

PyCAMA report generated by tropl2-proc

tropl2-proc

2023-08-24 (09:50)

1 Short Introduction

1.1 The list of parameters

You may want to keep the list given in table 1 at hand when viewing the results.

2 Definitions

The averages shown here are *unweighed* averages:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

with N the number of observations in the dataset.

The spread of the measurements is indicated with the variance $V(x)$, or rather the standard deviation $\sigma(x) = \sqrt{V(x)}$.

$$V(x) = \frac{1}{N-1} \sum_{i=1}^N (x_i - \bar{x})^2 \quad (2)$$

We also report the more robust statistics median, minimum, maximum, various percentiles and inter quartile range.

The median m is the value of parameter x for which half of the observations of x is smaller than m :

$$P(x \leq m) = P(x \geq m) = \int_{-\infty}^m f(x) dx = \frac{1}{2} \quad (3)$$

with $f(x)$ the probability density function.

The median is a special case of a percentile. Instead of 1/2 in equation 3, other threshold values can be used. We report results for 1 %, 5 %, 10 %, 15.9 %, 25 %, 75 %, 84.1 %, 90 %, 95 % and 99 %. The inter quartile range is the difference between the 75 % and 25 % percentiles. Similarly the minimum and maximum values correspond to the 0 % and 100 % percentiles respectively.

For normally distributed parameters the mean and median are the same, while the $\mu \pm \sigma$ values and the 15.9 % and 84.1 % percentiles coincide.

To get a measure for the relation of one variable $x_{(k)}$ with another $x_{(l)}$, we calculate the covariance matrix C_{kl} .

$$C_{kl} = C(x_{(k)}, x_{(l)}) = \frac{1}{N-1} \sum_{i=1}^N (x_{(k),i} - \bar{x}_{(k)})(x_{(l),i} - \bar{x}_{(l)}) \quad (4)$$

Rather than a dimensionally dependent covariance, it is often easier to interpret a correlation matrix R_{kl} , a matrix of Pearson's r coefficients:

$$R_{kl} = R(x_{(k)}, x_{(l)}) = \frac{C_{kl}}{\sqrt{C_{kk}C_{ll}}} = \frac{C_{kl}}{\sqrt{V(x_{(k)})V(x_{(l)})}} \quad (5)$$

The diagonal elements of the covariance matrix are the variances of the elements, $V(x_{(k)}) = C_{kk}$ and obviously $R_{kk} = 1$.

Table 1: Parameterlist and basic statistics for the analysis

Variable	mean $\pm \sigma$	Count	Mode	IQR	Median	Minimum	Maximum
qa value [1]	0.591 ± 0.410	9184218	0.995	0.800	0.560	0.0	1.000
sulfurdioxide total vertical column [DU]	-0.165 ± 6.778	9184218	0.672	1.10	-1.626×10^{-2}	-716	1.585×10^3
sulfurdioxide total vertical column precision [DU]	1.35 ± 3.85	9184218	0.346	0.696	0.592	5.449×10^{-2}	827
sulfurdioxide slant column density corrected [DU]	$(-4.919 \pm 142.024) \times 10^{-2}$	9184218	0.508	0.849	-1.354×10^{-2}	-62.8	115
sulfurdioxide slant column density window1 [DU]	-0.149 ± 1.404	9184218	-2.500×10^{-2}	0.862	-5.397×10^{-2}	-62.8	57.1
sulfurdioxide slant column density window1 precision [DU]	0.649 ± 0.599	9184218	0.312	0.377	0.437	0.107	17.4
sulfurdioxide slant column density corrected win1 [DU]	$(-4.981 \pm 140.350) \times 10^{-2}$	9184218	-2.500×10^{-2}	0.849	-1.354×10^{-2}	-62.8	56.6
background so2 slant column offset window1 [DU]	$(9.942 \pm 21.333) \times 10^{-2}$	9184218	-2.000×10^{-2}	0.211	5.335×10^{-2}	-1.48	6.52
sulfurdioxide slant column density window2 [DU]	1.89 ± 11.96	9184218	0.750	12.9	1.10	-2.082×10^3	1.275×10^3
sulfurdioxide slant column density window2 precision [DU]	9.81 ± 4.50	9184218	7.43	4.25	8.70	2.14	970
sulfurdioxide slant column density corrected win2 [DU]	0.217 ± 11.717	9184218	0.250	12.6	-8.268×10^{-2}	-2.083×10^3	1.270×10^3
background so2 slant column offset window2 [DU]	-1.68 ± 2.96	9184218	0.250	2.98	-0.846	-23.0	14.7
sulfurdioxide slant column density window3 [DU]	-6.13 ± 29.15	9184218	-3.92	34.1	-5.02	-7.268×10^3	6.914×10^3
sulfurdioxide slant column density window3 precision [DU]	31.5 ± 14.3	9184218	22.5	13.8	28.2	9.28	2.393×10^3
sulfurdioxide slant column density corrected win3 [DU]	-0.400 ± 28.426	9184218	0.560	33.2	0.254	-7.252×10^3	6.930×10^3
background so2 slant column offset window3 [DU]	5.73 ± 5.86	9184218	7.28	8.10	5.79	-37.5	91.4
fitted radiance shift [nm]	$(-3.539 \pm 27.806) \times 10^{-4}$	9184218	1.000×10^{-4}	2.075×10^{-3}	-2.652×10^{-4}	-5.457×10^{-2}	4.293×10^{-2}
fitted radiance squeeze [1]	$(-5.748 \pm 36.990) \times 10^{-5}$	9184218	-3.000×10^{-5}	2.549×10^{-4}	-4.799×10^{-5}	-1.655×10^{-2}	1.196×10^{-2}
fitted root mean square [1]	$(1.901 \pm 1.751) \times 10^{-3}$	9184218	9.250×10^{-4}	1.109×10^{-3}	1.282×10^{-3}	3.169×10^{-4}	5.060×10^{-2}
sulfurdioxide total air mass factor polluted [1]	0.835 ± 0.406	9184218	0.820	0.490	0.800	5.000×10^{-2}	2.94
sulfurdioxide total air mass factor polluted precision [1]	$(9.745 \pm 10.689) \times 10^{-2}$	9184218	4.500×10^{-2}	7.472×10^{-2}	6.273×10^{-2}	2.500×10^{-3}	1.95
sulfurdioxide clear air mass factor polluted [1]	0.813 ± 0.331	9184218	0.820	0.372	0.784	1.701×10^{-2}	3.00
number of spectral points in retrieval [1]	73.5 ± 0.5	9184218	73.0	1.000	73.0	52.0	74.0

Table 2: Percentile ranges

Variable	1 %	5 %	10 %	15.9 %	25 %	75 %	84.1 %	90 %	95 %	99 %
qa value [1]	0.0	0.0	0.0	5.000×10^{-2}	0.200	1.000	1.000	1.000	1.000	1.000
sulfurdioxide total vertical column [DU]	-13.4	-3.07	-1.55	-0.973	-0.562	0.540	0.951	1.49	2.69	9.53
sulfurdioxide total vertical column precision [DU]	0.158	0.235	0.285	0.326	0.381	1.08	1.56	2.35	4.21	13.5
sulfurdioxide slant column density corrected [DU]	-5.13	-1.74	-1.01	-0.694	-0.434	0.415	0.683	0.996	1.61	3.79
sulfurdioxide slant column density window1 [DU]	-5.40	-2.01	-1.18	-0.800	-0.502	0.360	0.600	0.867	1.39	3.44
sulfurdioxide slant column density window1 precision [DU]	0.192	0.239	0.272	0.296	0.326	0.703	0.940	1.26	1.90	3.26
sulfurdioxide slant column density corrected win1 [DU]	-5.13	-1.74	-1.01	-0.694	-0.434	0.415	0.683	0.996	1.61	3.79
background so2 slant column offset window1 [DU]	-0.181	-9.239×10^{-2}	-6.908×10^{-2}	-5.363×10^{-2}	-3.152×10^{-2}	0.179	0.256	0.328	0.435	0.841
sulfurdioxide slant column density window2 [DU]	-24.8	-15.0	-11.0	-8.15	-5.07	7.79	11.6	15.4	21.6	38.4
sulfurdioxide slant column density window2 precision [DU]	4.18	5.14	5.79	6.34	7.00	11.2	13.0	15.1	18.7	26.5
sulfurdioxide slant column density corrected win2 [DU]	-28.1	-17.2	-12.7	-9.62	-6.35	6.26	9.69	13.1	18.4	34.4
background so2 slant column offset window2 [DU]	-9.81	-8.05	-6.49	-4.36	-2.74	0.243	0.552	0.805	1.26	3.25
sulfurdioxide slant column density window3 [DU]	-86.0	-55.0	-41.4	-32.1	-22.4	11.7	20.3	28.1	38.7	60.6
sulfurdioxide slant column density window3 precision [DU]	13.2	15.9	18.5	20.4	22.5	36.2	41.9	48.0	57.9	85.8
sulfurdioxide slant column density corrected win3 [DU]	-77.3	-47.0	-34.2	-25.5	-16.4	16.8	25.3	33.0	43.6	66.7
background so2 slant column offset window3 [DU]	-5.83	-2.81	-1.31	-6.491×10^{-2}	1.34	9.43	11.2	12.9	15.1	18.9
fitted radiance shift [nm]	-8.611×10^{-3}	-4.599×10^{-3}	-3.148×10^{-3}	-2.248×10^{-3}	-1.409×10^{-3}	6.659×10^{-4}	1.378×10^{-3}	2.249×10^{-3}	3.764×10^{-3}	8.098×10^{-3}
fitted radiance squeeze [1]	-1.189×10^{-3}	-5.393×10^{-4}	-3.611×10^{-4}	-2.659×10^{-4}	-1.815×10^{-4}	7.344×10^{-5}	1.430×10^{-4}	2.206×10^{-4}	3.818×10^{-4}	1.056×10^{-3}
fitted root mean square [1]	5.610×10^{-4}	6.996×10^{-4}	7.937×10^{-4}	8.645×10^{-4}	9.520×10^{-4}	2.061×10^{-3}	2.753×10^{-3}	3.689×10^{-3}	5.545×10^{-3}	9.514×10^{-3}
sulfurdioxide total air mass factor polluted [1]	6.515×10^{-2}	0.224	0.346	0.448	0.560	1.05	1.21	1.37	1.60	2.02
sulfurdioxide total air mass factor polluted precision [1]	9.685×10^{-3}	2.075×10^{-2}	2.745×10^{-2}	3.295×10^{-2}	4.026×10^{-2}	0.115	0.157	0.200	0.277	0.540
sulfurdioxide clear air mass factor polluted [1]	0.197	0.348	0.434	0.508	0.595	0.967	1.08	1.21	1.44	1.92
number of spectral points in retrieval [1]	73.0	73.0	73.0	73.0	73.0	74.0	74.0	74.0	74.0	74.0

Table 3: Parameterlist and basic statistics for the analysis for observations in the northern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.562 ± 0.411	5666788	0.800	0.500	0.0	1.000	0.200	1.000
sulfurdioxide total vertical column [DU]	-0.188 ± 6.899	5666788	0.950	-2.961×10^{-2}	-716	1.585×10^3	-0.503	0.447
sulfurdioxide total vertical column precision [DU]	1.19 ± 4.00	5666788	0.551	0.496	5.449×10^{-2}	827	0.350	0.901
sulfurdioxide slant column density corrected [DU]	$(-5.022 \pm 122.675) \times 10^{-2}$	5666788	0.760	-2.525×10^{-2}	-62.8	106	-0.404	0.357
sulfurdioxide slant column density window1 [DU]	-0.136 ± 1.218	5666788	0.773	-6.186×10^{-2}	-62.8	37.8	-0.463	0.310
sulfurdioxide slant column density window1 precision [DU]	0.570 ± 0.533	5666788	0.280	0.392	0.107	16.8	0.309	0.589
sulfurdioxide slant column density corrected win1 [DU]	$(-5.066 \pm 121.396) \times 10^{-2}$	5666788	0.760	-2.525×10^{-2}	-62.8	38.0	-0.404	0.357
background so2 slant column offset window1 [DU]	$(8.536 \pm 19.036) \times 10^{-2}$	5666788	0.194	4.738×10^{-2}	-1.45	5.24	-3.548×10^{-2}	0.158
sulfurdioxide slant column density window2 [DU]	0.761 ± 10.868	5666788	11.8	0.375	-2.082×10^3	758	-5.41	6.39
sulfurdioxide slant column density window2 precision [DU]	9.14 ± 4.25	5666788	3.79	8.13	2.14	970	6.61	10.4
sulfurdioxide slant column density corrected win2 [DU]	$(5.538 \pm 1082.425) \times 10^{-2}$	5666788	11.8	-0.133	-2.083×10^3	756	-6.00	5.77
background so2 slant column offset window2 [DU]	-0.705 ± 1.790	5666788	2.24	-0.442	-11.2	14.7	-1.82	0.415
sulfurdioxide slant column density window3 [DU]	-3.85 ± 27.20	5666788	31.9	-3.31	-982	798	-19.3	12.6
sulfurdioxide slant column density window3 precision [DU]	30.0 ± 14.6	5666788	13.0	26.3	9.28	311	21.1	34.1
sulfurdioxide slant column density corrected win3 [DU]	0.358 ± 26.480	5666788	31.2	0.742	-971	805	-14.8	16.4
background so2 slant column offset window3 [DU]	4.21 ± 4.90	5666788	8.12	4.83	-12.5	20.9	2.977×10^{-2}	8.15
fitted radiance shift [nm]	$(-4.045 \pm 285.270) \times 10^{-5}$	5666788	1.931×10^{-3}	-4.019×10^{-5}	-4.827×10^{-2}	4.293×10^{-2}	-1.024×10^{-3}	9.075×10^{-4}
fitted radiance squeeze [1]	$(-1.209 \pm 3.199) \times 10^{-4}$	5666788	2.412×10^{-4}	-8.143×10^{-5}	-1.019×10^{-2}	9.707×10^{-3}	-2.151×10^{-4}	2.603×10^{-5}
fitted root mean square [1]	$(1.669 \pm 1.560) \times 10^{-3}$	5666788	8.260×10^{-4}	1.150×10^{-3}	3.169×10^{-4}	4.871×10^{-2}	9.005×10^{-4}	1.726×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.880 ± 0.445	5666788	0.561	0.844	5.000×10^{-2}	2.94	0.566	1.13
sulfurdioxide total air mass factor polluted precision [1]	0.113 ± 0.125	5666788	9.089×10^{-2}	7.106×10^{-2}	2.500×10^{-3}	1.95	4.489×10^{-2}	0.136
sulfurdioxide clear air mass factor polluted [1]	0.873 ± 0.367	5666788	0.419	0.841	1.701×10^{-2}	2.75	0.625	1.04
number of spectral points in retrieval [1]	73.5 ± 0.5	5666788	1.000	73.0	52.0	74.0	73.0	74.0

Table 4: Parameterlist and basic statistics for the analysis for observations in the southern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.639 ± 0.403	3517430	0.760	1.000	0.0	1.000	0.240	1.000
sulfurdioxide total vertical column [DU]	-0.127 ± 6.579	3517430	1.43	1.441×10^{-2}	-422	517	-0.693	0.739
sulfurdioxide total vertical column precision [DU]	1.61 ± 3.57	3517430	0.905	0.775	6.178×10^{-2}	283	0.484	1.39
sulfurdioxide slant column density corrected [DU]	$(-4.752 \pm 168.589) \times 10^{-2}$	3517430	1.03	1.133×10^{-2}	-33.1	115	-0.500	0.532
sulfurdioxide slant column density window1 [DU]	-0.171 ± 1.660	3517430	1.05	-3.712×10^{-2}	-33.1	57.1	-0.587	0.460
sulfurdioxide slant column density window1 precision [DU]	0.777 ± 0.673	3517430	0.522	0.541	0.120	17.4	0.367	0.890
sulfurdioxide slant column density corrected win1 [DU]	$(-4.843 \pm 166.405) \times 10^{-2}$	3517430	1.03	1.133×10^{-2}	-33.1	56.6	-0.500	0.532
background so2 slant column offset window1 [DU]	0.122 ± 0.244	3517430	0.242	6.081×10^{-2}	-1.48	6.52	-2.024×10^{-2}	0.222
sulfurdioxide slant column density window2 [DU]	3.71 ± 13.33	3517430	14.8	2.54	-241	1.275×10^3	-4.42	10.4
sulfurdioxide slant column density window2 precision [DU]	10.9 ± 4.7	3517430	4.73	9.68	2.35	334	7.81	12.5
sulfurdioxide slant column density corrected win2 [DU]	0.478 ± 13.023	3517430	14.2	1.549×10^{-2}	-249	1.270×10^3	-7.00	7.18
background so2 slant column offset window2 [DU]	-3.24 ± 3.71	3517430	6.49	-2.13	-23.0	14.7	-6.58	-9.739×10^{-2}
sulfurdioxide slant column density window3 [DU]	-9.81 ± 31.69	3517430	37.8	-8.31	-7.268×10^3	6.914×10^3	-27.9	9.96
sulfurdioxide slant column density window3 precision [DU]	34.0 ± 13.5	3517430	13.9	31.0	10.1	2.393×10^3	25.2	39.1
sulfurdioxide slant column density corrected win3 [DU]	-1.62 ± 31.27	3517430	36.9	-0.681	-7.252×10^3	6.930×10^3	-19.5	17.5
background so2 slant column offset window3 [DU]	8.19 ± 6.41	3517430	9.20	7.76	-37.5	91.4	3.39	12.6
fitted radiance shift [nm]	$(-8.589 \pm 25.814) \times 10^{-4}$	3517430	2.189×10^{-3}	-6.735×10^{-4}	-5.457×10^{-2}	3.752×10^{-2}	-1.958×10^{-3}	2.313×10^{-4}
fitted radiance squeeze [1]	$(4.466 \pm 41.891) \times 10^{-5}$	3517430	2.837×10^{-4}	1.543×10^{-5}	-1.655×10^{-2}	1.196×10^{-2}	-1.178×10^{-4}	1.659×10^{-4}
fitted root mean square [1]	$(2.274 \pm 1.964) \times 10^{-3}$	3517430	1.531×10^{-3}	1.587×10^{-3}	3.502×10^{-4}	5.060×10^{-2}	1.075×10^{-3}	2.606×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.762 ± 0.319	3517430	0.393	0.751	5.000×10^{-2}	2.91	0.554	0.947
sulfurdioxide total air mass factor polluted precision [1]	$(7.311 \pm 6.156) \times 10^{-2}$	3517430	5.469×10^{-2}	5.188×10^{-2}	2.586×10^{-3}	0.909	3.587×10^{-2}	9.056×10^{-2}
sulfurdioxide clear air mass factor polluted [1]	0.717 ± 0.233	3517430	0.285	0.719	3.710×10^{-2}	3.00	0.567	0.852
number of spectral points in retrieval [1]	73.5 ± 0.5	3517430	1.000	73.0	52.0	74.0	73.0	74.0

Table 5: Parameterlist and basic statistics for the analysis for observations over water

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.582 ± 0.414	6746437	0.800	0.540	0.0	1.000	0.200	1.000
sulfurdioxide total vertical column [DU]	-0.151 ± 6.605	6746437	1.16	-9.110×10^{-3}	-664	1.585×10^3	-0.582	0.575
sulfurdioxide total vertical column precision [DU]	1.40 ± 3.71	6746437	0.764	0.605	6.591×10^{-2}	827	0.389	1.15
sulfurdioxide slant column density corrected [DU]	$(-4.399 \pm 147.357) \times 10^{-2}$	6746437	0.873	-7.204×10^{-3}	-62.8	115	-0.440	0.433
sulfurdioxide slant column density window1 [DU]	-0.150 ± 1.458	6746437	0.887	-4.269×10^{-2}	-62.8	57.1	-0.508	0.379
sulfurdioxide slant column density window1 precision [DU]	0.675 ± 0.618	6746437	0.448	0.443	0.107	17.4	0.320	0.767
sulfurdioxide slant column density corrected win1 [DU]	$(-4.462 \pm 145.710) \times 10^{-2}$	6746437	0.873	-7.204×10^{-3}	-62.8	56.6	-0.440	0.433
background so2 slant column offset window1 [DU]	0.105 ± 0.227	6746437	0.245	4.292×10^{-2}	-1.48	6.52	-3.834×10^{-2}	0.206
sulfurdioxide slant column density window2 [DU]	2.23 ± 12.14	6746437	13.0	1.28	-241	1.275×10^3	-4.91	8.13
sulfurdioxide slant column density window2 precision [DU]	9.88 ± 4.57	6746437	4.53	8.64	2.14	334	6.92	11.5
sulfurdioxide slant column density corrected win2 [DU]	0.304 ± 11.838	6746437	12.7	-2.364×10^{-2}	-249	1.270×10^3	-6.32	6.36
background so2 slant column offset window2 [DU]	-1.93 ± 3.26	6746437	3.81	-0.768	-23.0	14.7	-3.51	0.293
sulfurdioxide slant column density window3 [DU]	-4.59 ± 29.64	6746437	34.4	-3.36	-7.268×10^3	6.914×10^3	-20.8	13.6
sulfurdioxide slant column density window3 precision [DU]	30.4 ± 12.9	6746437	13.6	27.3	9.28	2.393×10^3	22.0	35.6
sulfurdioxide slant column density corrected win3 [DU]	1.04 ± 28.70	6746437	33.2	1.69	-7.252×10^3	6.930×10^3	-14.9	18.3
background so2 slant column offset window3 [DU]	5.63 ± 6.26	6746437	8.66	5.28	-37.5	91.4	0.909	9.57
fitted radiance shift [nm]	$(-4.465 \pm 24.533) \times 10^{-4}$	6746437	2.032×10^{-3}	-3.032×10^{-4}	-5.457×10^{-2}	3.752×10^{-2}	-1.459×10^{-3}	5.728×10^{-4}
fitted radiance squeeze [1]	$(-3.612 \pm 38.307) \times 10^{-5}$	6746437	2.541×10^{-4}	-3.144×10^{-5}	-1.655×10^{-2}	1.196×10^{-2}	-1.636×10^{-4}	9.055×10^{-5}
fitted root mean square [1]	$(1.972 \pm 1.803) \times 10^{-3}$	6746437	1.312×10^{-3}	1.298×10^{-3}	3.169×10^{-4}	5.060×10^{-2}	9.340×10^{-4}	2.247×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.807 ± 0.370	6746437	0.442	0.794	5.000×10^{-2}	2.91	0.567	1.01
sulfurdioxide total air mass factor polluted precision [1]	$(8.710 \pm 9.557) \times 10^{-2}$	6746437	6.032×10^{-2}	5.947×10^{-2}	2.500×10^{-3}	1.85	4.049×10^{-2}	0.101
sulfurdioxide clear air mass factor polluted [1]	0.819 ± 0.317	6746437	0.327	0.798	1.701×10^{-2}	2.91	0.631	0.958
number of spectral points in retrieval [1]	73.4 ± 0.5	6746437	1.000	73.0	52.0	74.0	73.0	74.0

Table 6: Parameterlist and basic statistics for the analysis for observations over land

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.632 ± 0.396	1697658	0.790	1.000	0.0	1.000	0.210	1.000
sulfurdioxide total vertical column [DU]	-0.152 ± 4.977	1697658	0.927	-3.412×10^{-2}	-716	439	-0.496	0.431
sulfurdioxide total vertical column precision [DU]	0.992 ± 2.865	1697658	0.557	0.550	5.449×10^{-2}	258	0.344	0.901
sulfurdioxide slant column density corrected [DU]	$(-6.833 \pm 122.941) \times 10^{-2}$	1697658	0.765	-3.199×10^{-2}	-35.8	109	-0.411	0.354
sulfurdioxide slant column density window1 [DU]	-0.142 ± 1.212	1697658	0.772	-7.633×10^{-2}	-35.8	30.3	-0.467	0.304
sulfurdioxide slant column density window1 precision [DU]	0.559 ± 0.521	1697658	0.185	0.422	0.125	9.27	0.342	0.527
sulfurdioxide slant column density corrected win1 [DU]	$(-6.893 \pm 121.102) \times 10^{-2}$	1697658	0.765	-3.199×10^{-2}	-35.8	30.7	-0.411	0.354
background so2 slant column offset window1 [DU]	$(7.300 \pm 17.474) \times 10^{-2}$	1697658	0.126	5.440×10^{-2}	-1.48	5.04	-1.113×10^{-2}	0.115
sulfurdioxide slant column density window2 [DU]	0.914 ± 11.424	1697658	12.3	0.557	-2.082×10^3	758	-5.49	6.79
sulfurdioxide slant column density window2 precision [DU]	9.47 ± 4.24	1697658	3.45	8.78	2.48	970	7.22	10.7
sulfurdioxide slant column density corrected win2 [DU]	$(5.350 \pm 1137.845) \times 10^{-2}$	1697658	12.3	-0.187	-2.083×10^3	756	-6.27	5.99
background so2 slant column offset window2 [DU]	-0.860 ± 1.684	1697658	1.91	-0.804	-11.9	14.7	-1.78	0.133
sulfurdioxide slant column density window3 [DU]	-10.5 ± 26.7	1697658	32.2	-9.51	-662	798	-26.2	6.03
sulfurdioxide slant column density window3 precision [DU]	34.6 ± 18.0	1697658	13.3	30.4	9.79	311	24.6	37.9
sulfurdioxide slant column density corrected win3 [DU]	-4.81 ± 26.69	1697658	32.3	-4.03	-665	805	-20.6	11.7
background so2 slant column offset window3 [DU]	5.72 ± 4.49	1697658	6.27	6.38	-12.3	55.2	2.70	8.97
fitted radiance shift [nm]	$(-1.030 \pm 37.041) \times 10^{-4}$	1697658	2.302×10^{-3}	-1.804×10^{-4}	-4.269×10^{-2}	4.293×10^{-2}	-1.283×10^{-3}	1.019×10^{-3}
fitted radiance squeeze [1]	$(-1.074 \pm 3.165) \times 10^{-4}$	1697658	2.367×10^{-4}	-8.565×10^{-5}	-9.856×10^{-3}	8.164×10^{-3}	-2.078×10^{-4}	2.897×10^{-5}
fitted root mean square [1]	$(1.641 \pm 1.530) \times 10^{-3}$	1697658	5.518×10^{-4}	1.239×10^{-3}	3.602×10^{-4}	2.771×10^{-2}	1.000×10^{-3}	1.552×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.920 ± 0.486	1697658	0.665	0.830	5.000×10^{-2}	2.94	0.553	1.22
sulfurdioxide total air mass factor polluted precision [1]	0.130 ± 0.134	1697658	0.144	8.216×10^{-2}	2.507×10^{-3}	1.95	3.756×10^{-2}	0.182
sulfurdioxide clear air mass factor polluted [1]	0.794 ± 0.354	1697658	0.453	0.708	2.207×10^{-2}	3.00	0.539	0.992
number of spectral points in retrieval [1]	73.5 ± 0.5	1697658	1.000	73.0	52.0	74.0	73.0	74.0

Table 7: Correlation matrix

Clear AMF (polluted)	Precision of total AMF (polluted)	Total AMF (polluted)	SO ₂ RMS	DOAS fit wavelength squeeze	DOAS fit wavelength shift	Corrected SO ₂ slant column (window 3)	SO ₂ slant column precision (window 3)	SO ₂ slant column background correction (window 2)	Corrected SO ₂ slant column (window 2)	SO ₂ slant column precision (window 2)	SO ₂ slant column background correction (window 1)	SO ₂ slant column precision (window 1)	Corrected SO ₂ slant column	SO ₂ vertical column precision	SO ₂ vertical column	Latitude	Solar zenith angle	Viewing zenith angle
-0.176	-0.118	-0.132	8.254 × 10 ⁻²	-2.517 × 10 ⁻²	9.570 × 10 ⁻³	3.336 × 10 ⁻²	1.702 × 10 ⁻²	-1.783 × 10 ⁻³	9.897 × 10 ⁻³	0.105	3.764 × 10 ⁻²	7.586 × 10 ⁻²	-2.224 × 10 ⁻²	-2.330 × 10 ⁻³	0.121	-6.540 × 10 ⁻³	8.990 × 10 ⁻³	1.000
-4.498 × 10 ⁻²	-7.014 × 10 ⁻²	9.472 × 10 ⁻³	0.686	-6.878 × 10 ⁻²	-0.183	0.637	-0.124	0.284	-0.249	0.656	0.601	0.686	-0.152	-5.880 × 10 ⁻²	0.294	-5.648 × 10 ⁻²	1.000	8.990 × 10 ⁻³
0.294	0.199	0.207	-0.121	-0.310	0.137	-0.186	1.227 × 10 ⁻²	-0.115	4.928 × 10 ⁻²	0.381	-0.128	-0.120	4.656 × 10 ⁻³	8.934 × 10 ⁻⁴	-0.405 × 10 ⁻²	1.000	-4.215 × 10 ⁻²	-6.540 × 10 ⁻³
3.726 × 10 ⁻²	1.460 × 10 ⁻²	3.208 × 10 ⁻²	0.572	-3.073 × 10 ⁻²	0.170	3.500 × 10 ⁻²	1.930 × 10 ⁻²	-3.618 × 10 ⁻²	1.179 × 10 ⁻²	-2.158 × 10 ⁻²	-8.194 × 10 ⁻²	-0.117	0.609	0.573	-8.241 × 10 ⁻²	-4.401 × 10 ⁻³	-4.215 × 10 ⁻²	-8.917 × 10 ⁻³
3.103 × 10 ⁻²	1.045 × 10 ⁻²	2.574 × 10 ⁻²	-0.156	-2.496 × 10 ⁻²	0.258	3.741 × 10 ⁻²	2.804 × 10 ⁻²	-4.369 × 10 ⁻²	1.982 × 10 ⁻²	-2.291 × 10 ⁻²	7.321 × 10 ⁻²	-0.150	0.982	0.982	1.000	4.656 × 10 ⁻³	-5.880 × 10 ⁻²	-2.330 × 10 ⁻³
4.160 × 10 ⁻²	1.169 × 10 ⁻²	2.804 × 10 ⁻²	-0.219	-8.282 × 10 ⁻³	0.271	-3.006 × 10 ⁻²	3.618 × 10 ⁻²	-6.831 × 10 ⁻²	4.133 × 10 ⁻²	4.537 × 10 ⁻²	-7.896 × 10 ⁻²	-0.216	1.000	0.573	-8.241 × 10 ⁻²	0.294	-4.215 × 10 ⁻²	-8.917 × 10 ⁻³
-0.196	-0.179	-0.149	0.999	-1.603 × 10 ⁻²	-0.200	0.261	-0.133	0.411	-0.182	-0.362	0.402	0.402	-0.216	-0.150	-0.117	-0.120	-4.401 × 10 ⁻³	1.000
-7.059 × 10 ⁻²	-6.475 × 10 ⁻³	-1.577 × 10 ⁻²	0.402	-7.017 × 10 ⁻²	-0.111	0.444	-5.035 × 10 ⁻²	0.153	-0.138	-0.448	1.000	0.382	2.978 × 10 ⁻²	7.321 × 10 ⁻²	6.139 × 10 ⁻²	2.646 × 10 ⁻²	0.601	8.990 × 10 ⁻³
-0.135	-0.186	-0.149	0.845	-0.174	-0.124	0.311	-4.186 × 10 ⁻²	-0.663	-1.835 × 10 ⁻²	-0.222	0.161	-0.174	8.668 × 10 ⁻²	1.241 × 10 ⁻³	-1.631 × 10 ⁻²	-0.183	9.570 × 10 ⁻³	-0.132
6.034 × 10 ⁻²	1.000	0.400	-0.180	-4.956 × 10 ⁻²	-8.205 × 10 ⁻²	1.000	-0.120	-8.205 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²	-2.066 × 10 ⁻²
0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699

Table 8: Covariance matrix

Clear AMF (polluted)	Precision of total AMF (polluted)	Total AMF (polluted)	SO ₂ RMS	DOAS fit wavelength squeeze	DOAS fit wavelength shift	SO ₂ slant column background correction (window 3)	Corrected SO ₂ slant column (window 3)	SO ₂ slant column precision (window 3)	SO ₂ slant column (window 3)	SO ₂ slant column background correction (window 2)	Corrected SO ₂ slant column (window 2)	SO ₂ slant column precision (window 2)	SO ₂ slant column background correction (window 1)	SO ₂ slant column precision (window 1)	Corrected SO ₂ slant column	SO ₂ vertical column precision	SO ₂ vertical column	Latitude	Solar zenith angle	Viewing zenith angle
-1.14	-0.246	-1.04	2.824 × 10 ⁻³	-1.819 × 10 ⁻⁴	5.200 × 10 ⁻⁴	3.82	9.46	-0.500	5.64	6.10	-1.09	3.31	0.543	0.888	-0.610	-6.467 × 10 ⁻²	9.10	-5.79	3.68	382
-0.312	-0.157	8.044 × 10 ⁻²	2.512 × 10 ⁻²	-5.323 × 10 ⁻⁴	-1.066 × 10 ⁻²	78.1	-73.8	85.2	-152	-40.5	17.7	61.7	2.68	8.60	-4.45	-1.75	23.7	-53.5	438	3.68
4.41	0.964	3.81	-9.623 × 10 ⁻³	-5.185 × 10 ⁻³	1.727 × 10 ⁻²	-49.3	15.8	-74.4	65.1	51.2	-11.4	-26.1	0.256	-3.27	5.682 × 10 ⁻²	-7.06	-1.35	2.051 × 10 ³	-5.79	-5.79
8.363 × 10 ⁻²	1.058 × 10 ⁻²	8.827 × 10 ⁻²	-1.426 × 10 ⁻³	4.269 × 10 ⁻⁴	-3.075 × 10 ⁻⁴	1.39	3.72	-3.52	2.33	-0.433	-2.66	-2.50	8.877 × 10 ⁻²	-0.476	5.80	-0.451	14.8	-5.98	-1.18	-1.18
-0.389	-6.099 × 10 ⁻²	-0.477	3.857 × 10 ⁻³	-4.377 × 10 ⁻⁵	-9.672 × 10 ⁻⁴	1.39	-6.59	10.7	-7.98	-1.10	4.56	7.60	0.150	1.32	-0.642	-3.72	14.8	-7.06	23.7	9.10
1.460 × 10 ⁻²	1.587 × 10 ⁻³	1.484 × 10 ⁻²	-3.875 × 10 ⁻⁴	1.353 × 10 ⁻⁴	-9.858 × 10 ⁻⁵	0.311	1.13	-0.890	0.821	-0.663	-0.799	-0.663	2.218 × 10 ⁻²	-0.128	1.96	-0.451	5.97	-1.75	-4.45	-6.467 × 10 ⁻²
-0.389	1.754 × 10 ⁻³	1.598 × 10 ⁻²	-5.377 × 10 ⁻⁴	1.406 × 10 ⁻⁴	-3.233 × 10 ⁻⁵	-0.247	1.44	-1.38	1.69	-0.182	-0.910	-1.04	-2.365 × 10 ⁻²	-0.182	1.97	-0.642	5.80	-4.45	438	3.68
-3.884 × 10 ⁻³	-1.147 × 10 ⁻²	-3.623 × 10 ⁻²	1.048 × 10 ⁻³	-3.553 × 10 ⁻⁶	-3.324 × 10 ⁻⁴	0.916	-2.26	0.468	-3.17	2.28	1.19	2.28	5.138 × 10 ⁻²	0.359	5.138 × 10 ⁻²	0.150	8.877 × 10 ⁻²	0.256	2.68	0.543
-4.987 × 10 ⁻³	-1.476 × 10 ⁻⁴	-1.366 × 10 ⁻³	1.500 × 10 ⁻⁴	-5.537 × 10 ⁻⁶	-6.581 × 10 ⁻⁵	0.555	-0.305	-0.860	-0.366	0.366	7.445 × 10 ⁻²	0.366	7.445 × 10 ⁻²	1.19	7.445 × 10 ⁻²	-2.365 × 10 ⁻²	0.150	0.256	0.543	0.543
-0.201	-8.940 × 10 ⁻²	-0.145	3.562 × 10 ⁻⁵	5.380 × 10 ⁻⁶	-2.179 × 10 ⁻³	8.20	-15.8	37.8	-24.0	20.2	5.03	20.2	0.366	2.28	0.366	0.366	0.366	-26.1	61.7	382
0.542	5.397 × 10 ⁻²	-0.177	6.657 × 10 ⁻³	5.380 × 10 ⁻⁶	2.824 × 10 ⁻³	15.1	-12.7	8.34	-12.7	5.03	137	5.03	7.445 × 10 ⁻²	1.19	7.445 × 10 ⁻²	-0.910	0.150	-11.4	17.7	3.68
-0.258	-3.167 × 10 ⁻²	5.501 × 10 ⁻²	1.035 × 10 ⁻²	-1.960 × 10 ⁻⁶	-3.272 × 10 ⁻³	206	-47.2	808	-47.2	-5.21	1.51	-5.21	-0.283	-0.283	-0.283	-0.283	0.150	85.2	-5.79	-5.79
0.302	0.302	0.302	1.035 × 10 ⁻²	-1.960 × 10 ⁻⁶	-3.272 × 10 ⁻³	808	-32.0	808	-32.0	-24.0	12.7	-24.0	-0.283	-0.283	-0.283	-0.283	0.150	-73.8	438	3.68
-0.241	-0.241	-0.241	1.035 × 10 ⁻²	-1.960 × 10 ⁻⁶	-3.272 × 10 ⁻³	808	-32.0	808	-32.0	-24.0	12.7	-24.0	-0.283	-0.283	-0.283	-0.283	0.150	-73.8	438	3.68
5.400 × 10 ⁻⁵	-6.064 × 10 ⁻⁶	-1.140 × 10 ⁻⁴	5.400 × 10 ⁻⁵	-6.064 × 10 ⁻⁶	-1.140 × 10 ⁻⁴	34.3	-3.59	15.1	-37.9	-1.26	1.51	-1.26	-0.555	-0.555	-0.555	-0.555	0.150	78.1	438	3.68
9.395 × 10 ⁻²	2.136 × 10 ⁻³	9.395 × 10 ⁻²	2.136 × 10 ⁻³	9.395 × 10 ⁻²	2.136 × 10 ⁻³	34.3	-3.59	15.1	-37.9	-1.26	1.51	-1.26	-0.555	-0.555	-0.555	-0.555	0.150	78.1	438	3.68
2.136 × 10 ⁻³	9.395 × 10 ⁻²	2.136 × 10 ⁻³	9.395 × 10 ⁻²	2.136 × 10 ⁻³	9.395 × 10 ⁻²	34.3	-3.59	15.1	-37.9	-1.26	1.51	-1.26	-0.555	-0.555	-0.555	-0.555	0.150	78.1	438	3.68
0.110	0.110	0.110	0.110	0.110	0.110	34.3	-3.59	15.1	-37.9	-1.26	1.51	-1.26	-0.555	-0.555	-0.555	-0.555	0.150	78.1	438	3.68

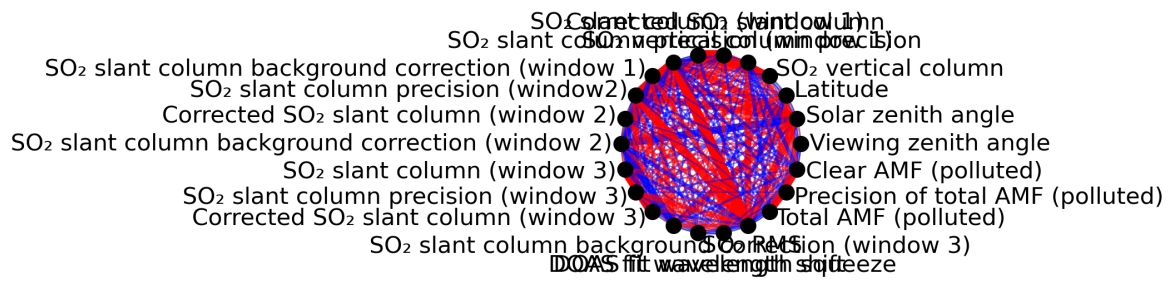


Figure 1: Map of correlation graph for 2023-08-09 to 2023-08-10.

