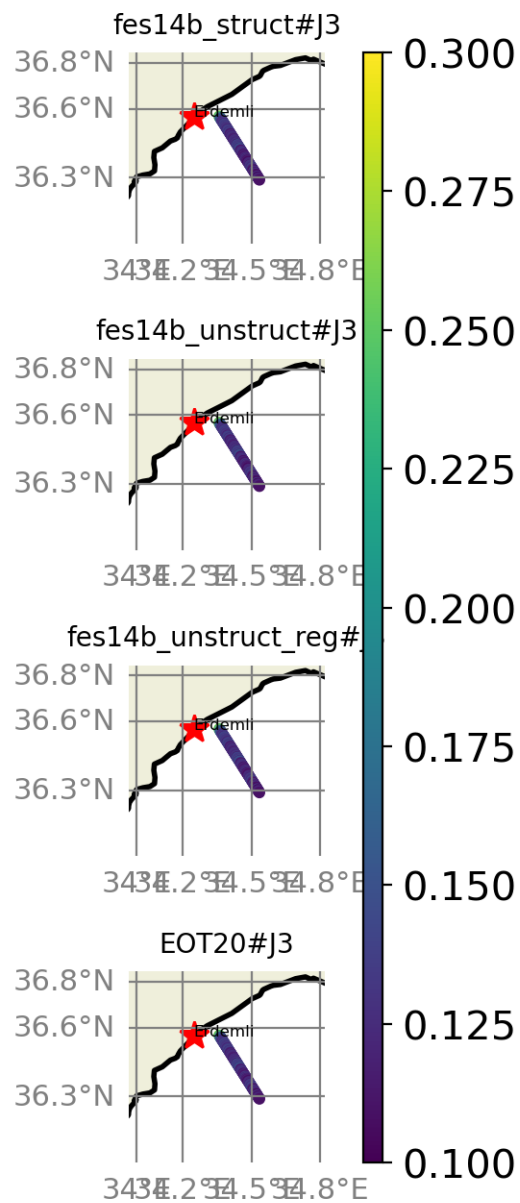


FIGURE 143 – rmsd visualization in maps view % Erdemli tide gauge

6.8.3 std visualization in maps view % Erdemli tide gauge

Std (m) Altimetry data with respect to Erdemli Tide gauge data

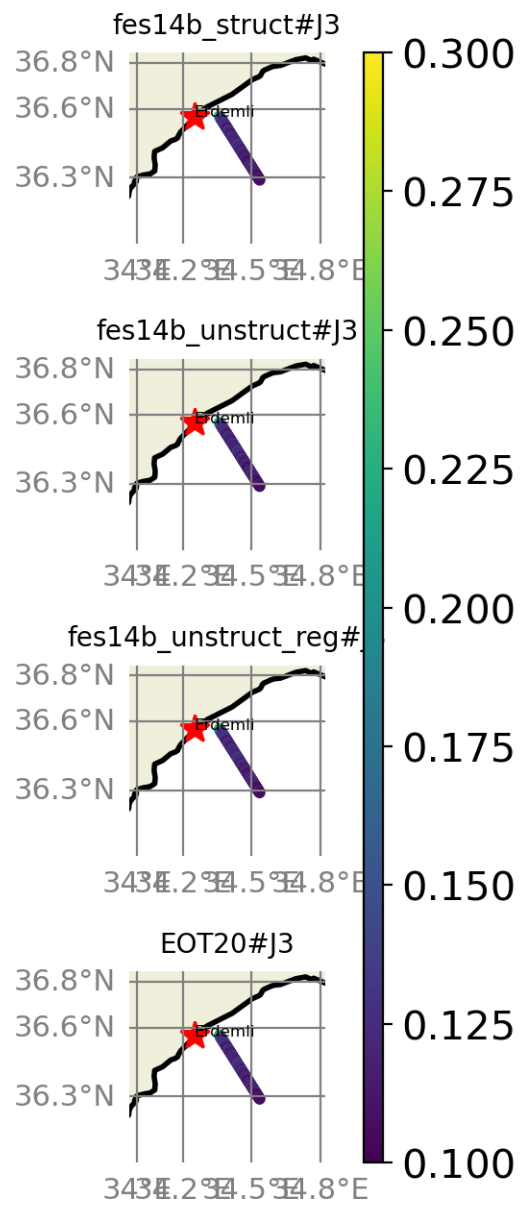


FIGURE 144 – std visualization in maps view % Erdemli tide gauge

6.8.4 valid_data_percent visualization in maps view % Erdemli tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Erdemli Tide gauge data

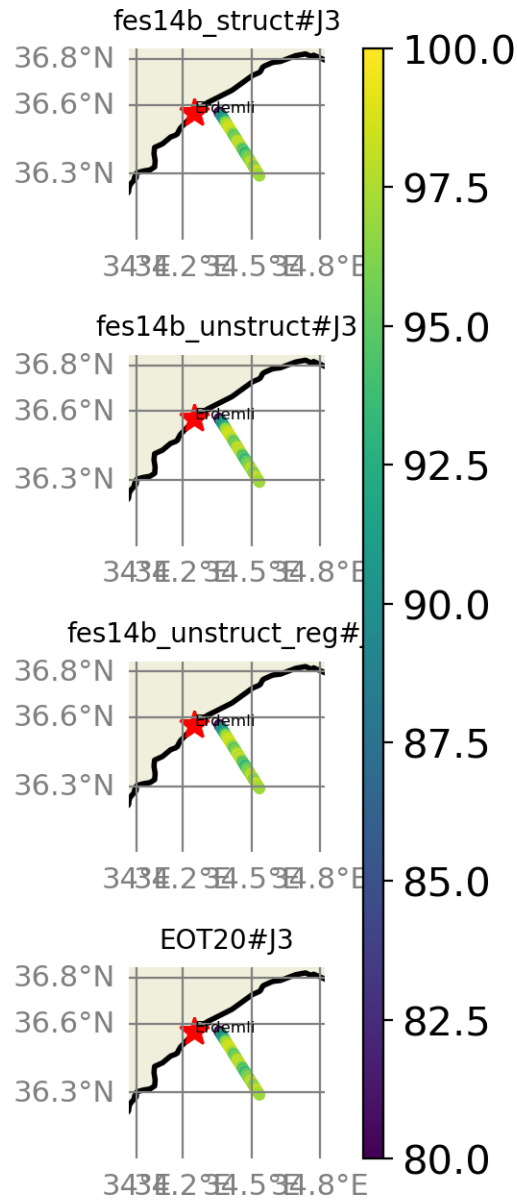


FIGURE 145 – valid_data_percent visualization in maps view % Erdemli tide gauge

6.8.5 Valid data (%) in function of distance to coast/Erdemli station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 99$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

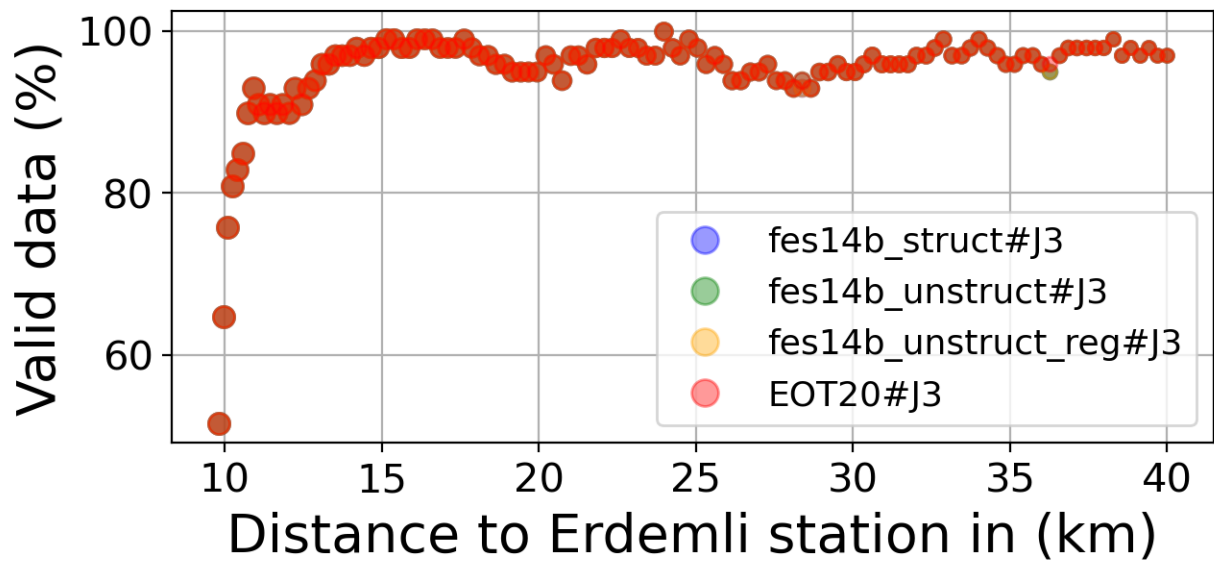
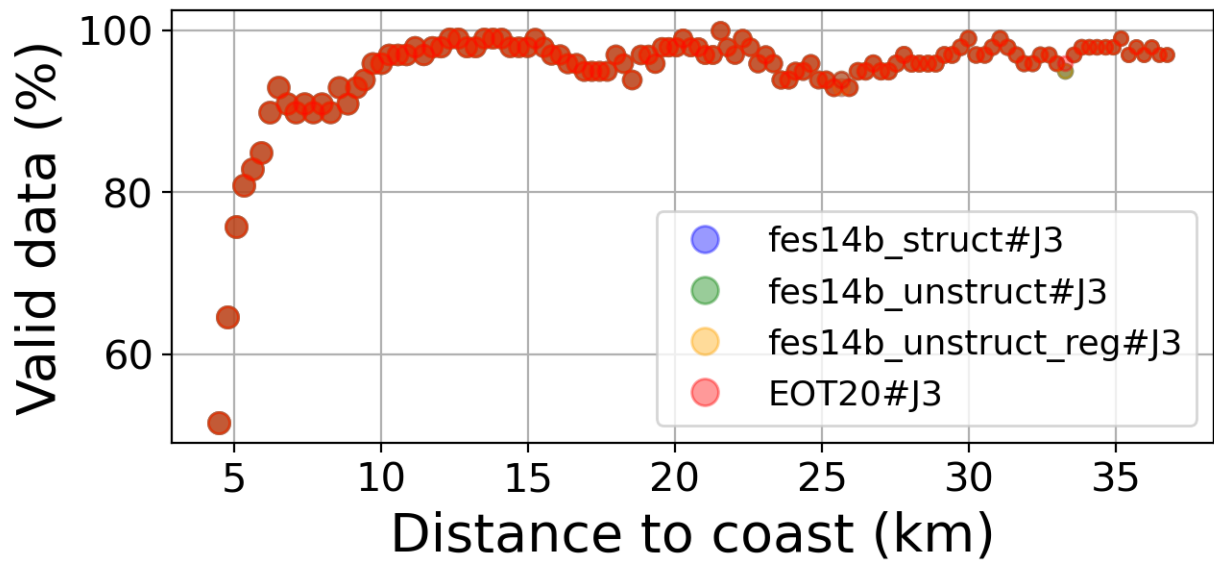


FIGURE 146 – Valid data (%) in function of distance to coast/Erdemli station

6.8.6 Std in function of distance to coast/Erdemli station

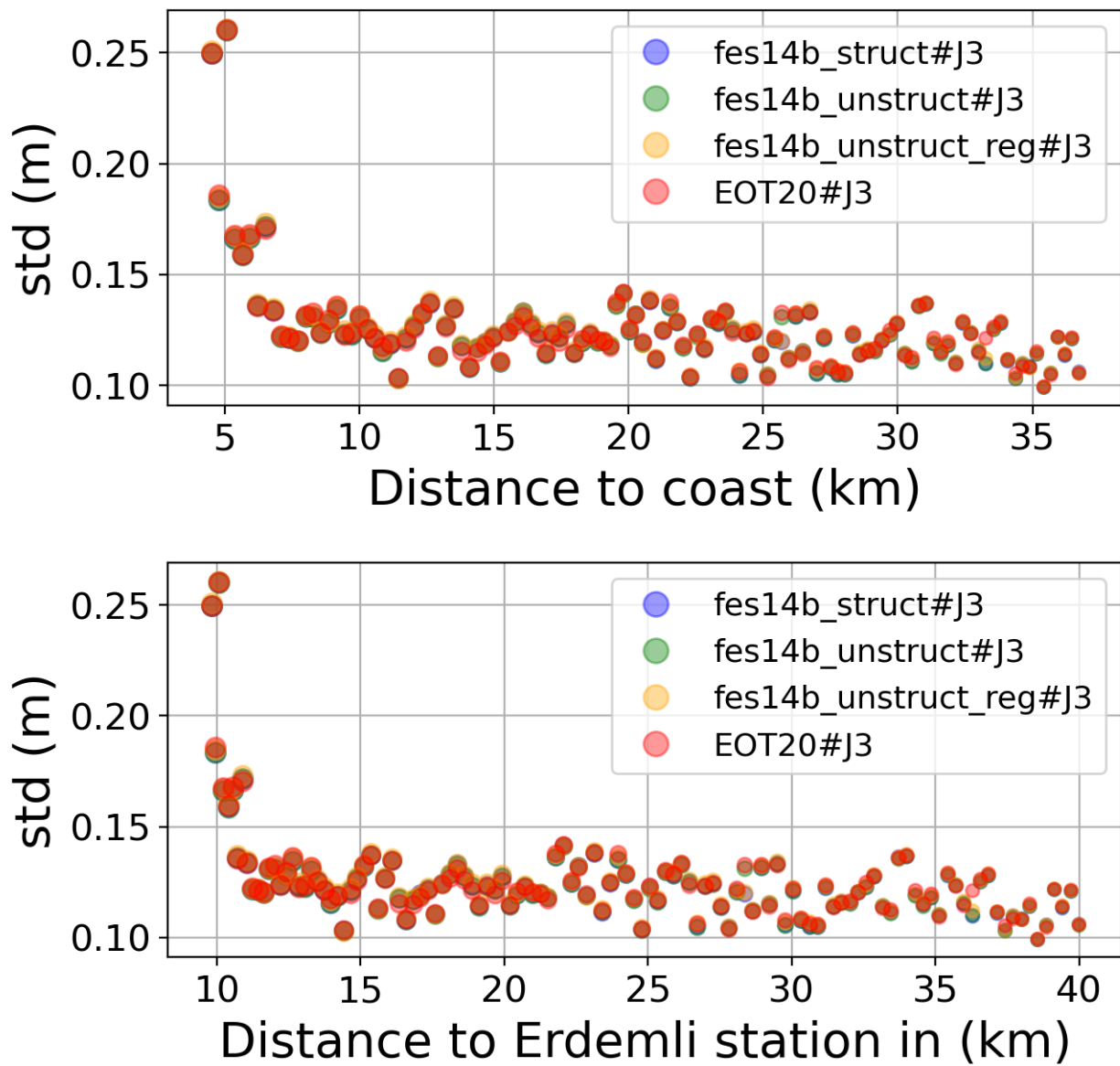


FIGURE 147 – Std in function of the distance to the coast/Erdemli station

6.8.7 Correlation in function of distance to coast/Erdemli station

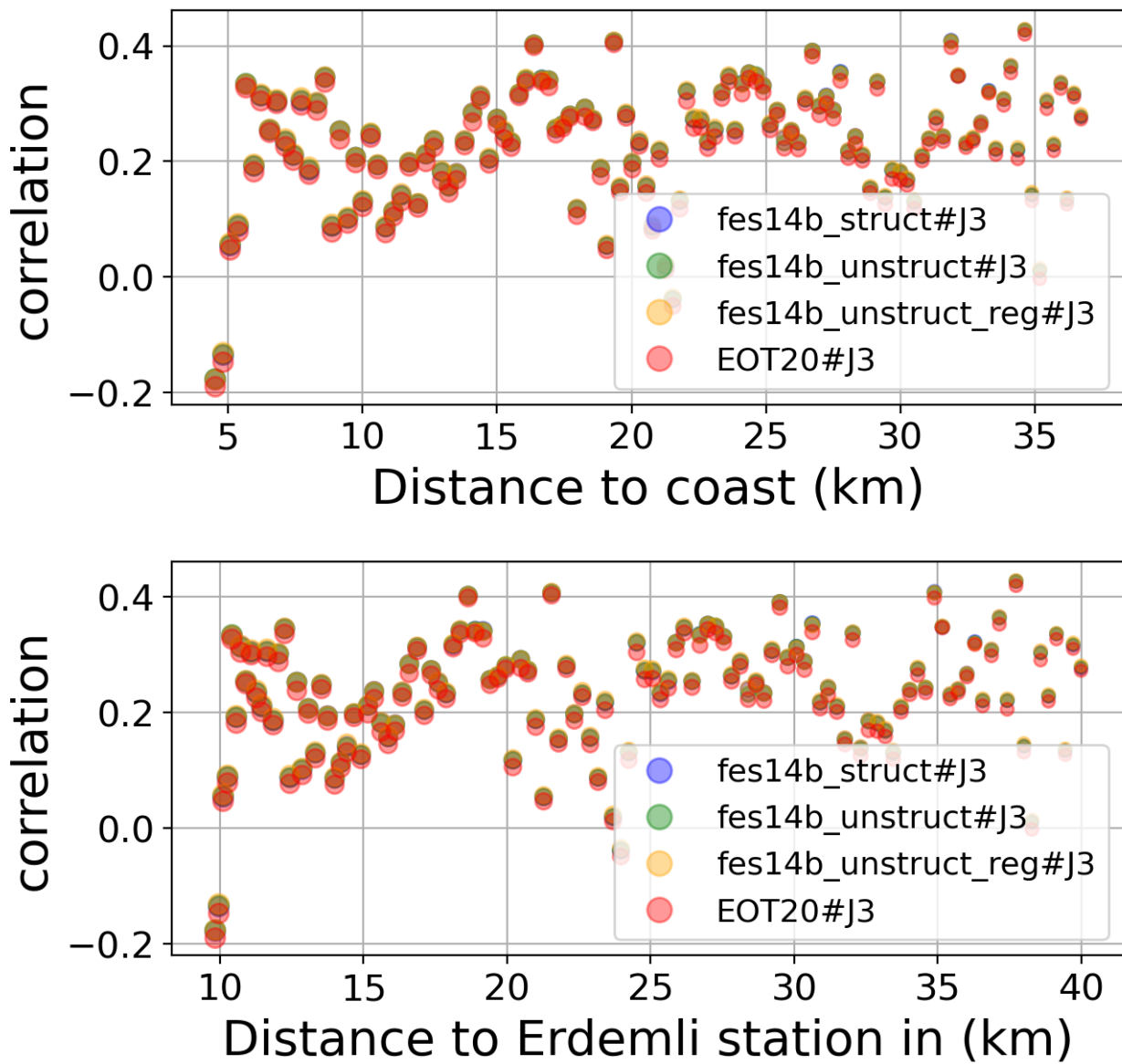


FIGURE 148 – Correlation in function of the distance to the coast/Erdemli station

6.8.8 Taylor Diagram

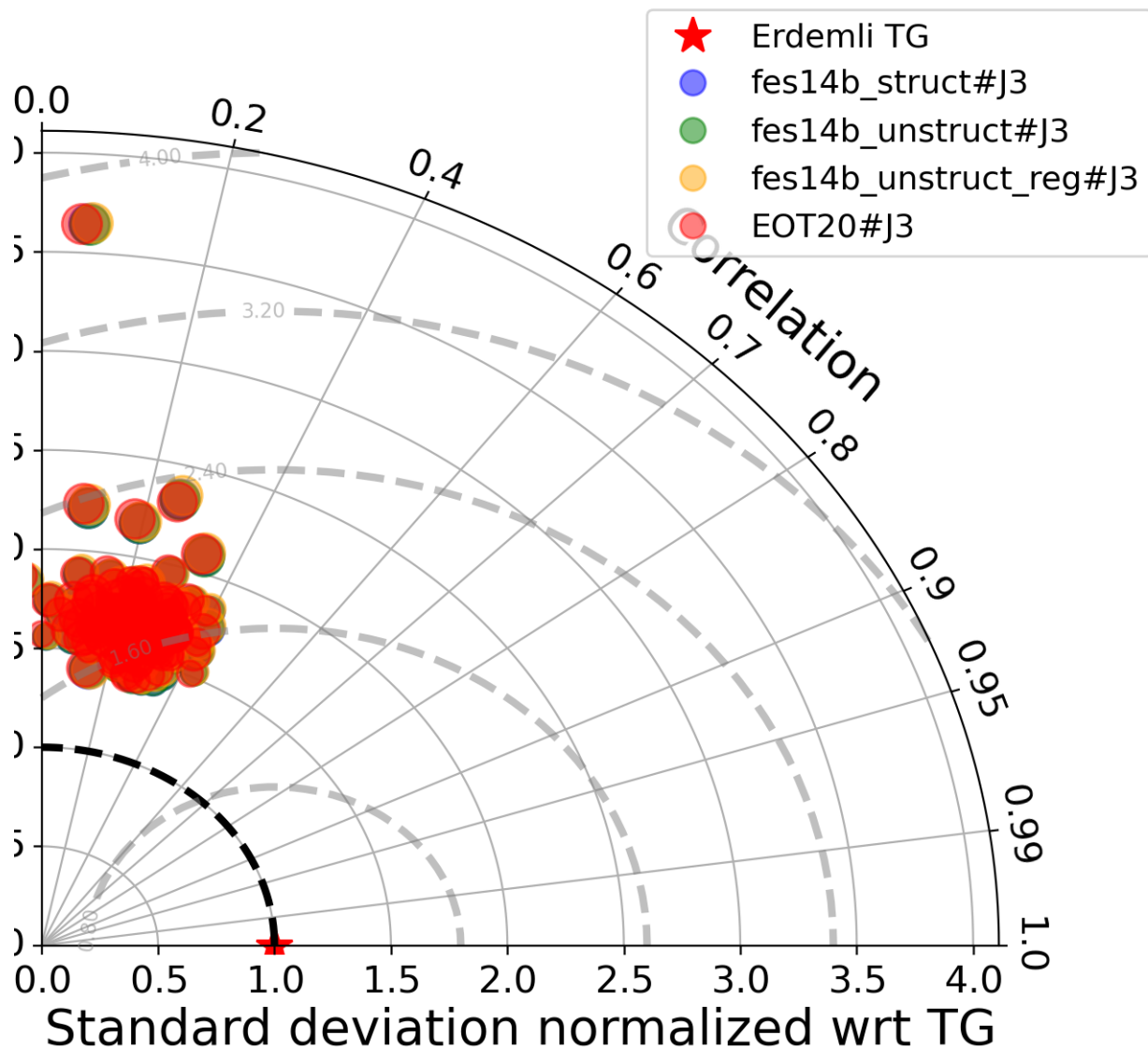


FIGURE 149 – Taylor diagram

6.8.9 Mean statistics table of products comparison with Erdemli tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	95.077	0.233	0.125	0.129
fes14b_unstruct#j3	95.085	0.233	0.125	0.129
fes14b_unstruct_reg#j3	95.077	0.236	0.126	0.13
EOT20#j3	95.094	0.224	0.126	0.131

FIGURE 150 – Mean statistics table of the common points in the altimetry products

6.8.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 99 point.

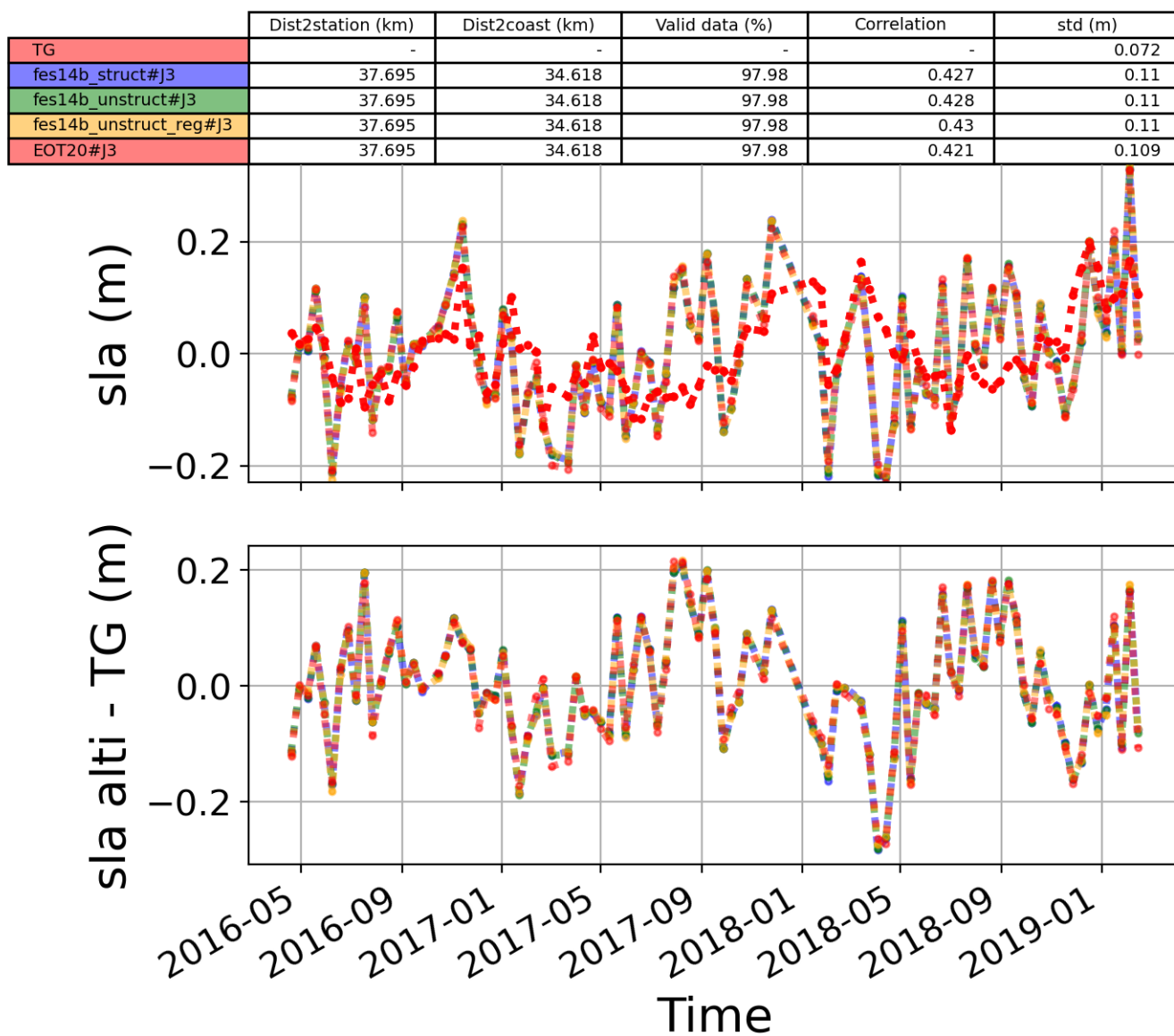


FIGURE 151 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.9 Station : Almeria

- Nearest track to Almeria station is the track number track96
- The area of interest is limited by :
 - A circle which it's center is the Almeria tide gauge station location and has a Raduis of 40 Km