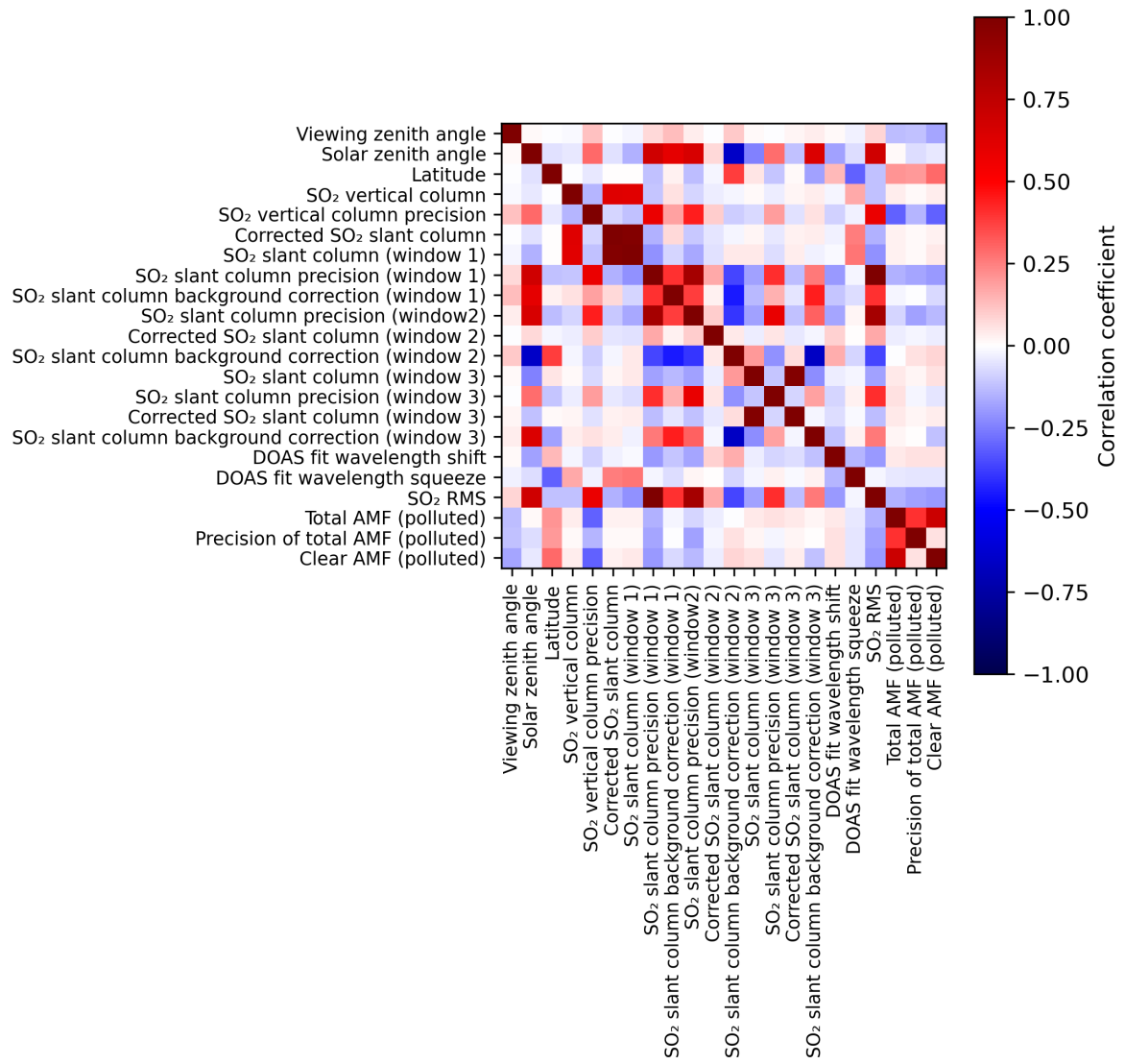


Figure 2: Map of correlation matrix for 2023-08-09 to 2023-08-10.

3 Granule outlines

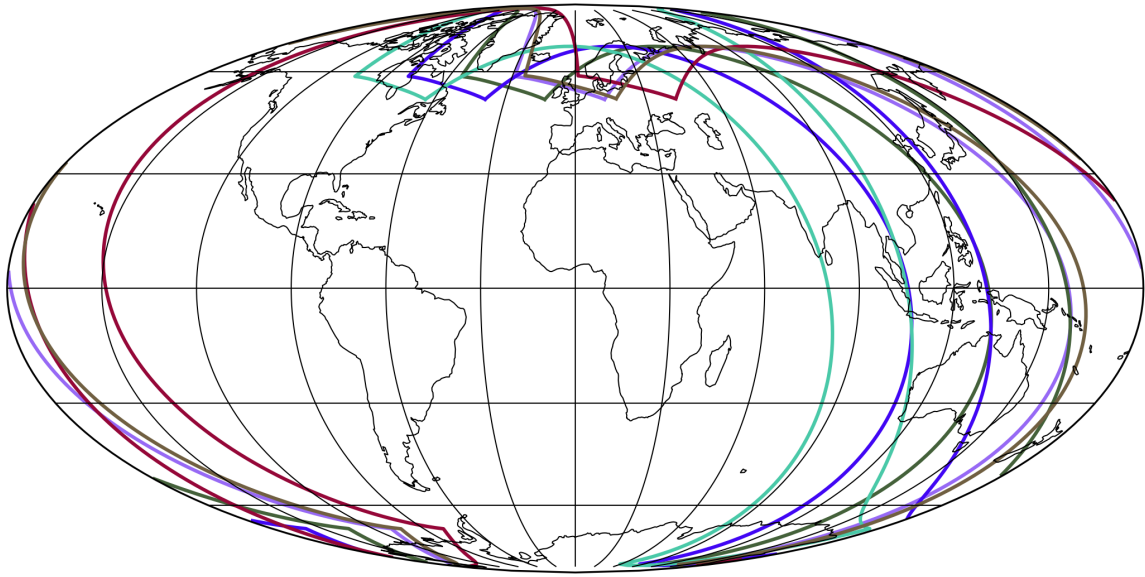


Figure 3: Outline of the granules.