6.9.1 correlation visualization in maps view % Almeria tide gauge

Correlation Altimetry data with respect to Almeria Tide gauge data

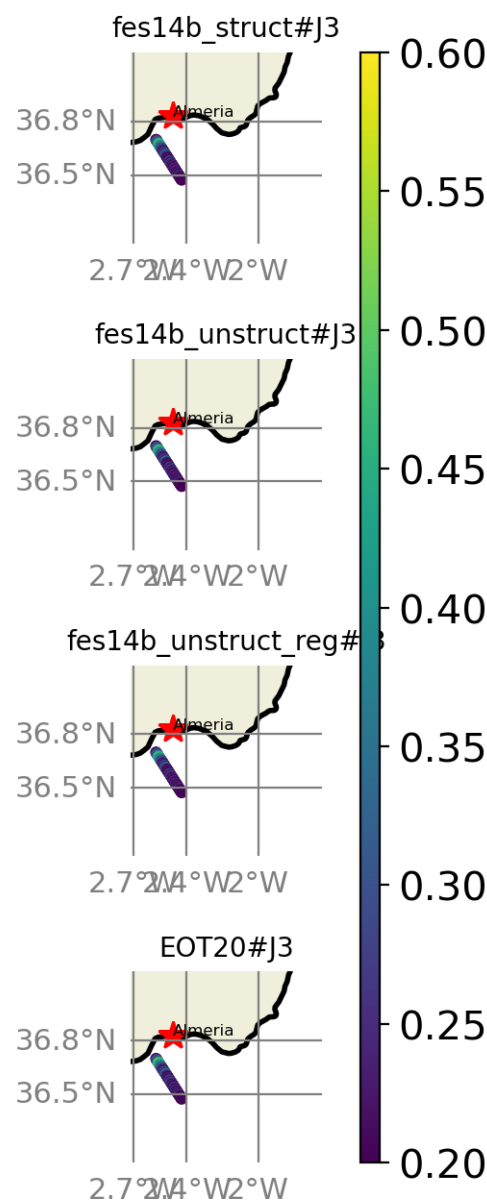


FIGURE 152 – correlation visualization in maps view % Almeria tide gauge

6.9.2 rmsd visualization in maps view % Almeria tide gauge

Rmsd (m) Altimetry data with respect to Almeria Tide gauge data

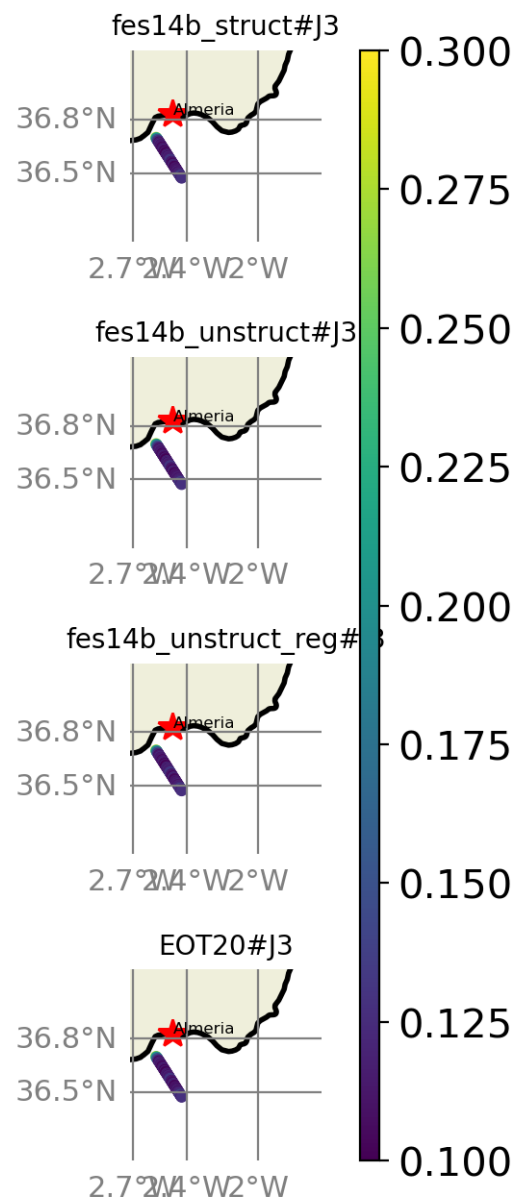


FIGURE 153 – rmsd visualization in maps view % Almeria tide gauge

6.9.3 std visualization in maps view % Almeria tide gauge

Std (m) Altimetry data with respect to Almeria Tide gauge data

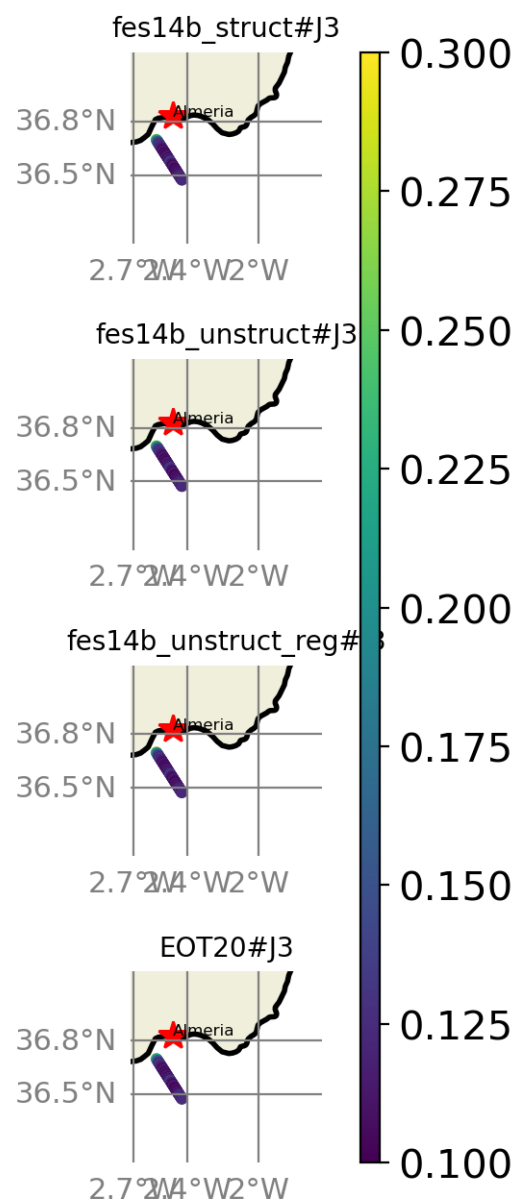


FIGURE 154 – std visualization in maps view % Almeria tide gauge

6.9.4 valid_data_percent visualization in maps view % Almeria tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Almeria Tide gauge data

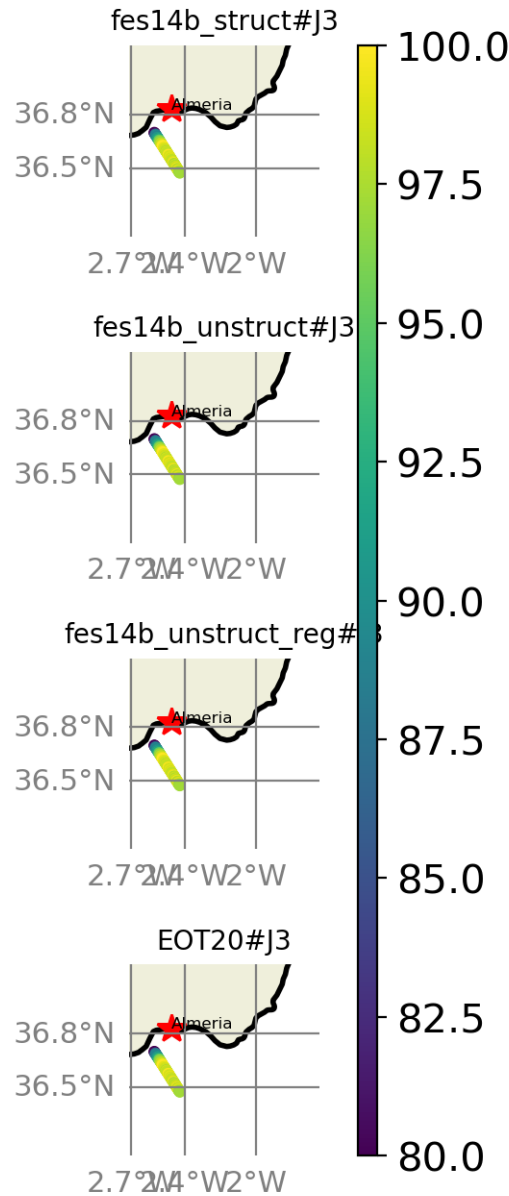


FIGURE 155 – valid_data_percent visualization in maps view % Almeria tide gauge

6.9.5 Valid data (%) in function of distance to coast/Almeria station

The formula to calculate the percentage of valid data in each time serie is ;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 109$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

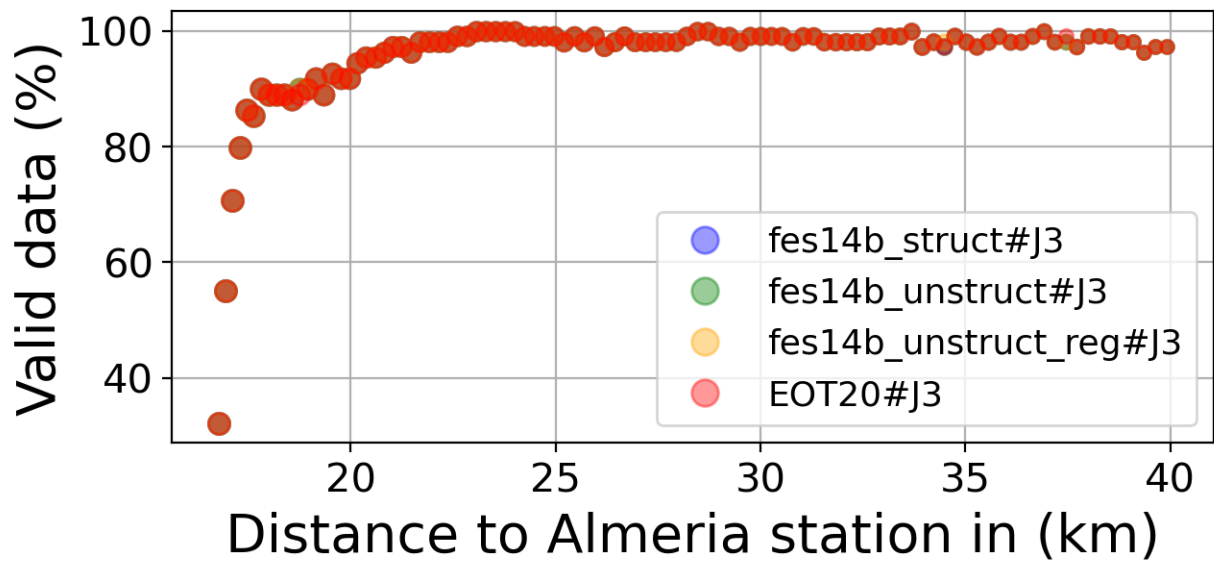
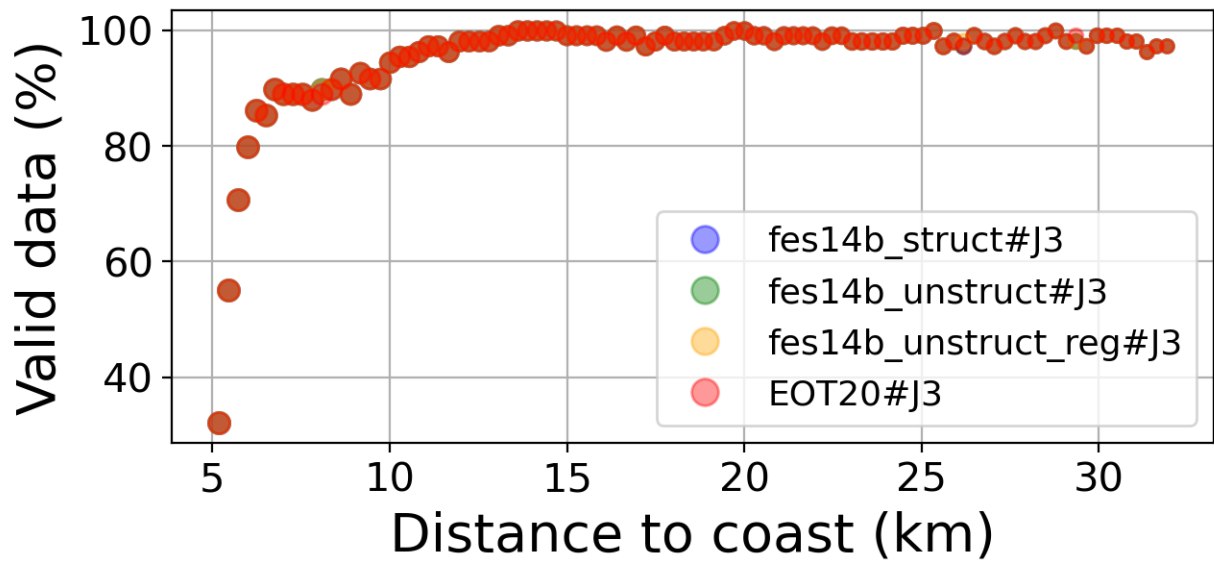


FIGURE 156 – Valid data (%) in function of distance to coast/Almeria station

6.9.6 Std in function of distance to coast/Almeria station

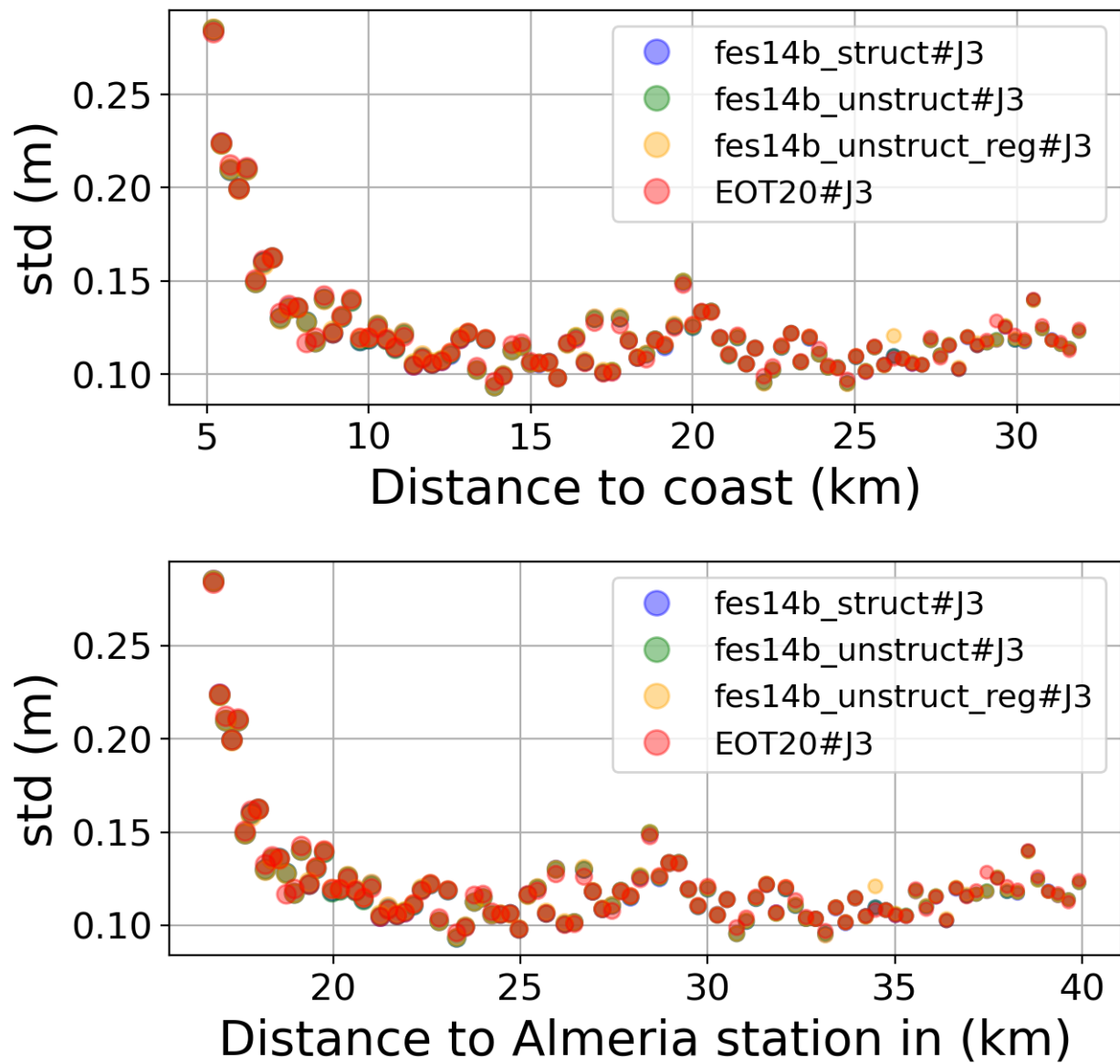


FIGURE 157 – Std in function of the distance to the coast/Almeria station

6.9.7 Correlation in function of distance to coast/Almeria station

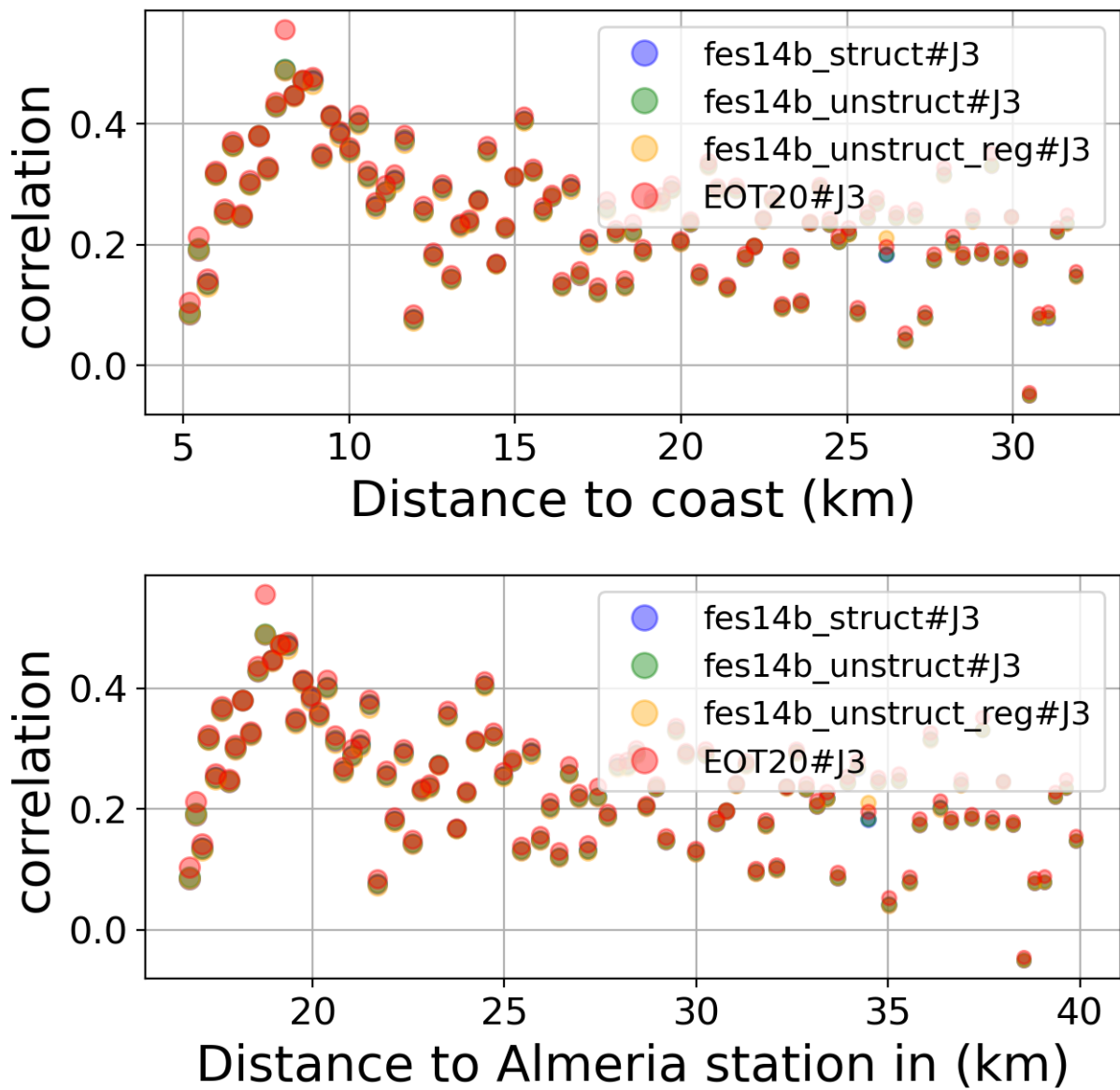


FIGURE 158 – Correlation in function of the distance to the coast/Almeria station

6.9.8 Taylor Diagram

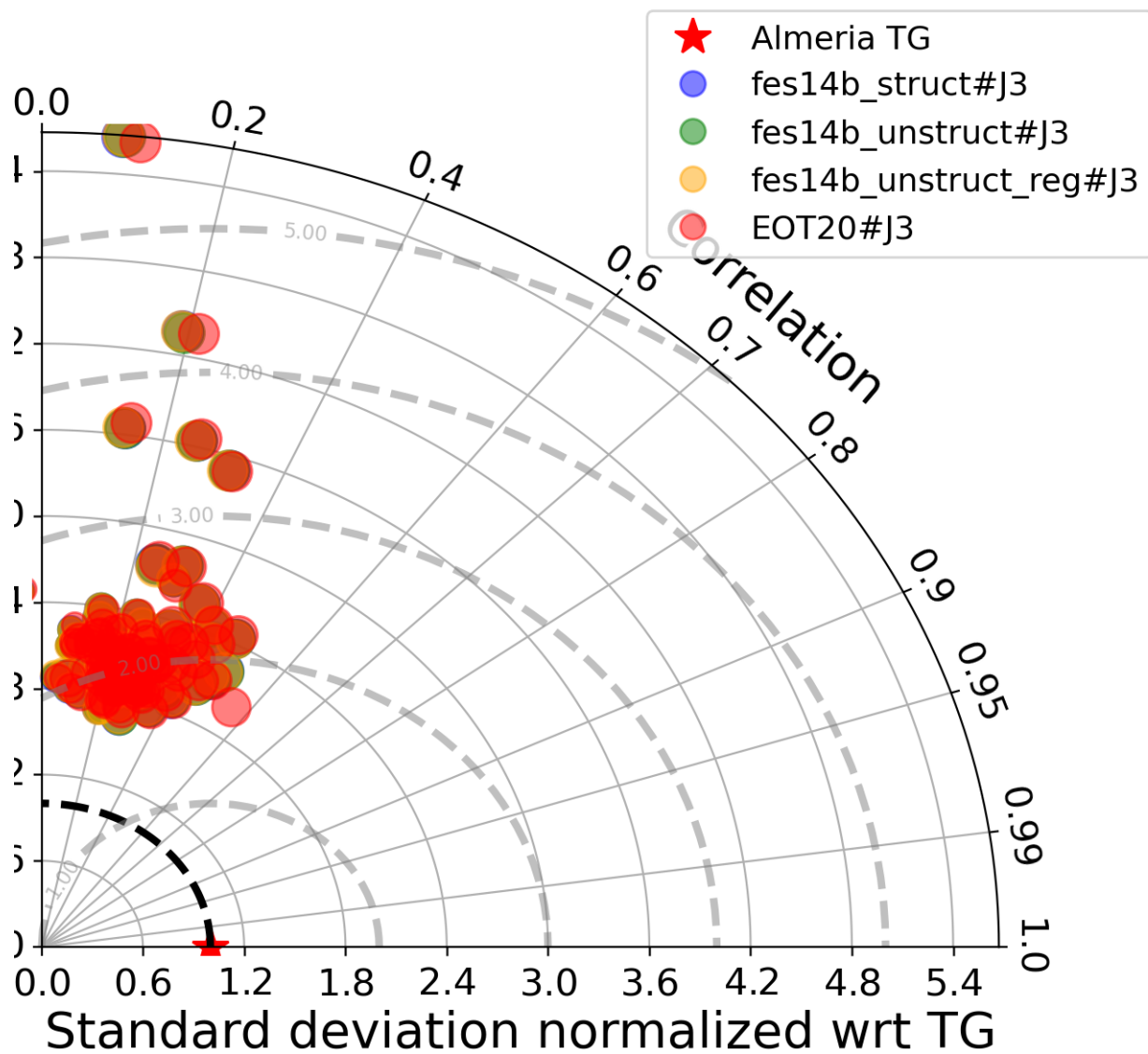


FIGURE 159 – Taylor diagram

6.9.9 Mean statistics table of products comparison with Almeria tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	95.507	0.242	0.123	0.122
fes14b_unstruct#j3	95.507	0.243	0.123	0.122
fes14b_unstruct_reg#j3	95.517	0.241	0.123	0.123
EOT20#j3	95.507	0.251	0.123	0.122

FIGURE 160 – Mean statistics table of the common points in the altimetry products

6.9.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 109 point.

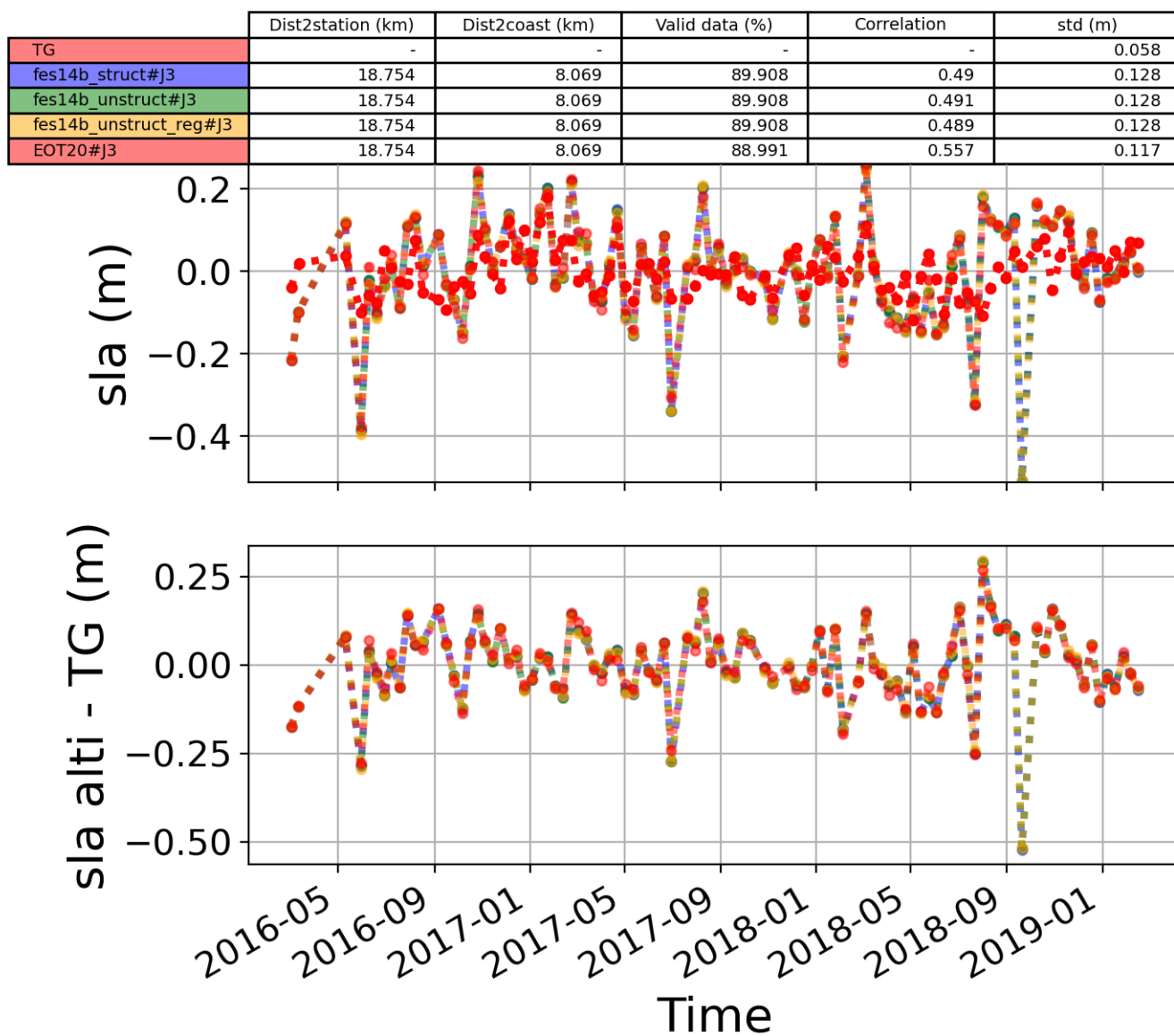


FIGURE 161 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.10 Station : Civitavecchia

- Nearest track to Civitavecchia station is the track number track161
- The area of interest is limited by :
 - A circle which it's center is the Civitavecchia tide gauge station location and has a Raduis of 40 Km