4 Input data monitoring

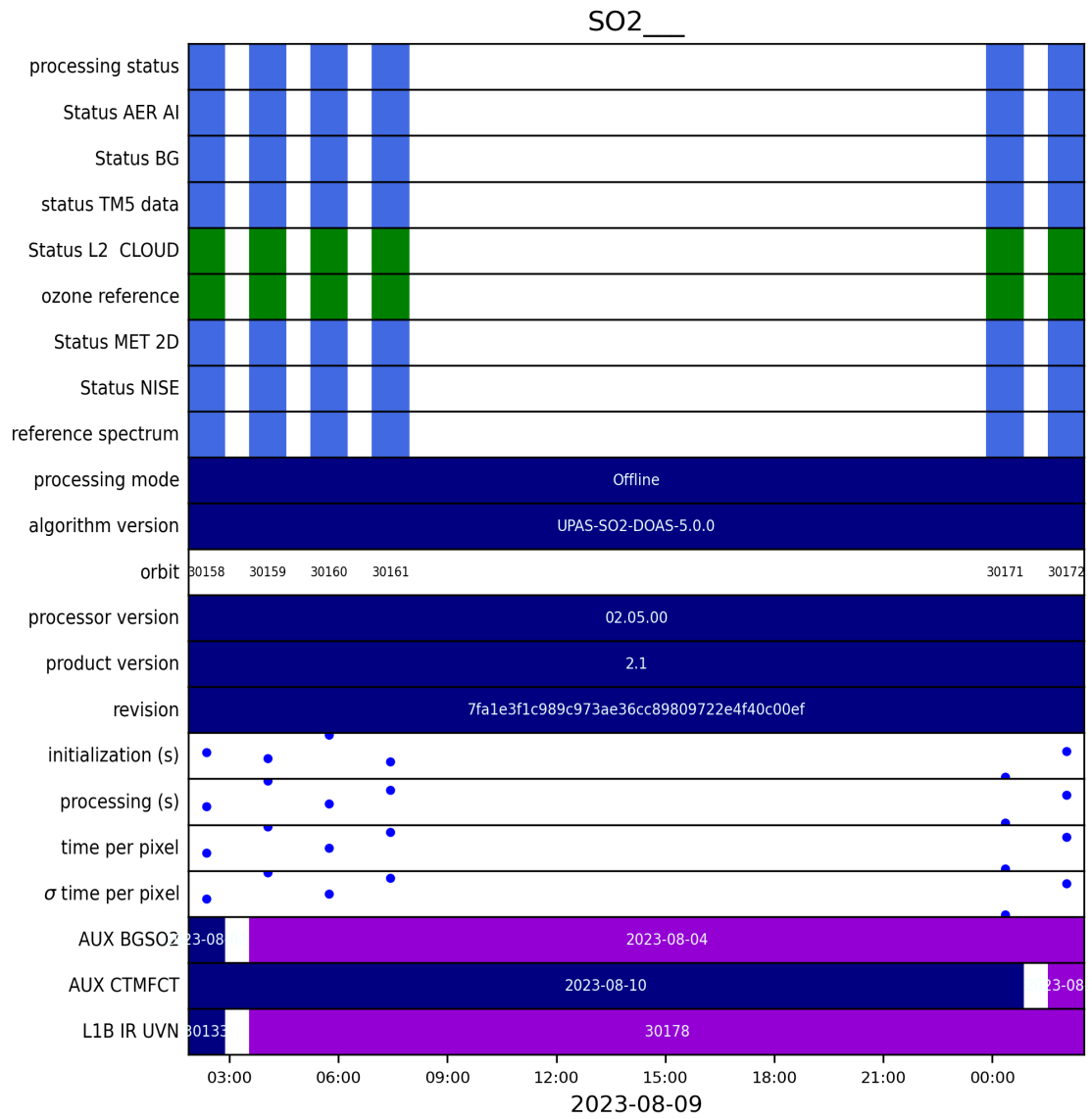


Figure 4: Input data per granule

5 Warnings and errors

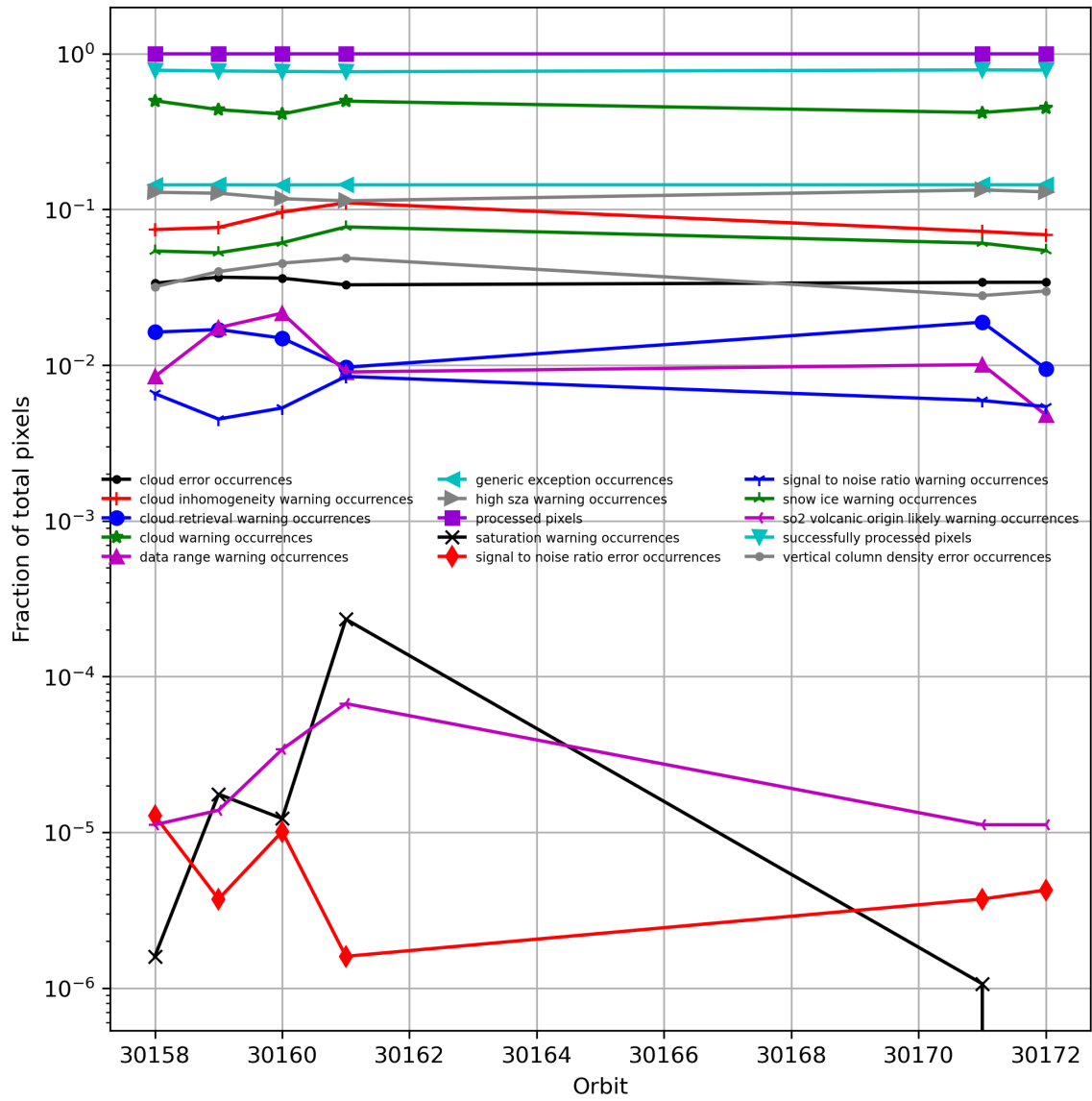


Figure 5: Fraction of pixels with specific warnings and errors during processing

6 World maps

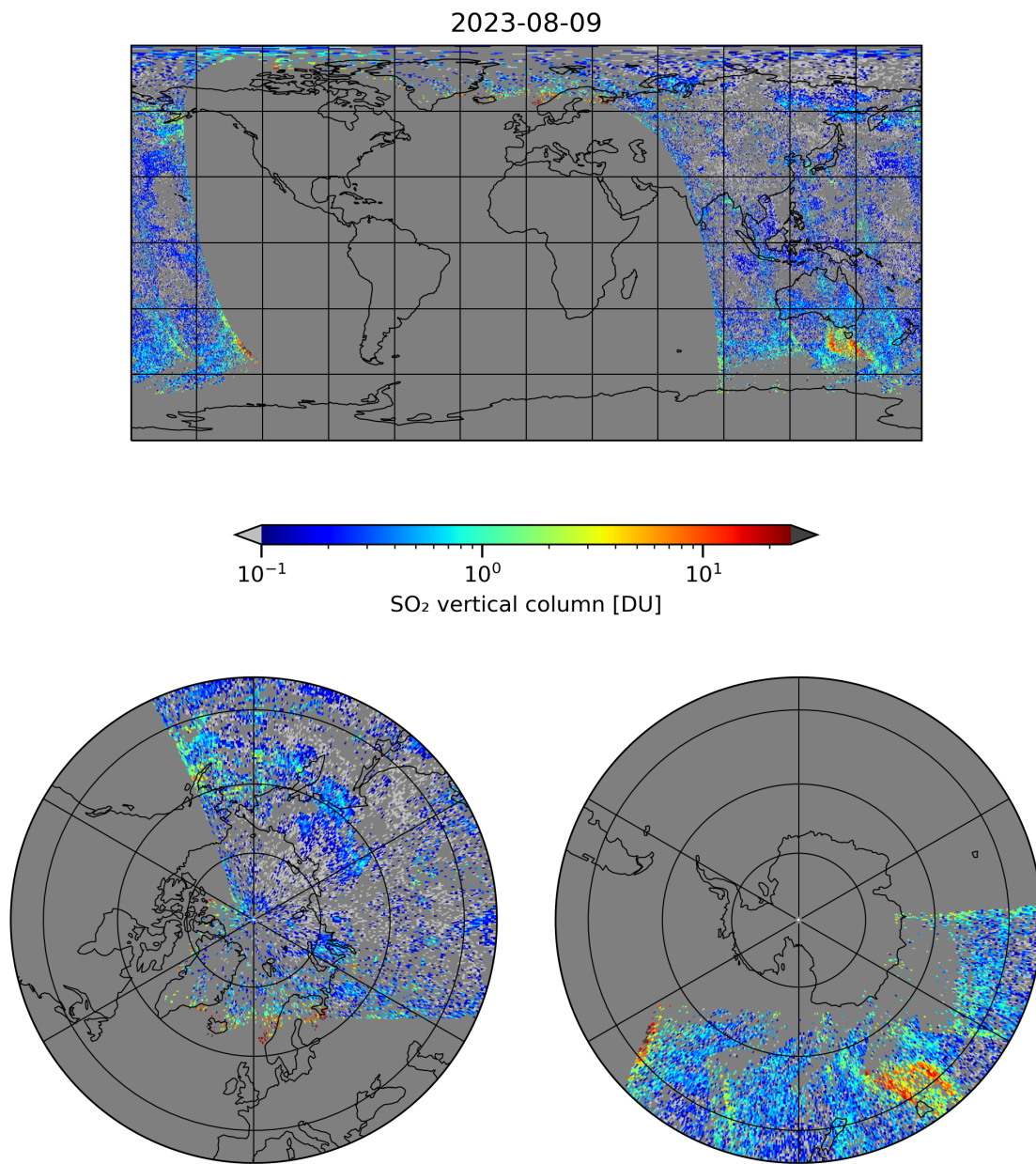


Figure 6: Map of “SO₂ vertical column” for 2023-08-09 to 2023-08-10

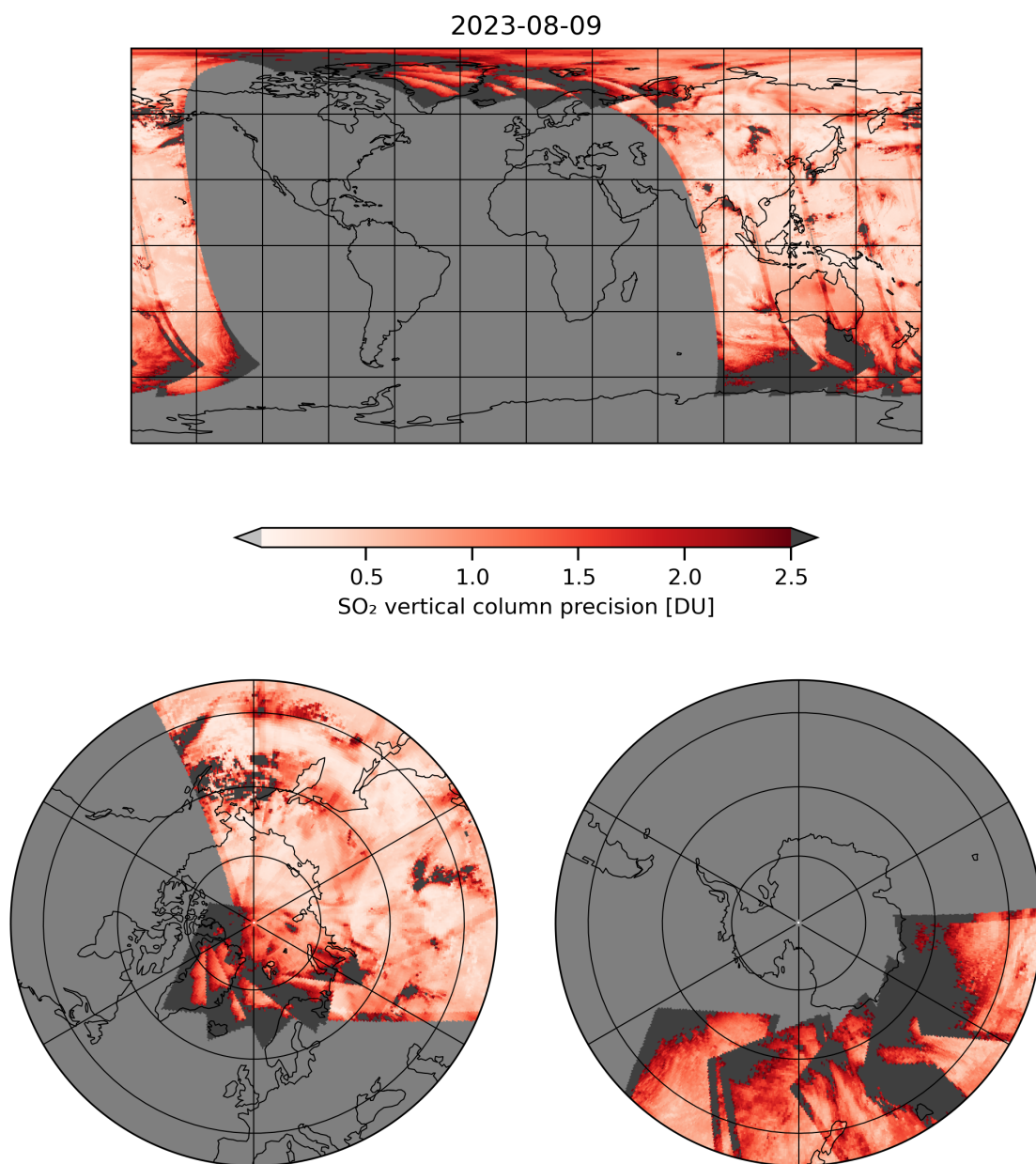


Figure 7: Map of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10

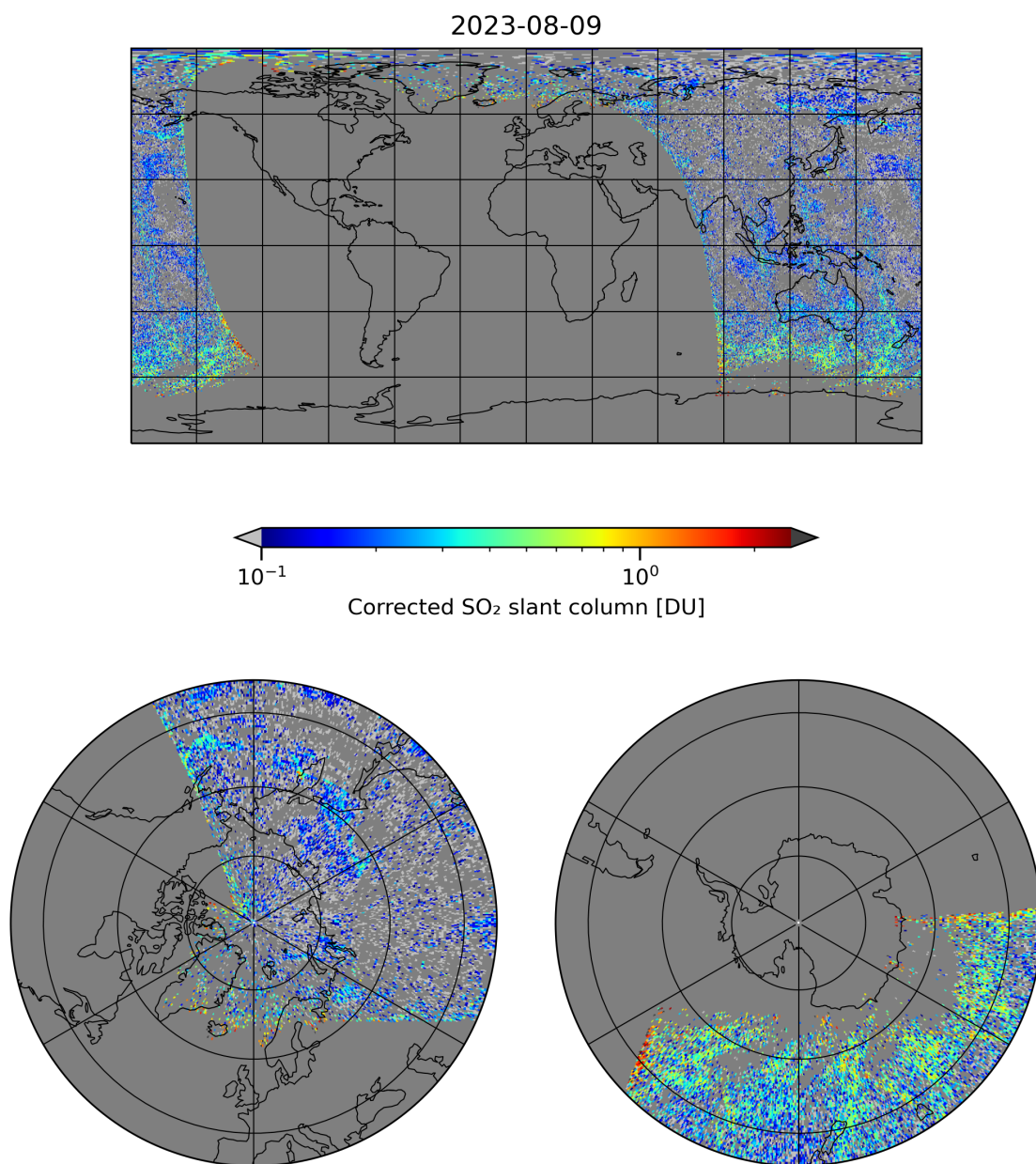


Figure 8: Map of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10

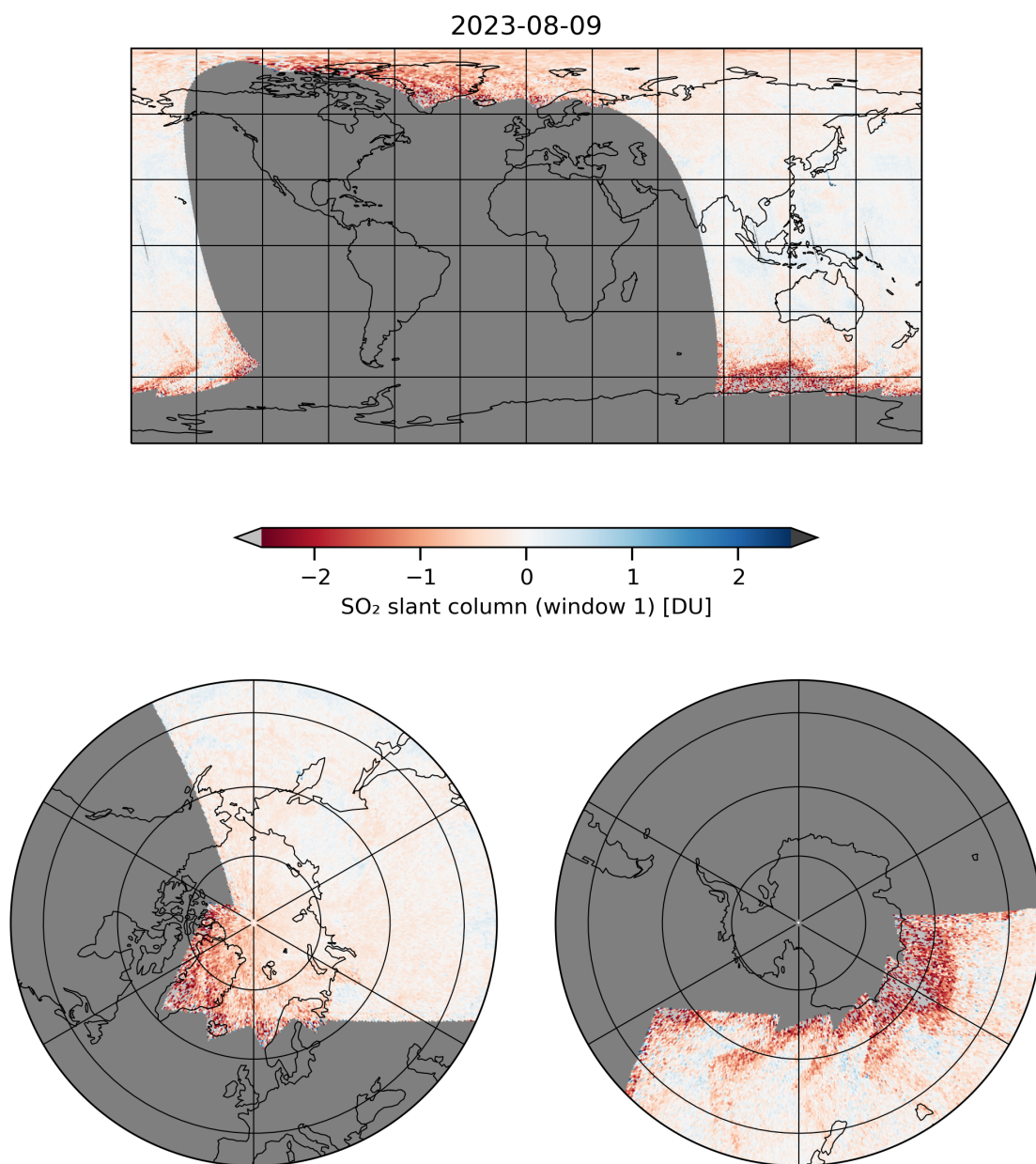


Figure 9: Map of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

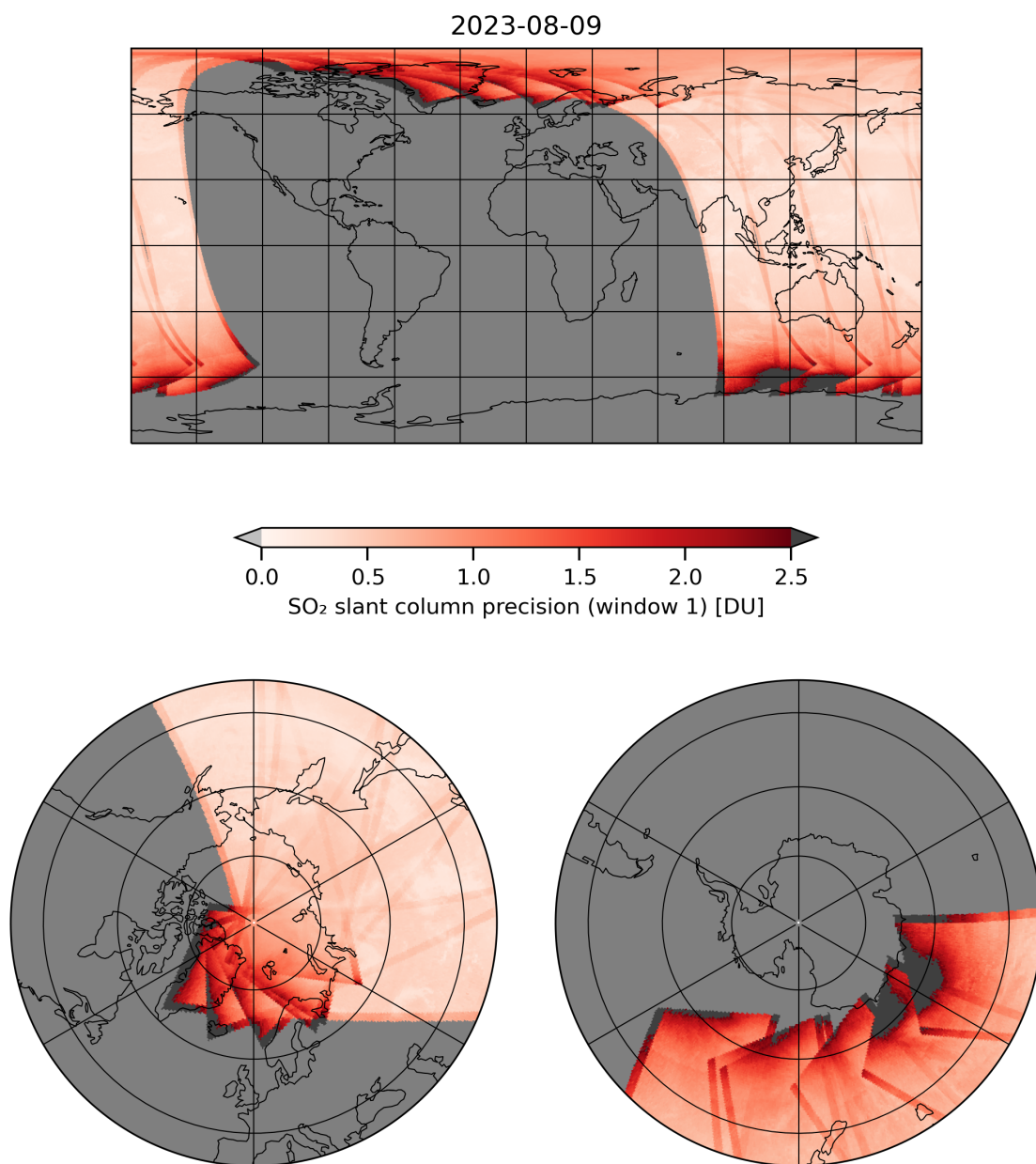


Figure 10: Map of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10

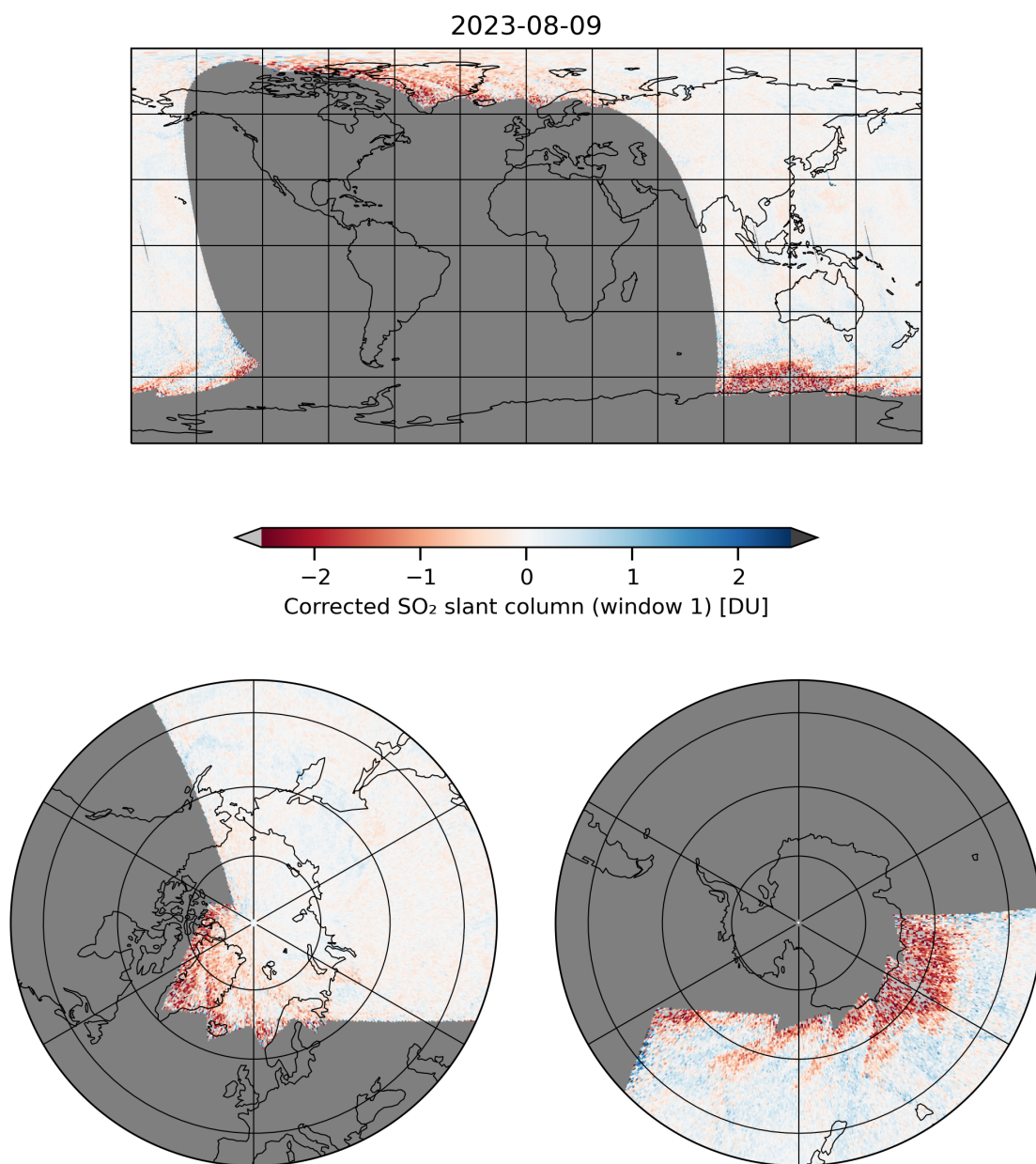


Figure 11: Map of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

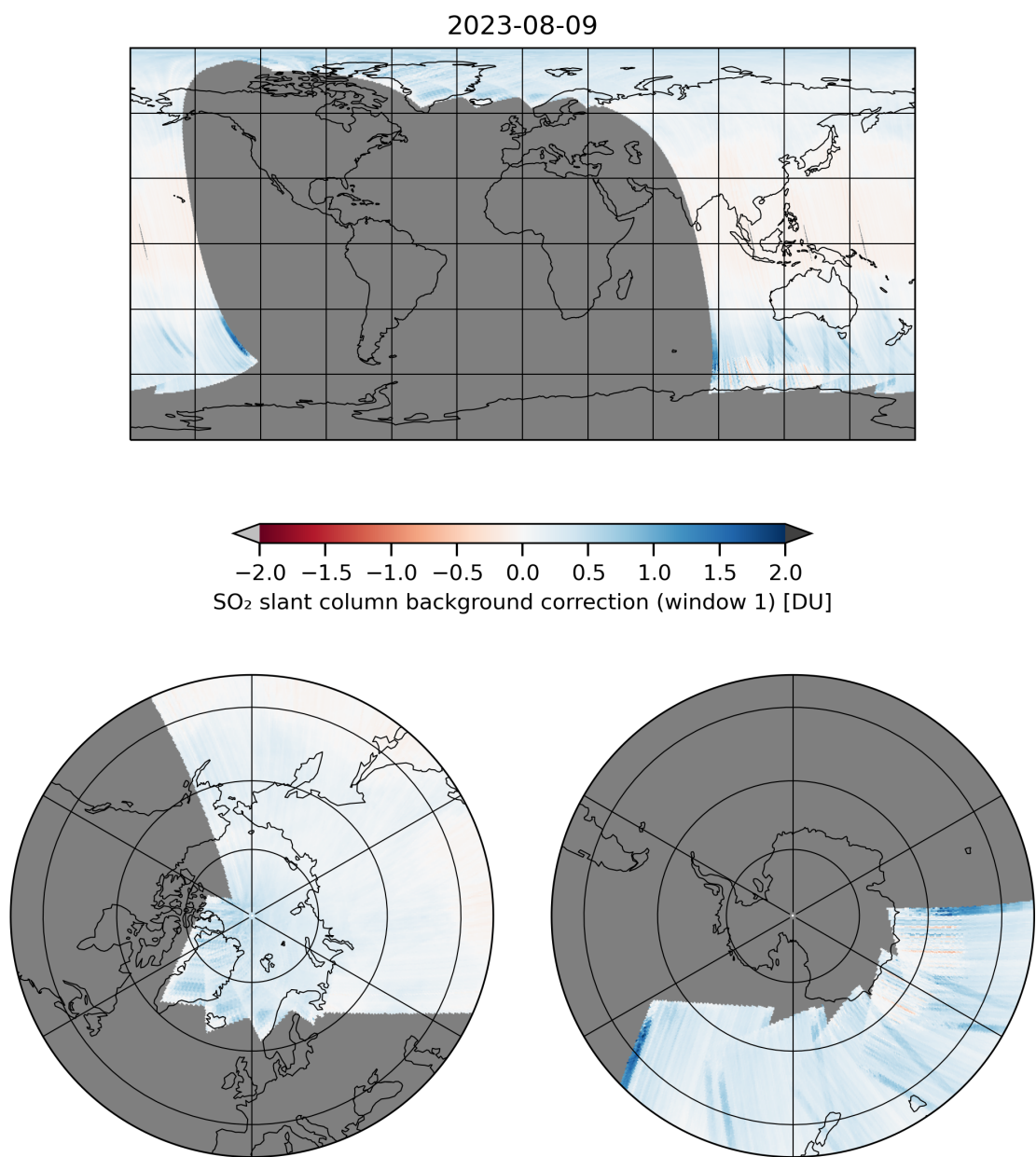


Figure 12: Map of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10

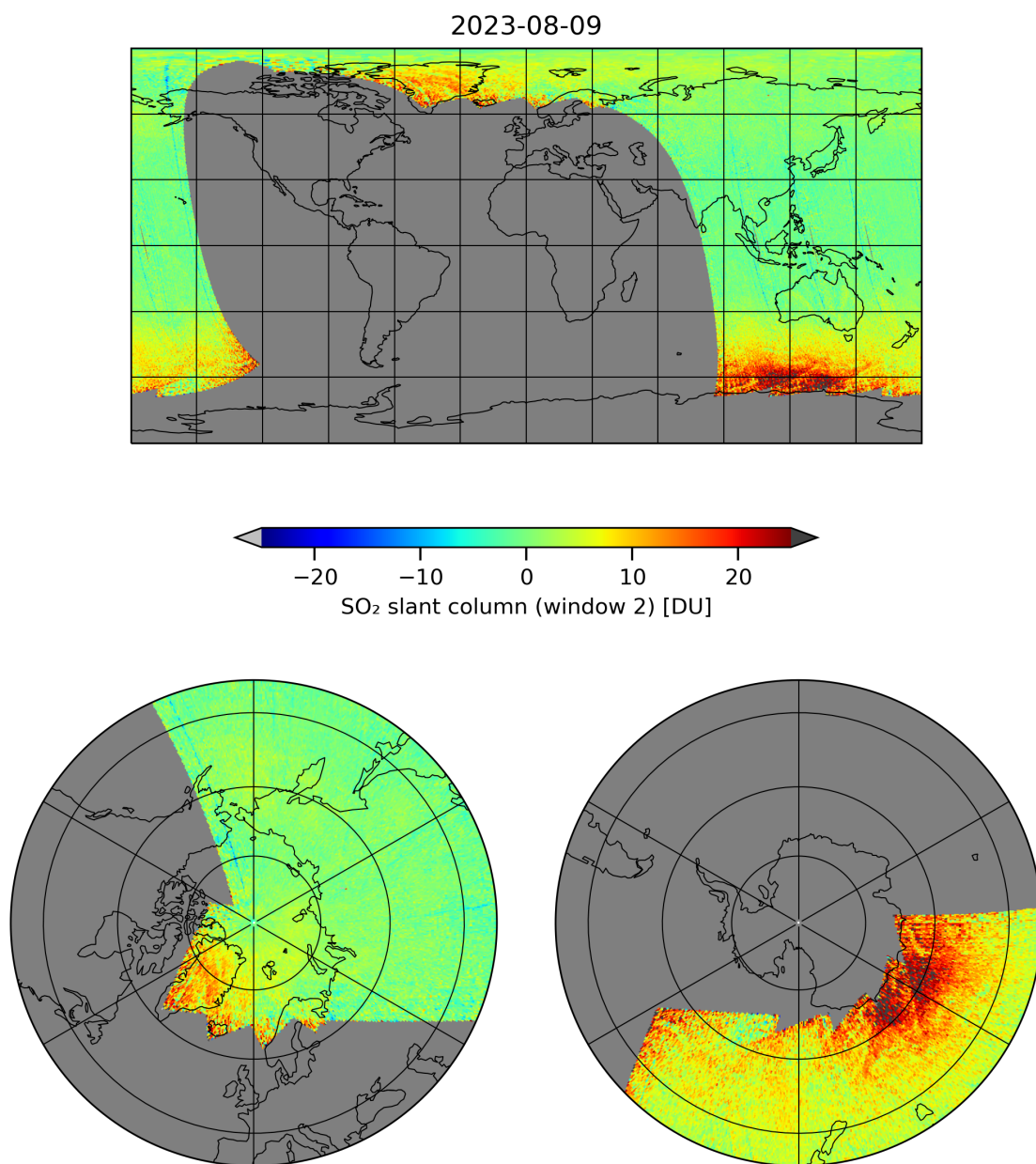


Figure 13: Map of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

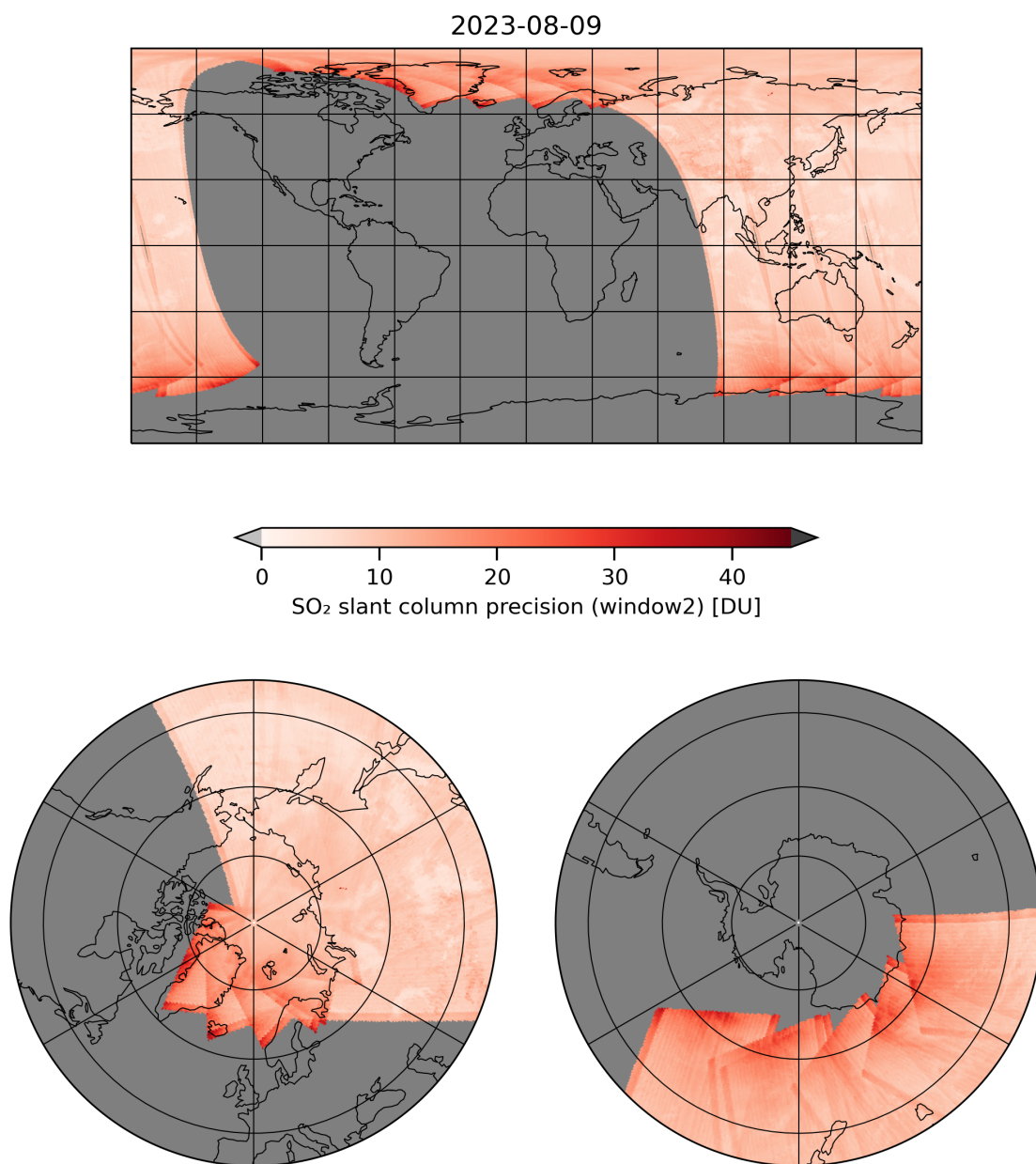


Figure 14: Map of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10

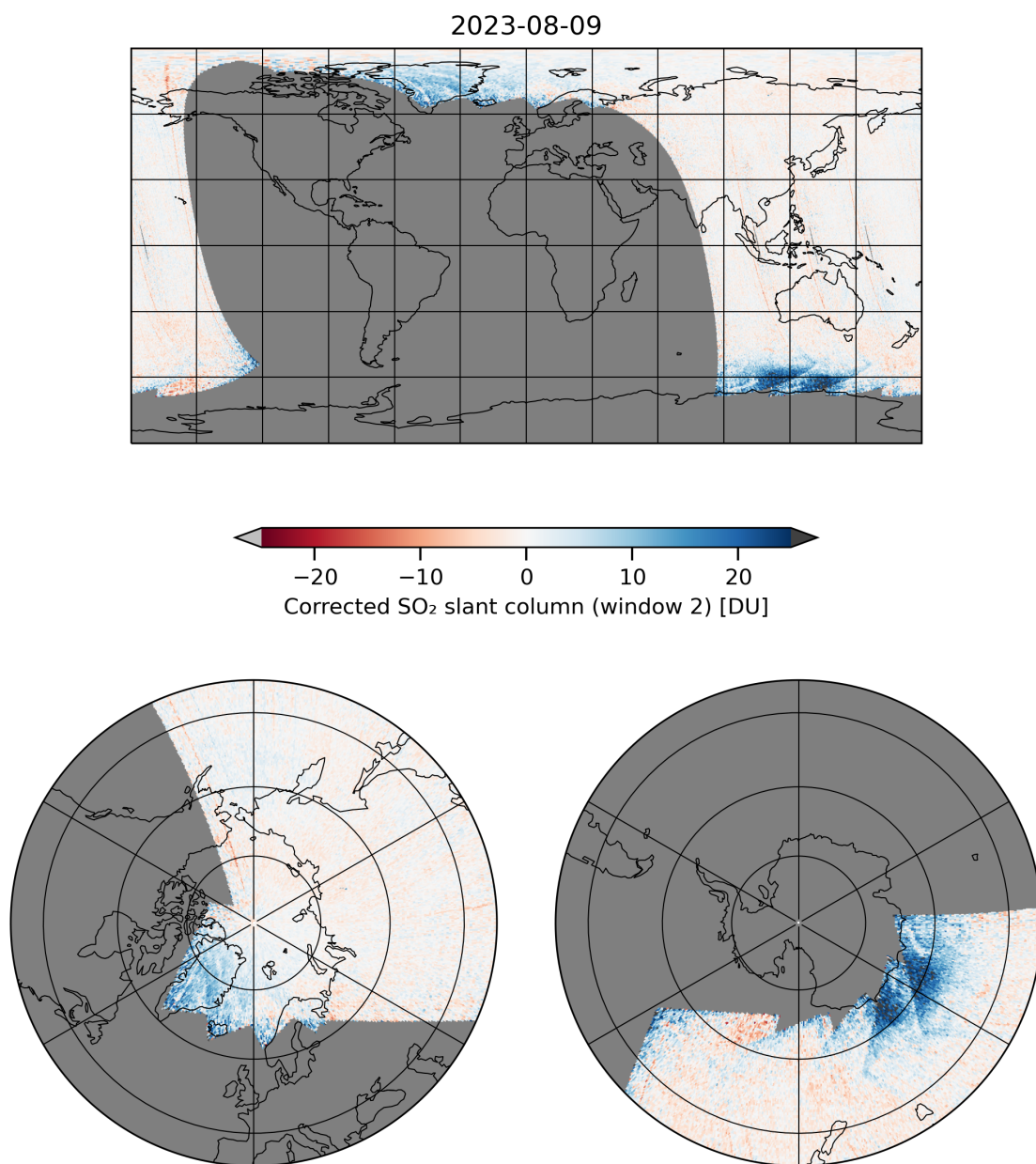


Figure 15: Map of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

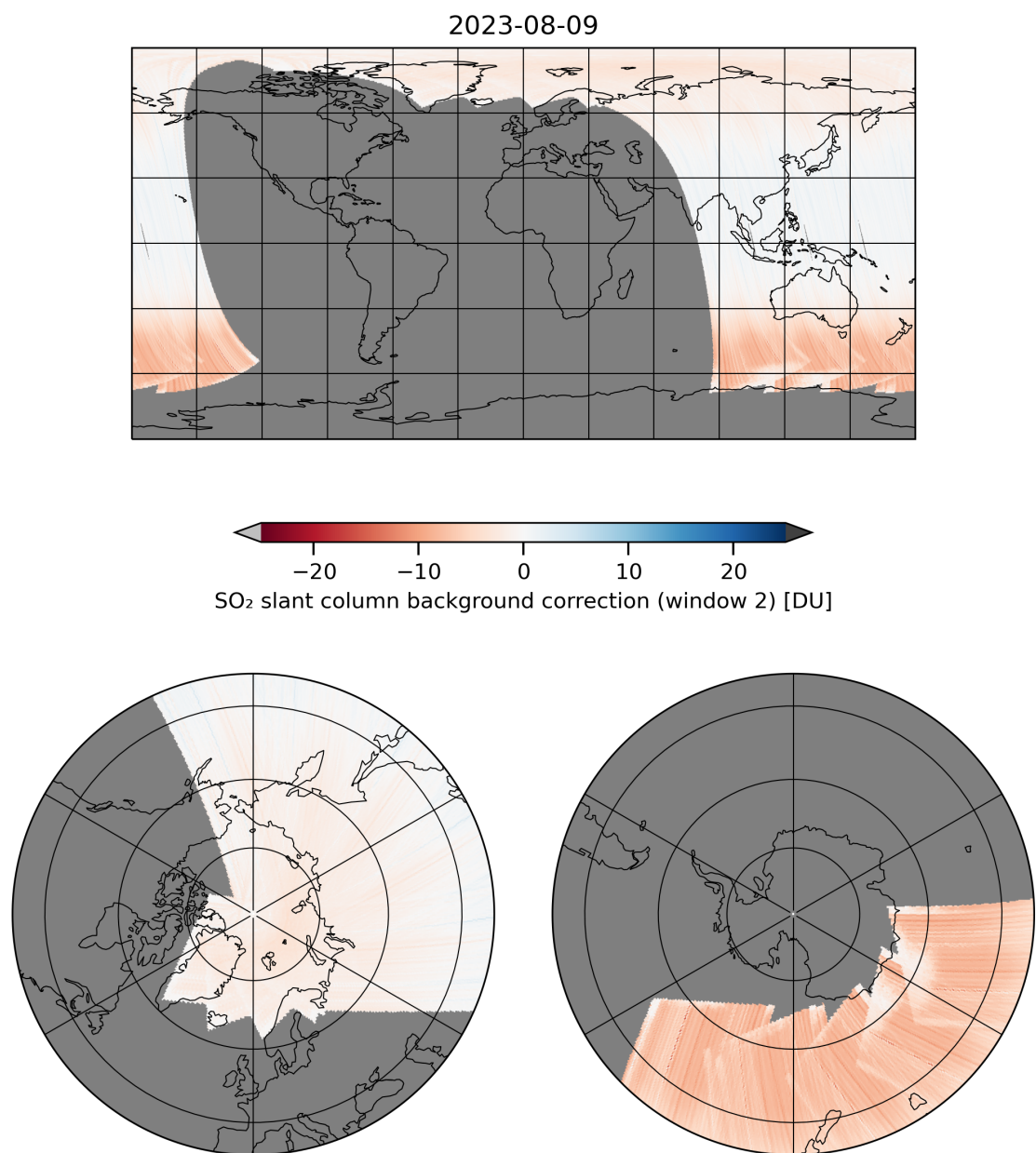


Figure 16: Map of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10

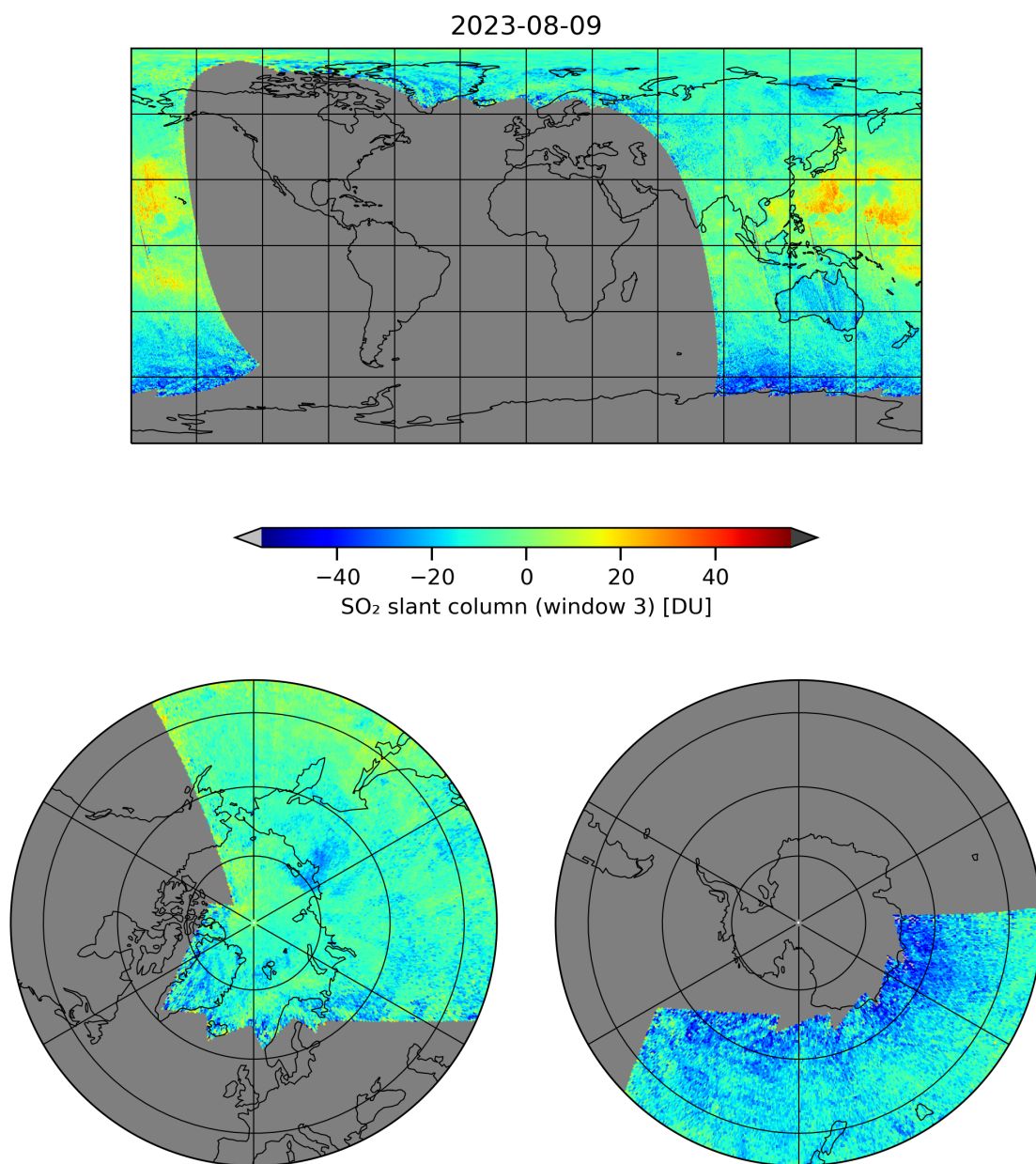


Figure 17: Map of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10

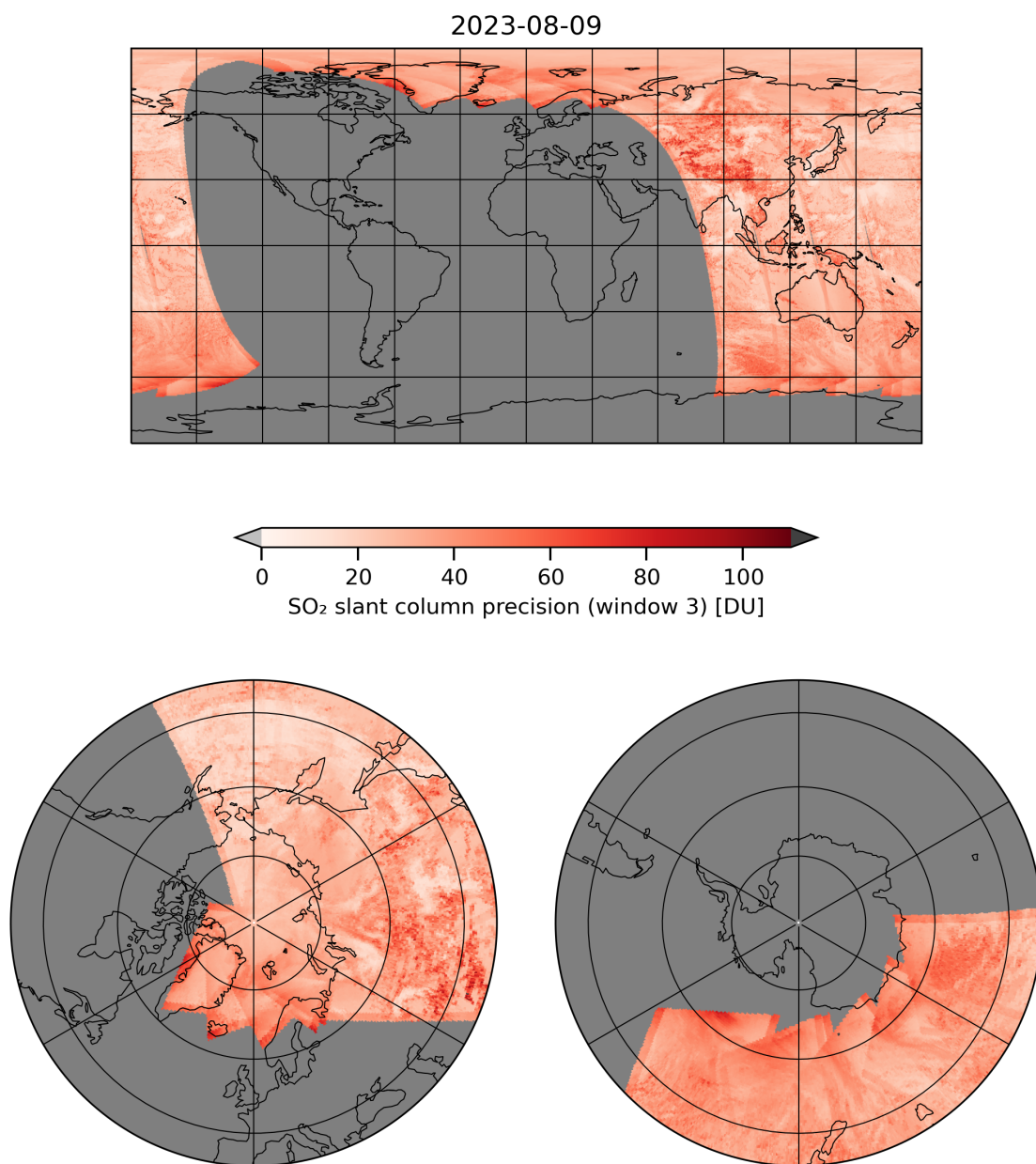