6.10.1 correlation visualization in maps view % Civitavecchia tide gauge

Correlation Altimetry data with respect to Civitavecchia Tide gauge data

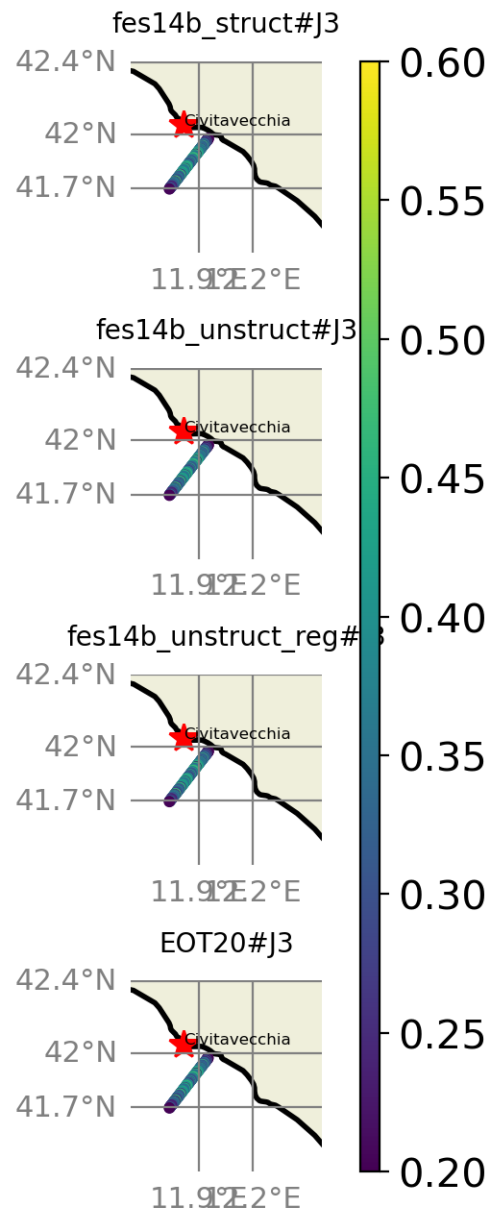


FIGURE 162 – correlation visualization in maps view % Civitavecchia tide gauge

6.10.2 rmsd visualization in maps view % Civitavecchia tide gauge

Rmsd (m) Altimetry data with respect to Civitavecchia Tide gauge data

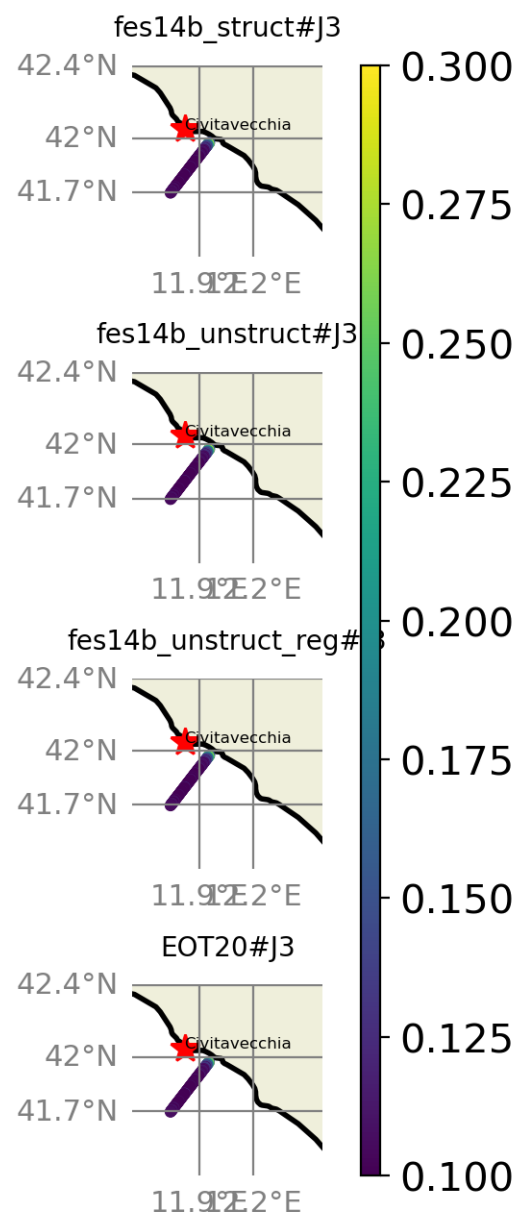


FIGURE 163 – rmsd visualization in maps view % Civitavecchia tide gauge

6.10.3 std visualization in maps view % Civitavecchia tide gauge

Std (m) Altimetry data with respect to Civitavecchia Tide gauge data

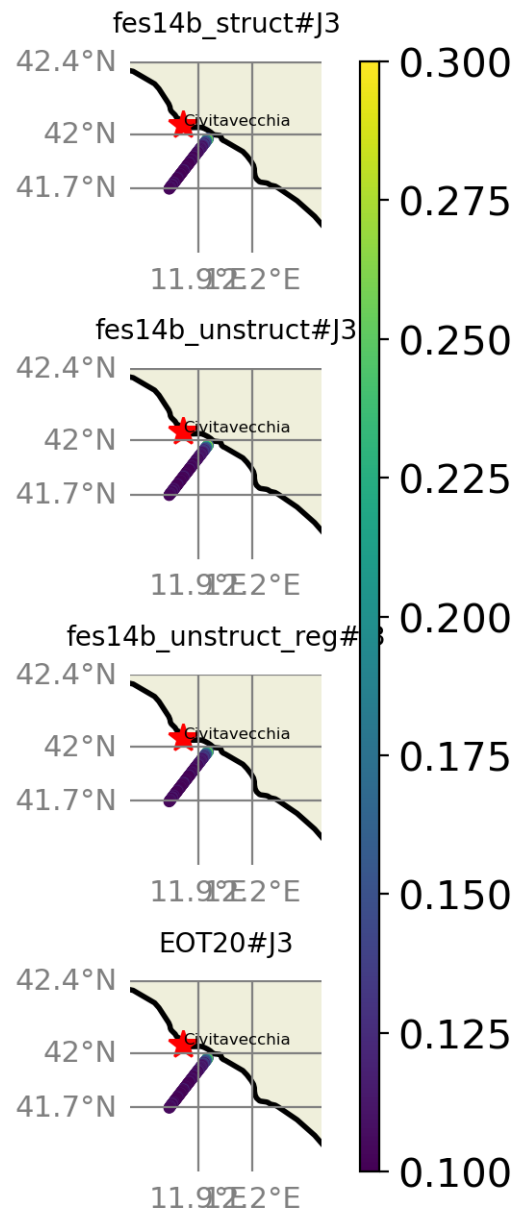


FIGURE 164 – std visualization in maps view % Civitavecchia tide gauge

6.10.4 valid_data_percent visualization in maps view % Civitavecchia tide gauge

Valid_Data_Percent (%) Altimetry data with respect to Civitavecchia Tide gauge data

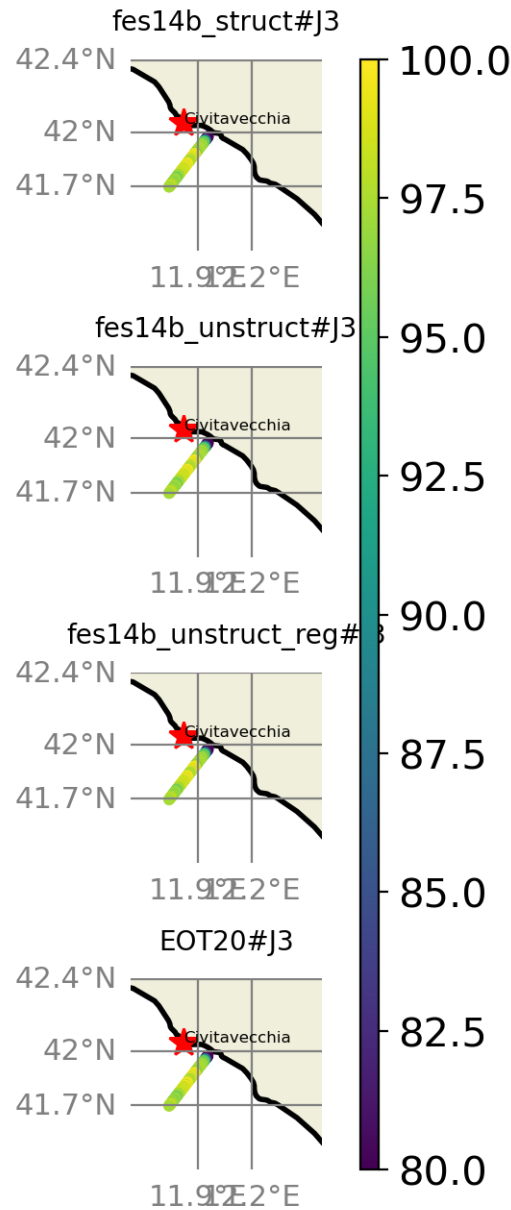


FIGURE 165 – valid_data_percent visualization in maps view % Civitavecchia tide gauge

6.10.5 Valid data (%) in function of distance to coast/Civitavecchia station

The formula to calculate the percentage of valid data in each time series is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time series, respectively in the time series, i is the index of the time series, np is the number of the selected altimetry time series. $maxNB = 110$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time series.

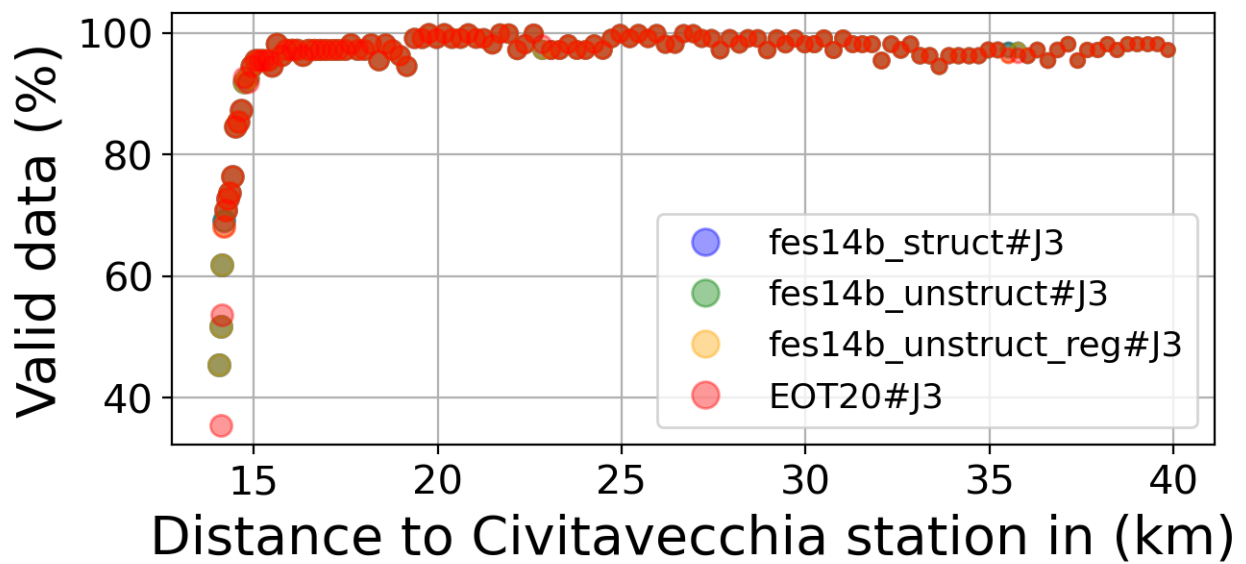
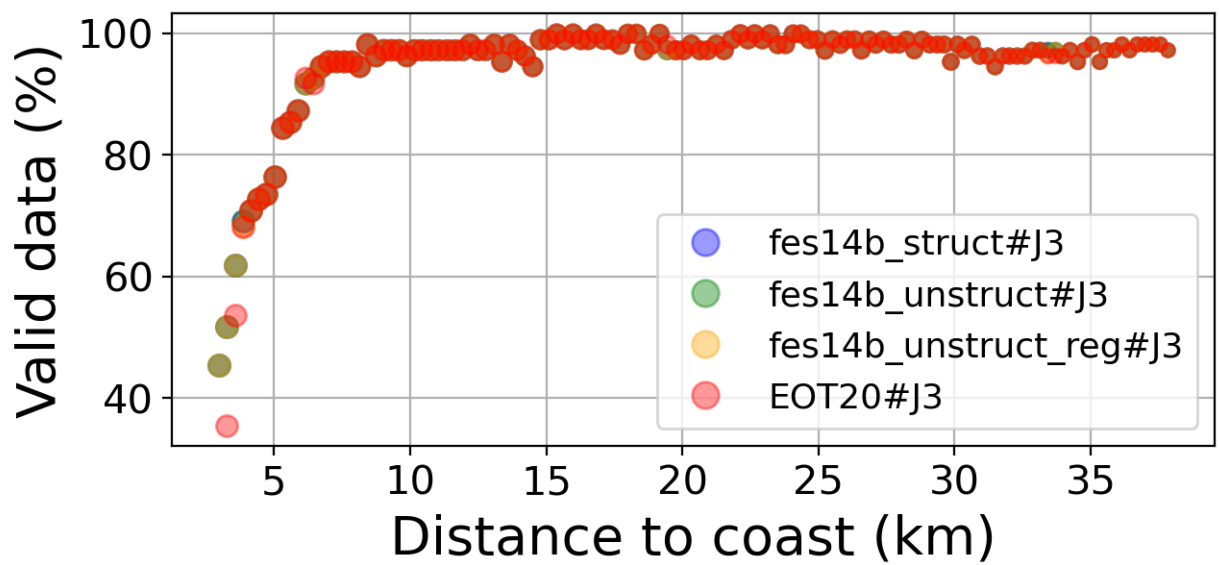


FIGURE 166 – Valid data (%) in function of distance to coast/Civitavecchia station

6.10.6 Std in function of distance to coast/Civitavecchia station

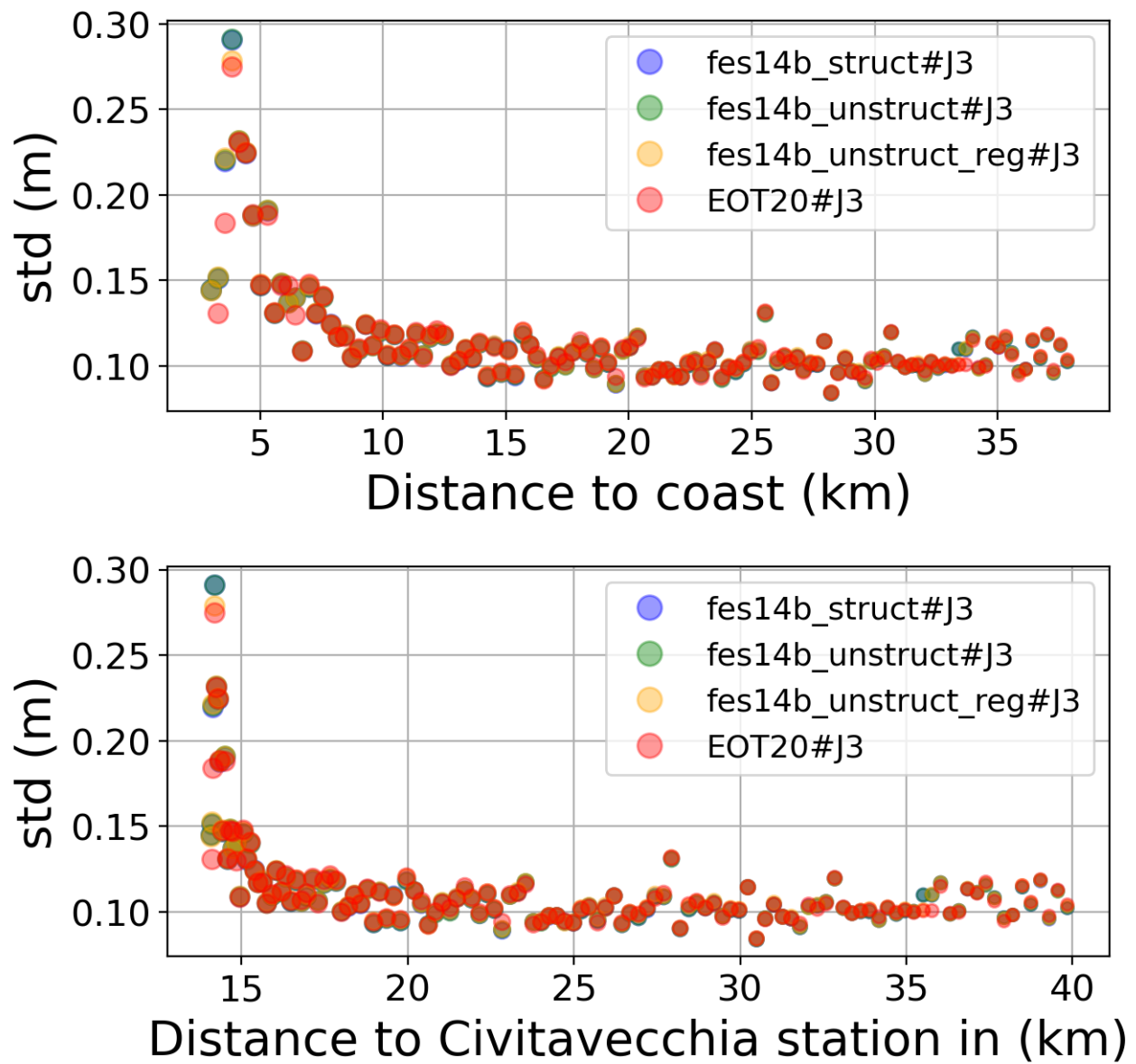


FIGURE 167 – Std in function of the distance to the coast/Civitavecchia station

6.10.7 Correlation in function of distance to coast/Civitavecchia station

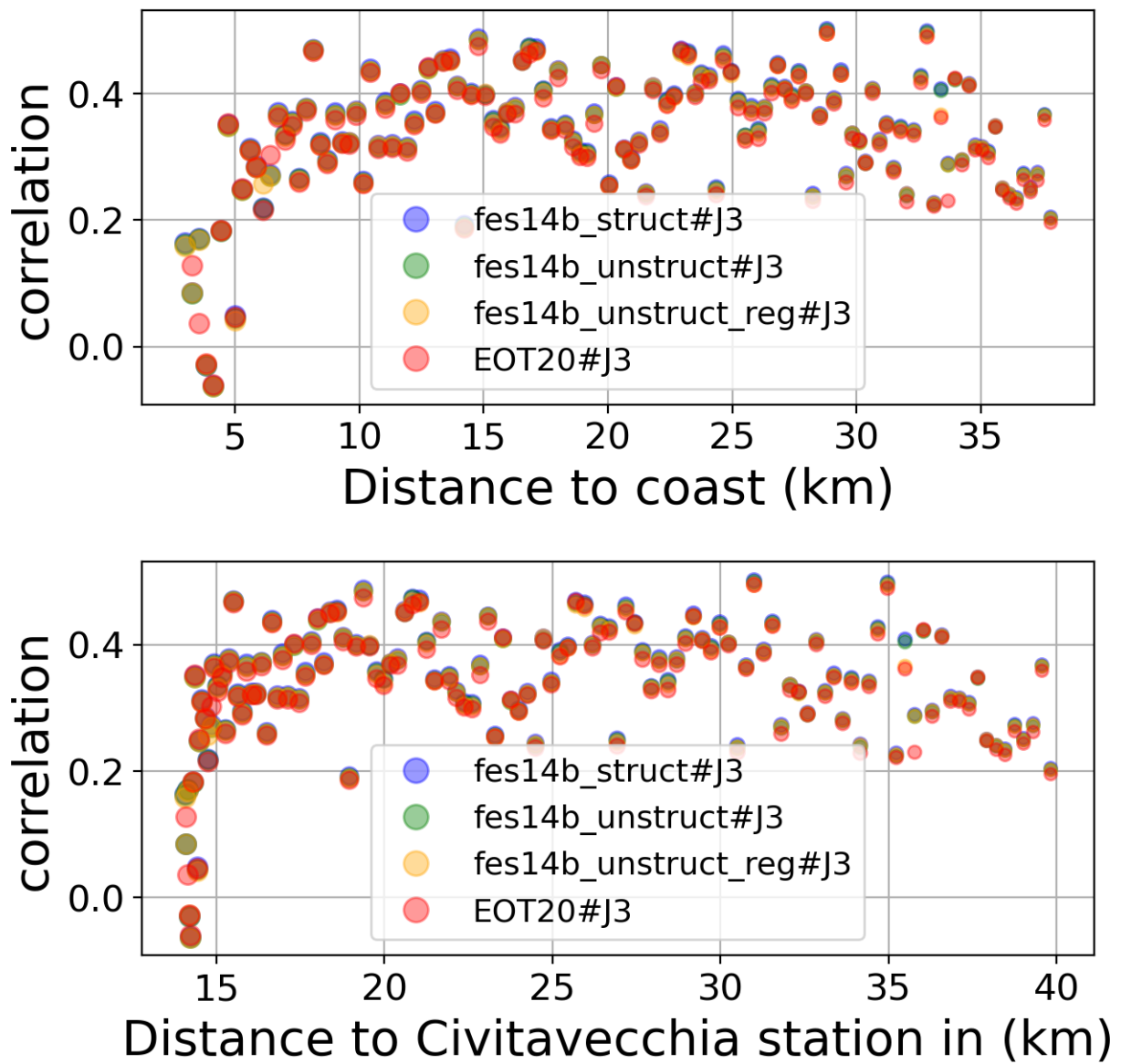


FIGURE 168 – Correlation in function of the distance to the coast/Civitavecchia station