Figure 18: Map of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10

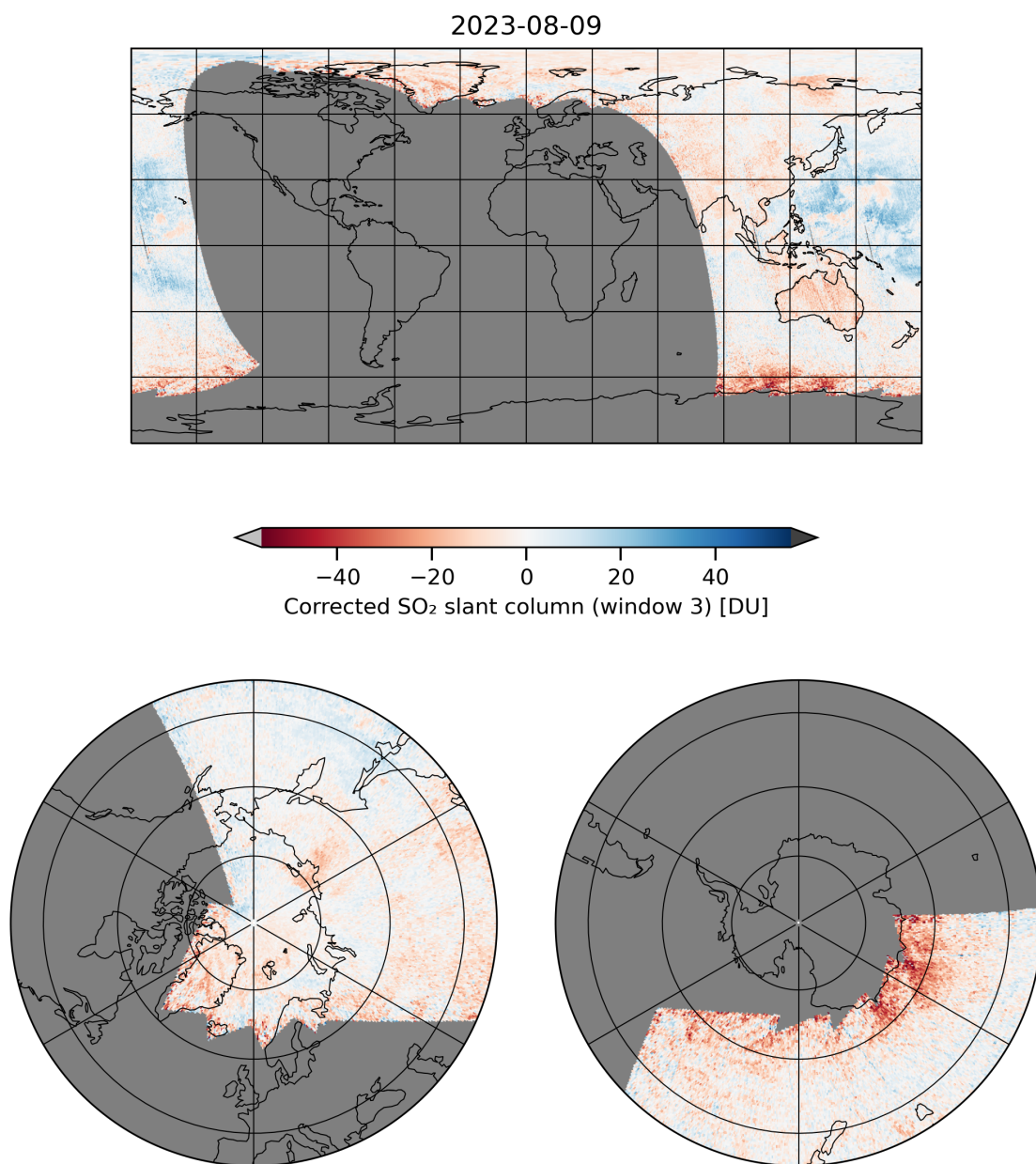


Figure 19: Map of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10

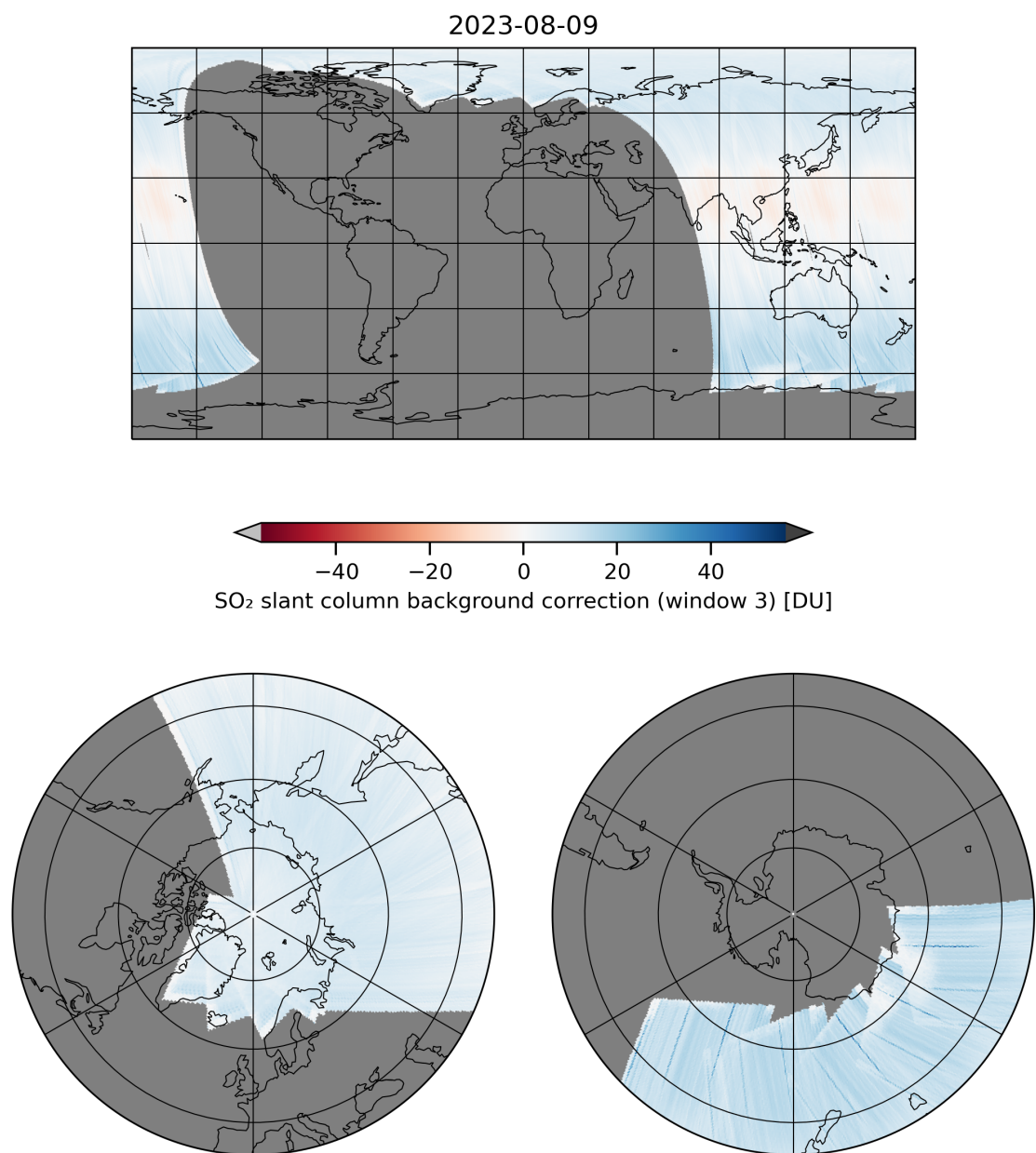


Figure 20: Map of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10

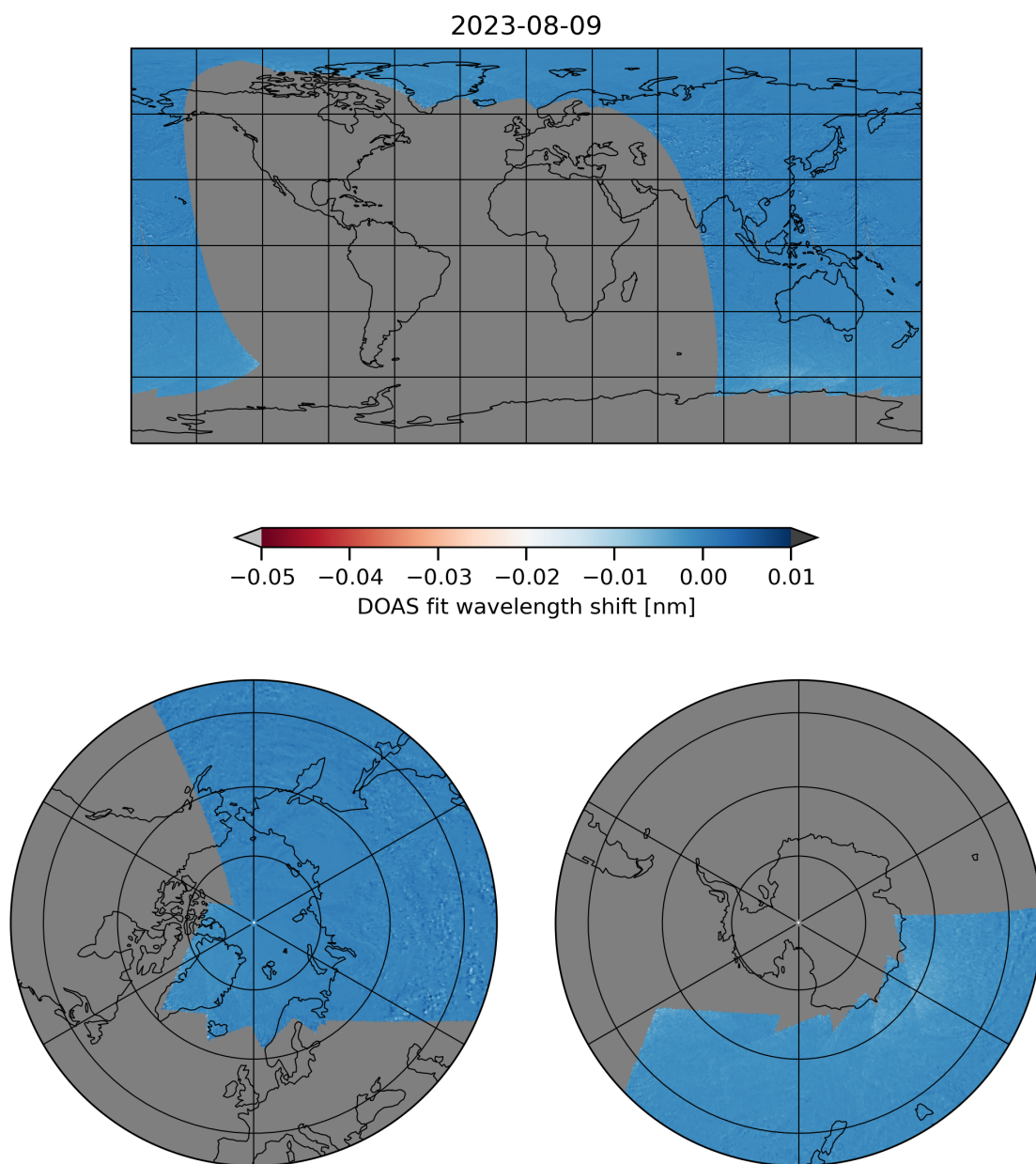


Figure 21: Map of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10

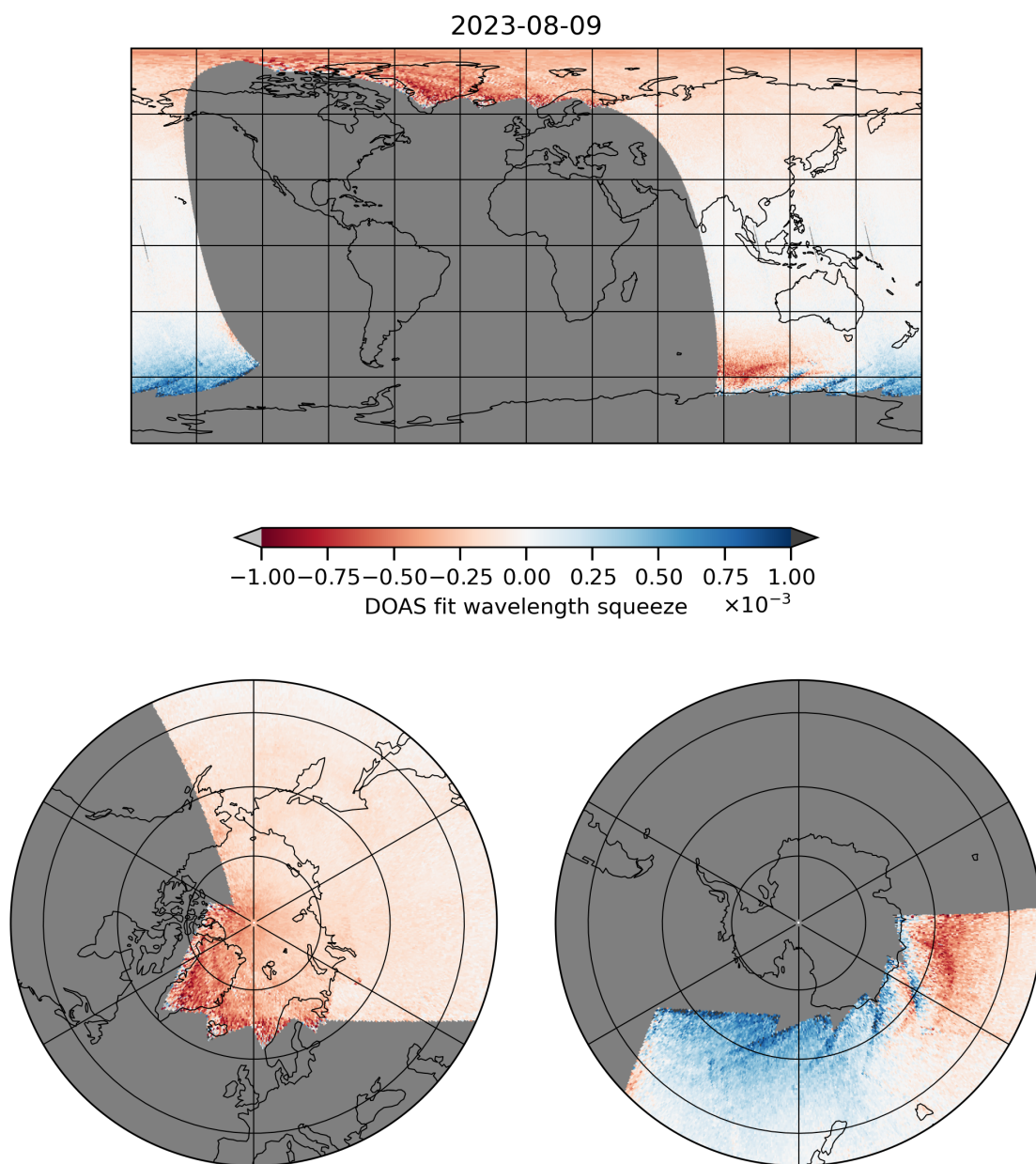


Figure 22: Map of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10

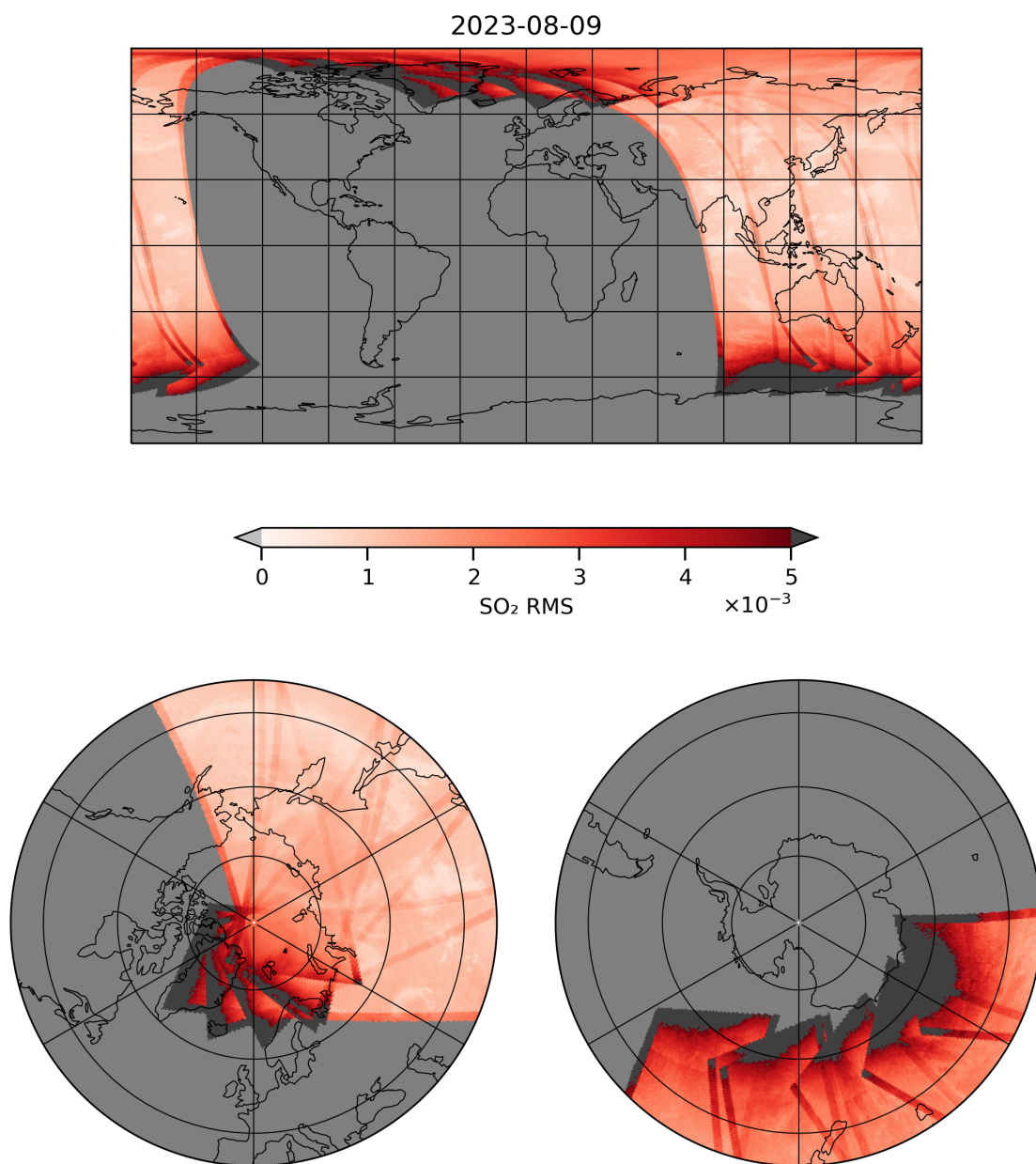


Figure 23: Map of “SO₂ RMS” for 2023-08-09 to 2023-08-10

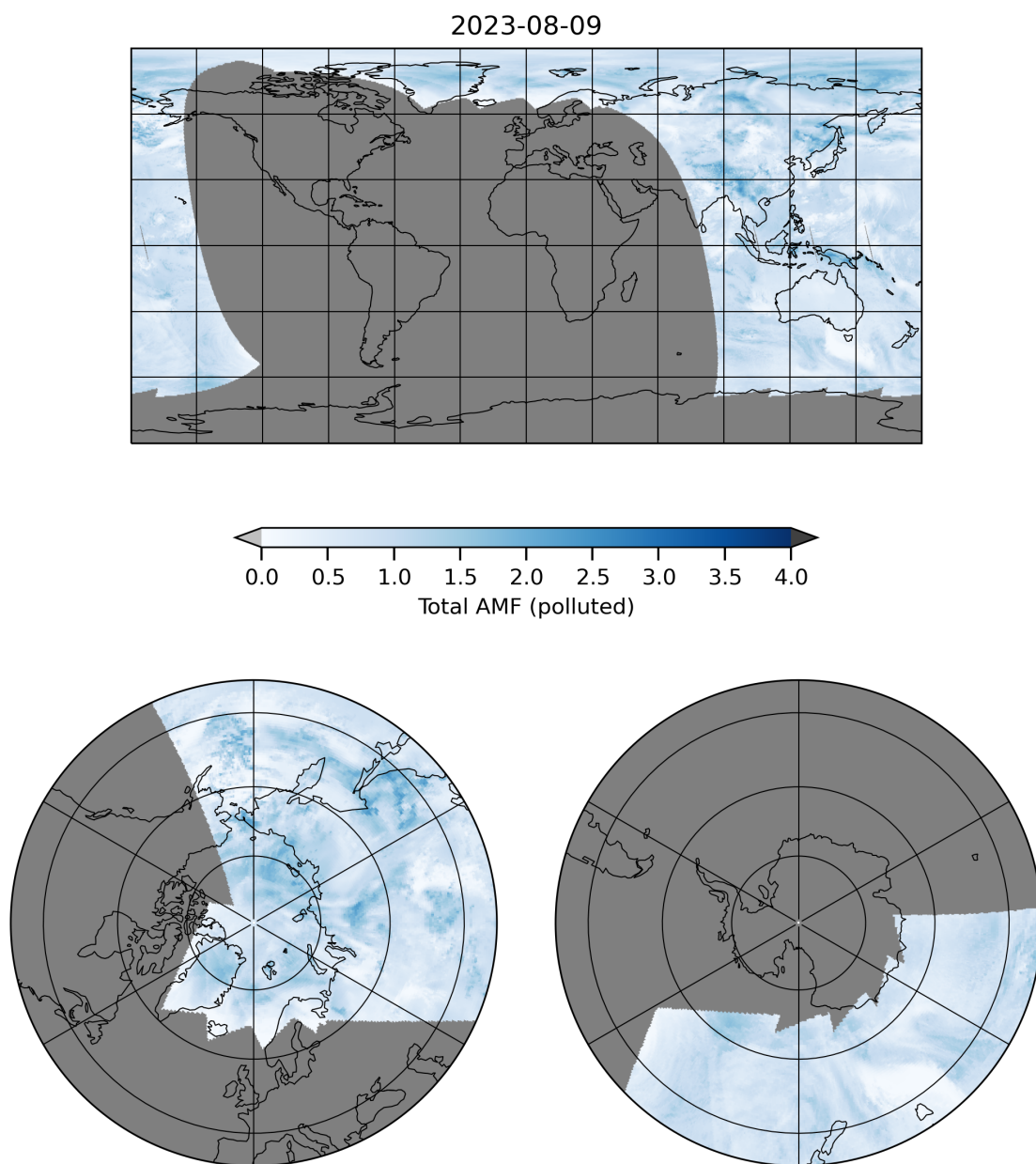


Figure 24: Map of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10

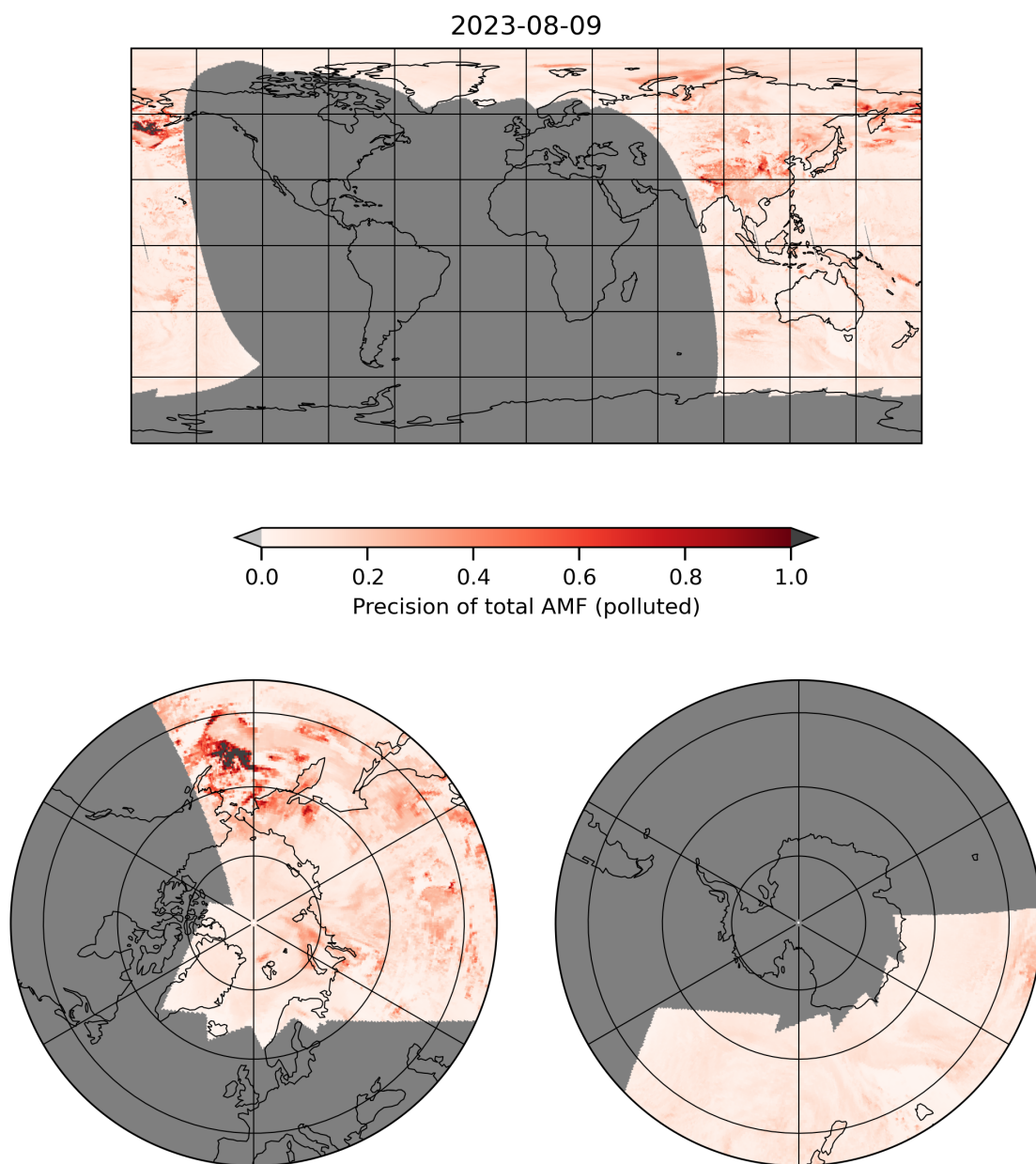


Figure 25: Map of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10

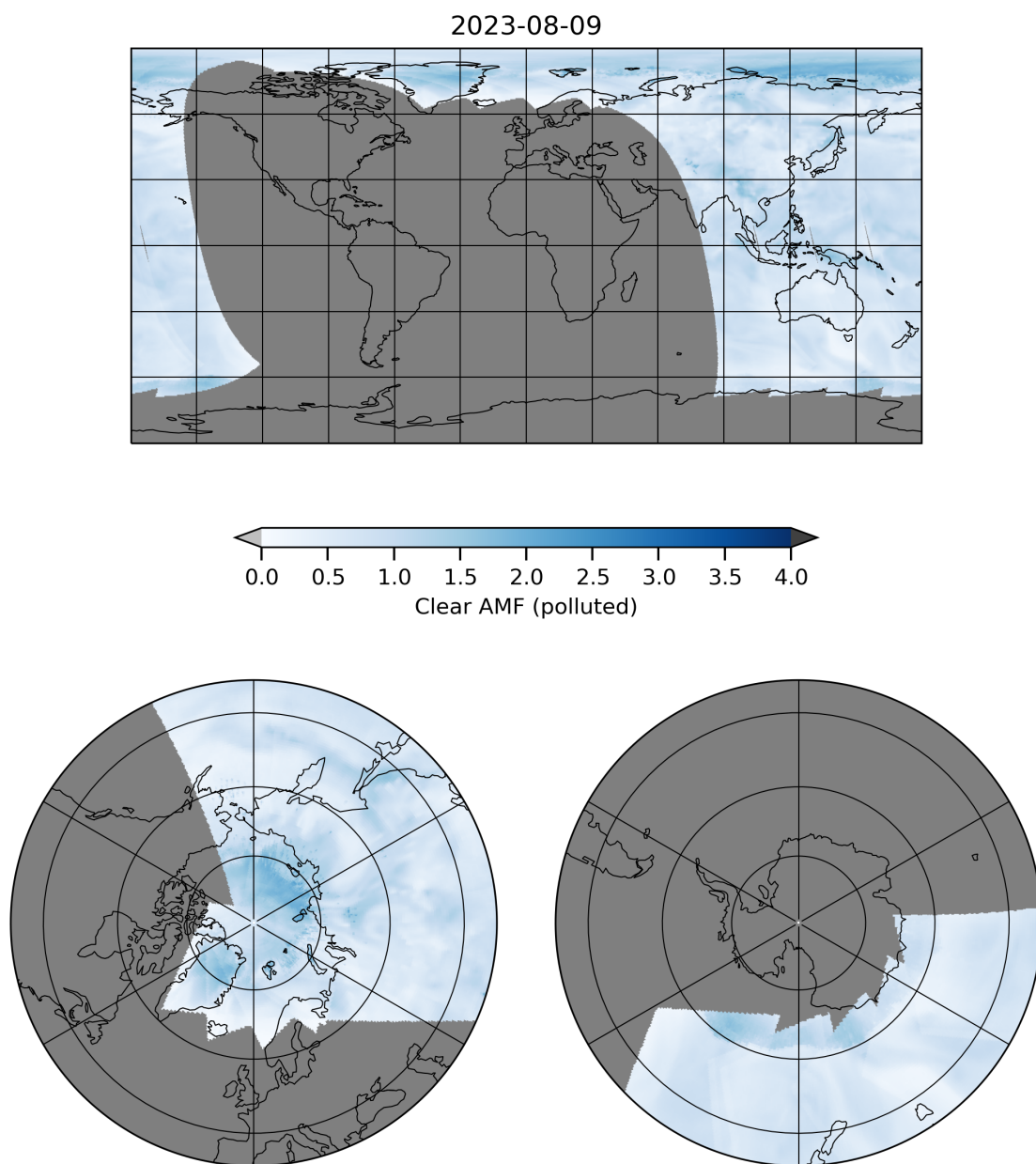


Figure 26: Map of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10

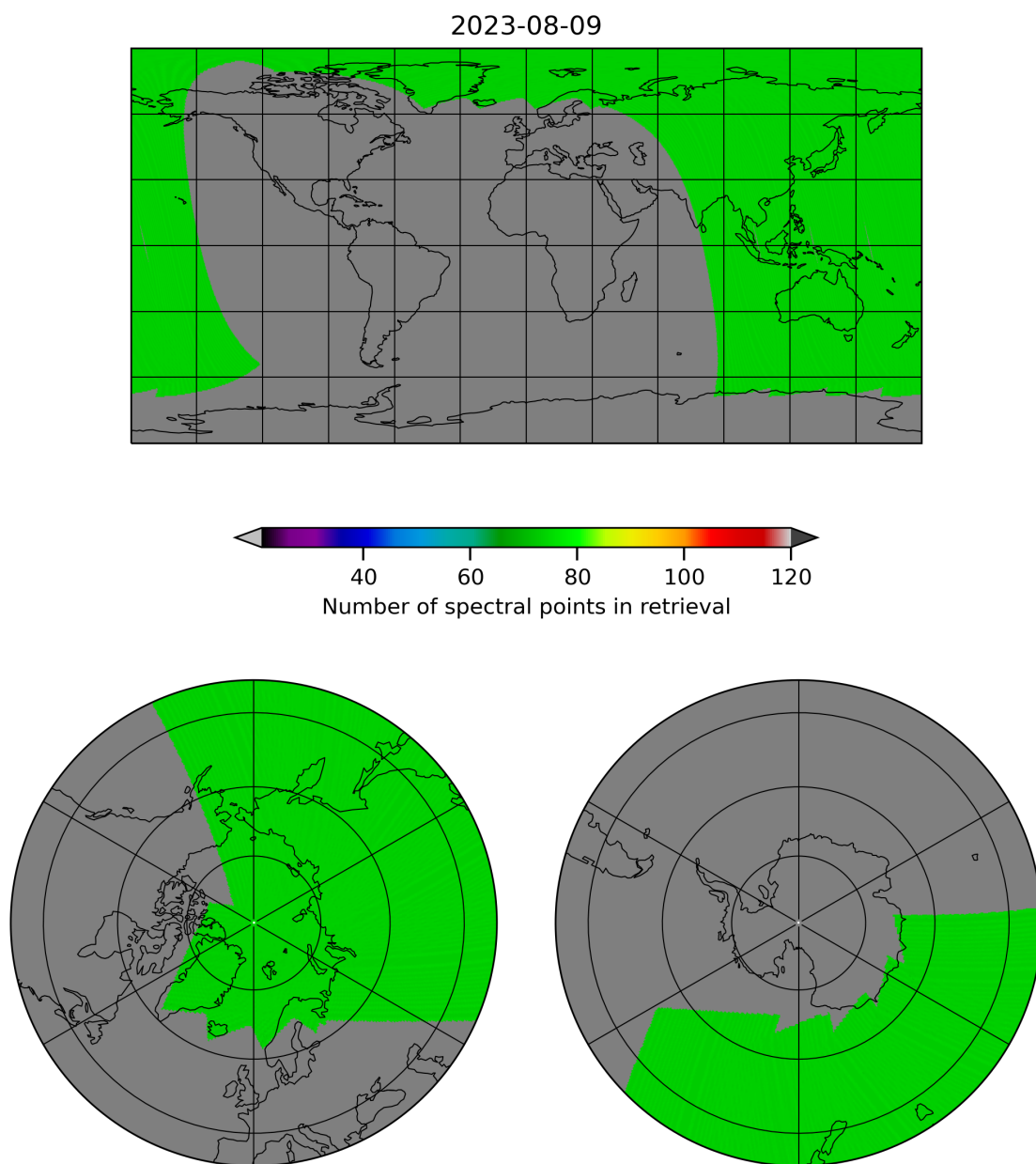


Figure 27: Map of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10

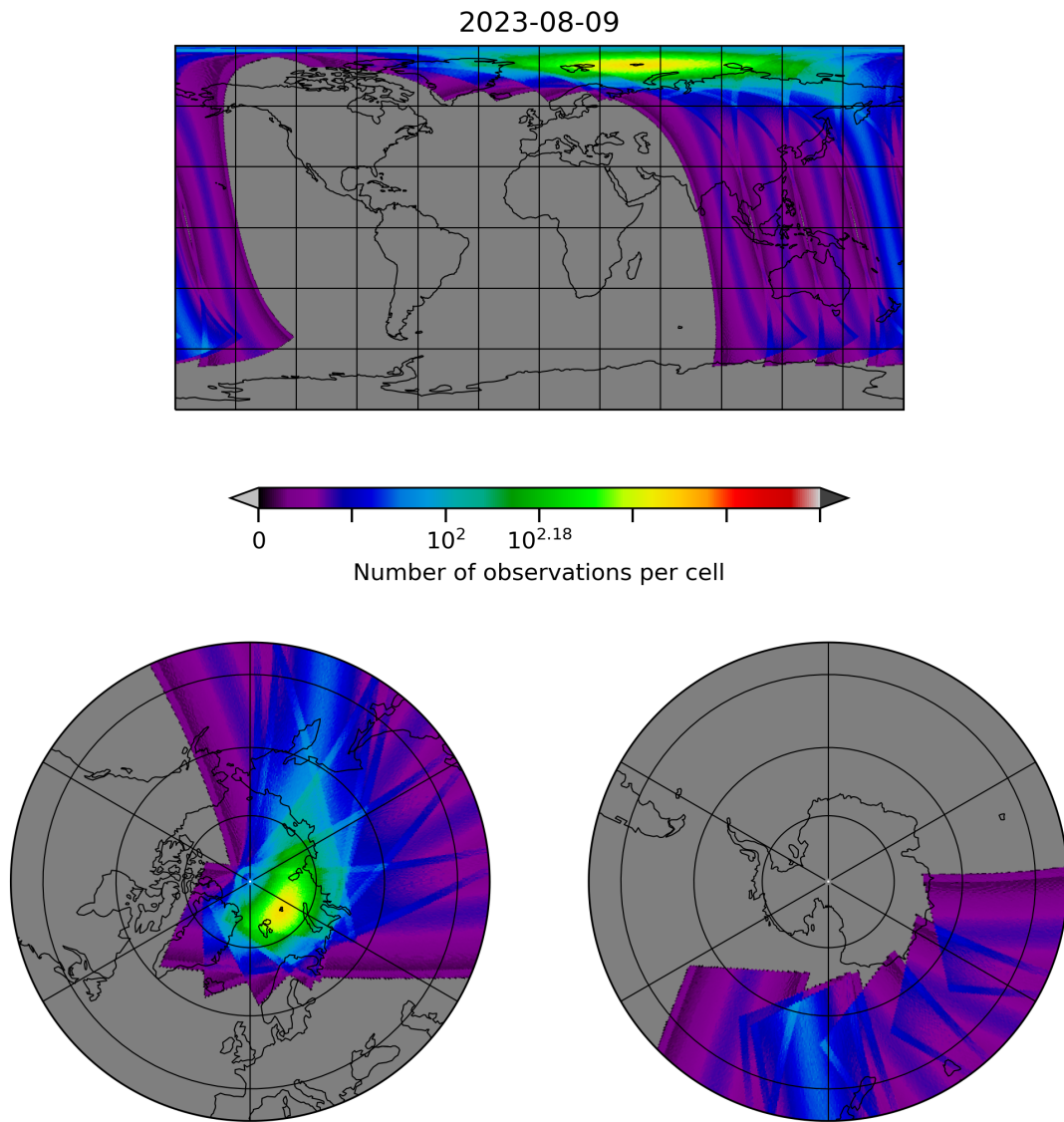


Figure 28: Map of the number of observations for 2023-08-09 to 2023-08-10

7 Zonal average

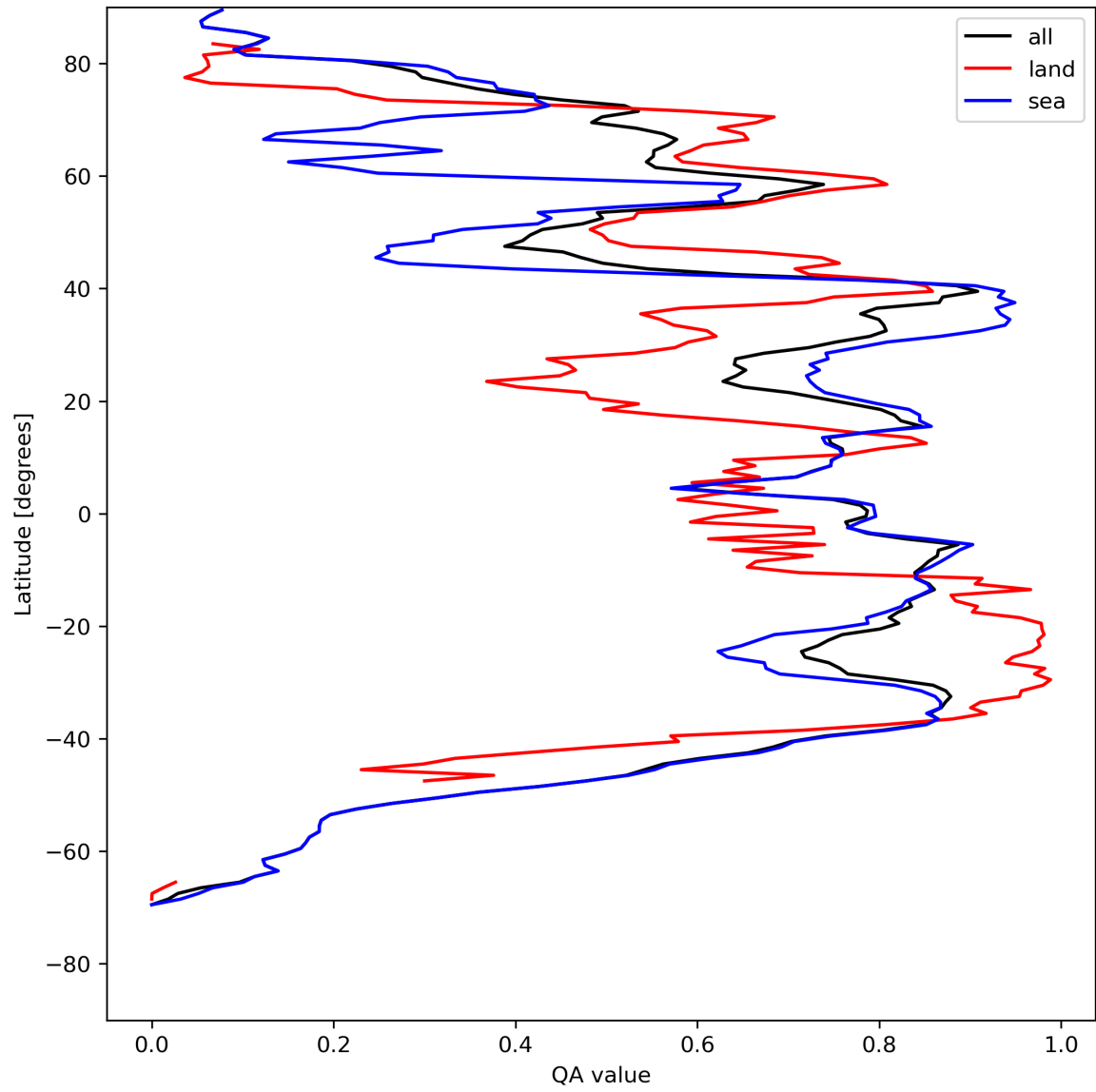


Figure 29: Zonal average of “QA value” for 2023-08-09 to 2023-08-10.

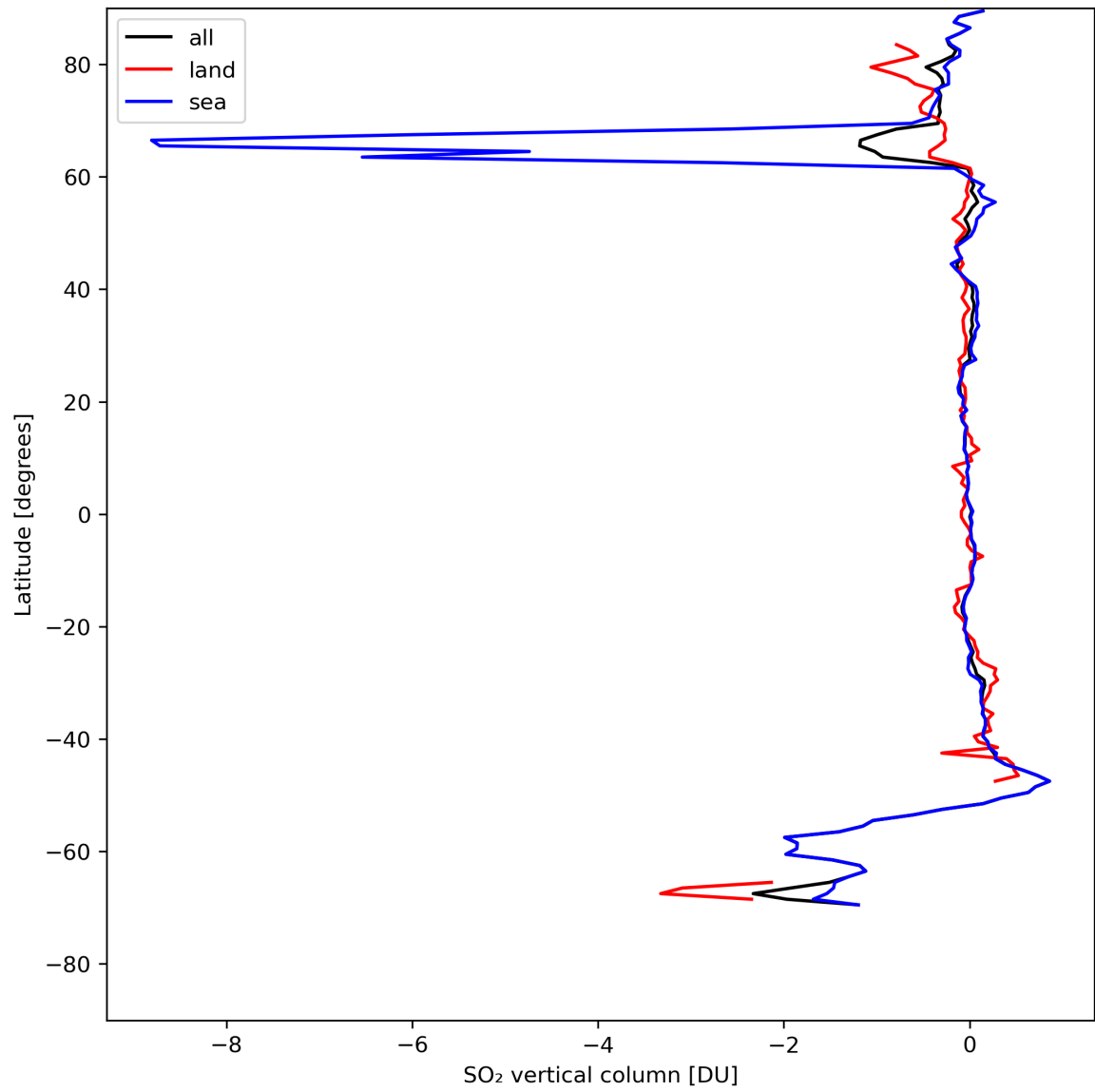


Figure 30: Zonal average of “SO₂ vertical column” for 2023-08-09 to 2023-08-10.

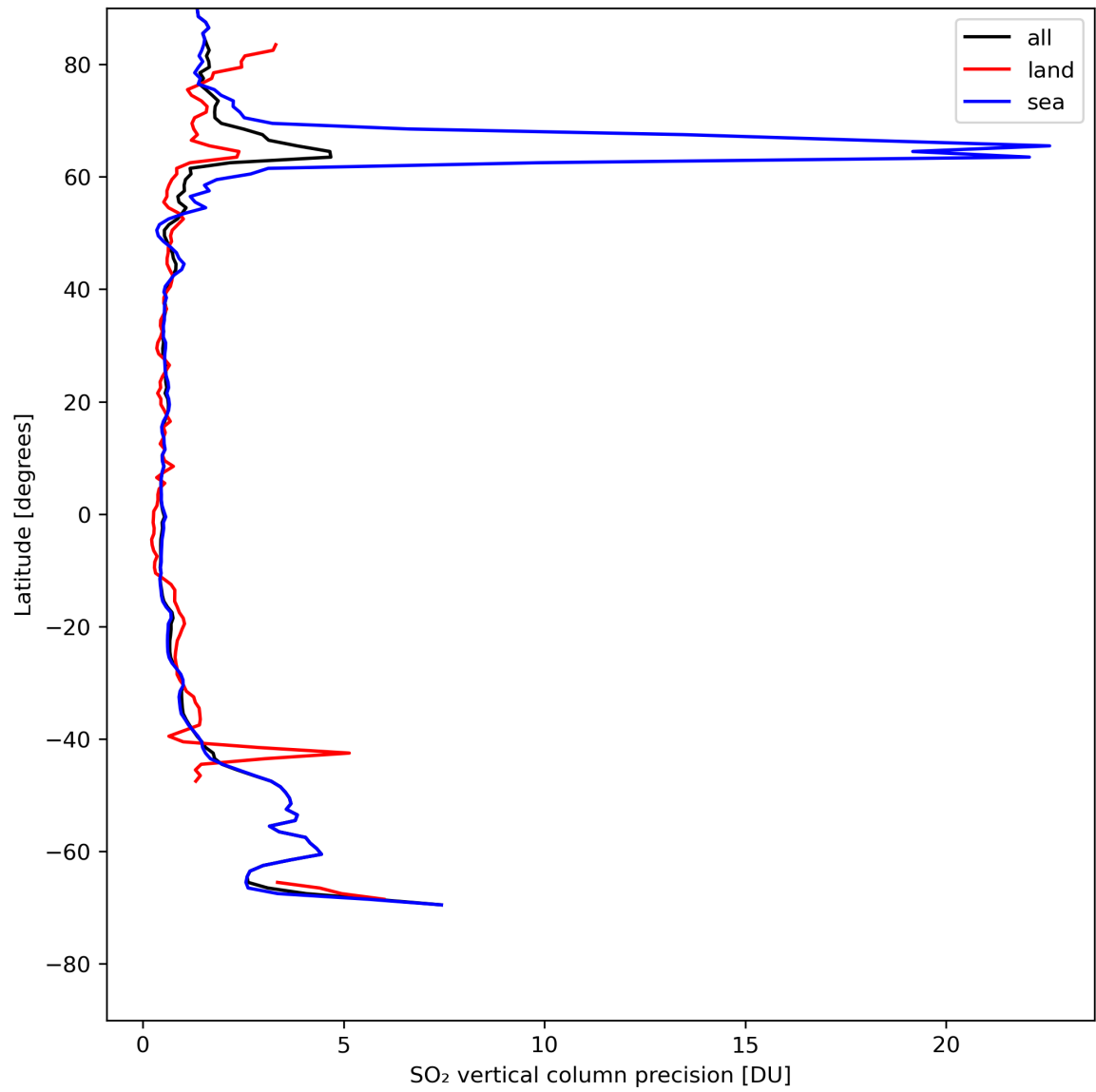


Figure 31: Zonal average of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10.

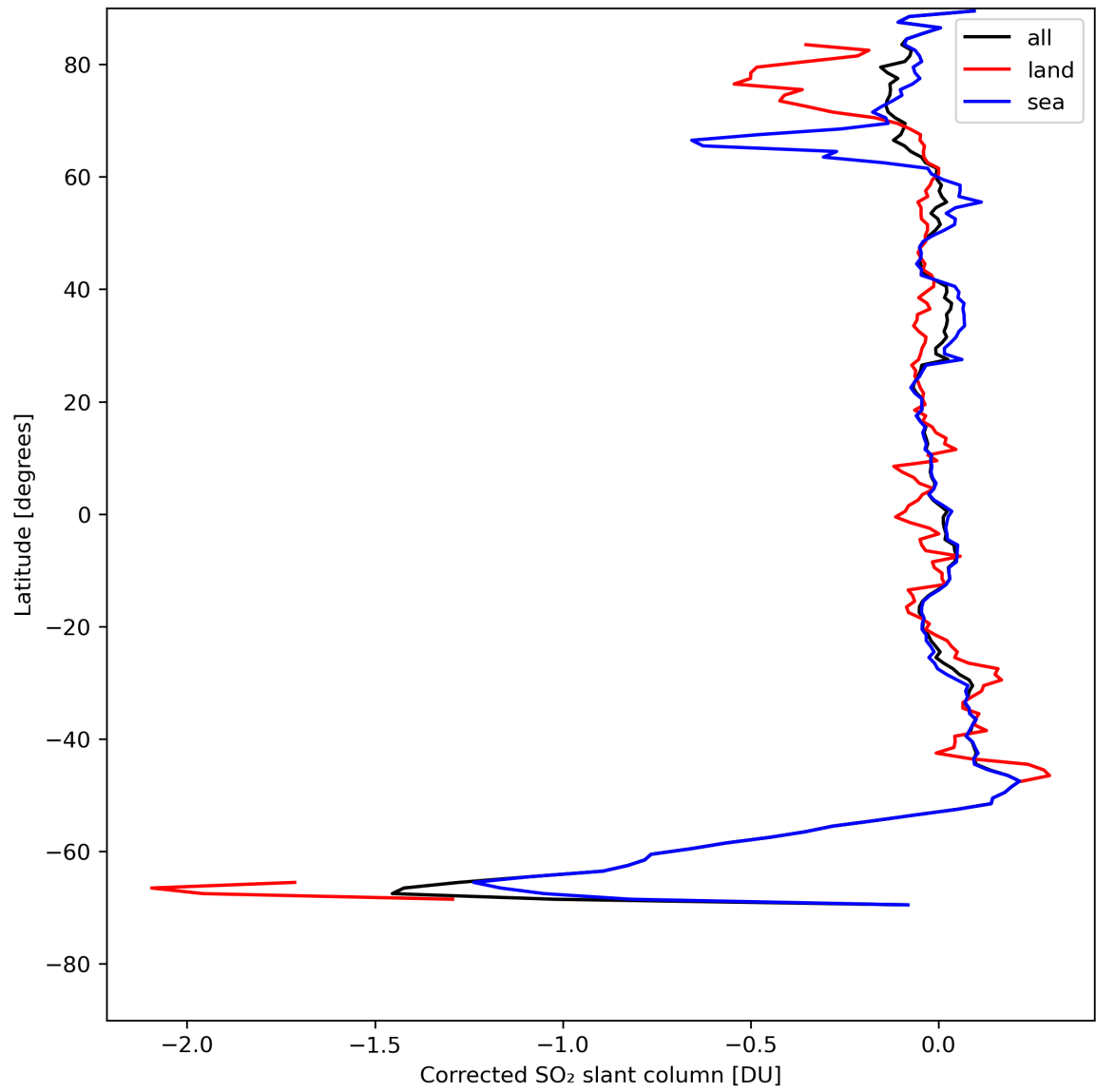


Figure 32: Zonal average of "Corrected SO₂ slant column" for 2023-08-09 to 2023-08-10.

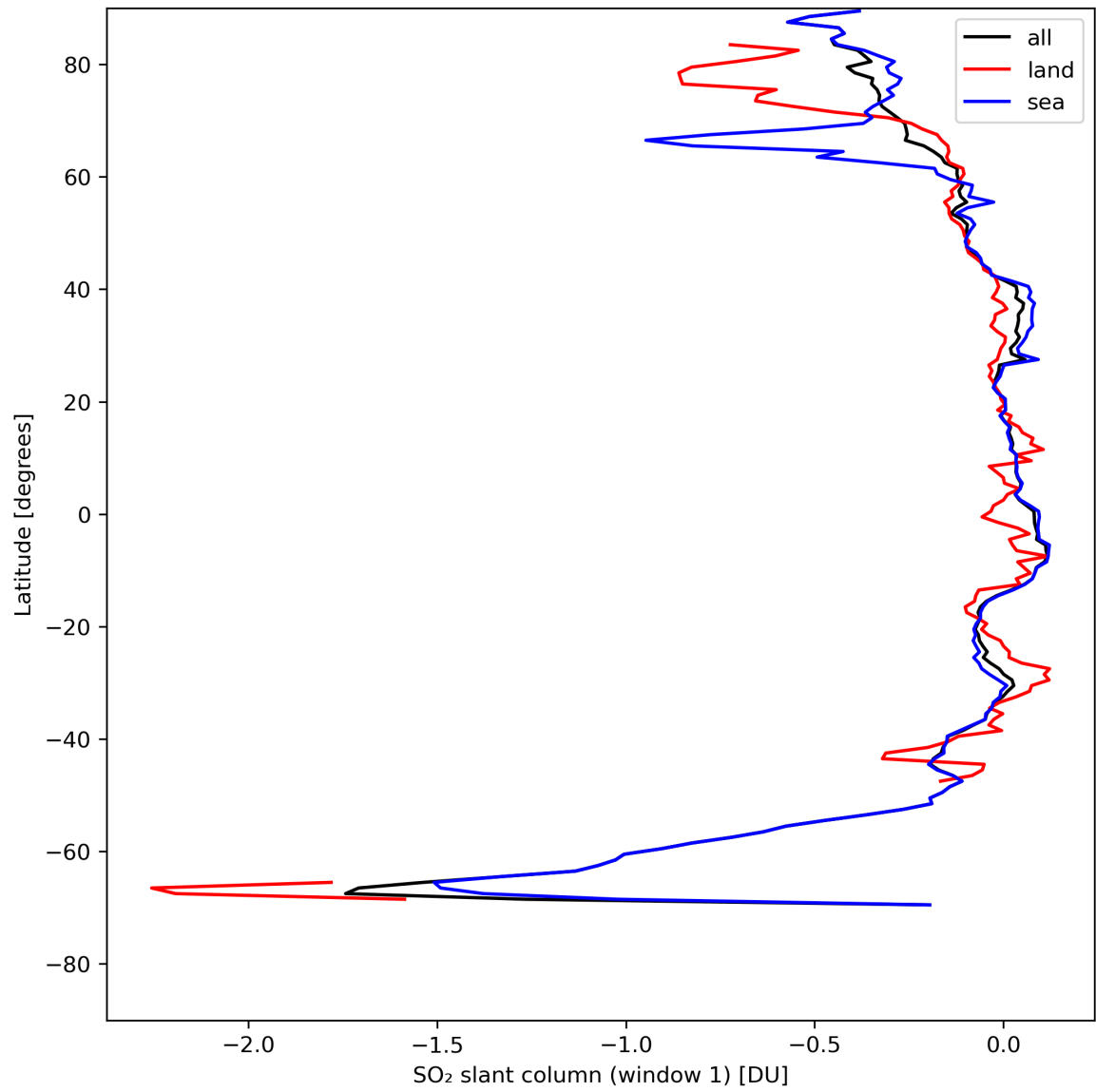


Figure 33: Zonal average of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

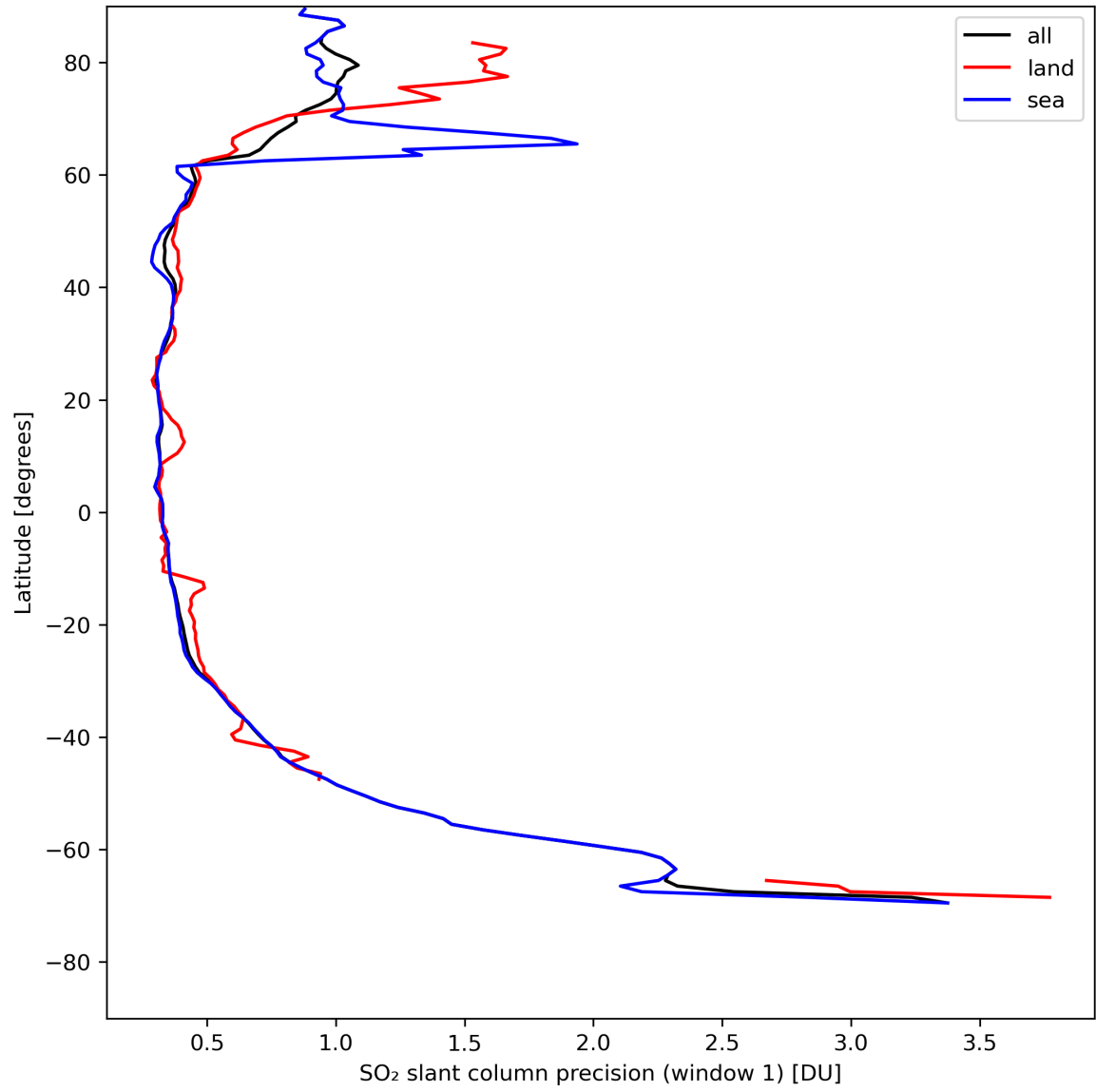


Figure 34: Zonal average of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

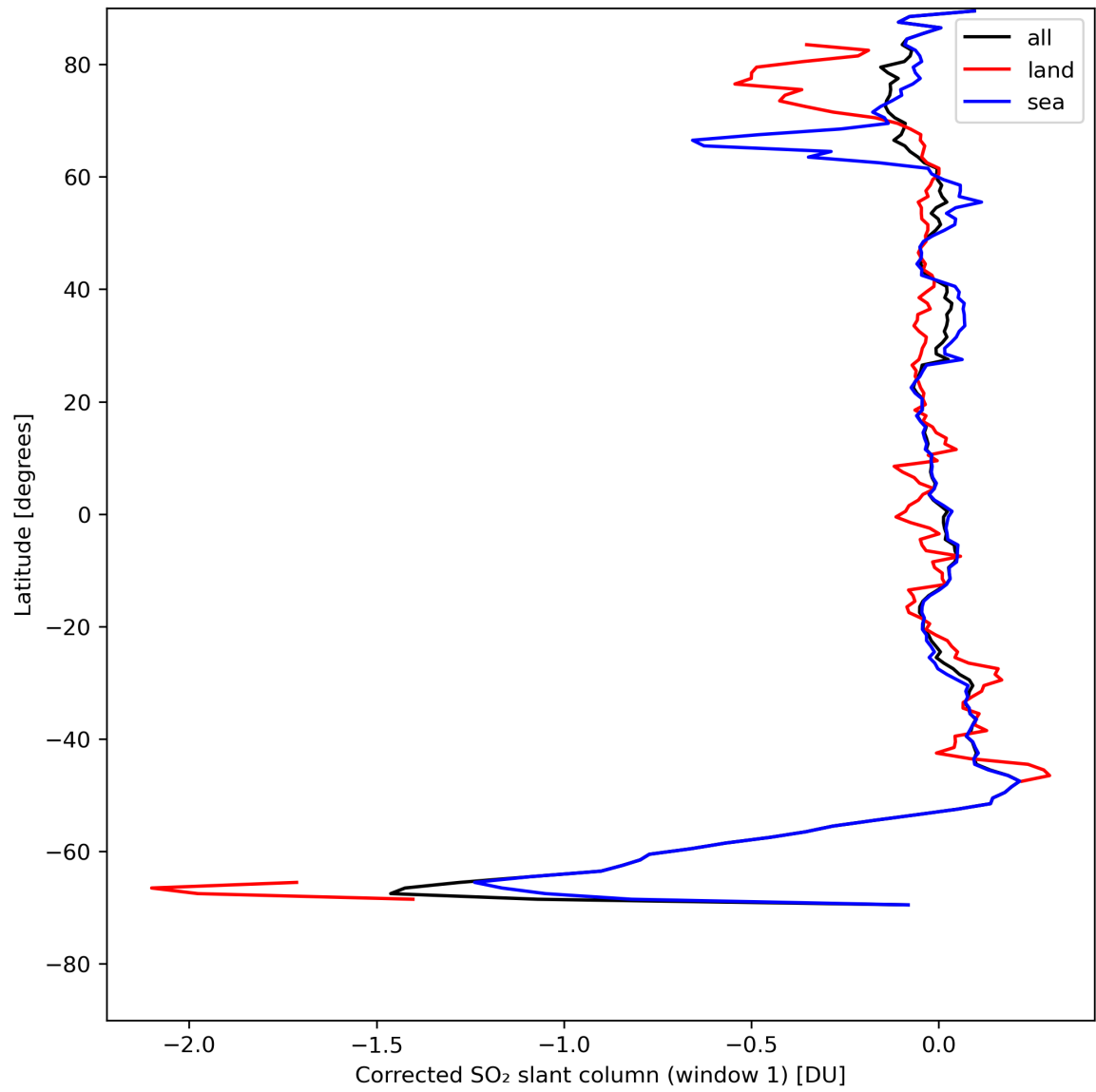


Figure 35: Zonal average of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

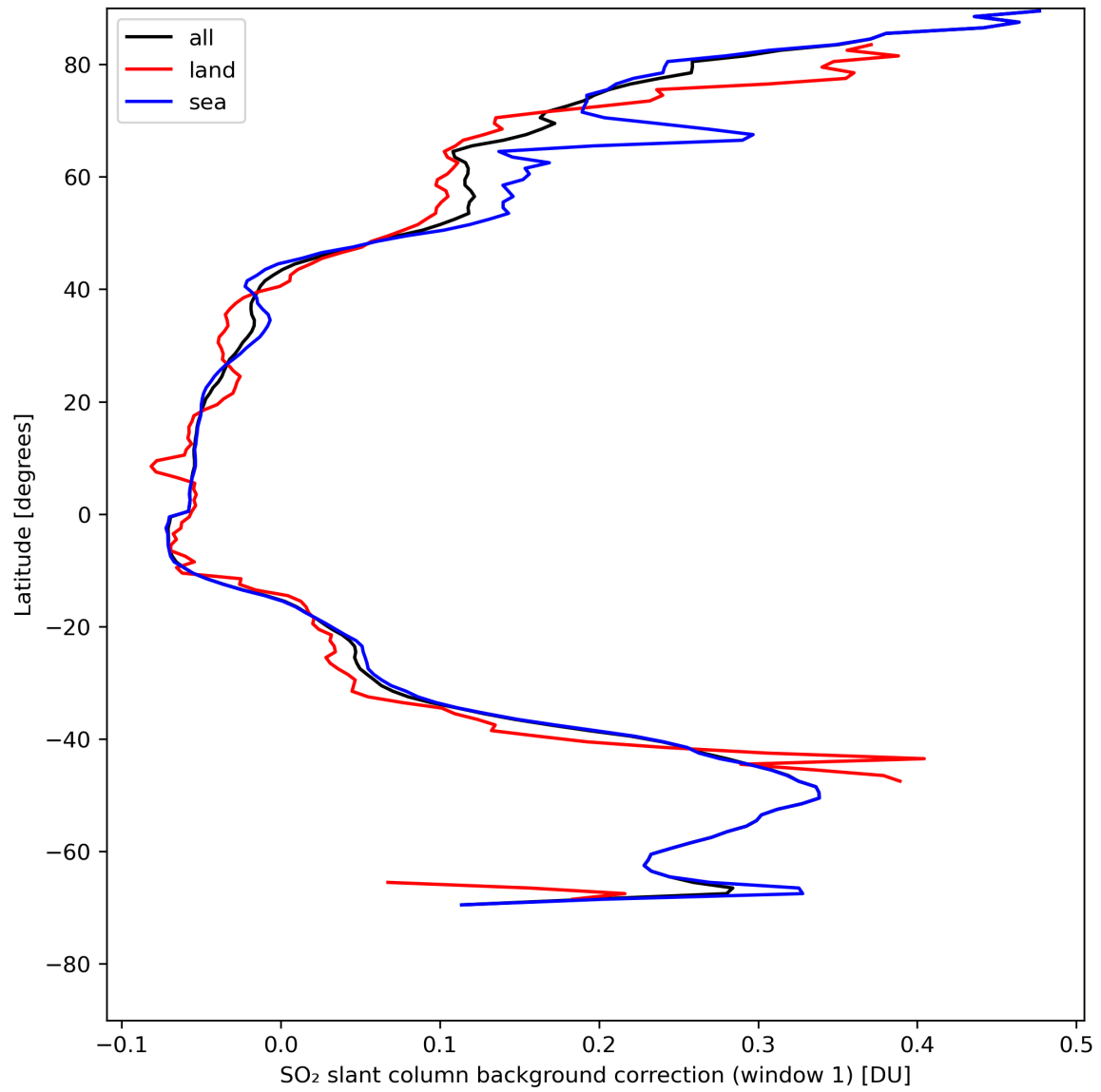


Figure 36: Zonal average of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

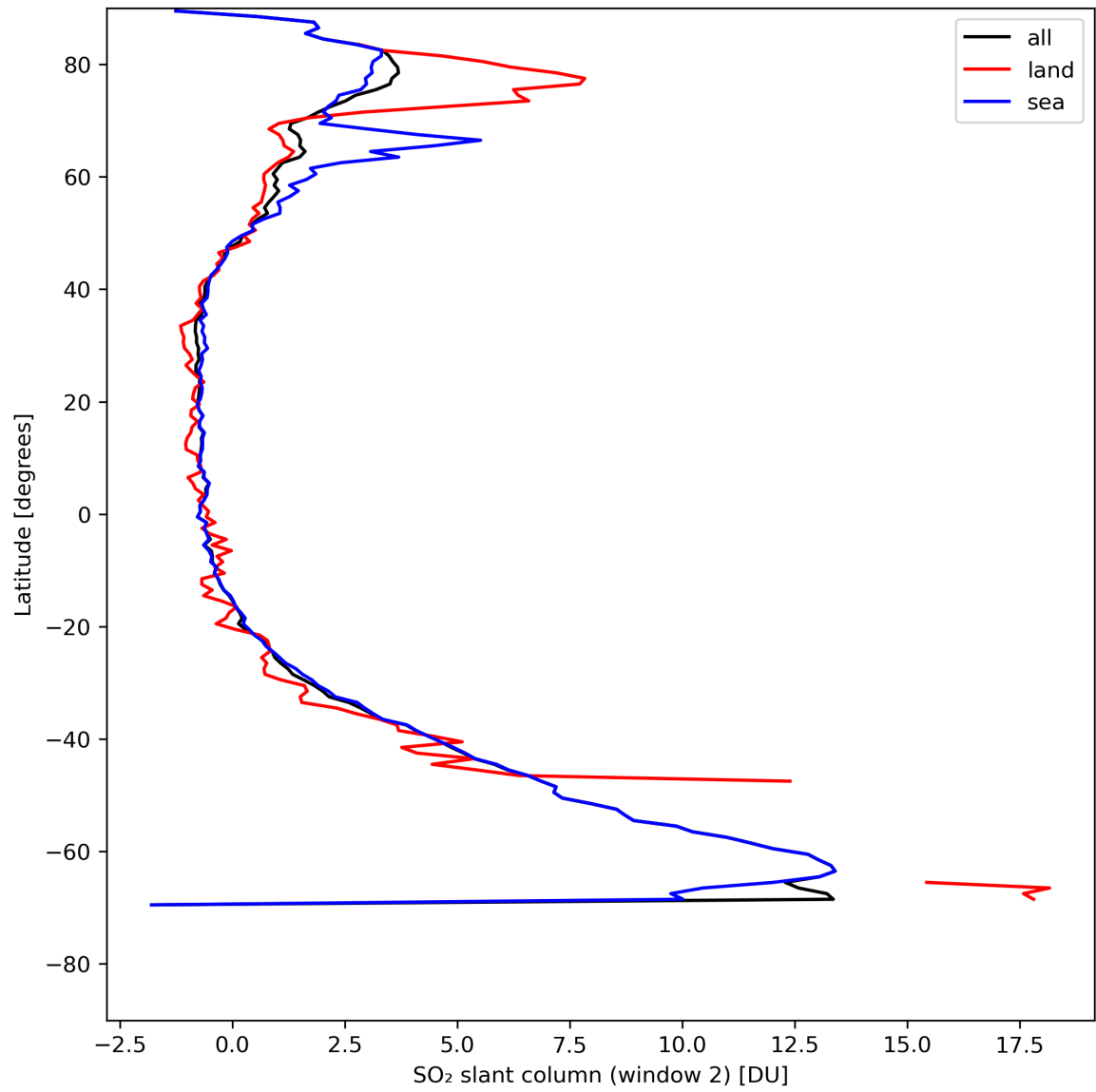


Figure 37: Zonal average of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

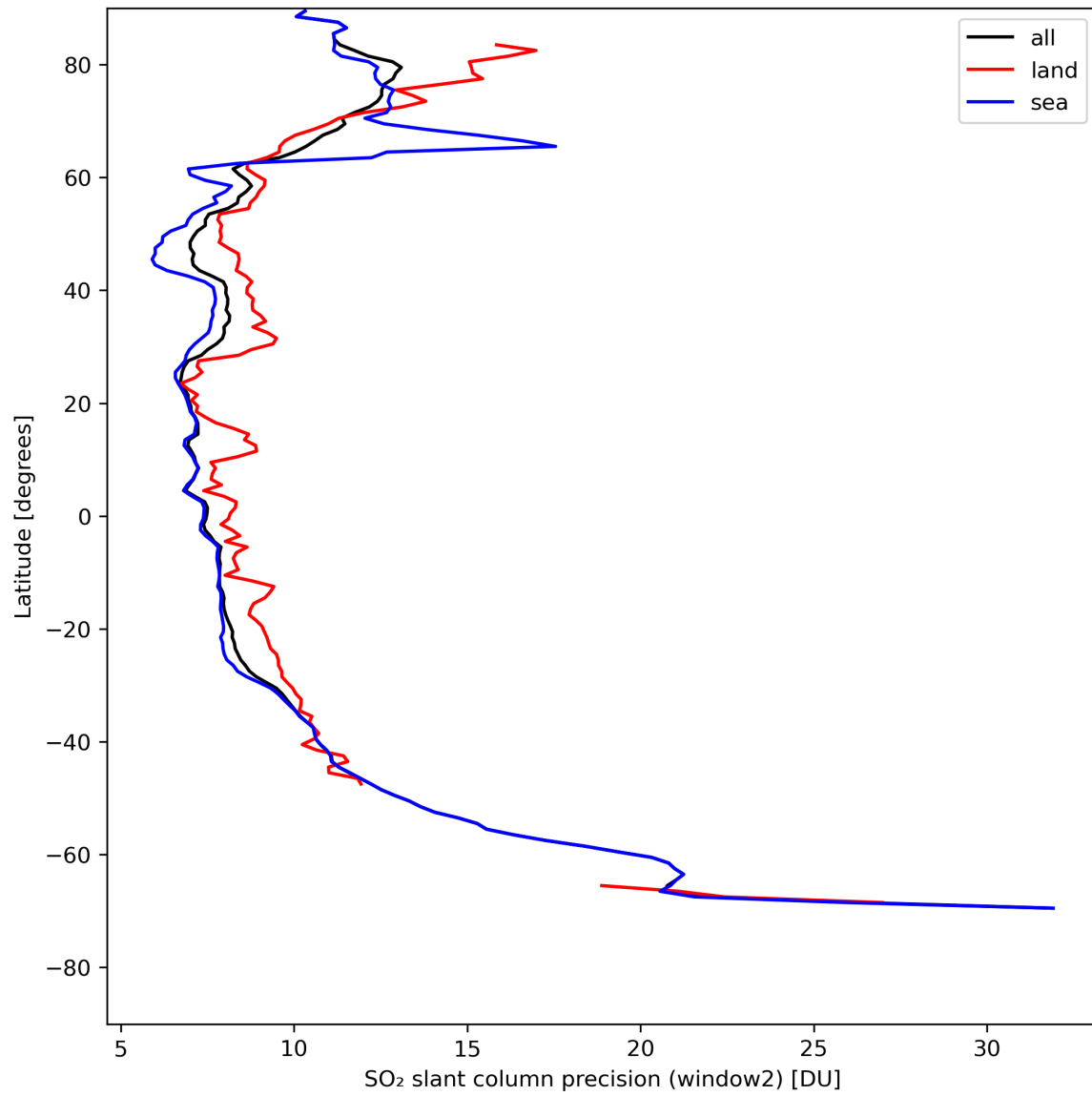


Figure 38: Zonal average of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

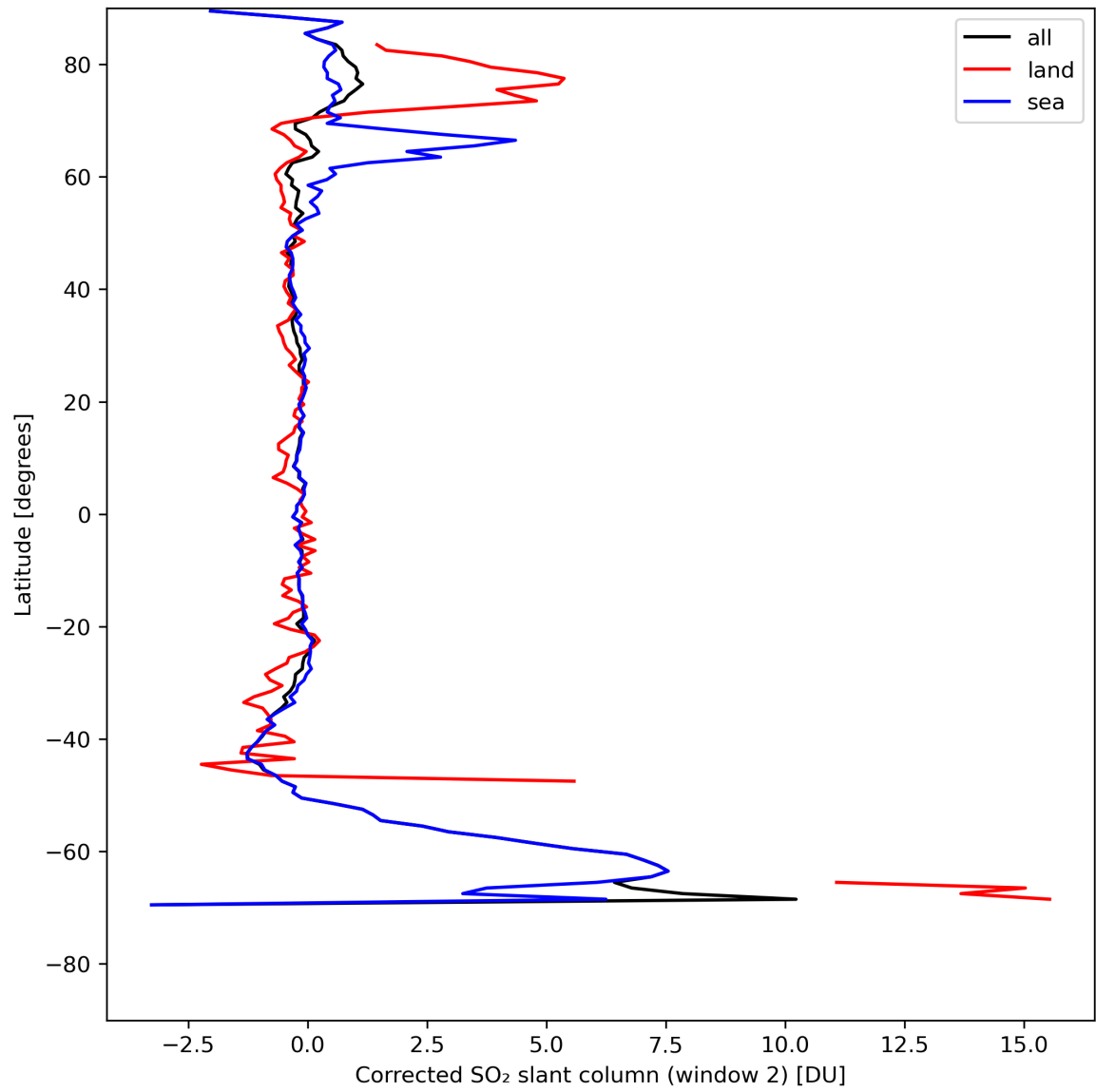


Figure 39: Zonal average of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

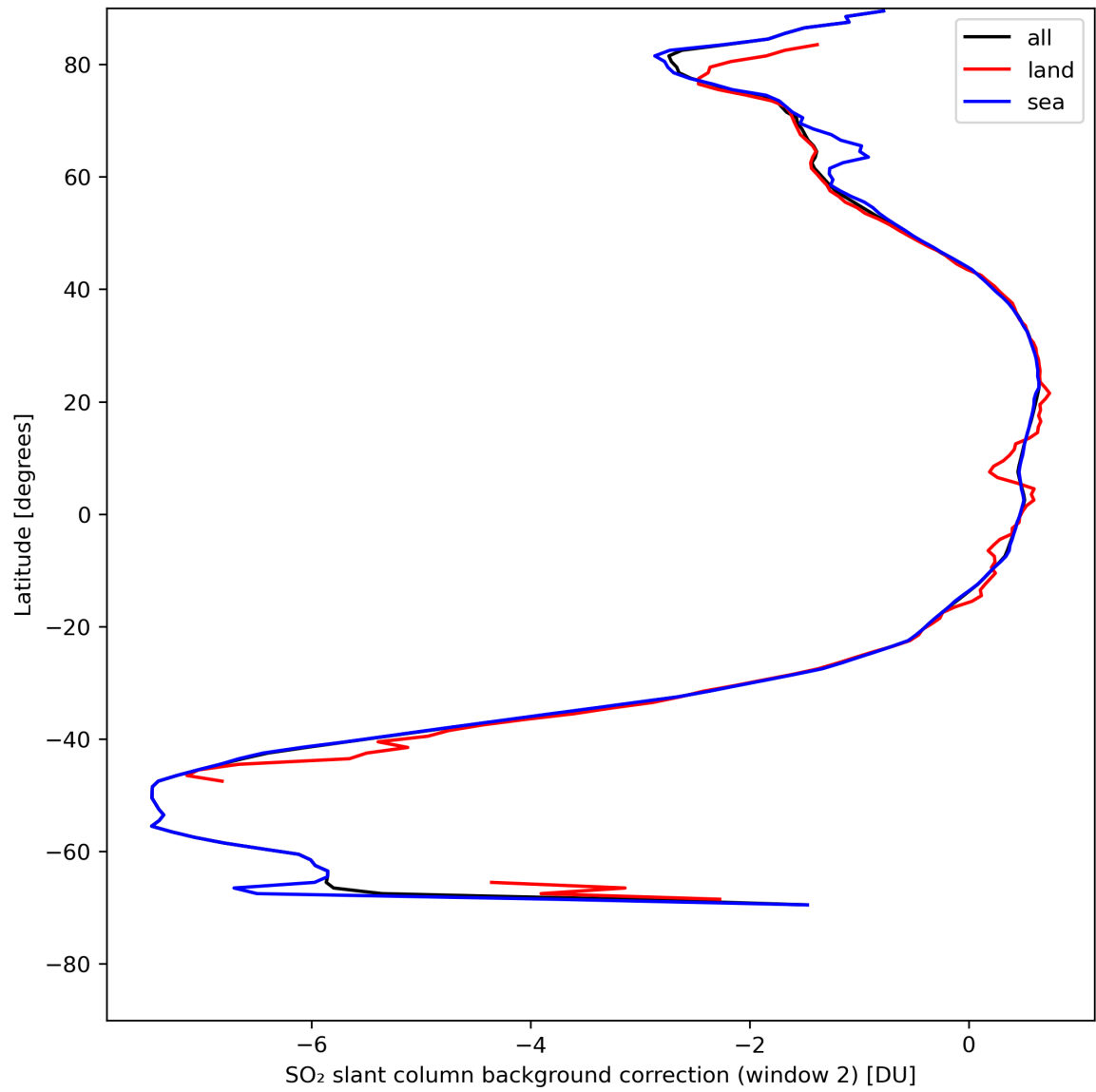


Figure 40: Zonal average of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

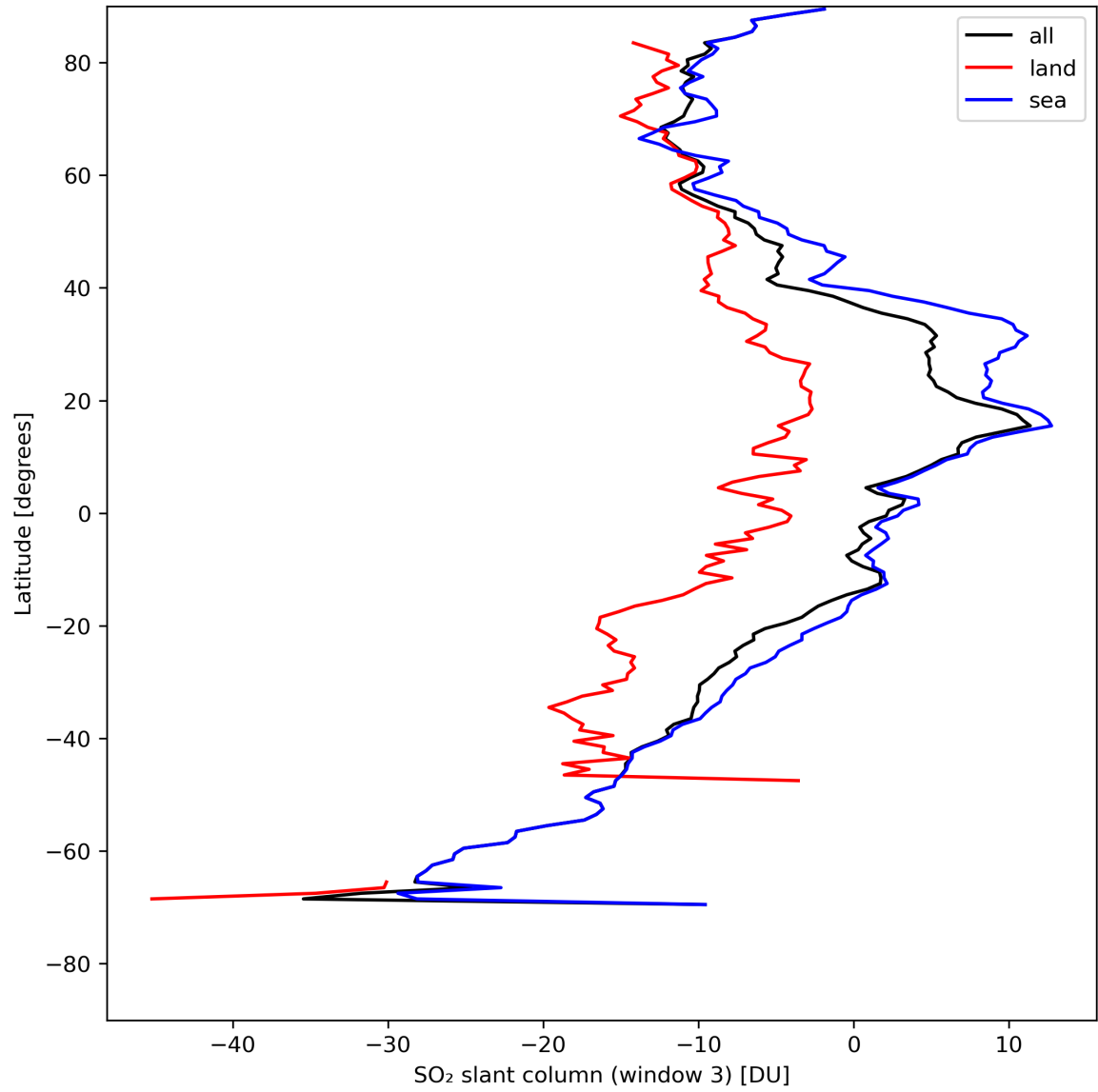


Figure 41: Zonal average of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

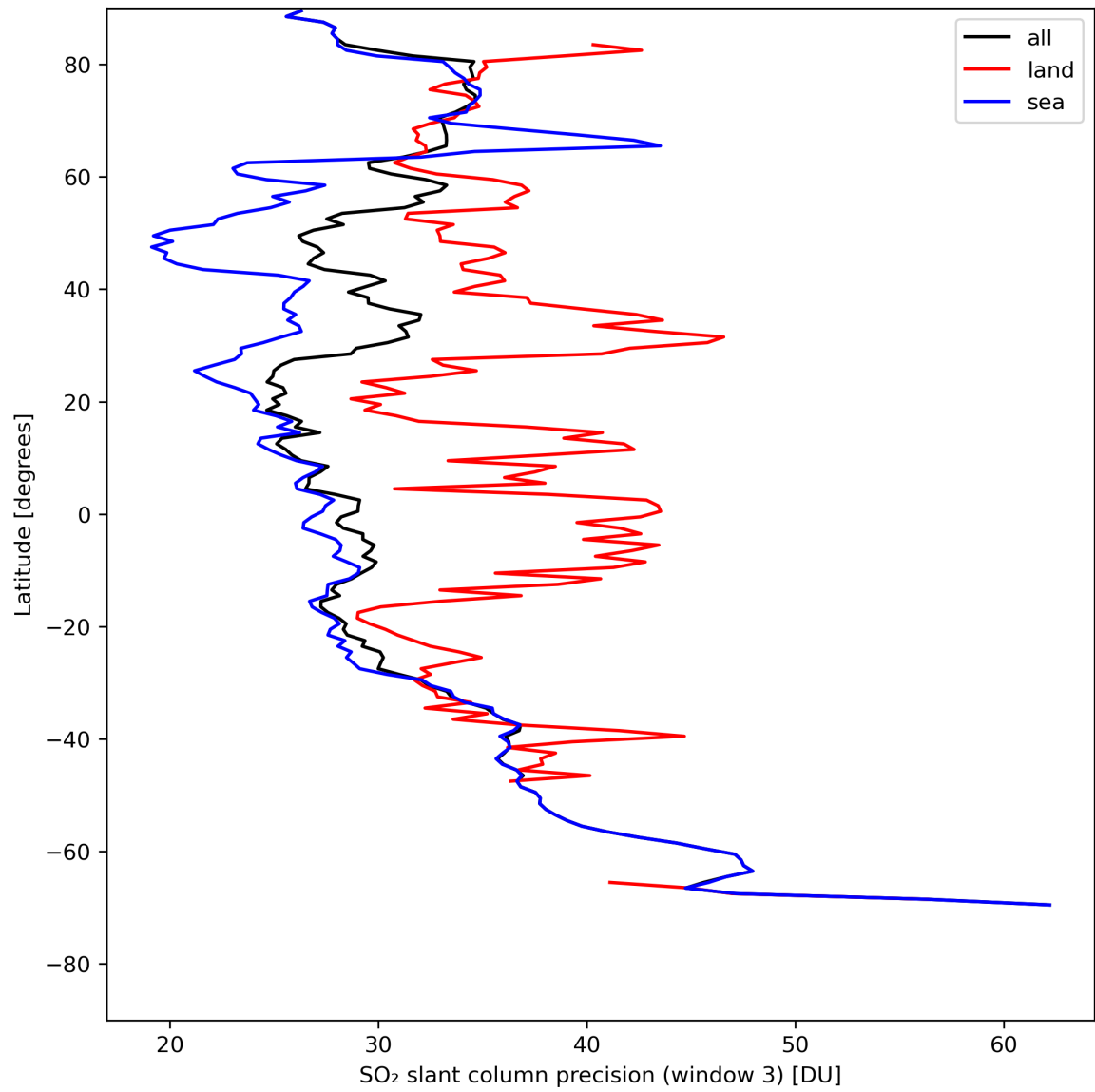


Figure 42: Zonal average of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