6.10.8 Taylor Diagram

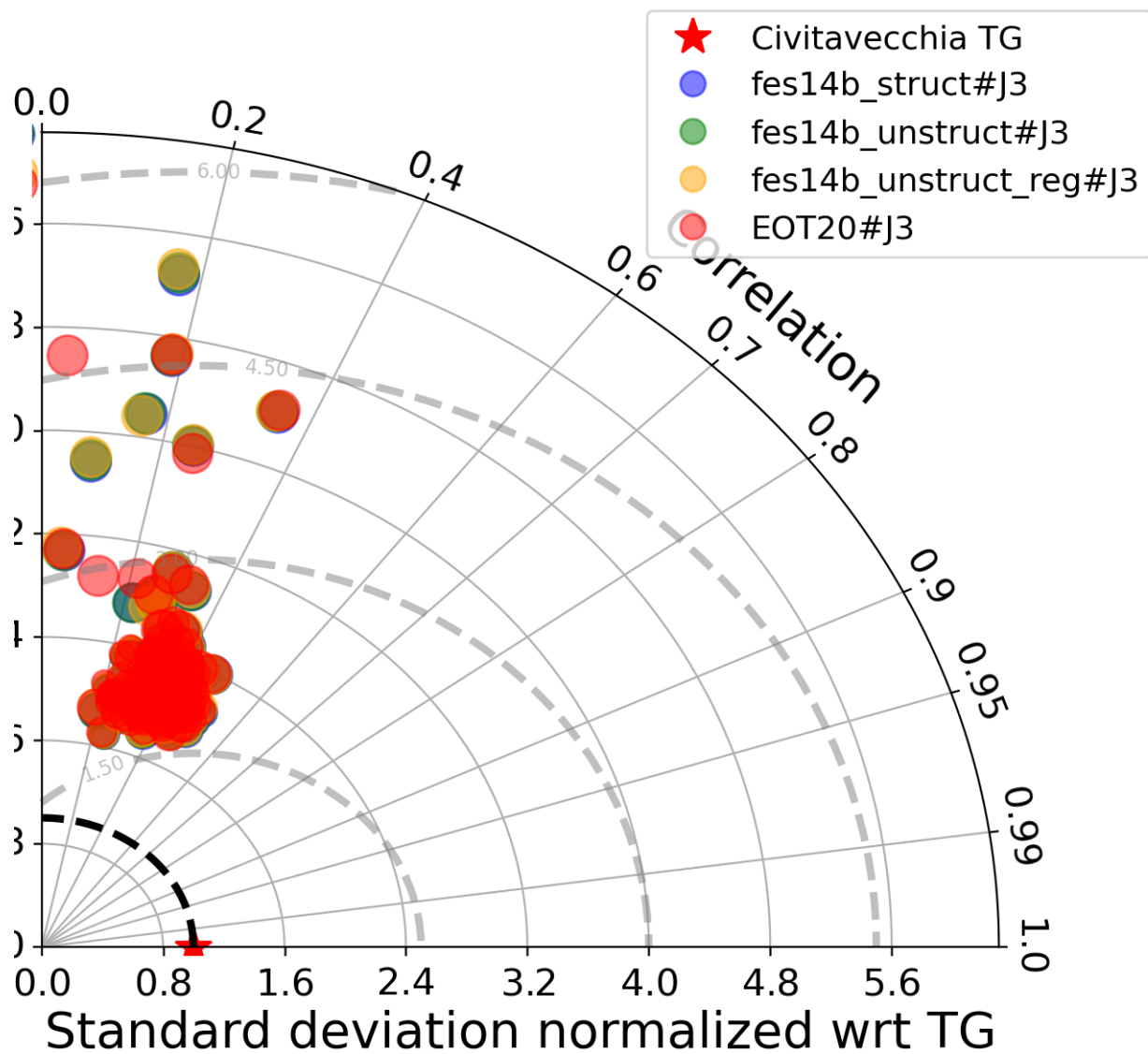


FIGURE 169 – Taylor diagram

6.10.9 Mean statistics table of products comparison with Civitavecchia tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	95.676	0.344	0.114	0.108
fes14b_unstruct#j3	95.676	0.341	0.114	0.108
fes14b_unstruct_reg#j3	95.661	0.34	0.114	0.108
EOT20#j3	95.462	0.336	0.113	0.108

FIGURE 170 – Mean statistics table of the common points in the altimetry products

6.10.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 110 point.

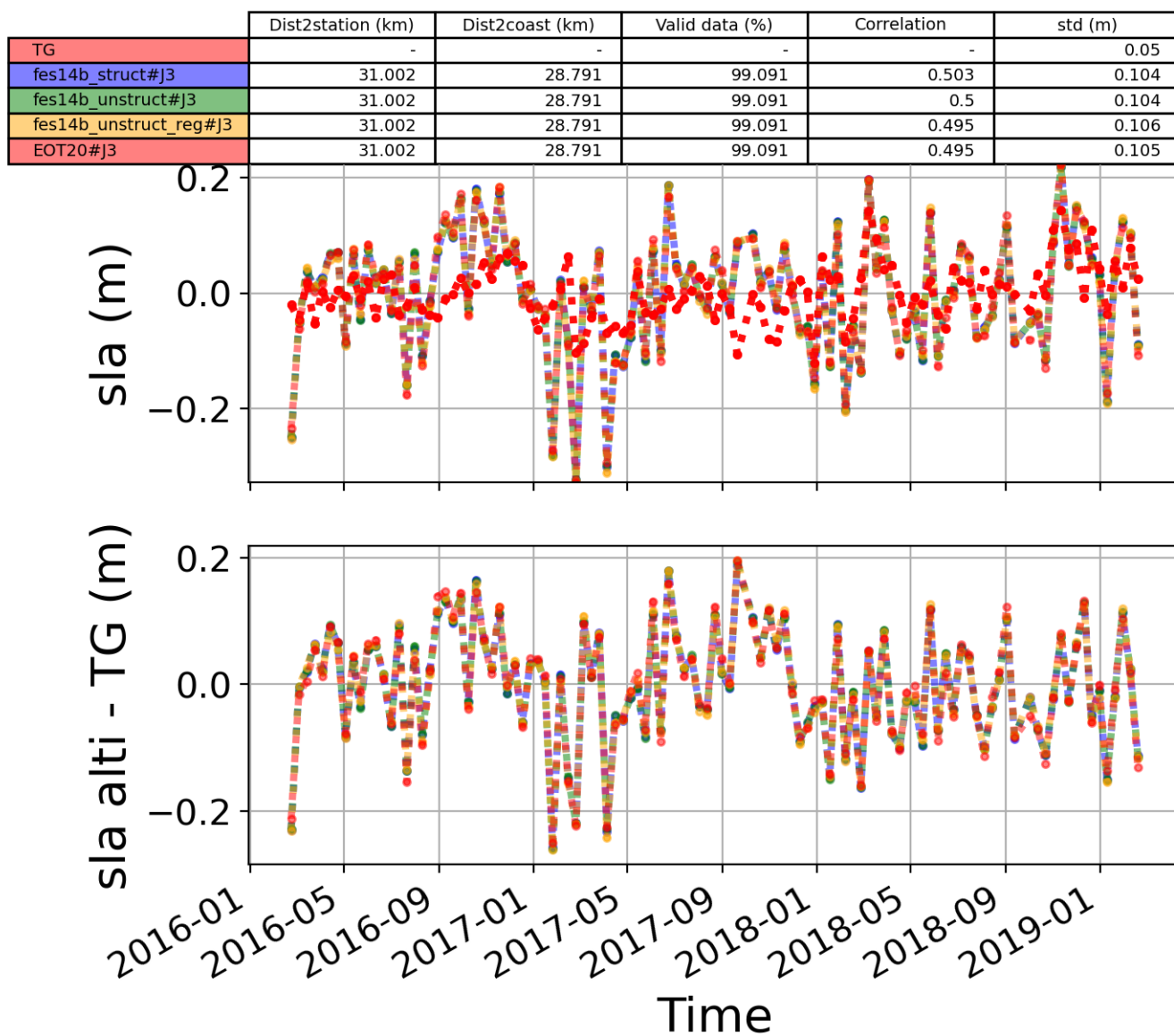


FIGURE 171 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie

6.11 Station : FOS-SUR-MER

- Nearest track to FOS-SUR-MER station is the track number track187
- The area of interest is limited by :
 - A circle which it's center is the FOS-SUR-MER tide gauge station location and has a Raduis of 40 Km