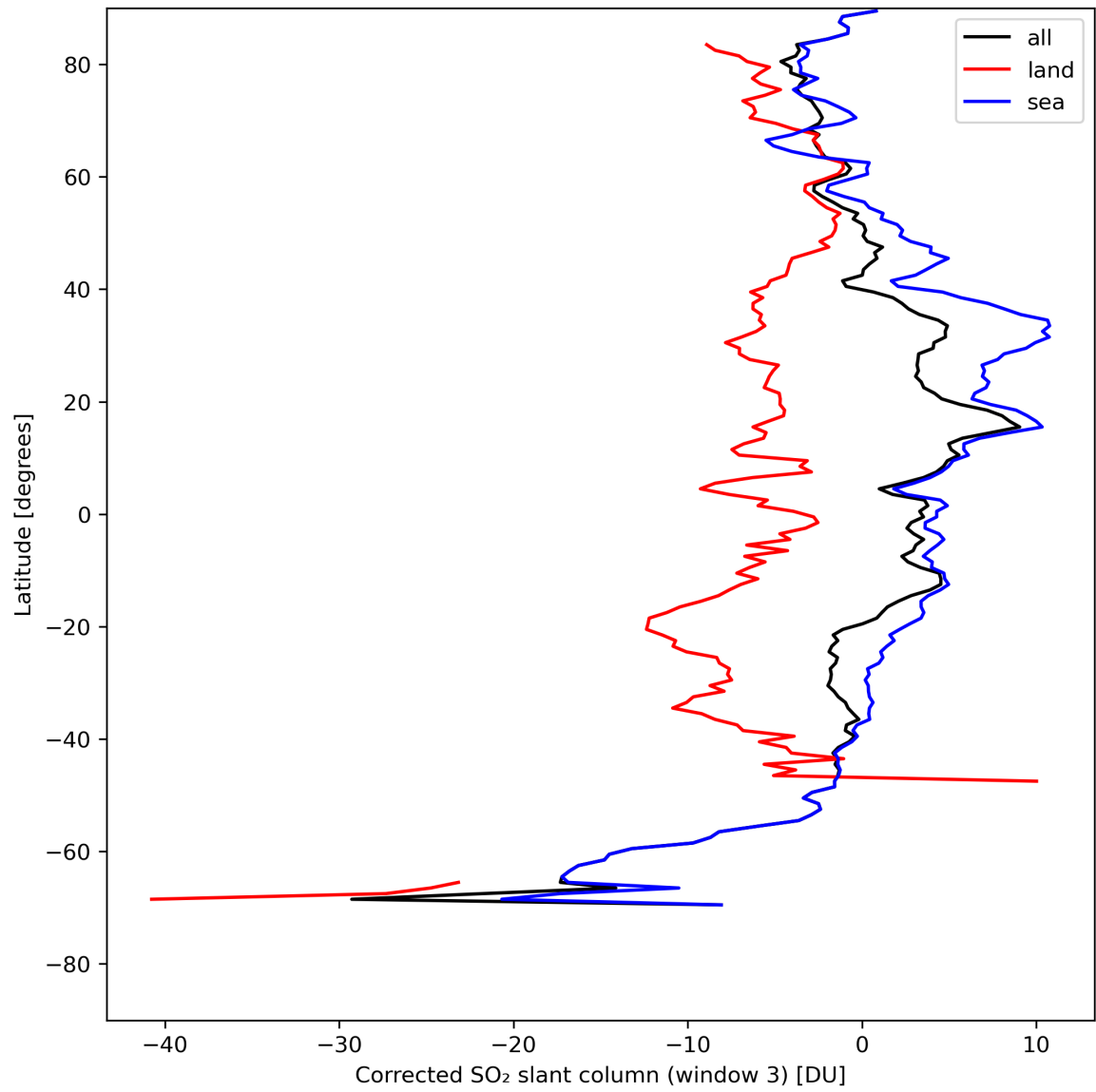


Figure 43: Zonal average of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

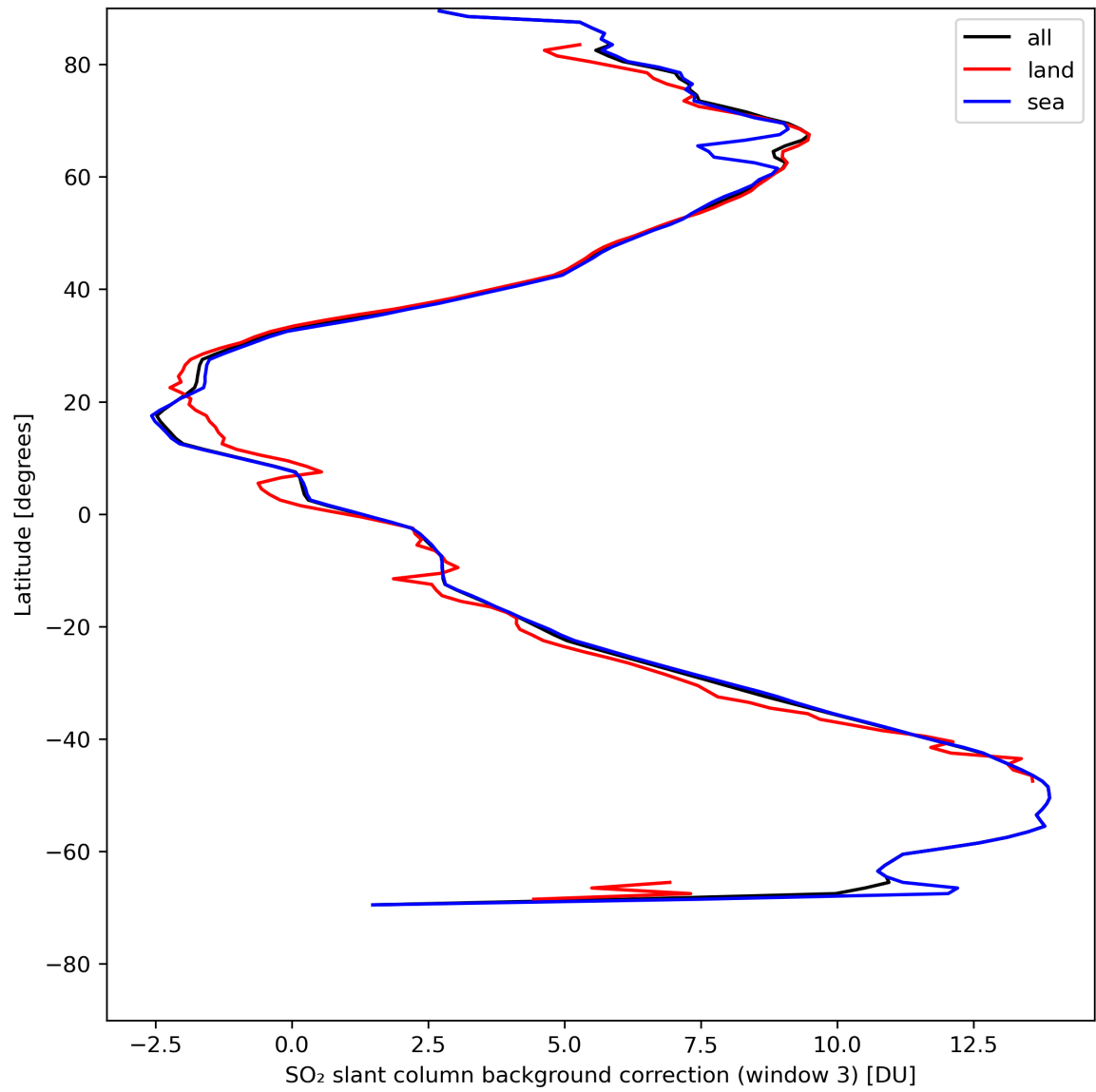


Figure 44: Zonal average of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

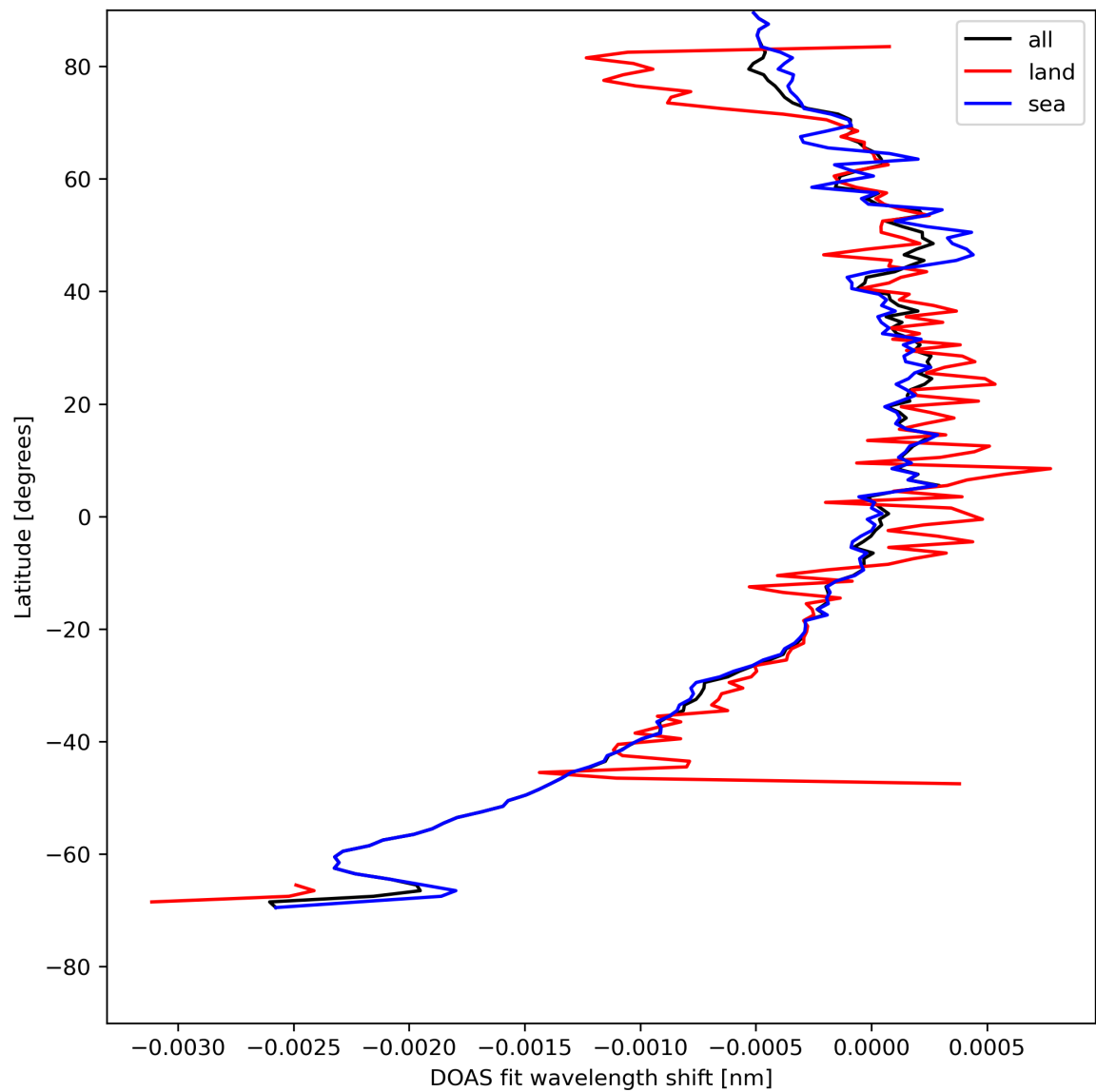


Figure 45: Zonal average of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

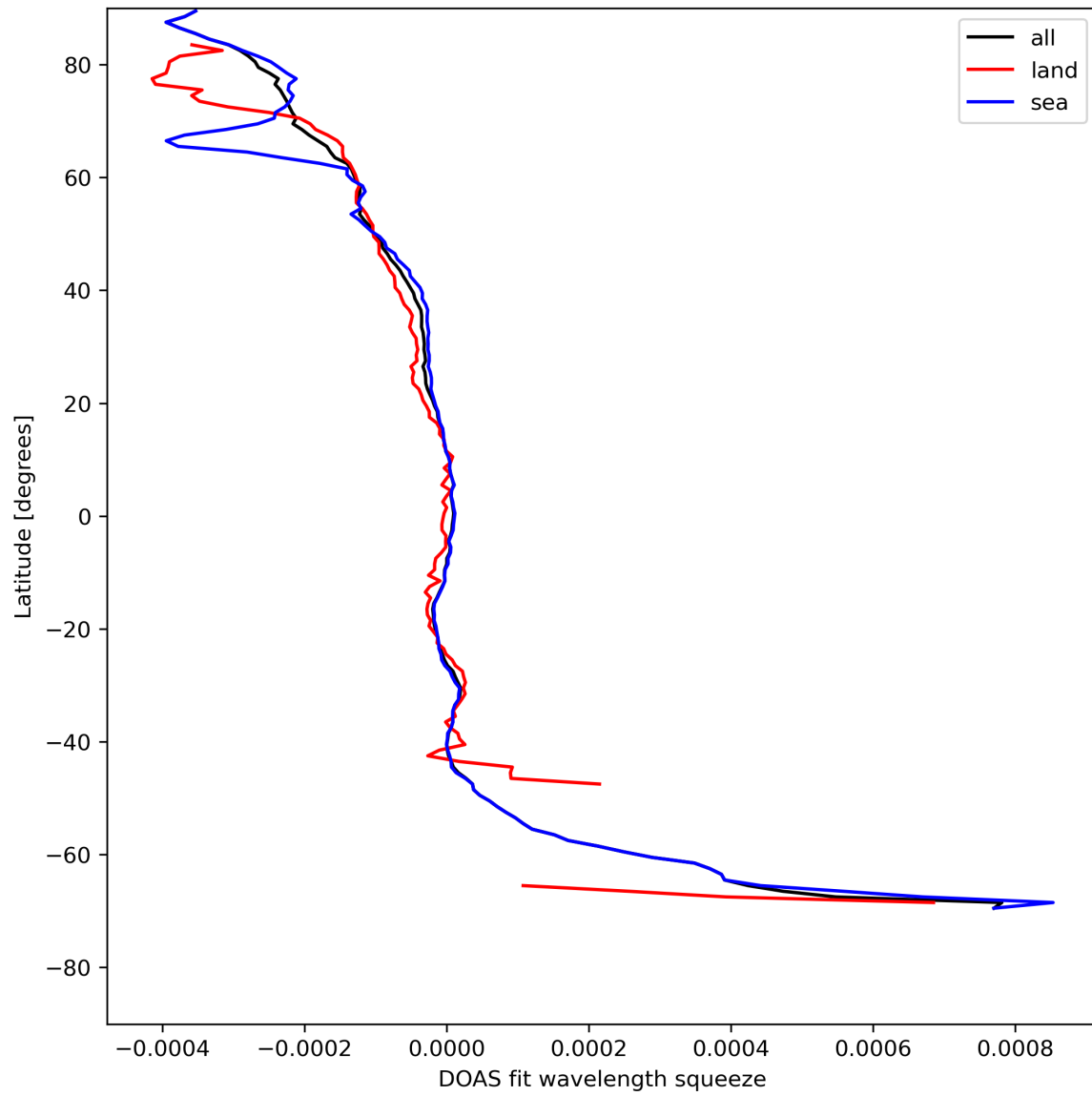


Figure 46: Zonal average of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

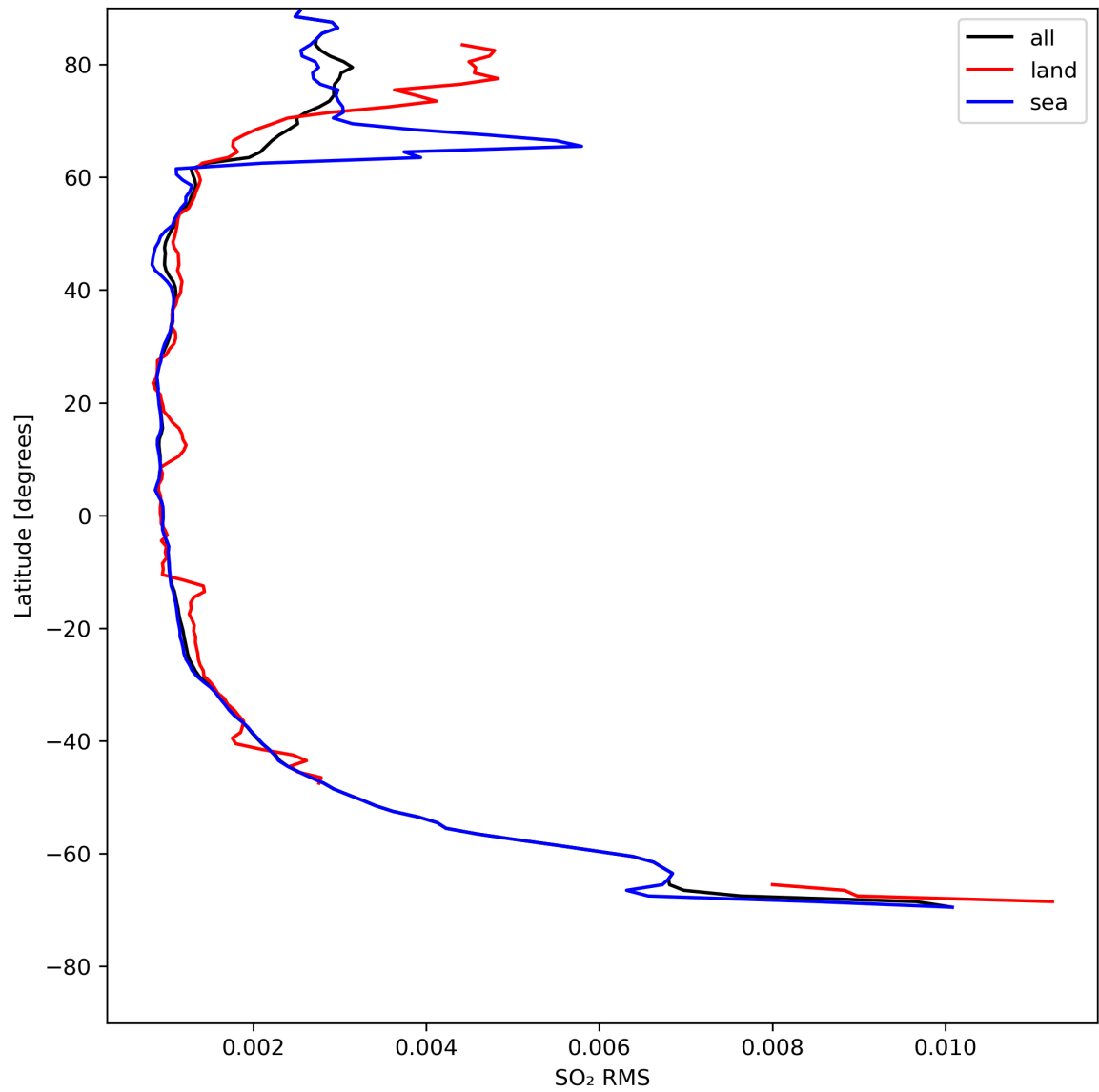


Figure 47: Zonal average of “SO₂ RMS” for 2023-08-09 to 2023-08-10.

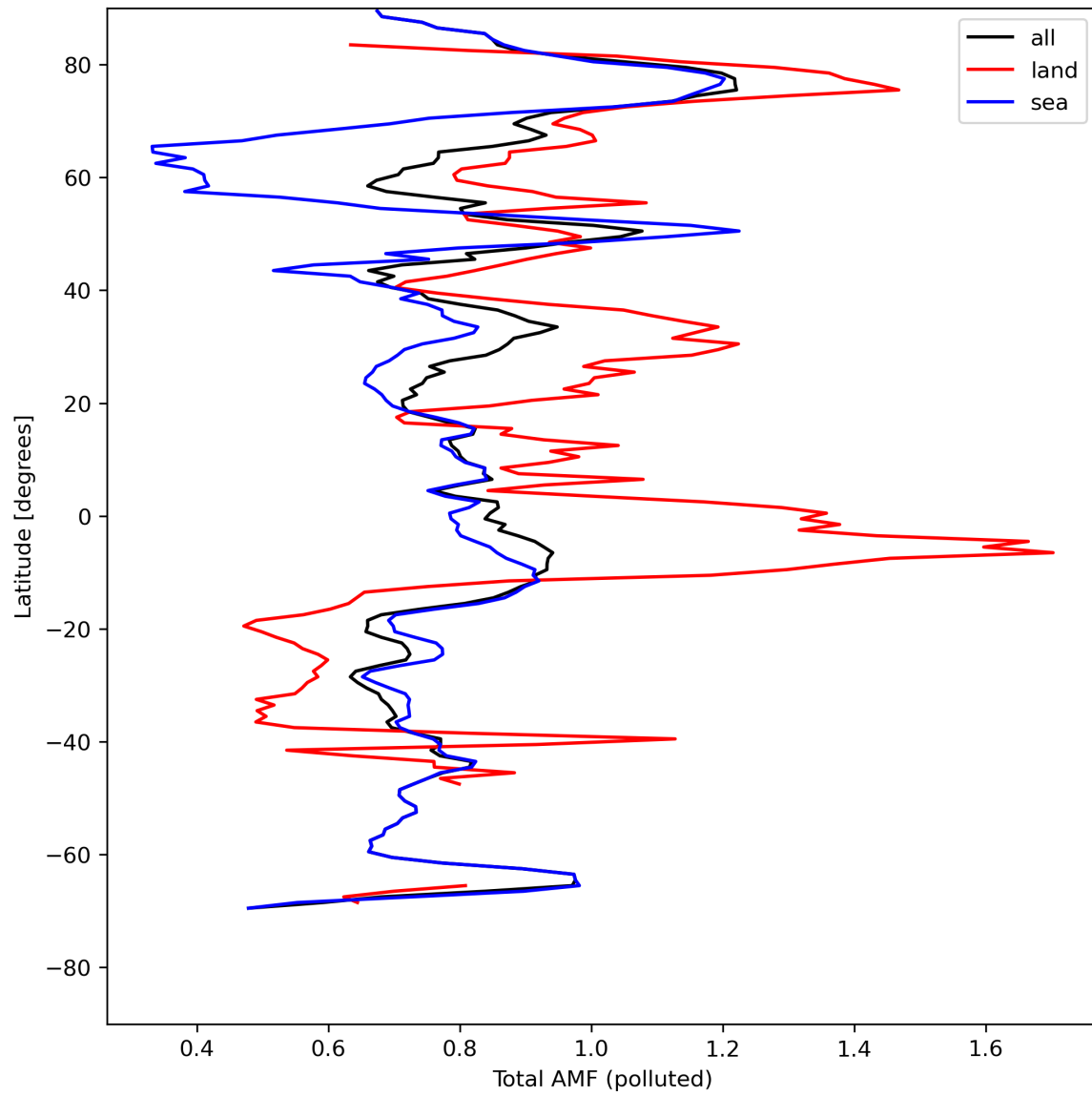


Figure 48: Zonal average of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

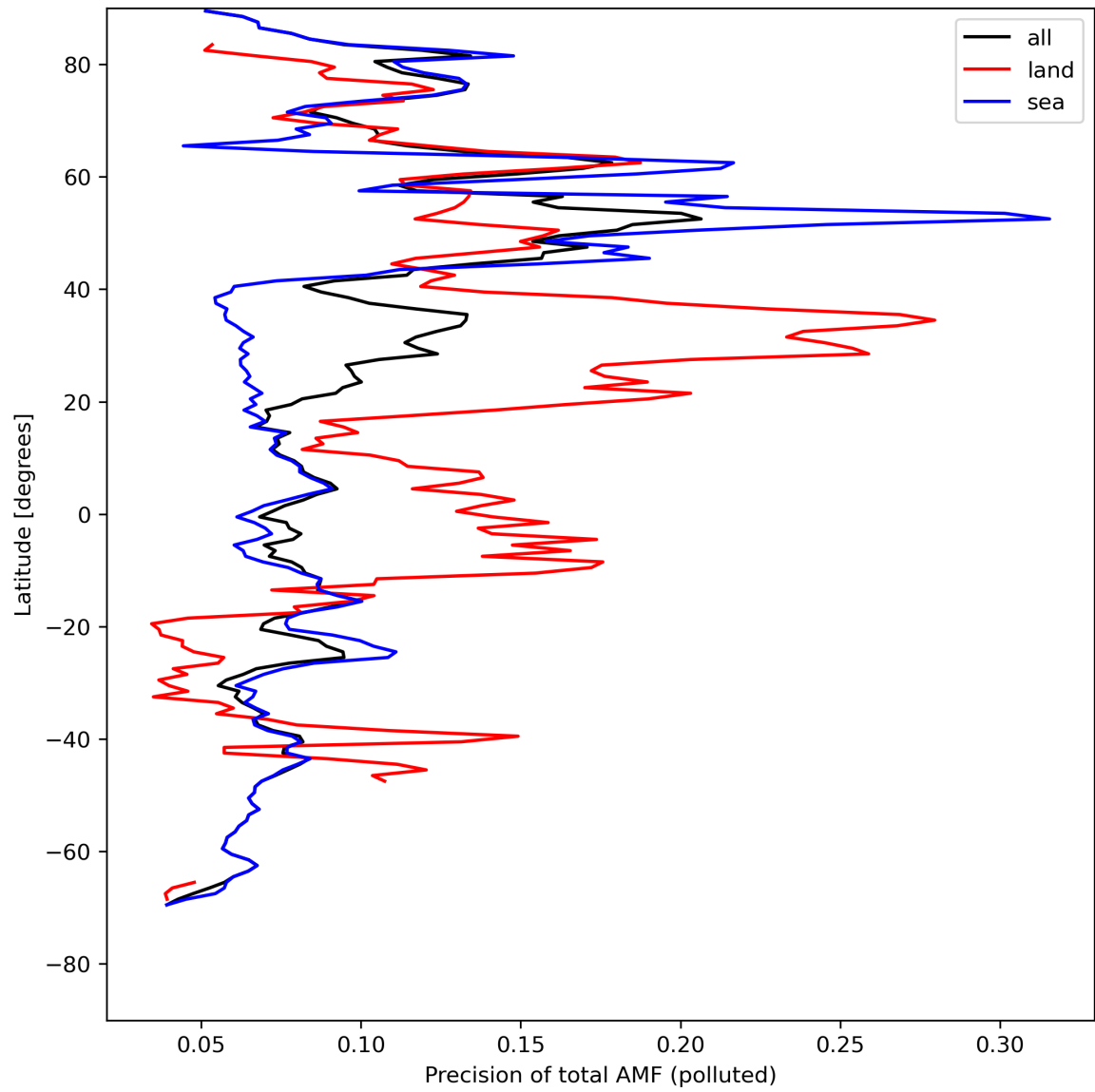


Figure 49: Zonal average of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

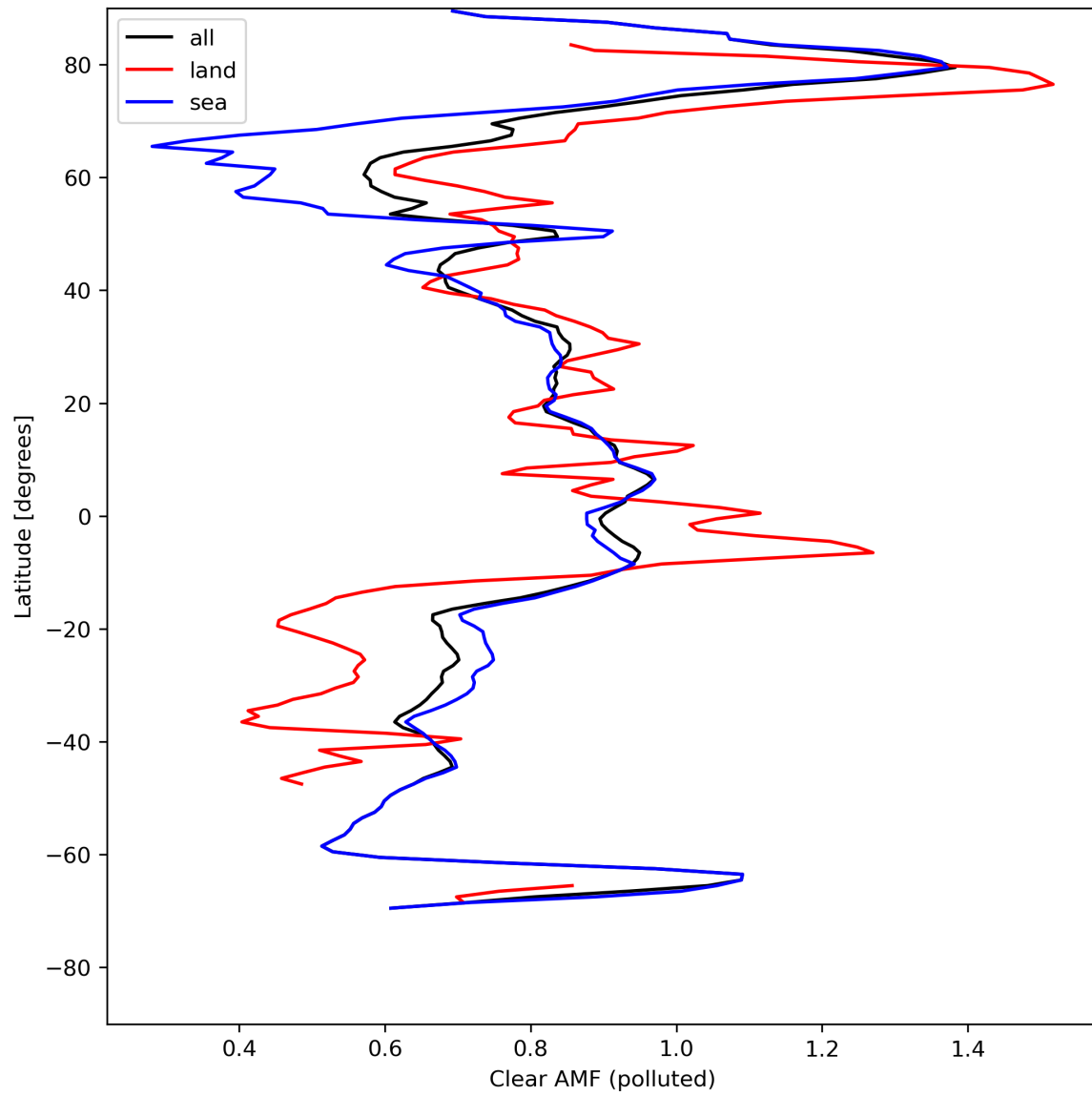


Figure 50: Zonal average of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

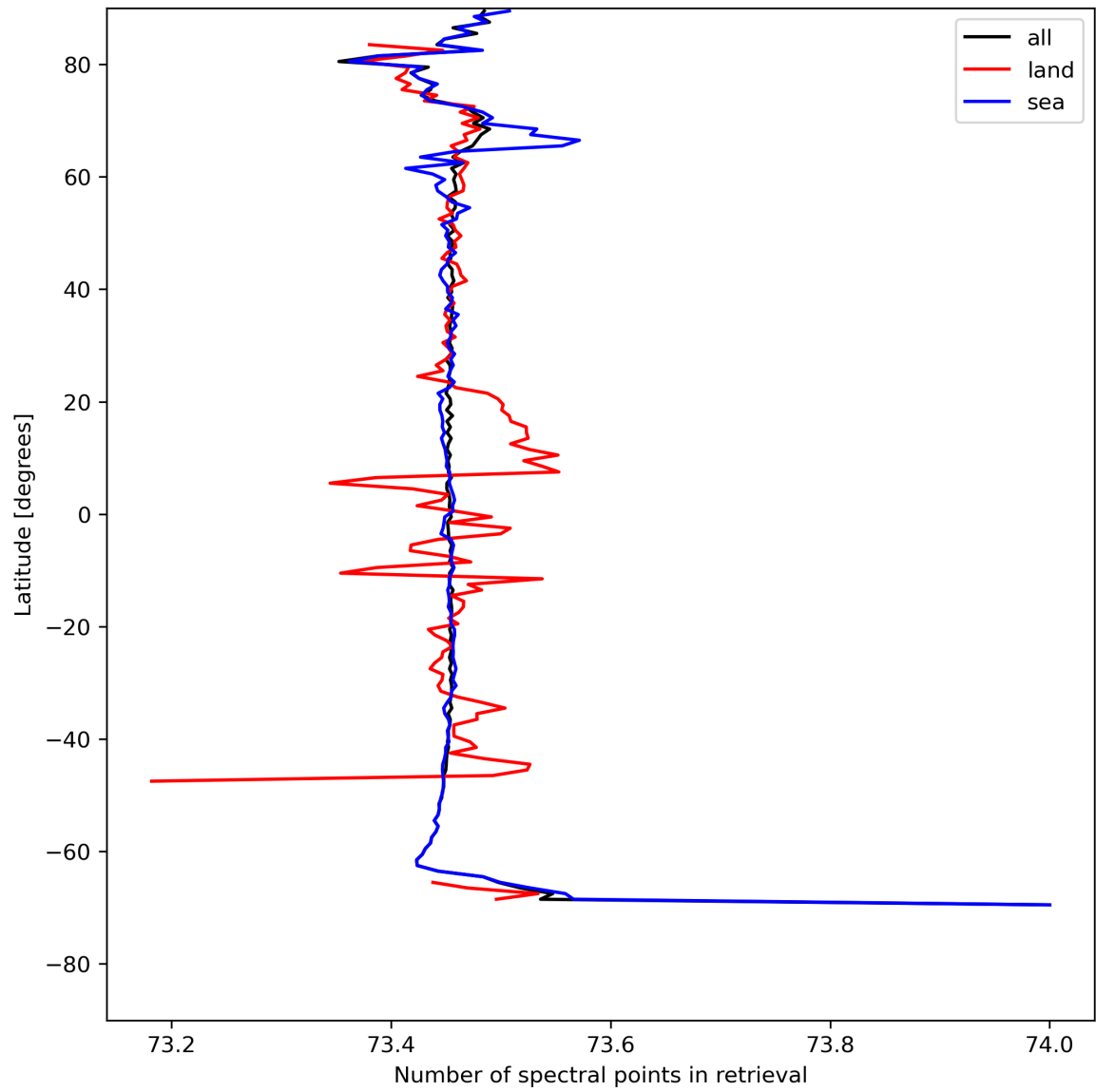


Figure 51: Zonal average of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10.

8 Histograms

The definitions of the parameters given in this section can be found in section 2.

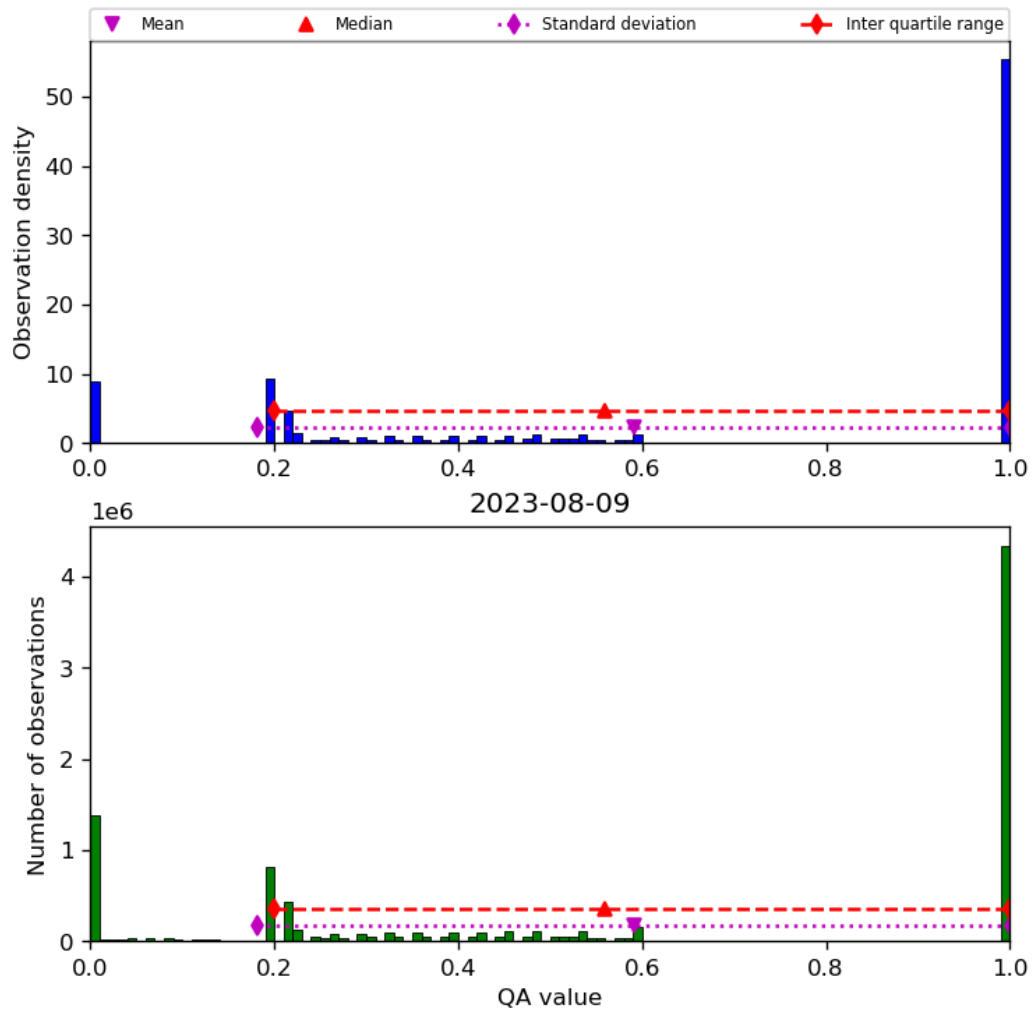


Figure 52: Histogram of “QA value” for 2023-08-09 to 2023-08-10

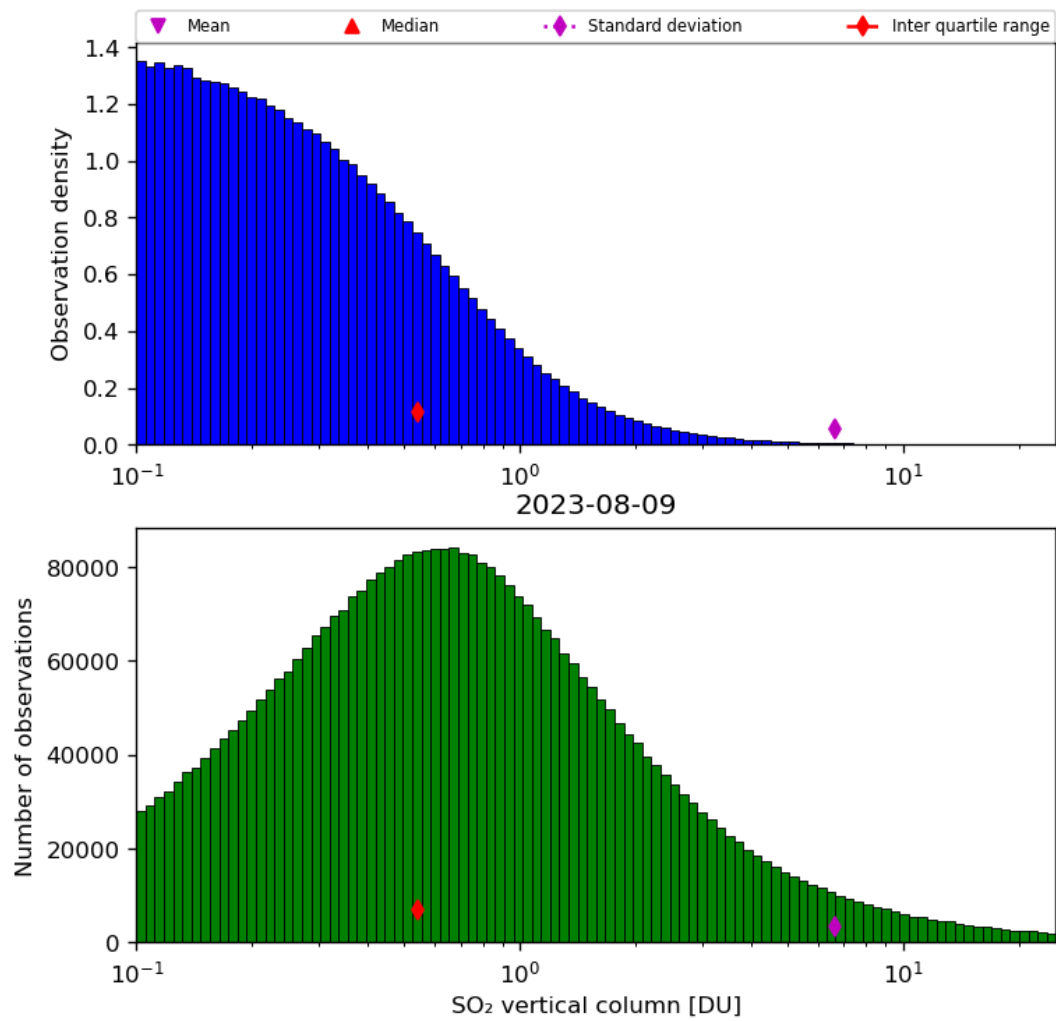


Figure 53: Histogram of “SO₂ vertical column” for 2023-08-09 to 2023-08-10

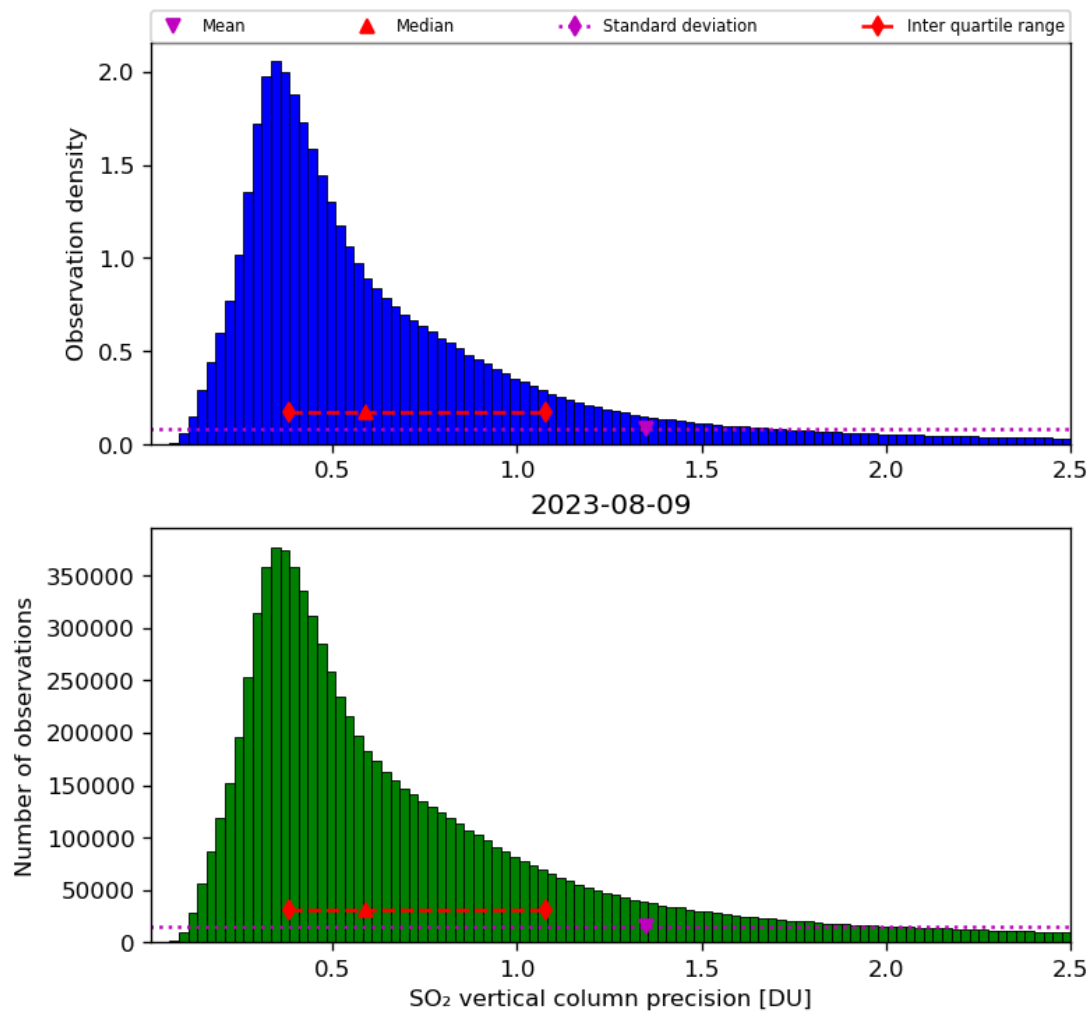


Figure 54: Histogram of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10

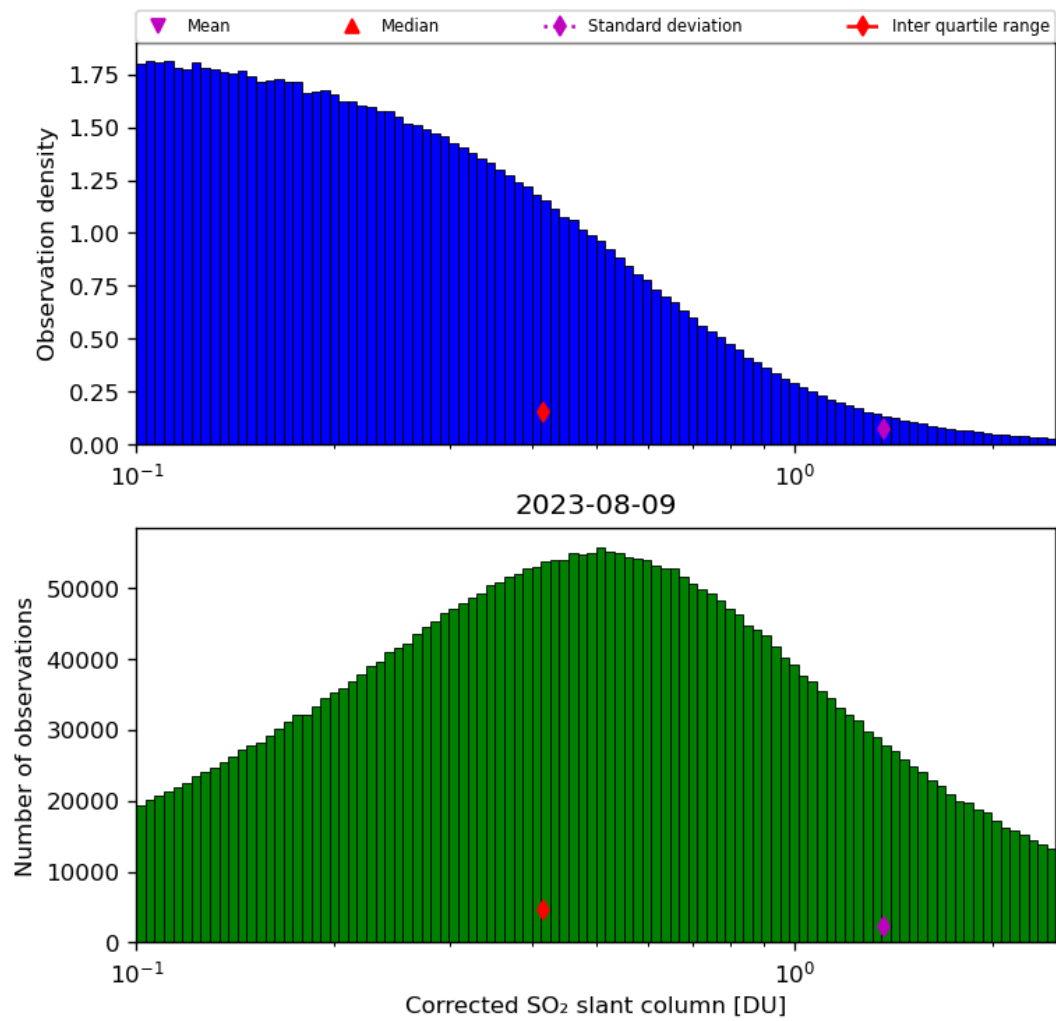


Figure 55: Histogram of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10

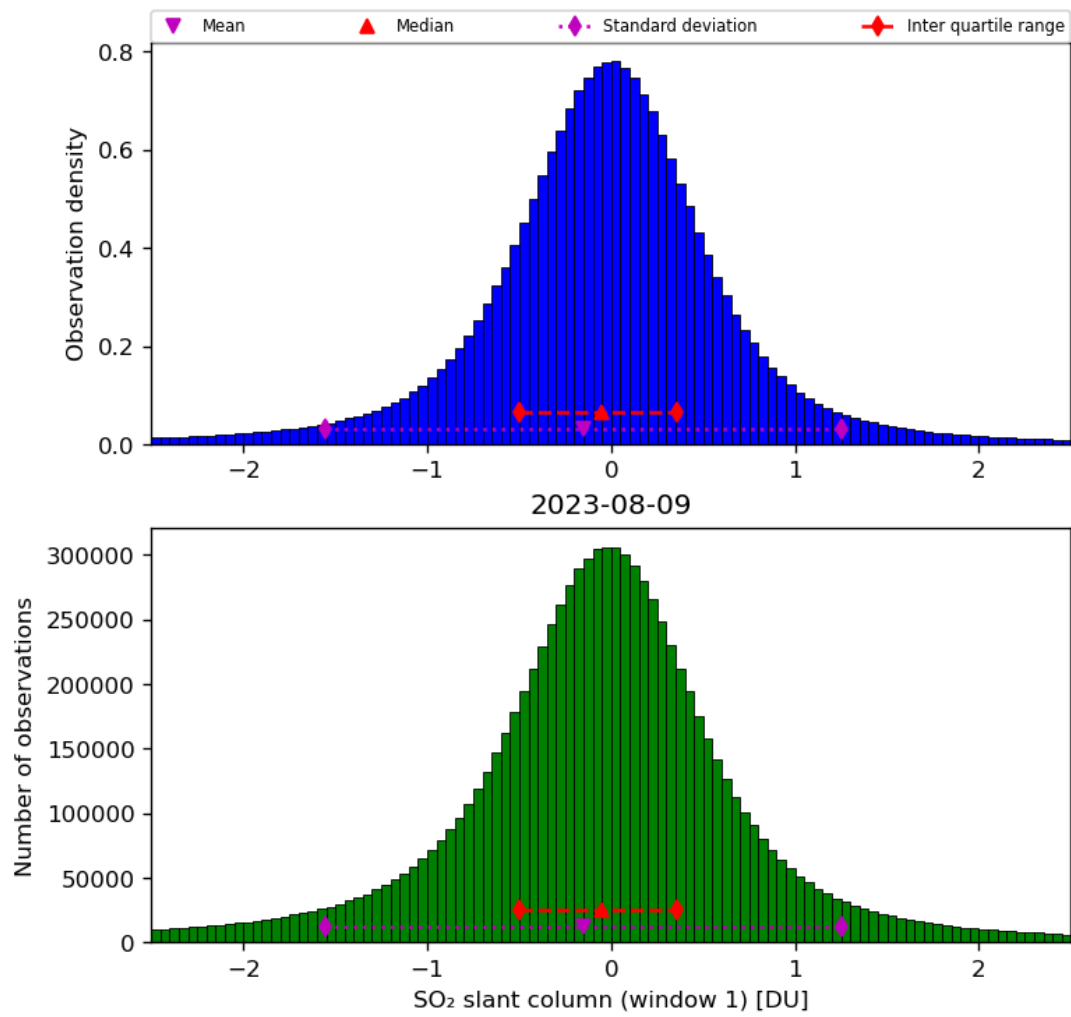


Figure 56: Histogram of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

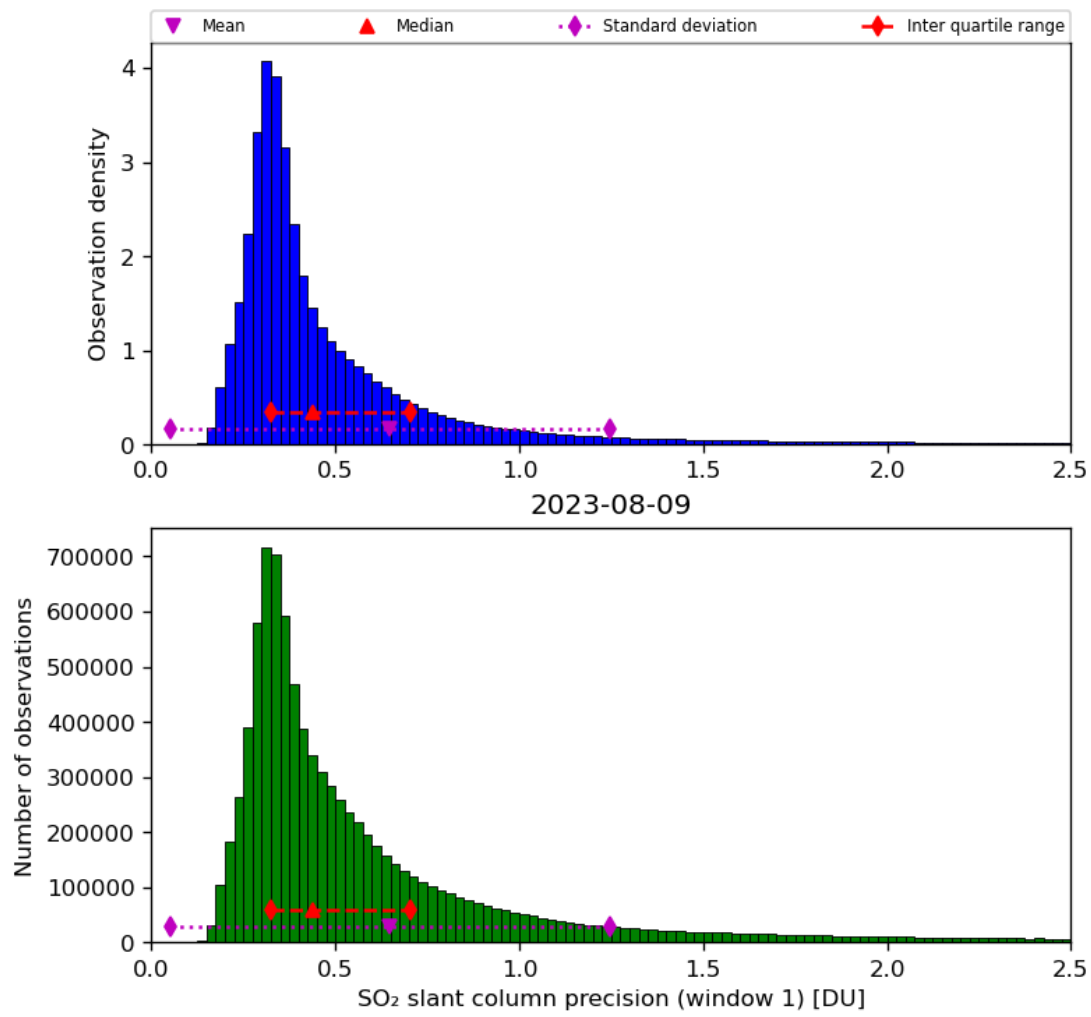


Figure 57: Histogram of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10

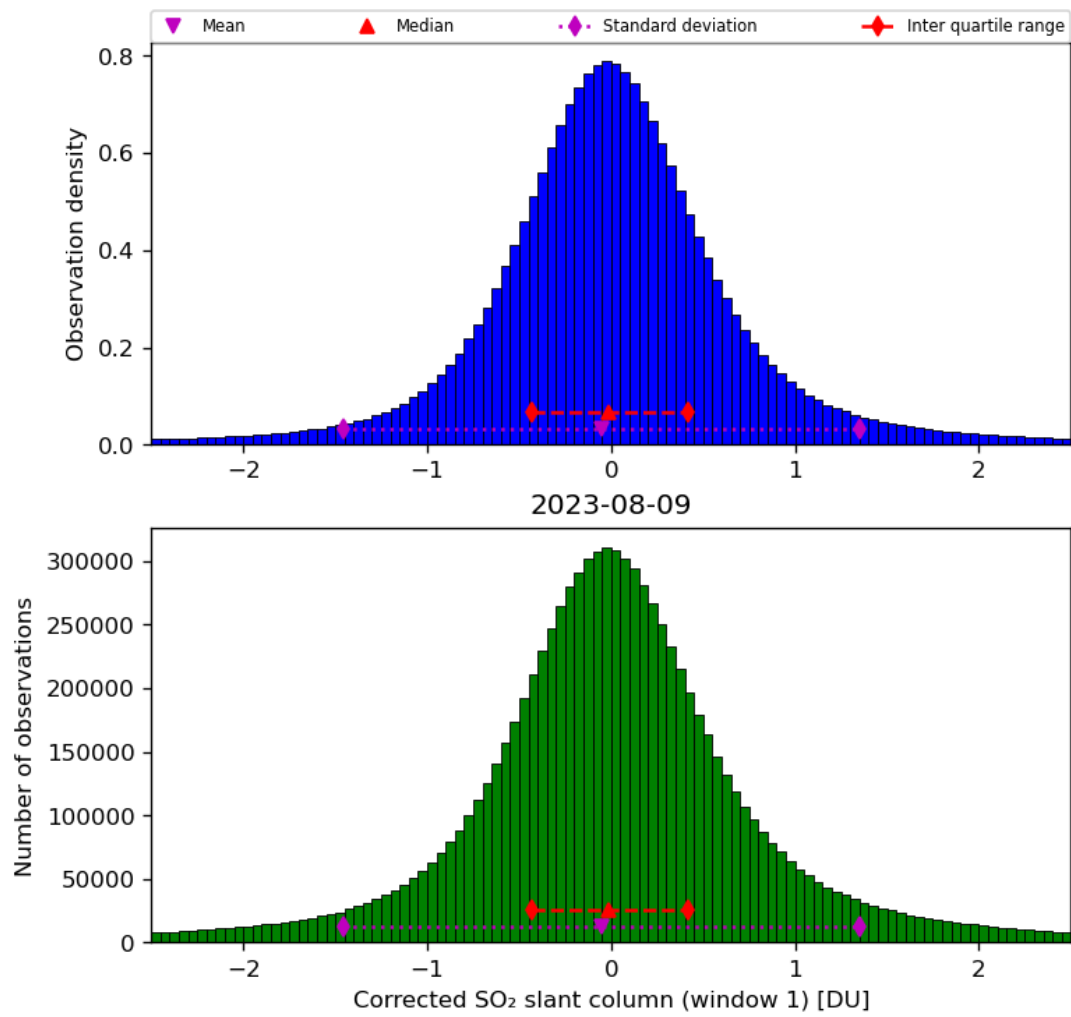


Figure 58: Histogram of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

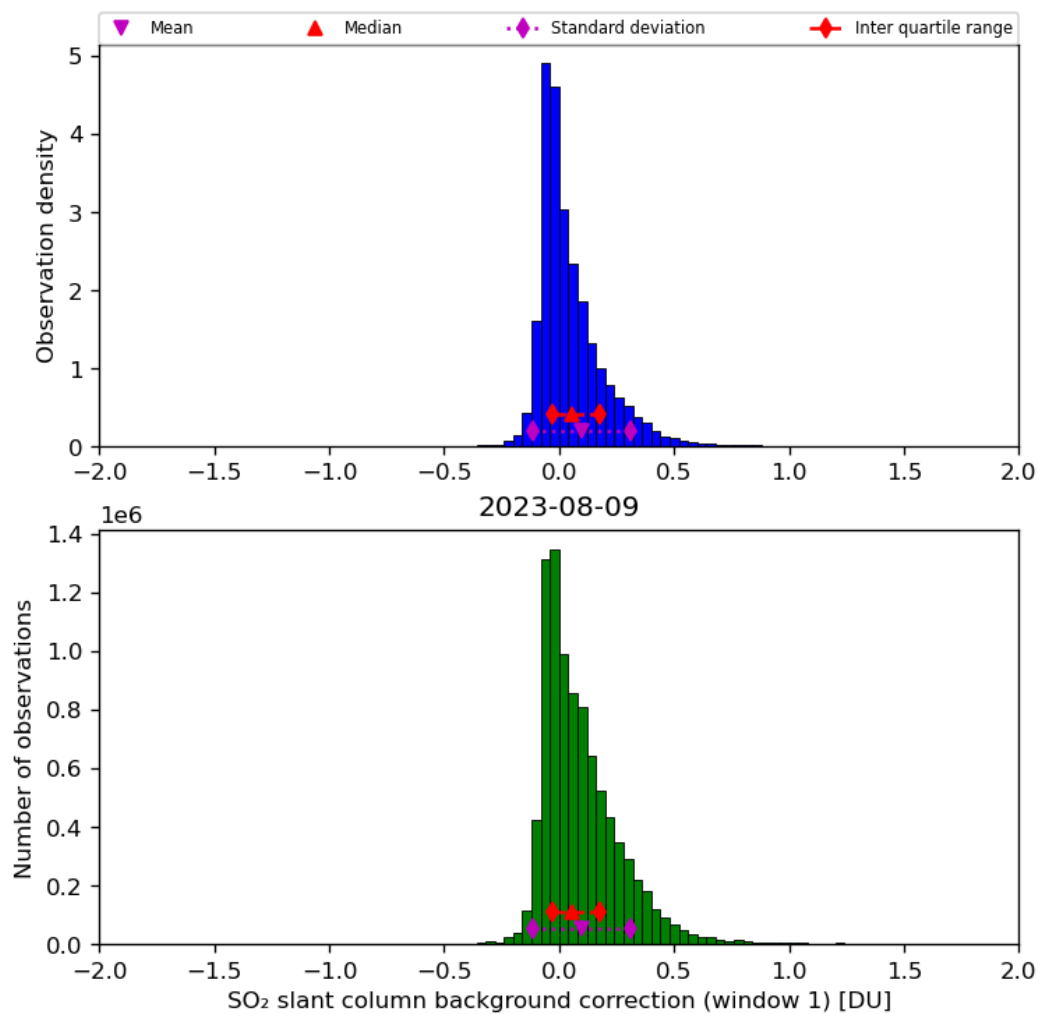


Figure 59: Histogram of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10

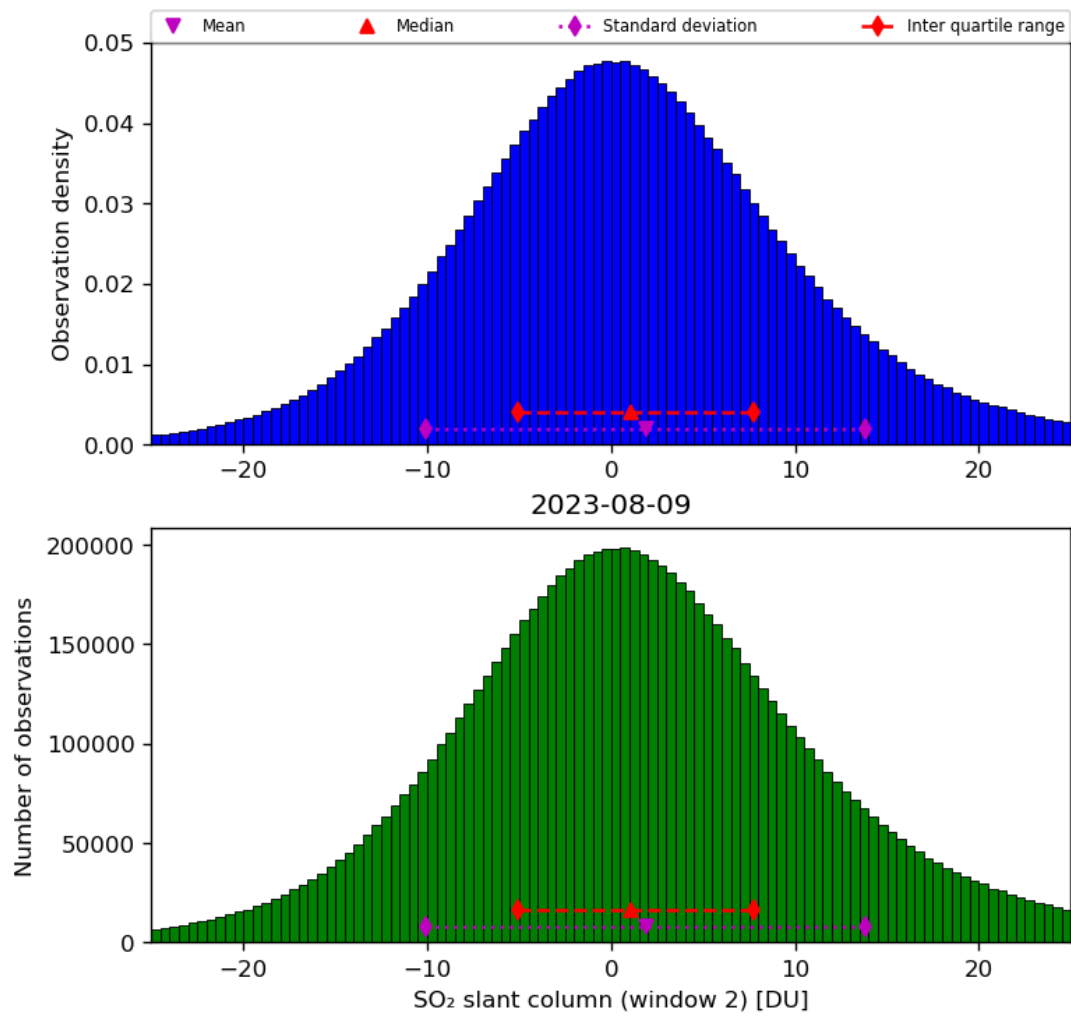


Figure 60: Histogram of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

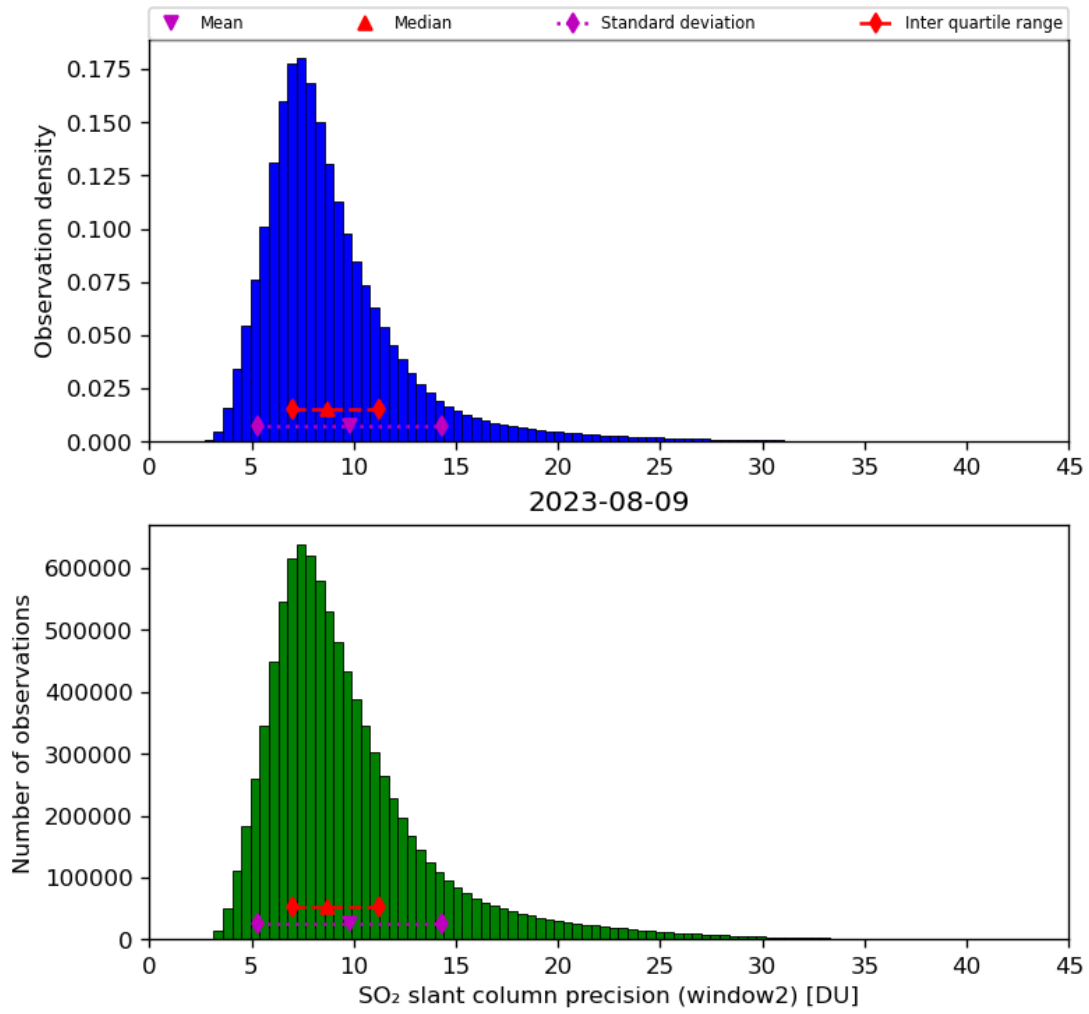


Figure 61: Histogram of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10

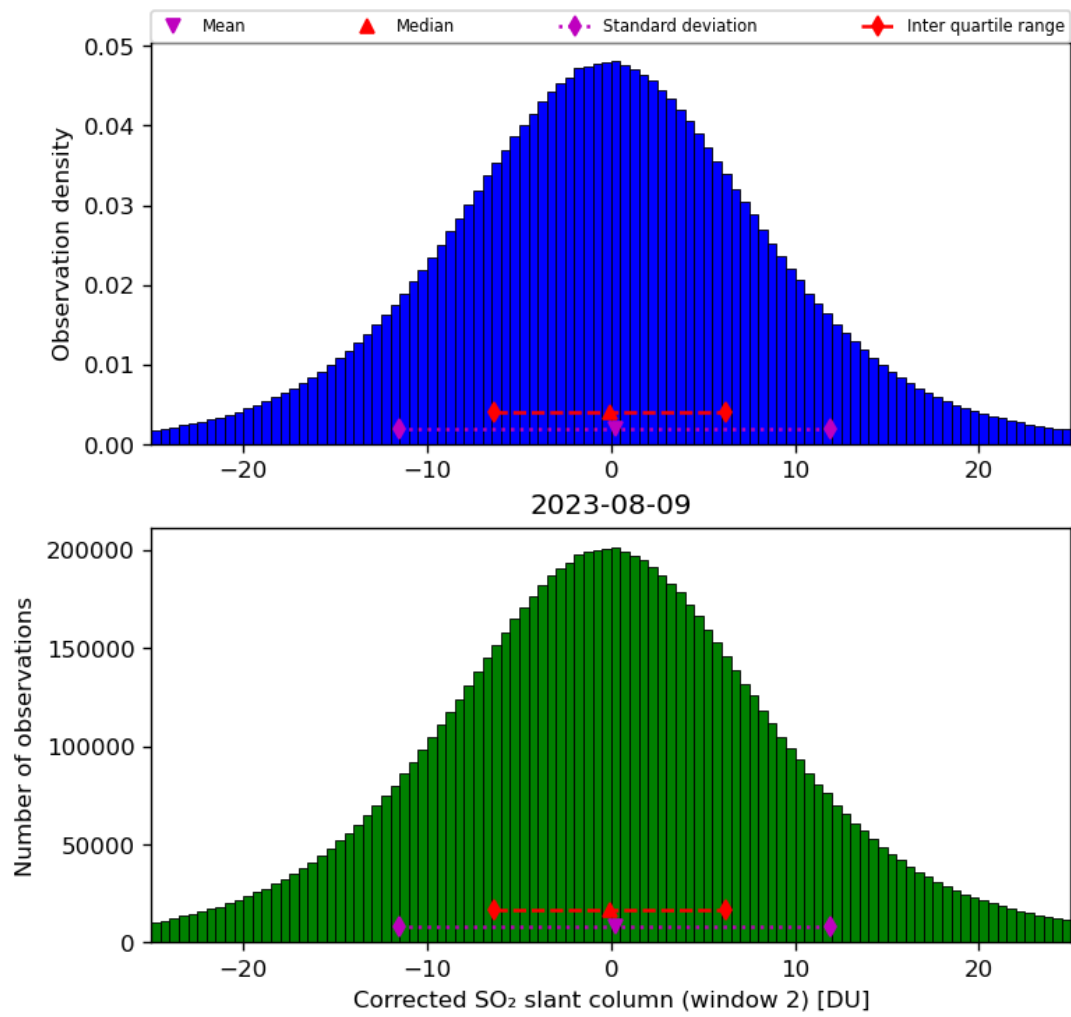


Figure 62: Histogram of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

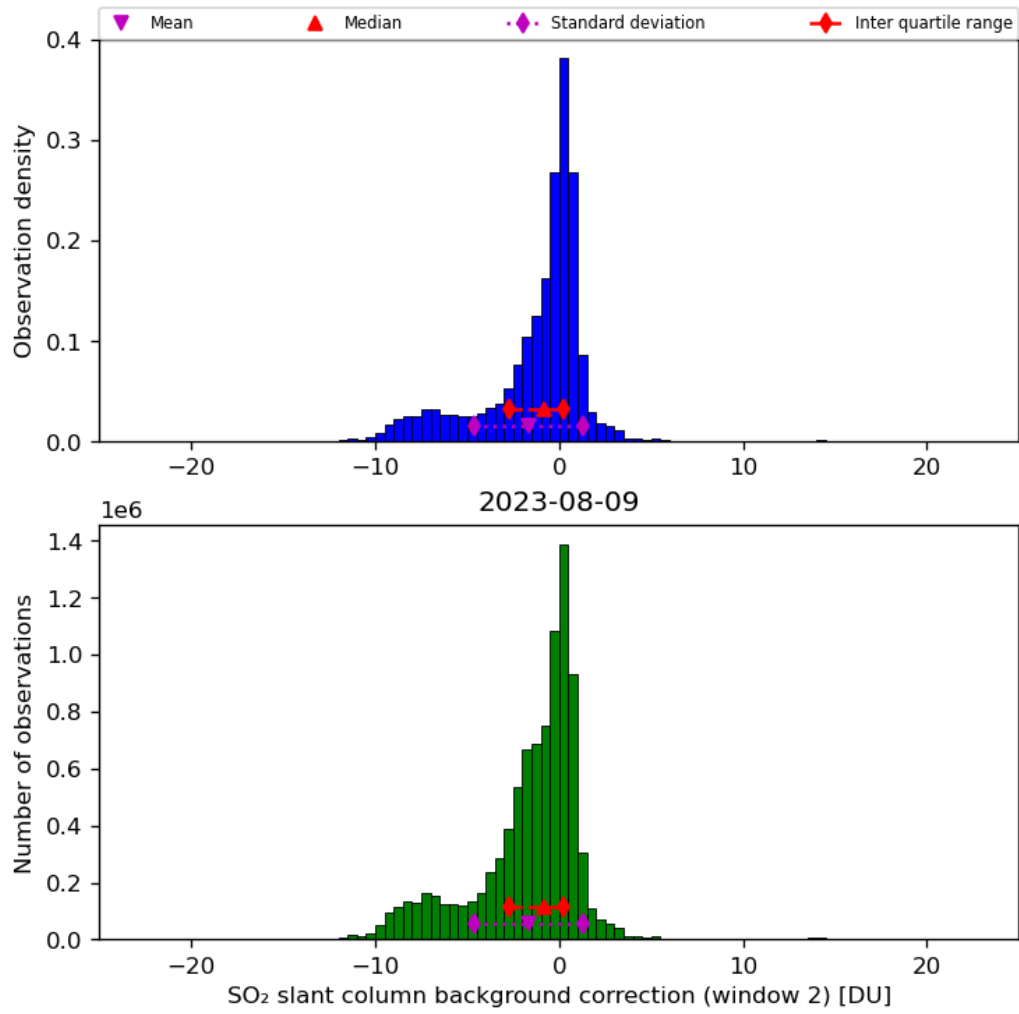


Figure 63: Histogram of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10

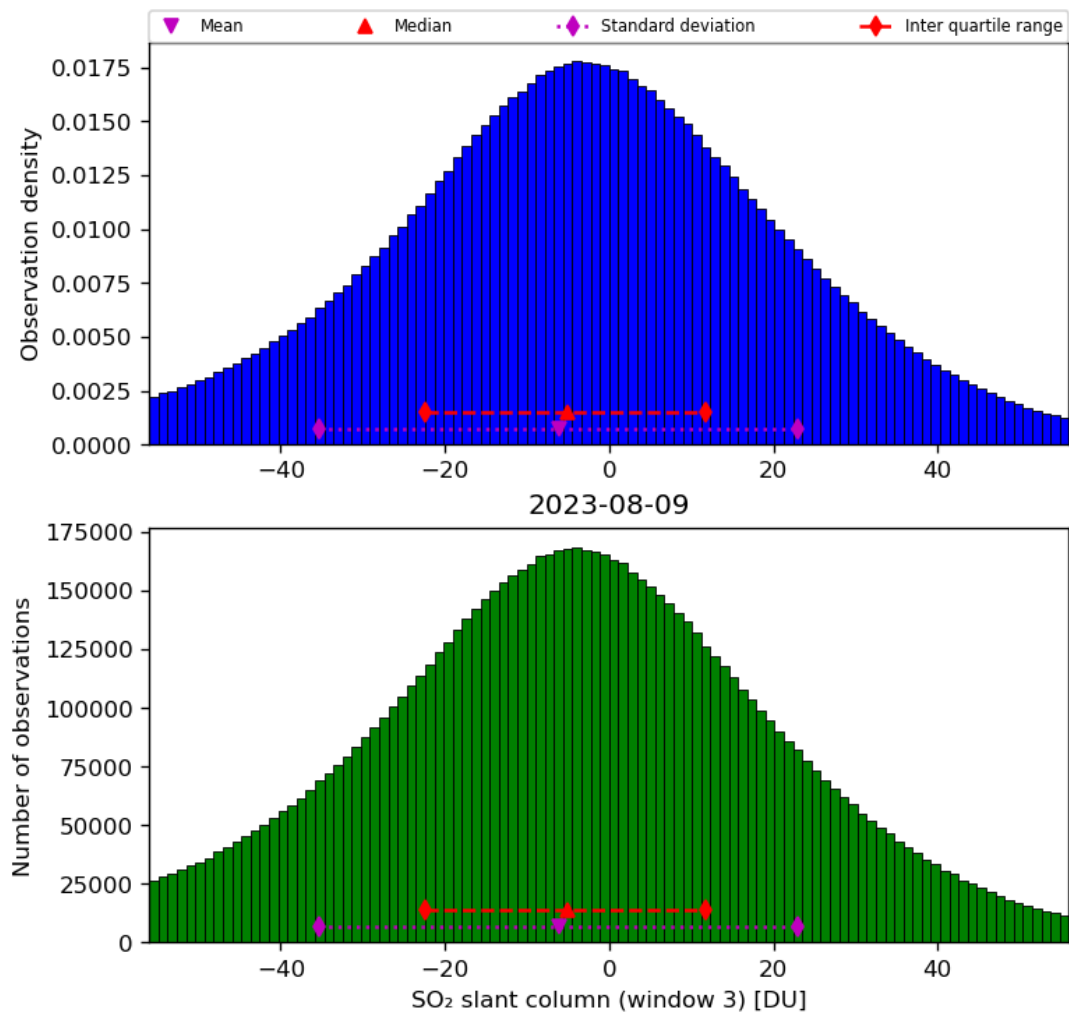


Figure 64: Histogram of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10

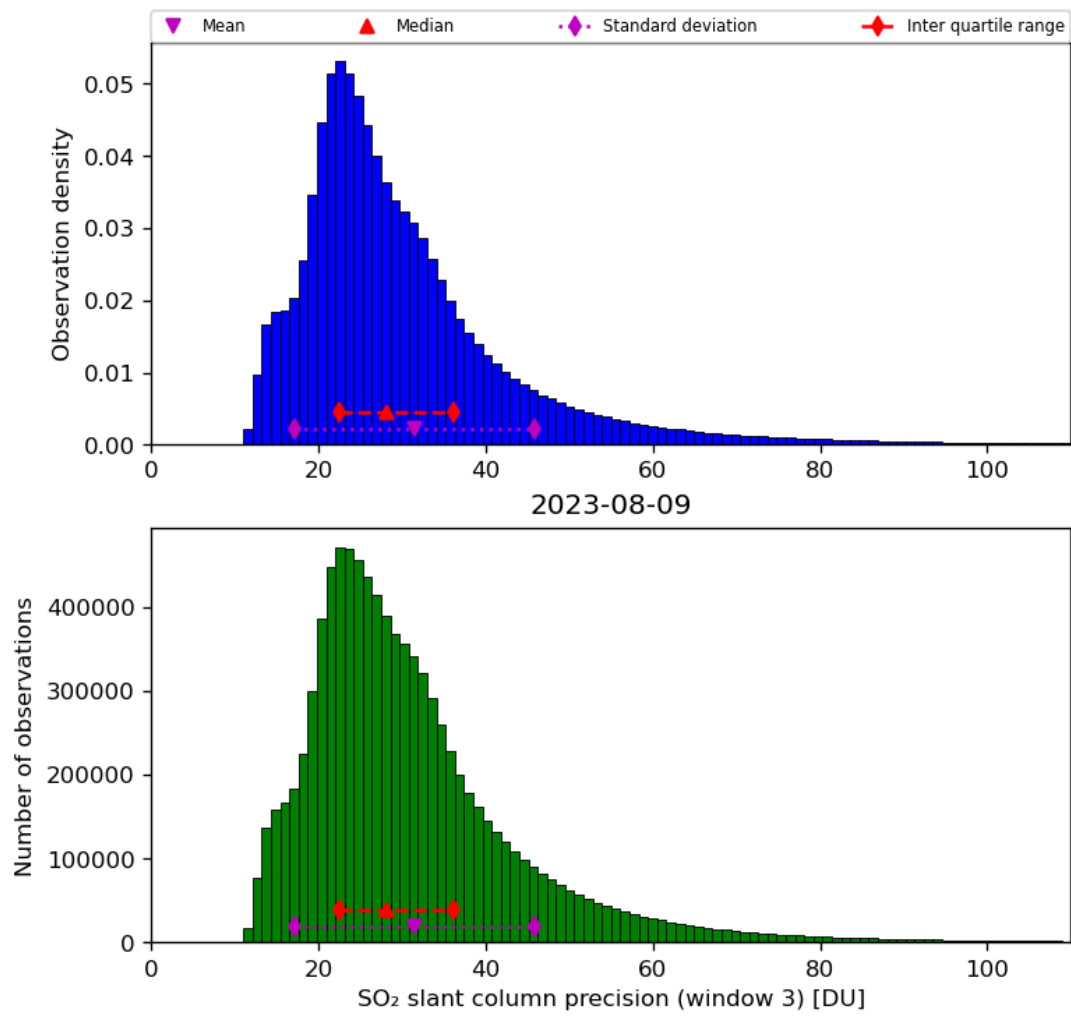