6.11.1 correlation visualization in maps view % FOS-SUR-MER tide gauge

Correlation Altimetry data with respect to FOS-SUR-MER Tide gauge data

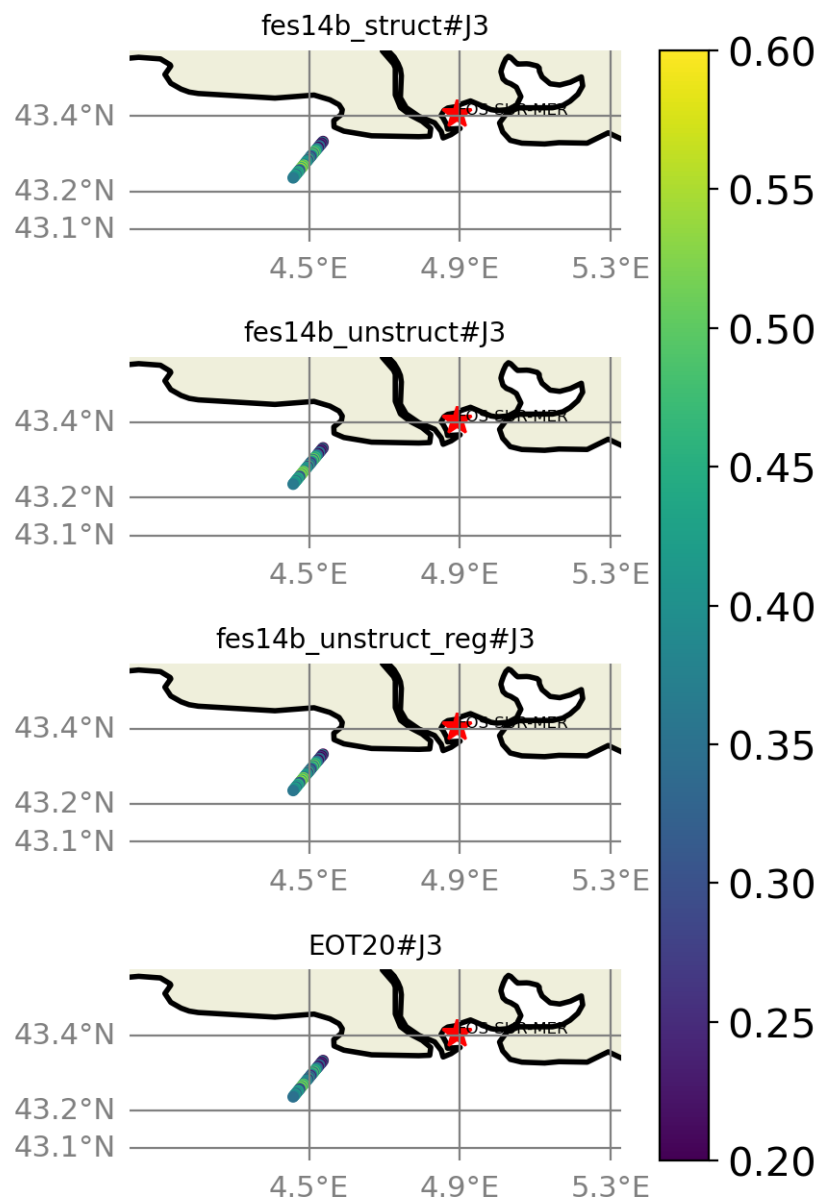


FIGURE 172 – correlation visualization in maps view % FOS-SUR-MER tide gauge

6.11.2 rmsd visualization in maps view % FOS-SUR-MER tide gauge

Rmsd (m) Altimetry data with respect to FOS-SUR-MER Tide gauge data

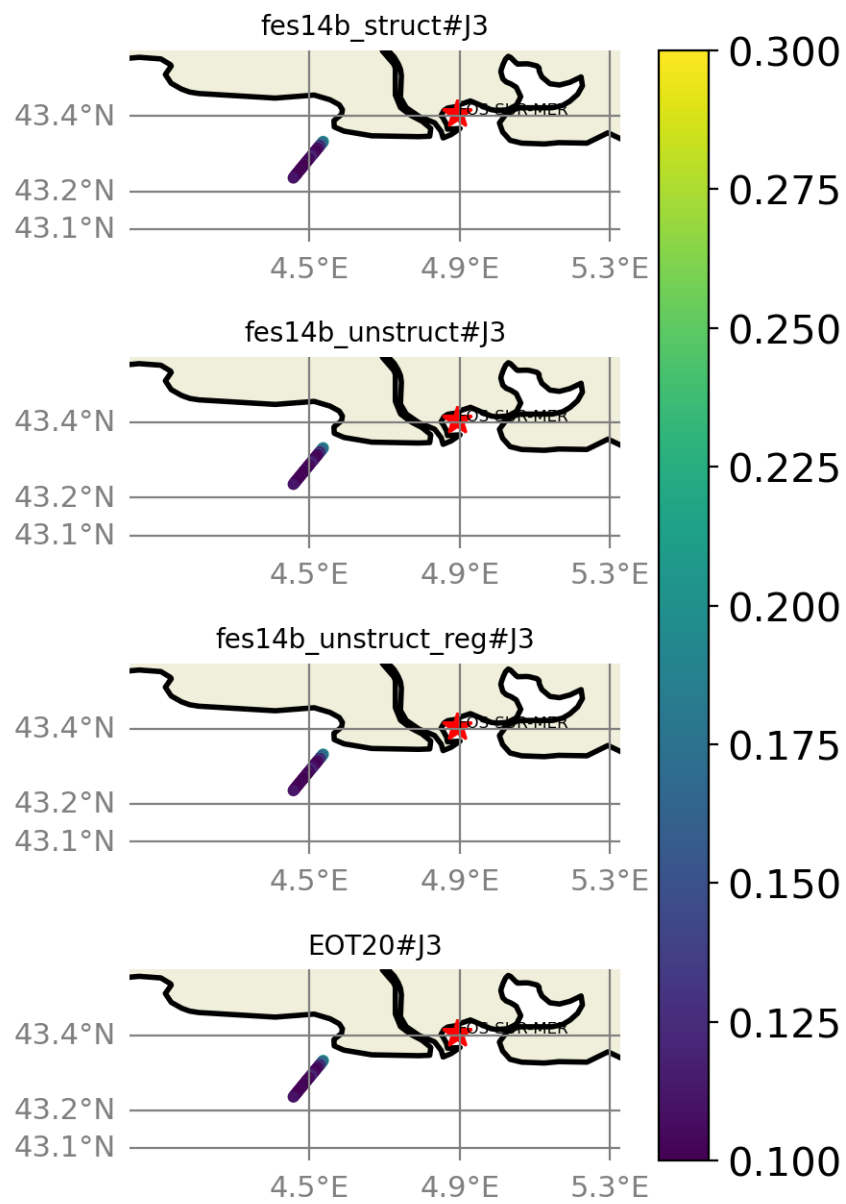


FIGURE 173 – rmsd visualization in maps view % FOS-SUR-MER tide gauge

6.11.3 std visualization in maps view % FOS-SUR-MER tide gauge

Std (m) Altimetry data with respect to FOS-SUR-MER Tide gauge data

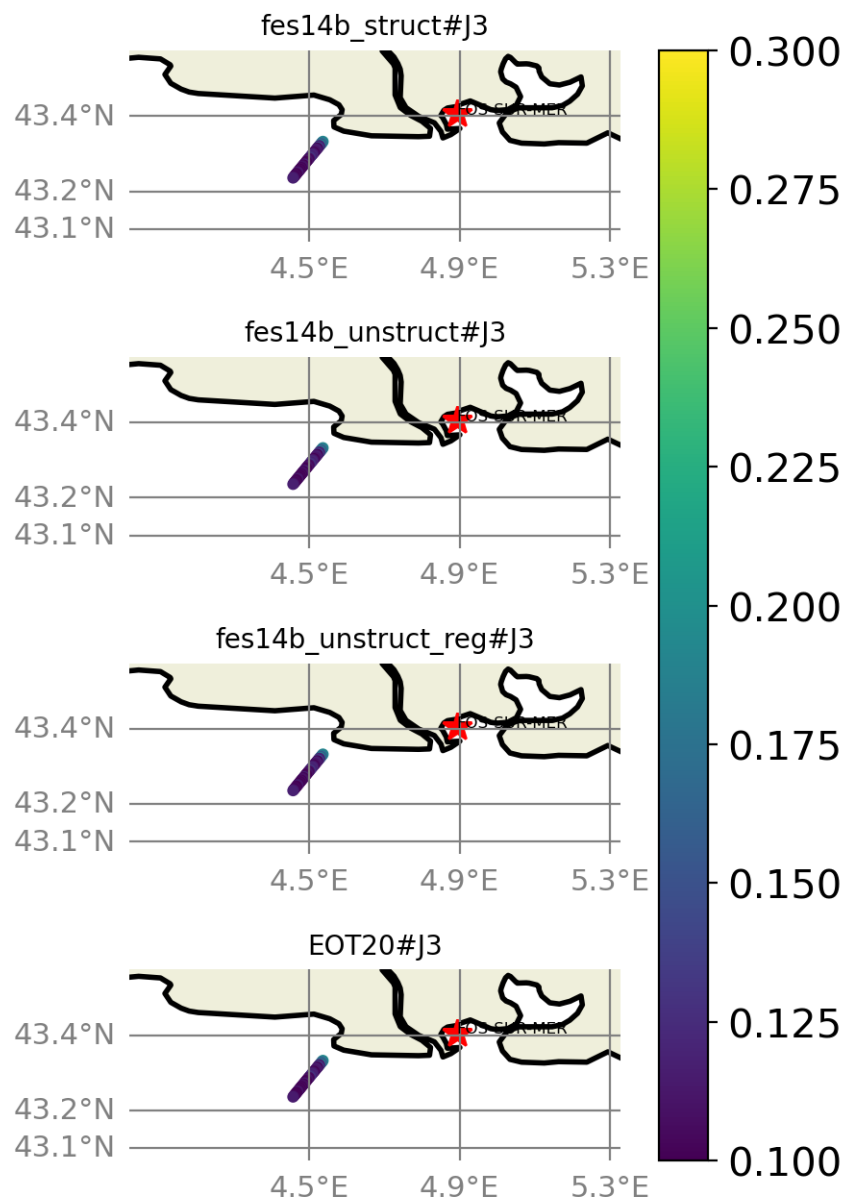


FIGURE 174 – std visualization in maps view % FOS-SUR-MER tide gauge

6.11.4 valid_data_percent visualization in maps view % FOS-SUR-MER tide gauge

Valid_Data_Percent (%) Altimetry data with respect to FOS-SUR-MER Tide gauge data

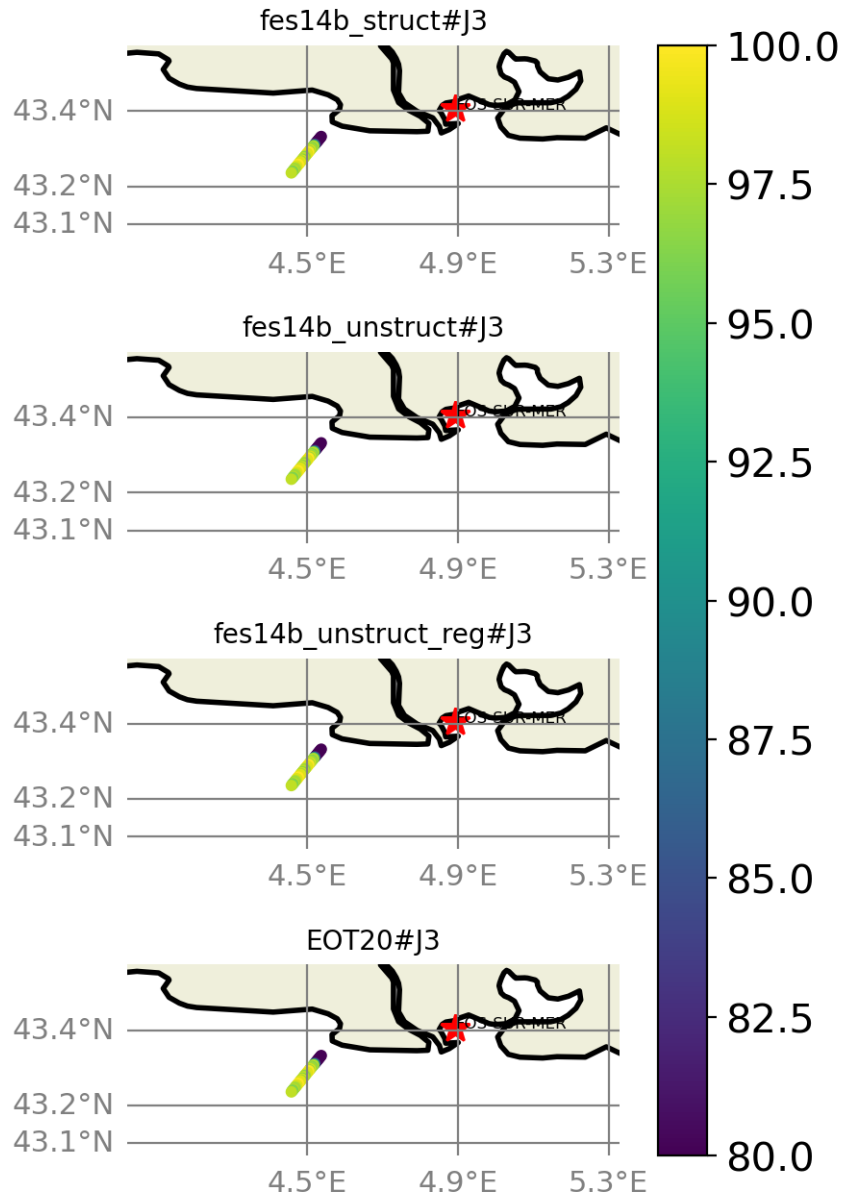


FIGURE 175 – valid_data_percent visualization in maps view % FOS-SUR-MER tide gauge

6.11.5 Valid data (%) in function of distance to coast/FOS-SUR-MER station

The formula to calculate the percentage of valid data in each time serie is;

$$pvd_i = \frac{nvd_i}{maxNB}, i = 1, np$$

Where pvd and nvd are the percentage of data and the number of altimetry data in the period covered by the tide gauge sla time serie, respectively in the time serie, i is the index of the time serie, np is the number of the selected altimetry time series. $maxNB = 106$ point is the maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie.

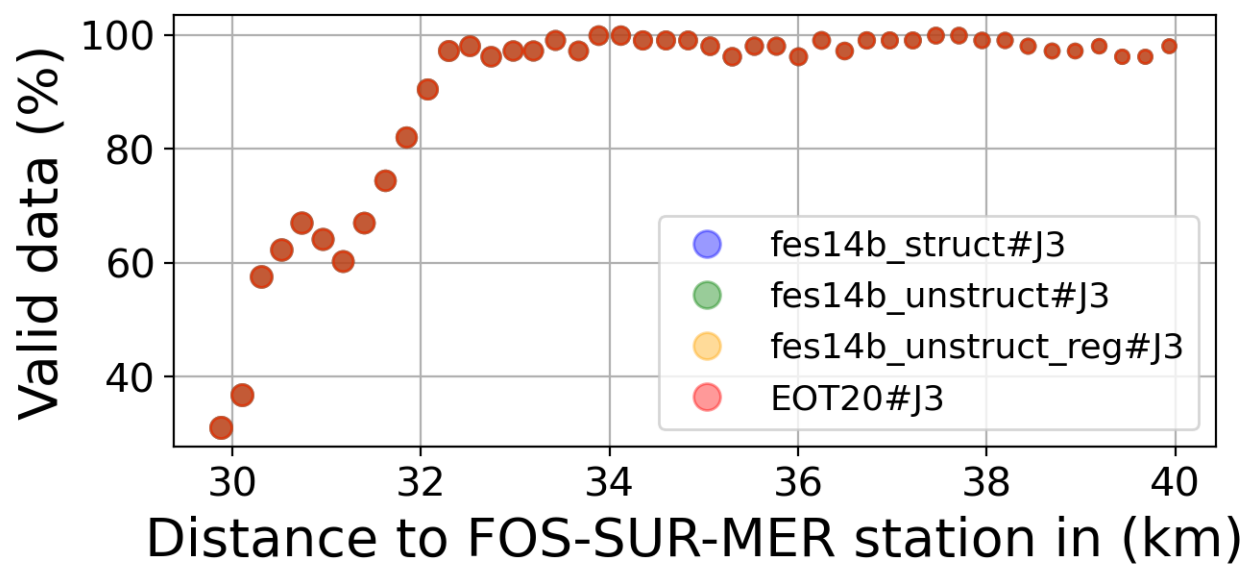
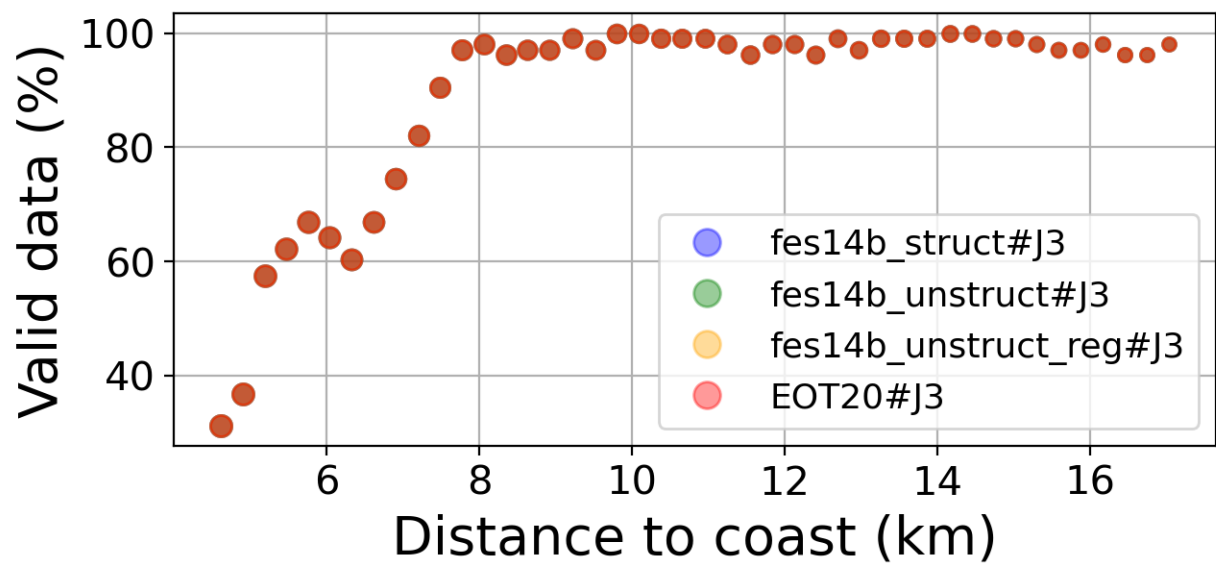


FIGURE 176 – Valid data (%) in function of distance to coast/FOS-SUR-MER station

6.11.6 Std in function of distance to coast/FOS-SUR-MER station

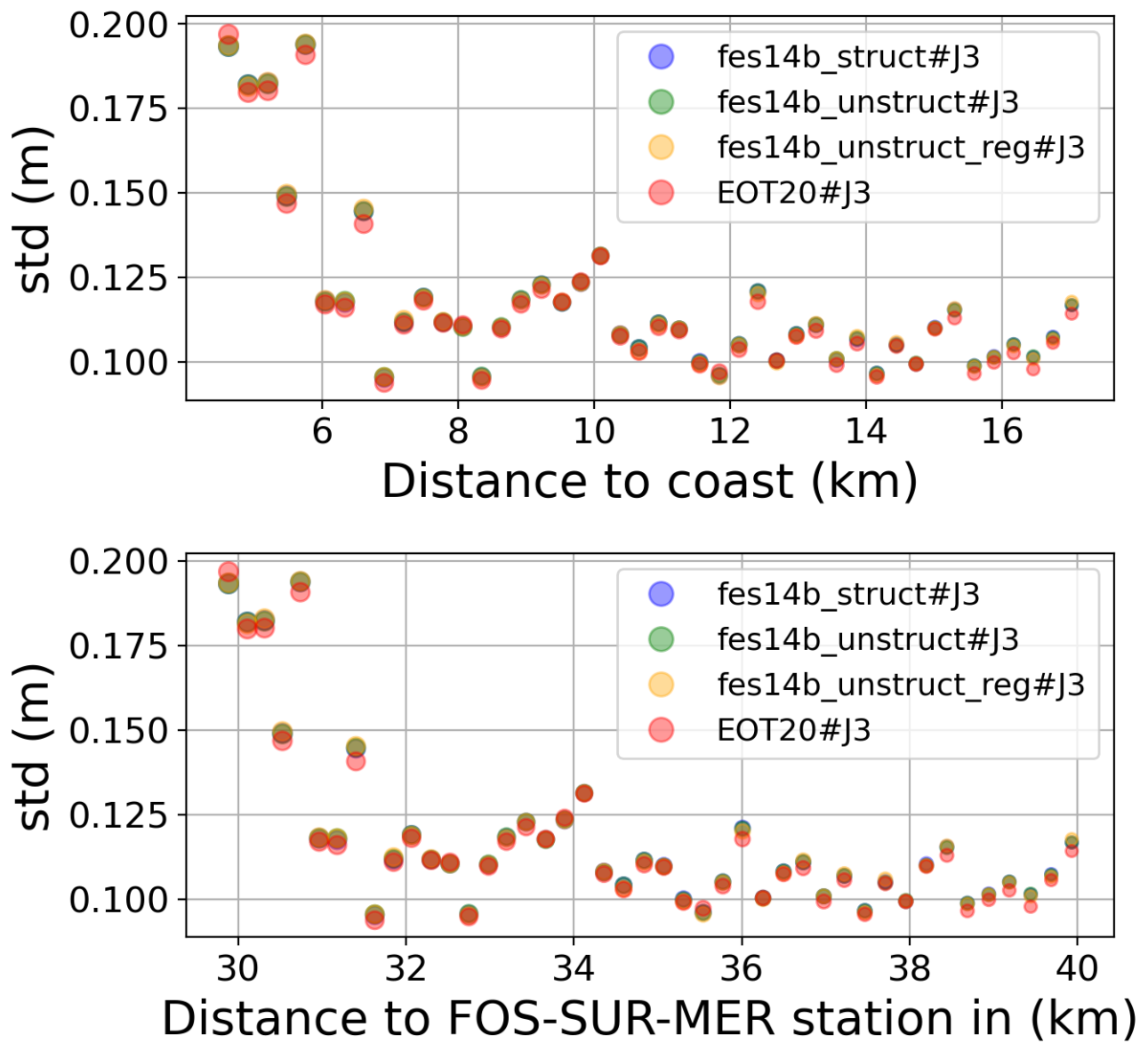


FIGURE 177 – Std in function of the distance to the coast/FOS-SUR-MER station

6.11.7 Correlation in function of distance to coast/FOS-SUR-MER station

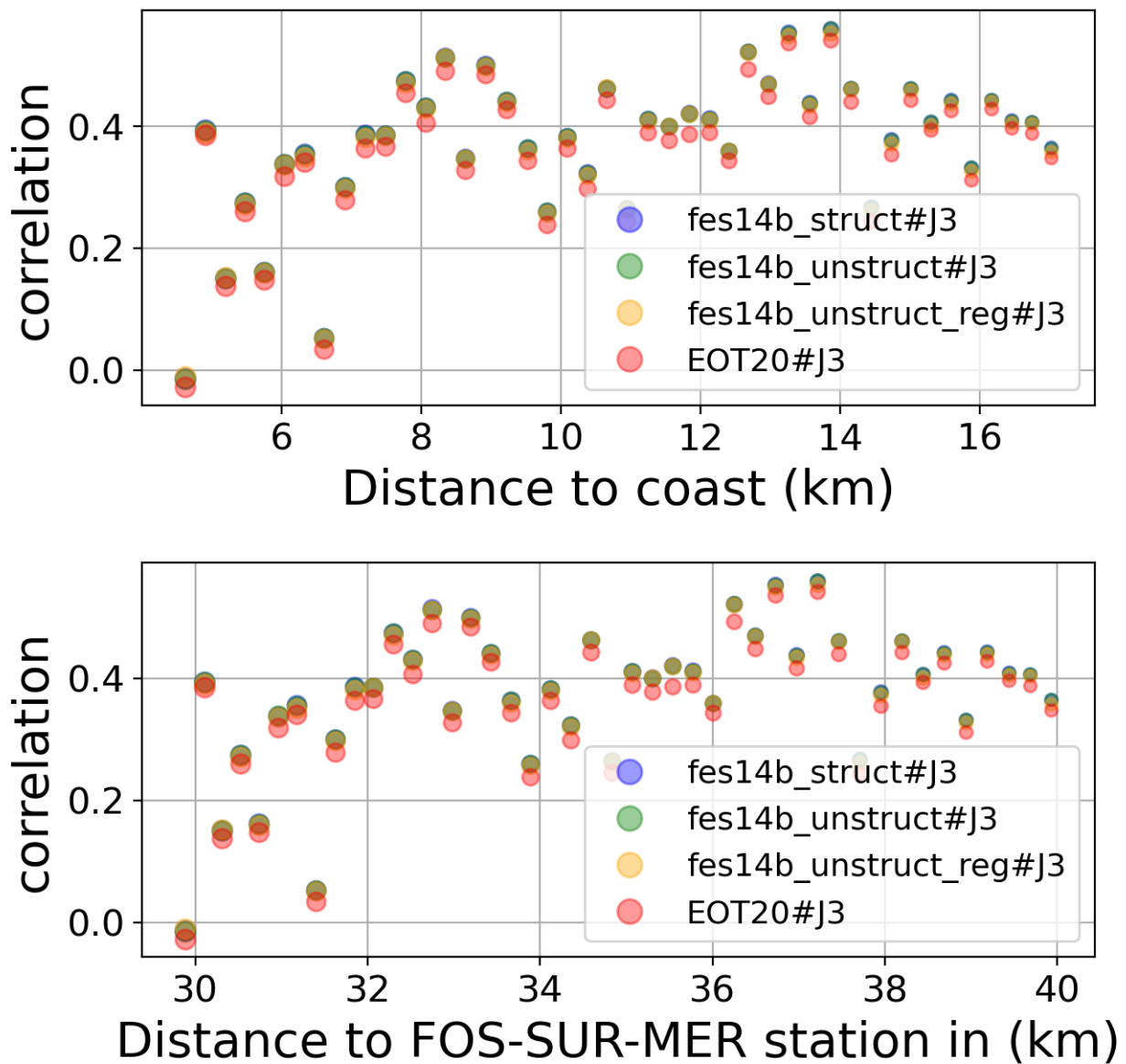


FIGURE 178 – Correlation in function of the distance to the coast/FOS-SUR-MER station

6.11.8 Taylor Diagram

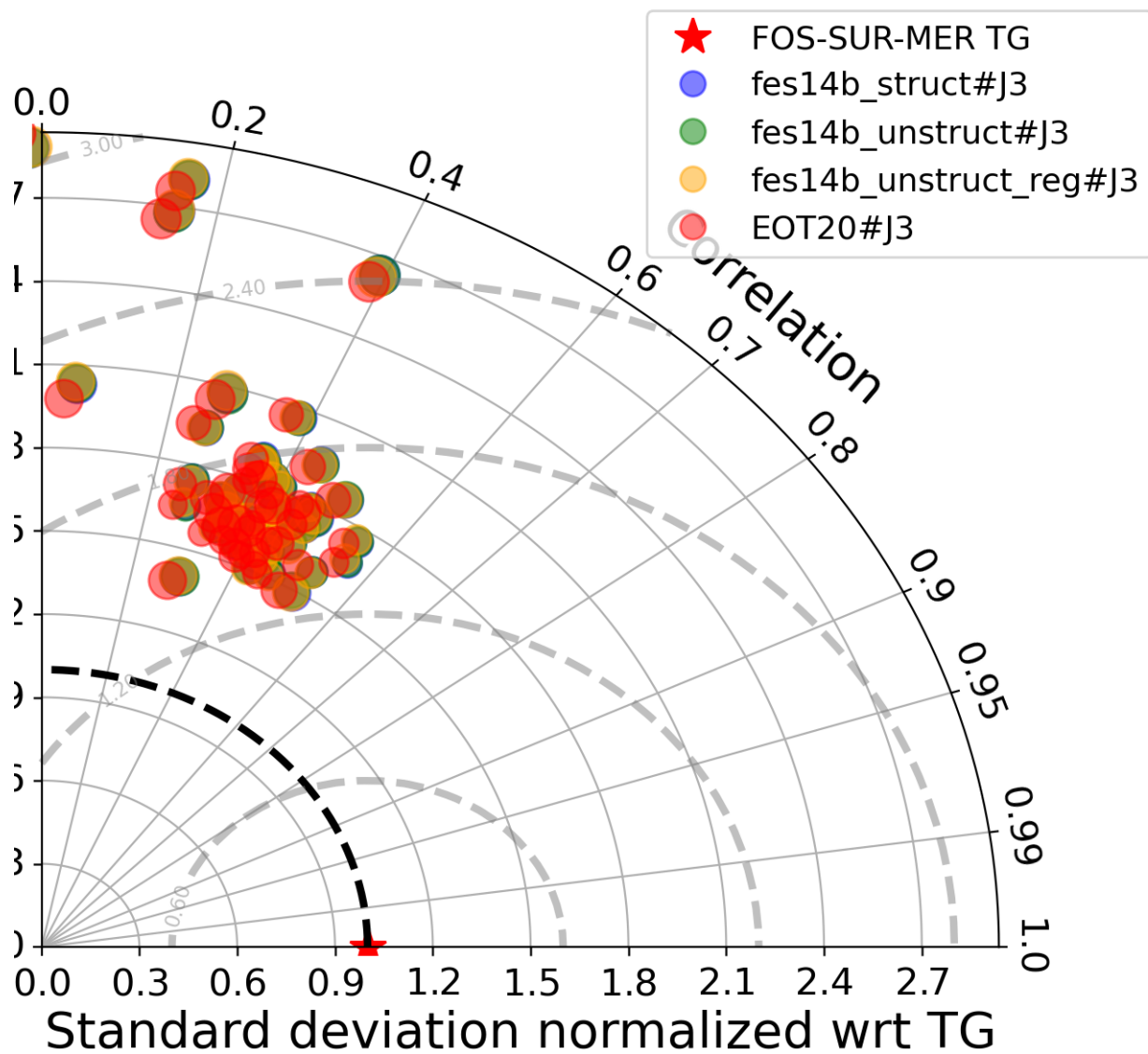


FIGURE 179 – Taylor diagram

6.11.9 Mean statistics table of products comparison with FOS-SUR-MER tide gauge data

The table below contains the mean statistics of the common points between the different products in the selected area.

Product	Valid data (%)	Correlation	std (m)	rmsd (m)
fes14b_struct#j3	89.365	0.375	0.118	0.112
fes14b_unstruct#j3	89.365	0.374	0.118	0.112
fes14b_unstruct_reg#j3	89.365	0.372	0.118	0.112
EOT20#j3	89.365	0.355	0.117	0.112

FIGURE 180 – Mean statistics table of the common points in the altimetry products

6.11.10 The most correlated sla altimetry Time series with the tide gauge sla time serie

The maximum number of valid altimetry points in the set of all the altimetry sla time series covered by the period of time of the Tide gauge sla time serie is 106 point.

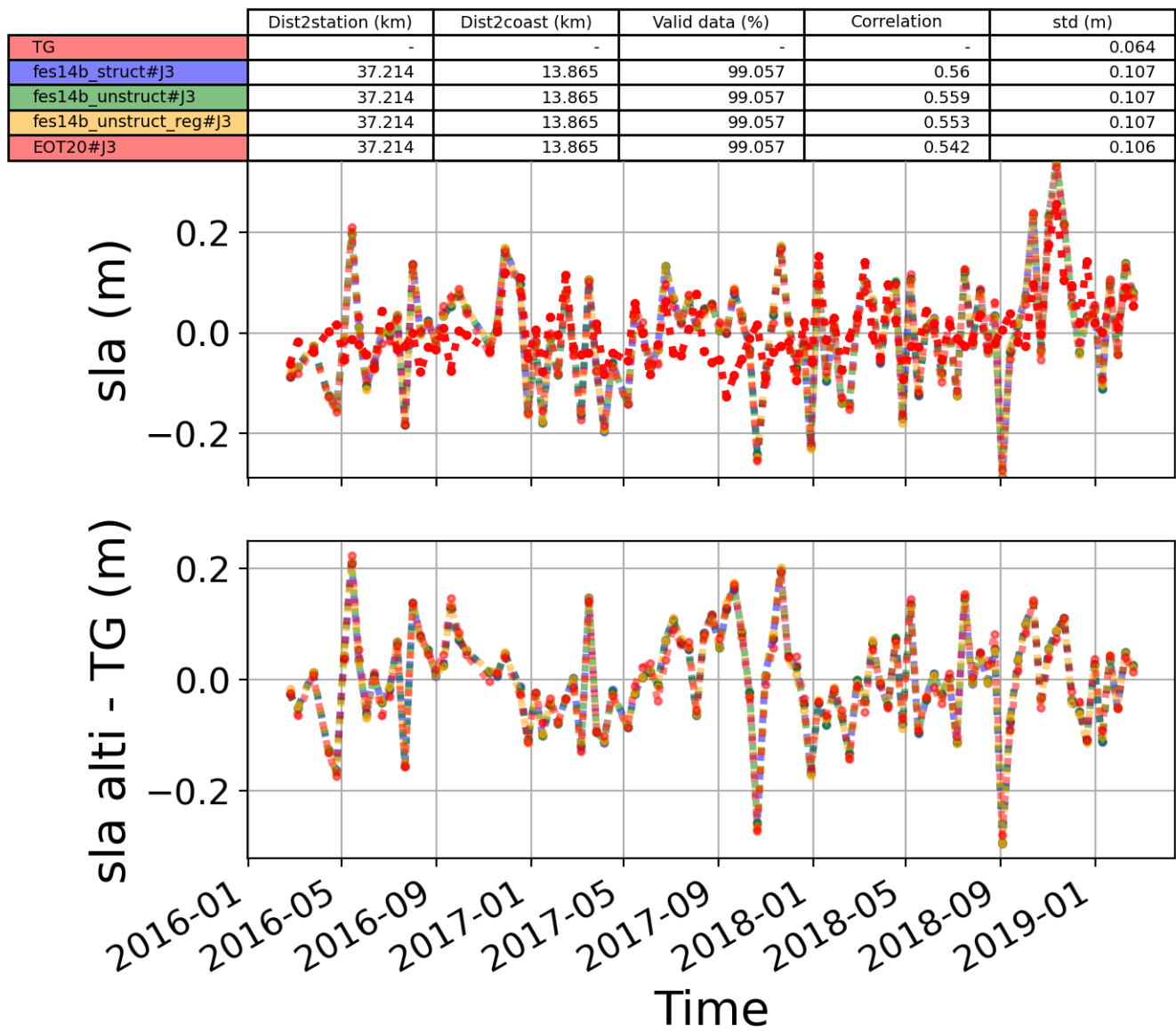


FIGURE 181 – The 1st most correlated sla altimetry Time serie with tide gauge sla time serie