Figure 65: Histogram of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10

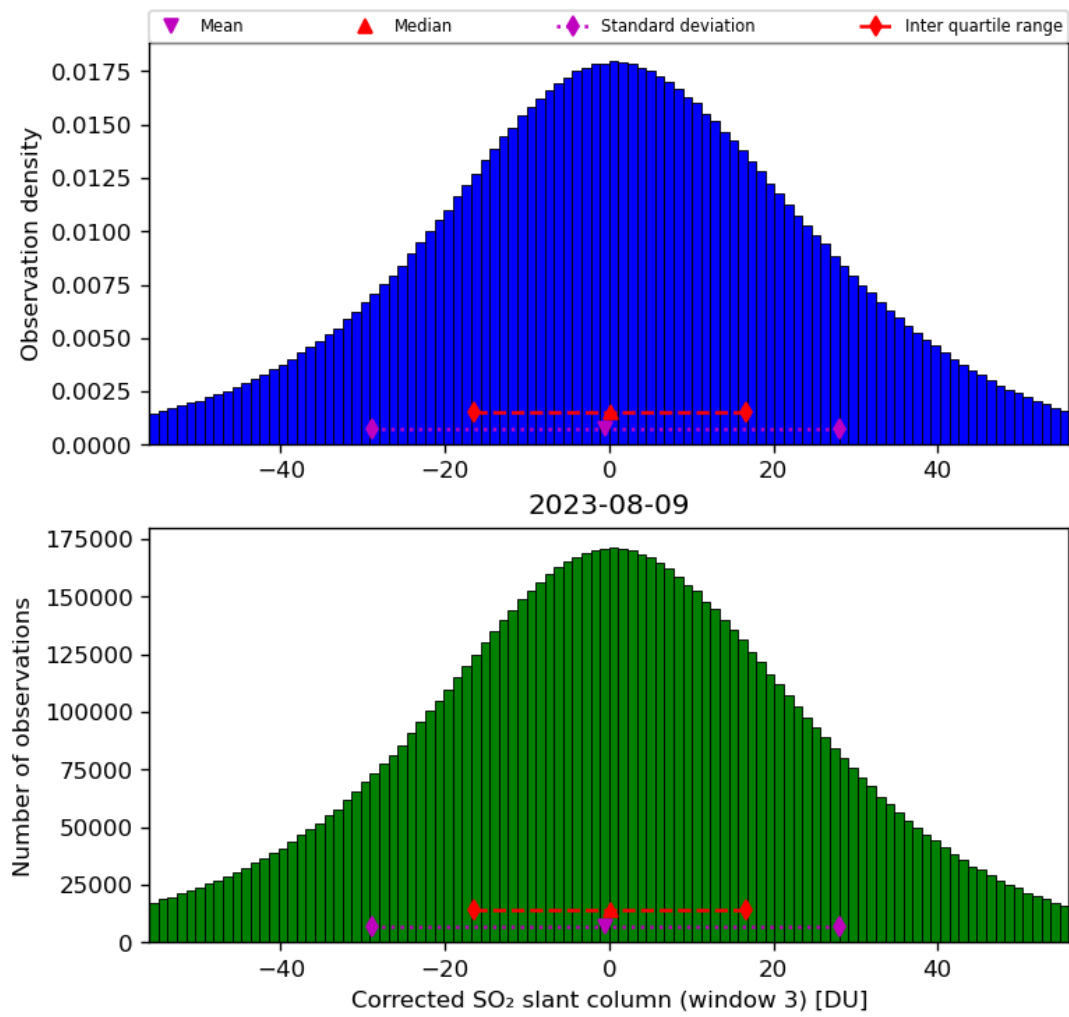


Figure 66: Histogram of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10

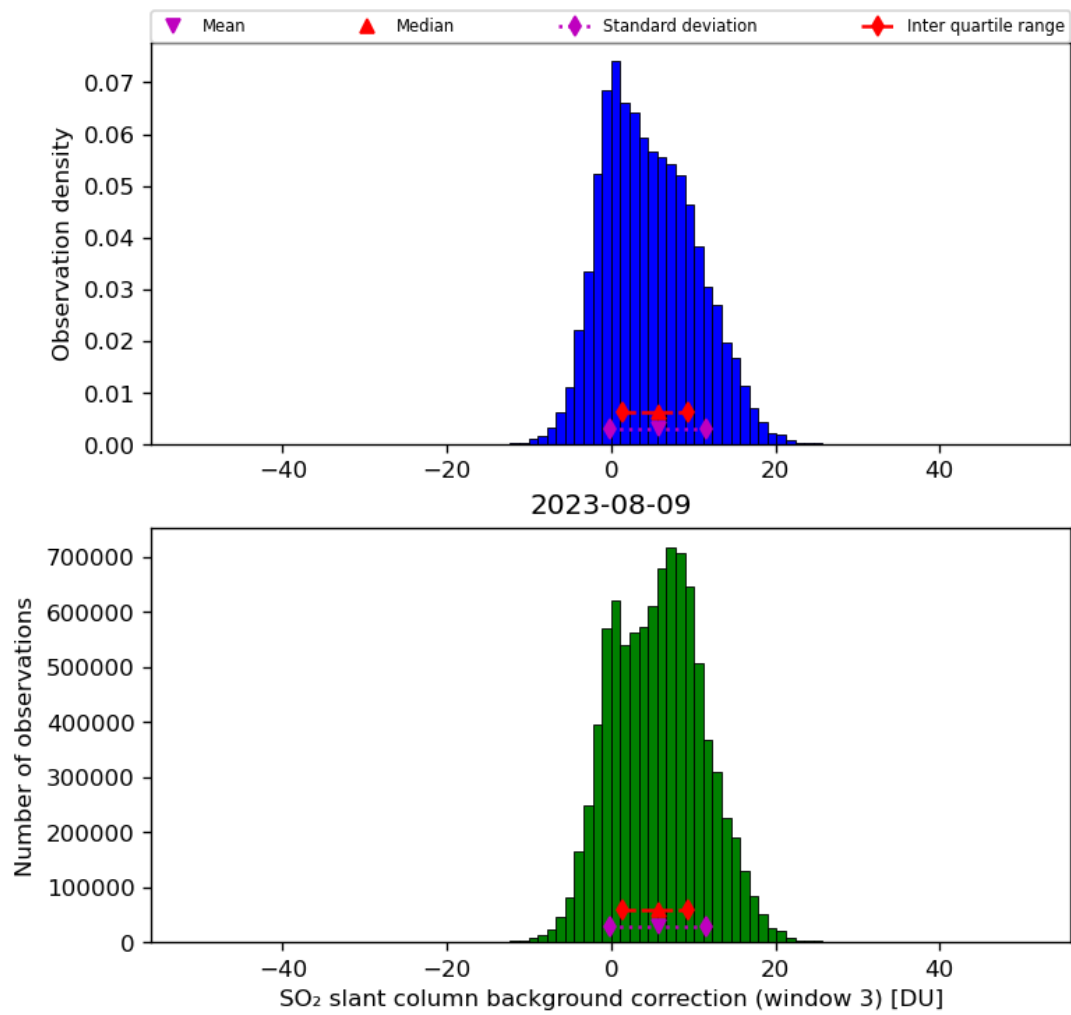


Figure 67: Histogram of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10

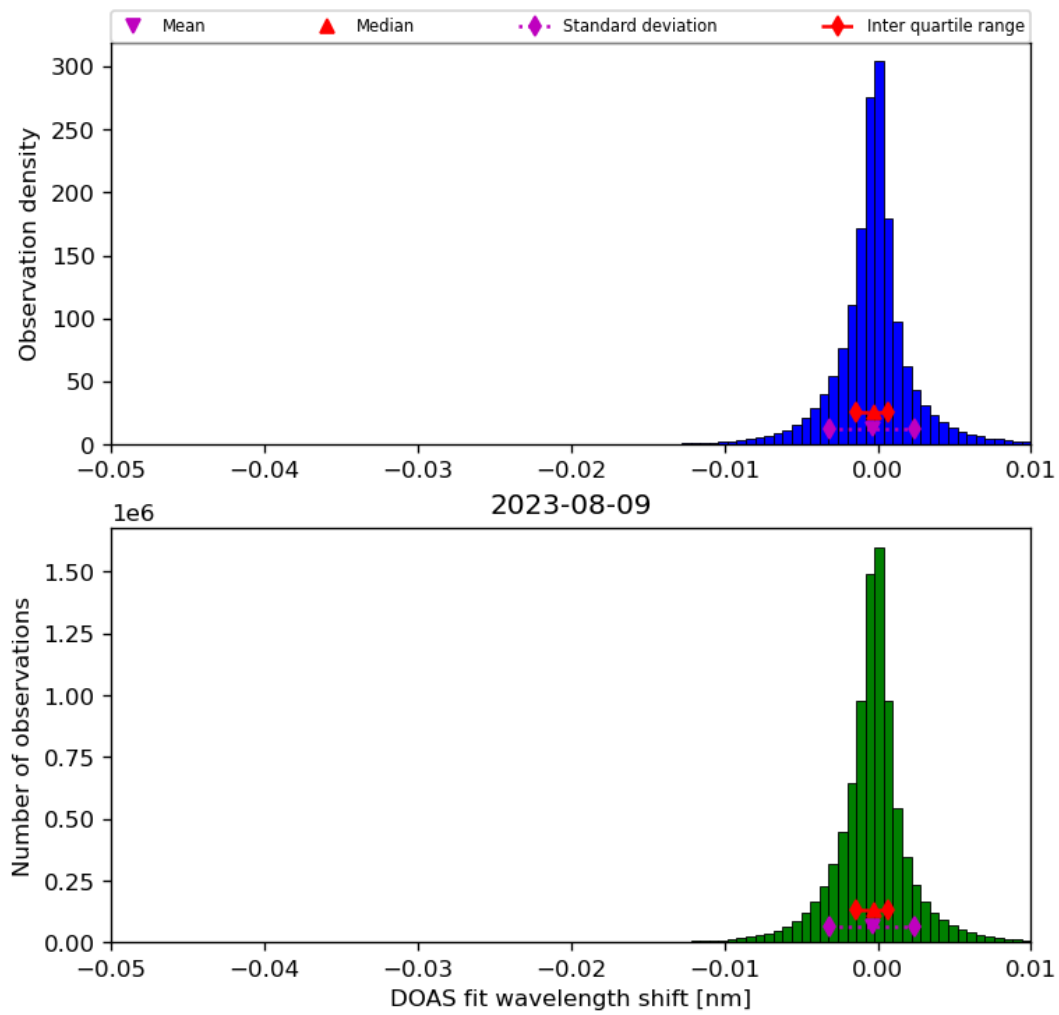


Figure 68: Histogram of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10

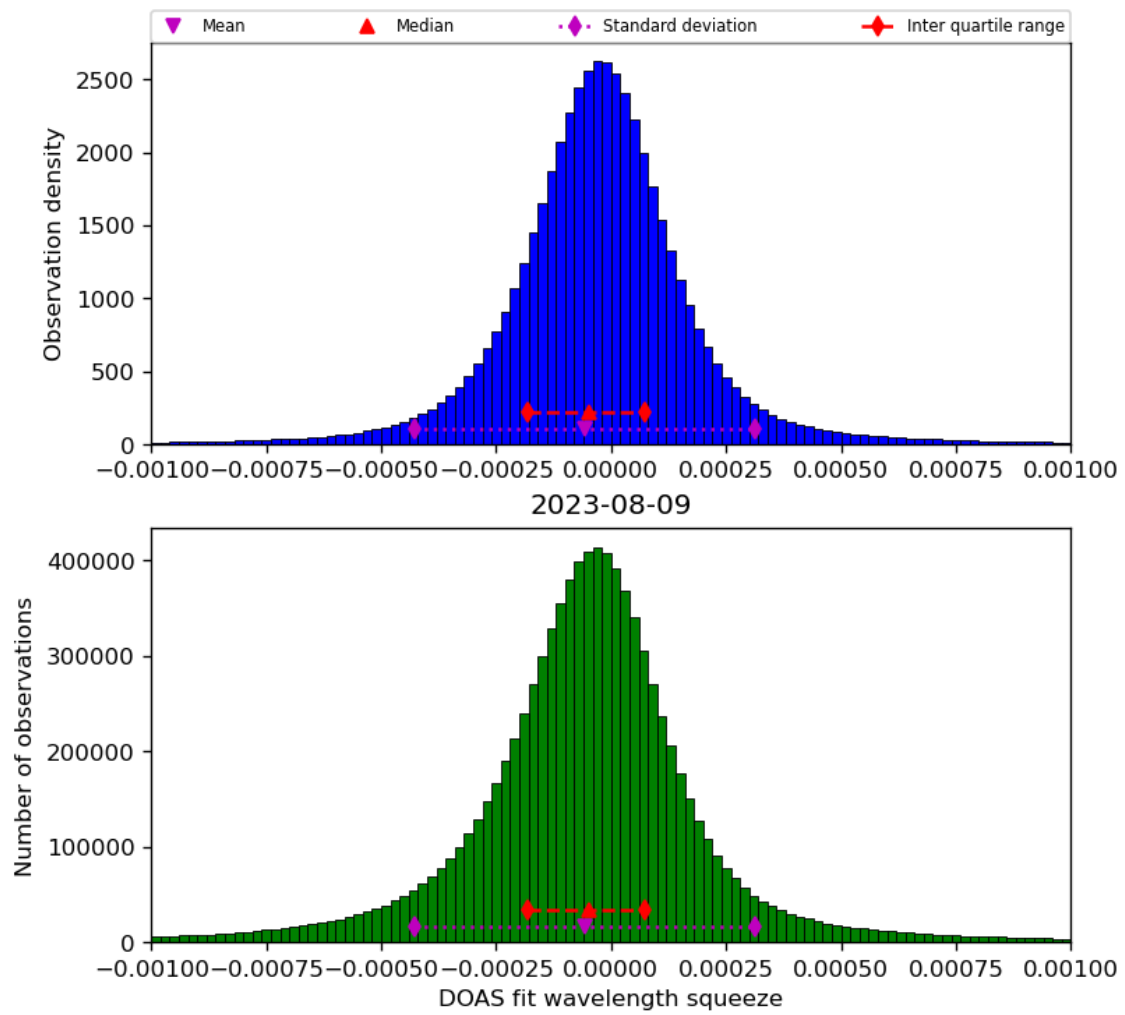


Figure 69: Histogram of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10

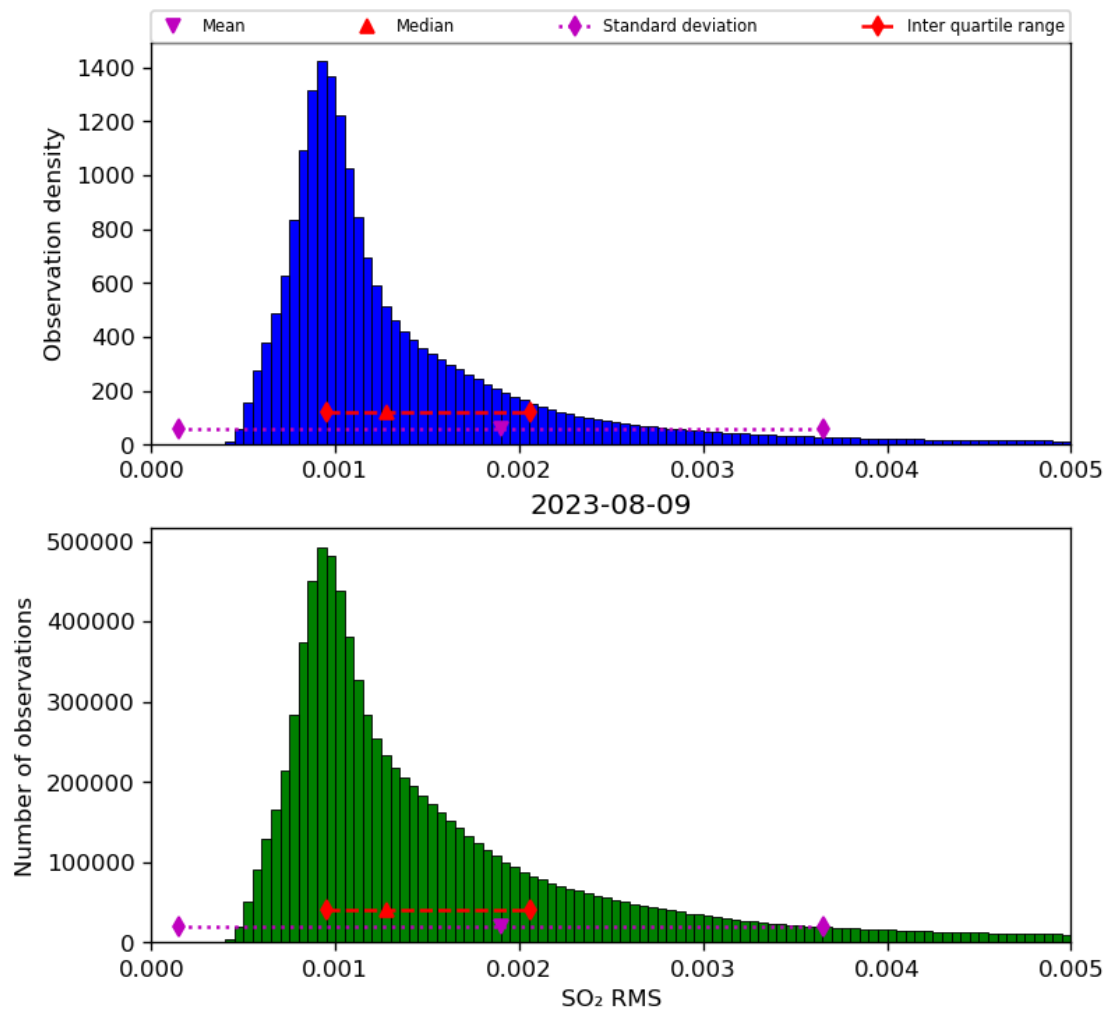


Figure 70: Histogram of “SO₂ RMS” for 2023-08-09 to 2023-08-10

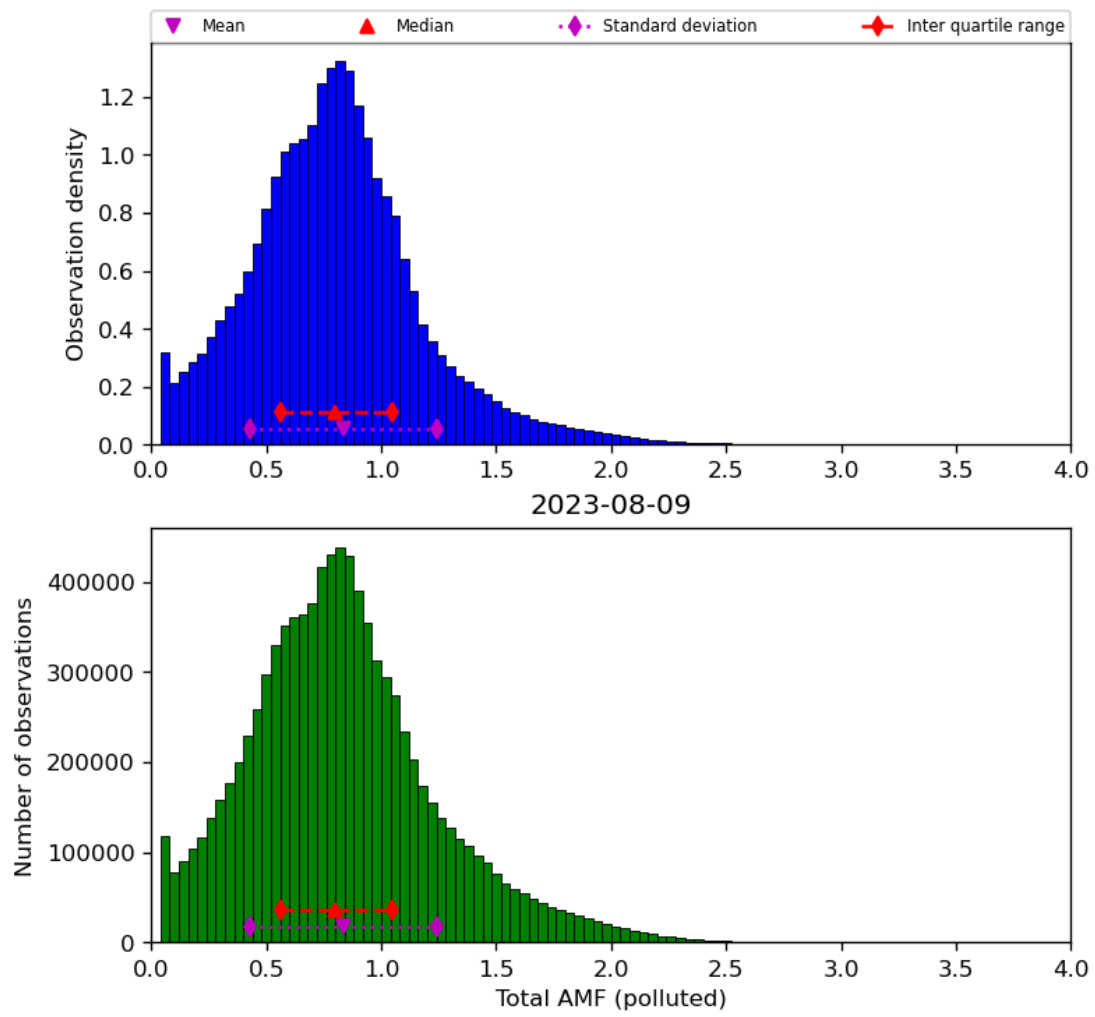


Figure 71: Histogram of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10

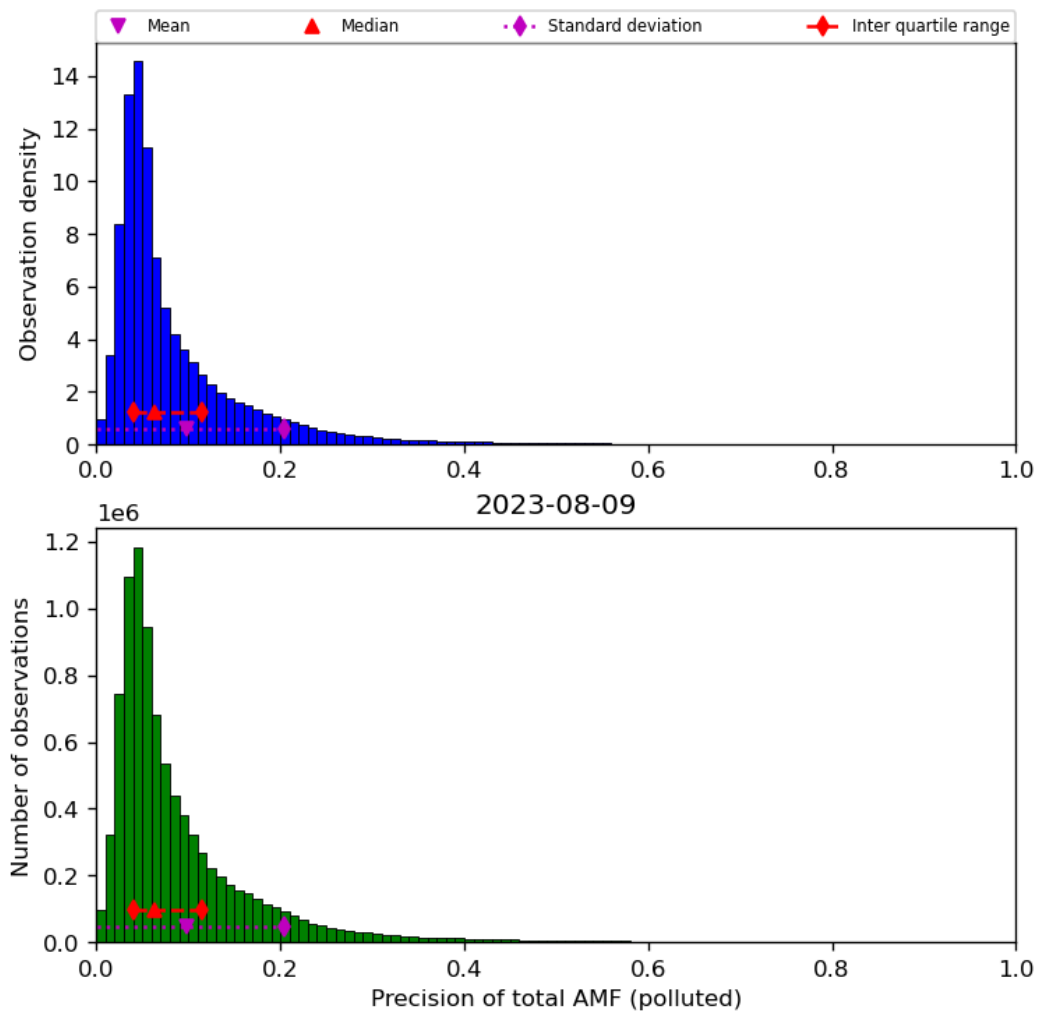


Figure 72: Histogram of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10

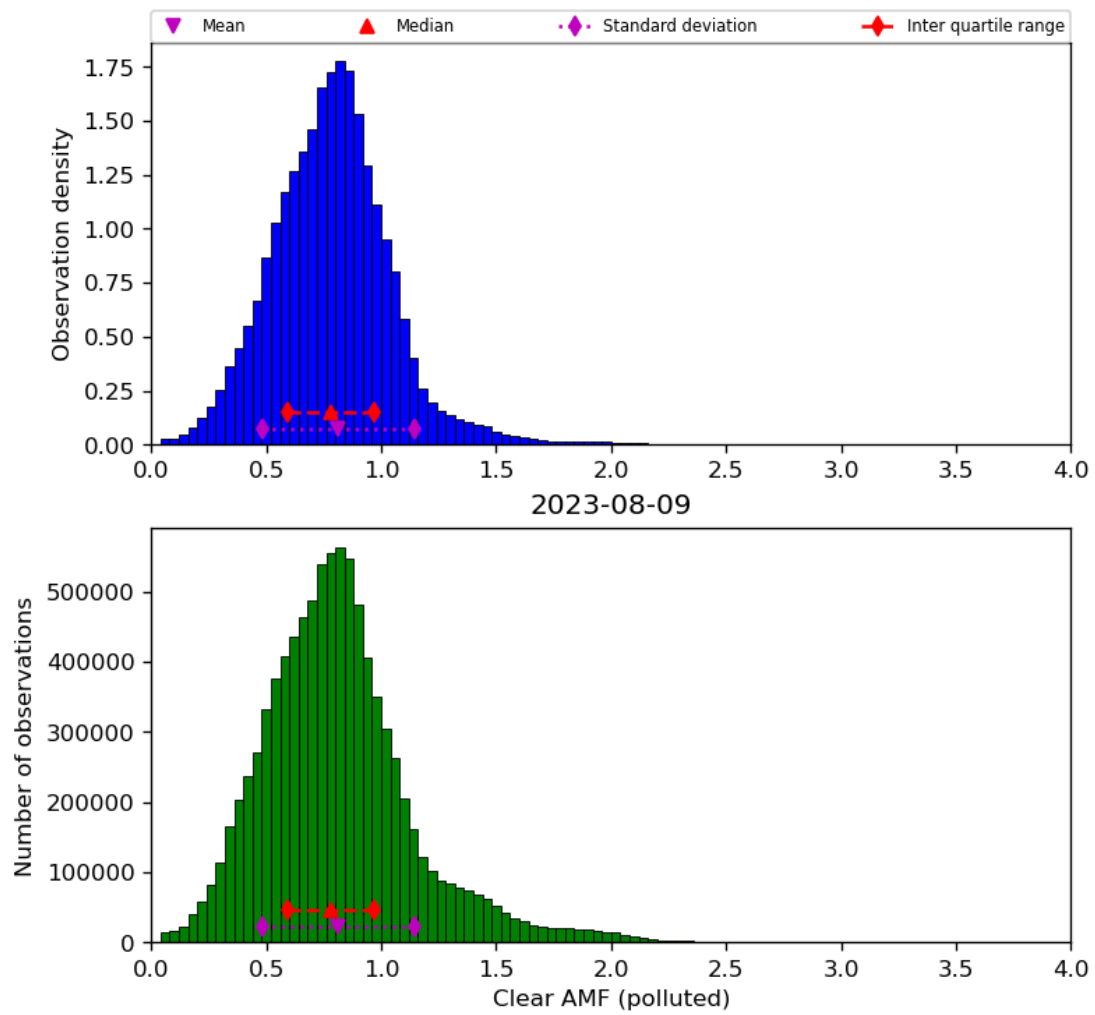


Figure 73: Histogram of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10

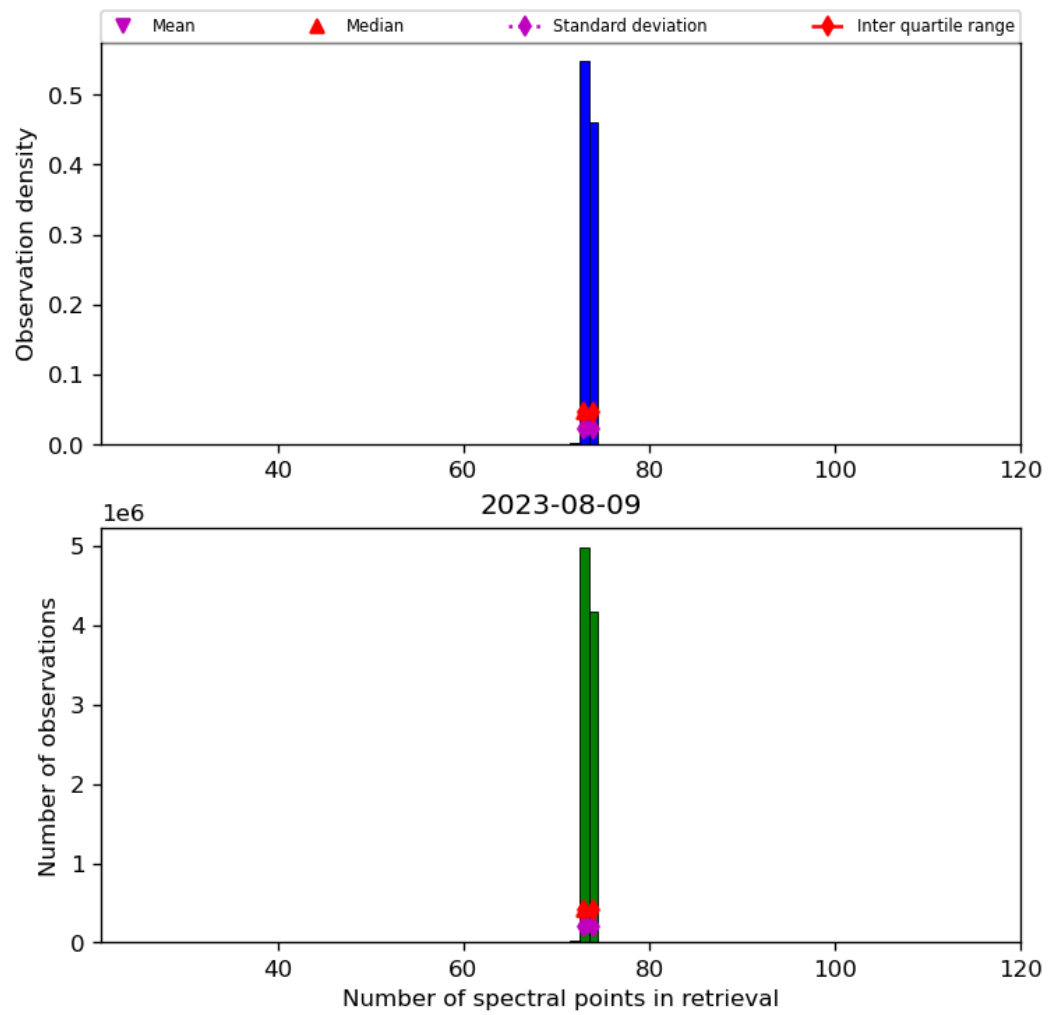


Figure 74: Histogram of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10

9 Along track statistics

The TROPOMI instrument uses different binned detector rows for different viewing directions. In this section statistics are presented for each of the binned rows in the instrument.

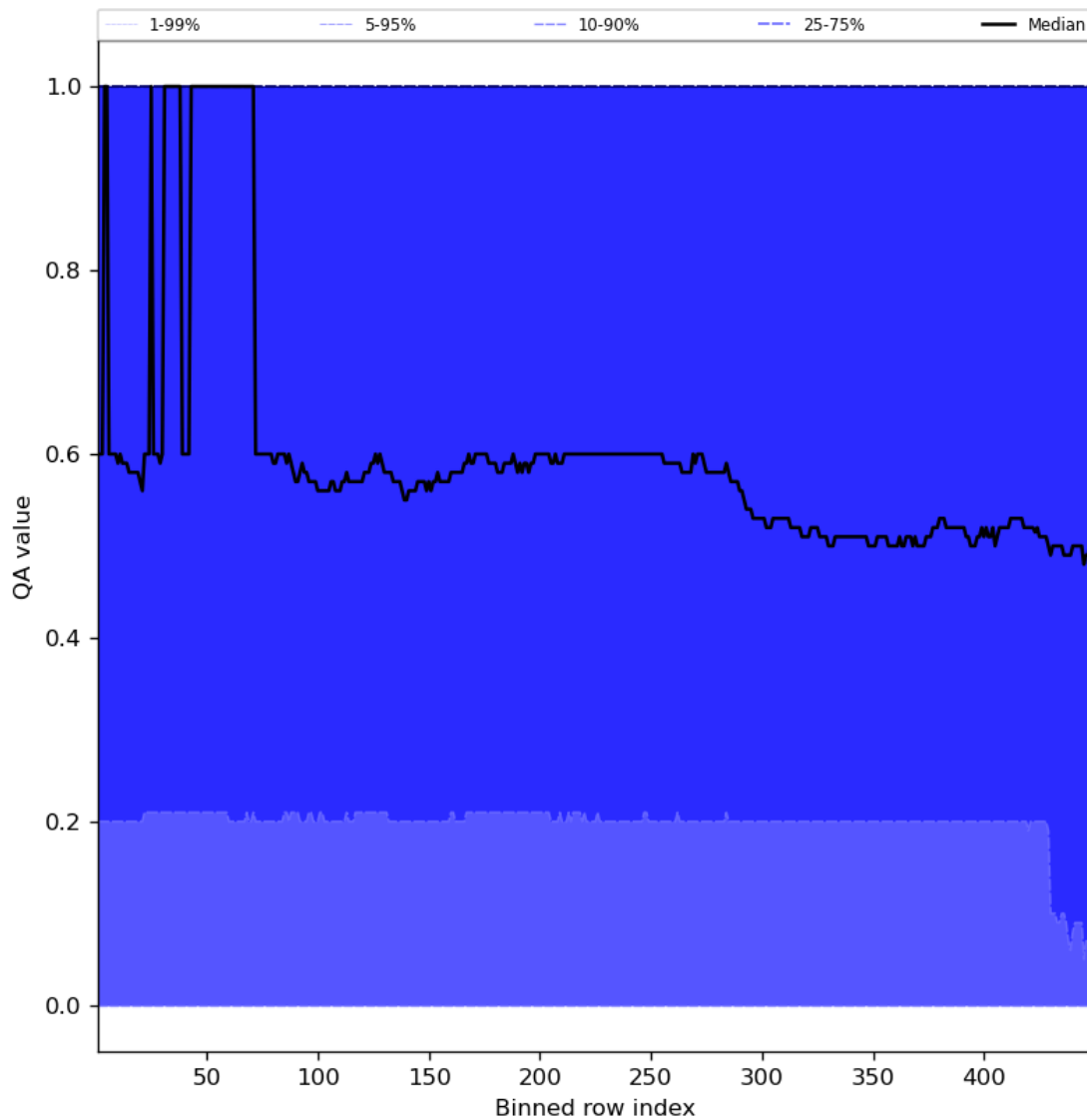


Figure 75: Along track statistics of “QA value” for 2023-08-09 to 2023-08-10

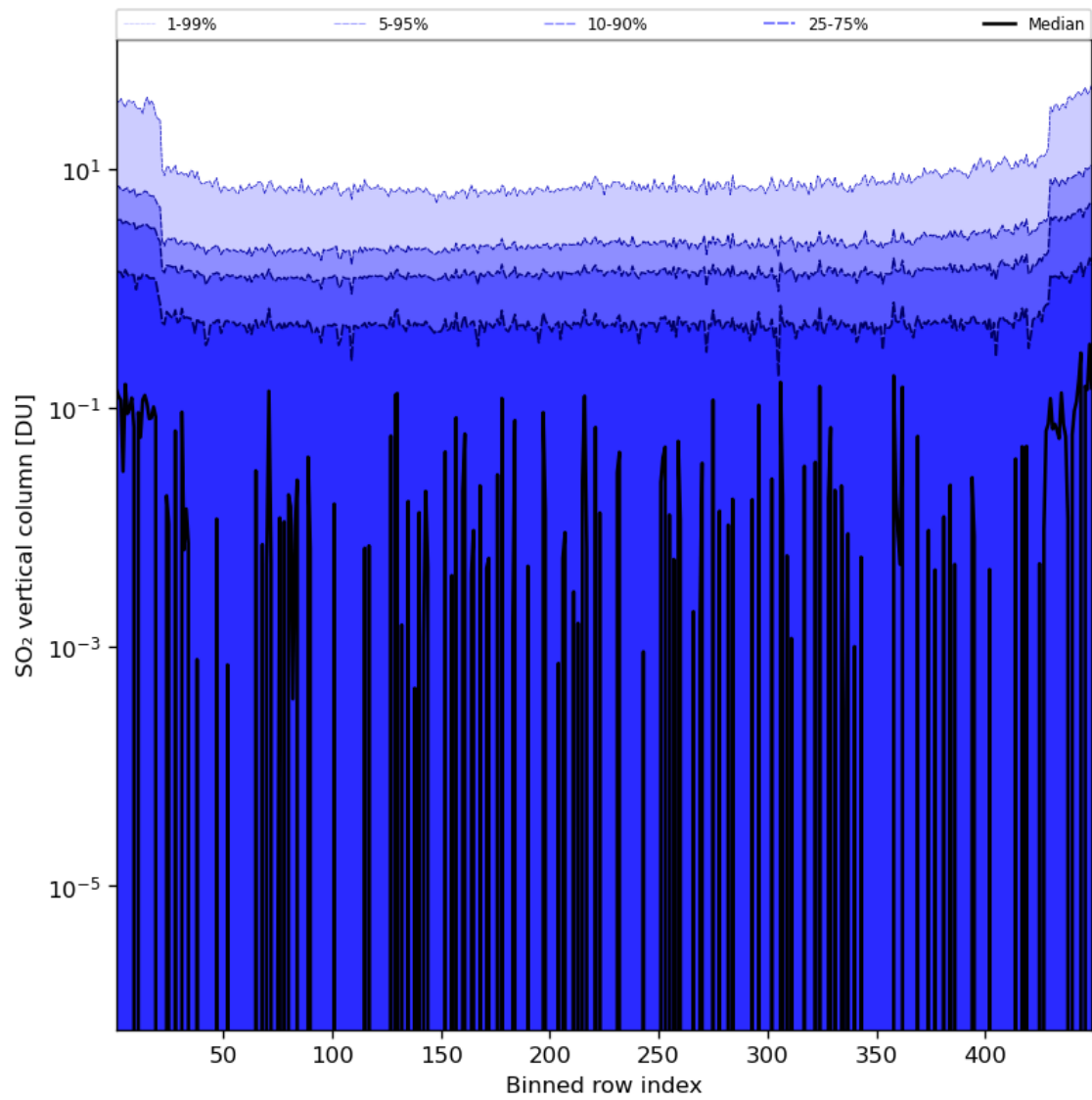


Figure 76: Along track statistics of “SO₂ vertical column” for 2023-08-09 to 2023-08-10

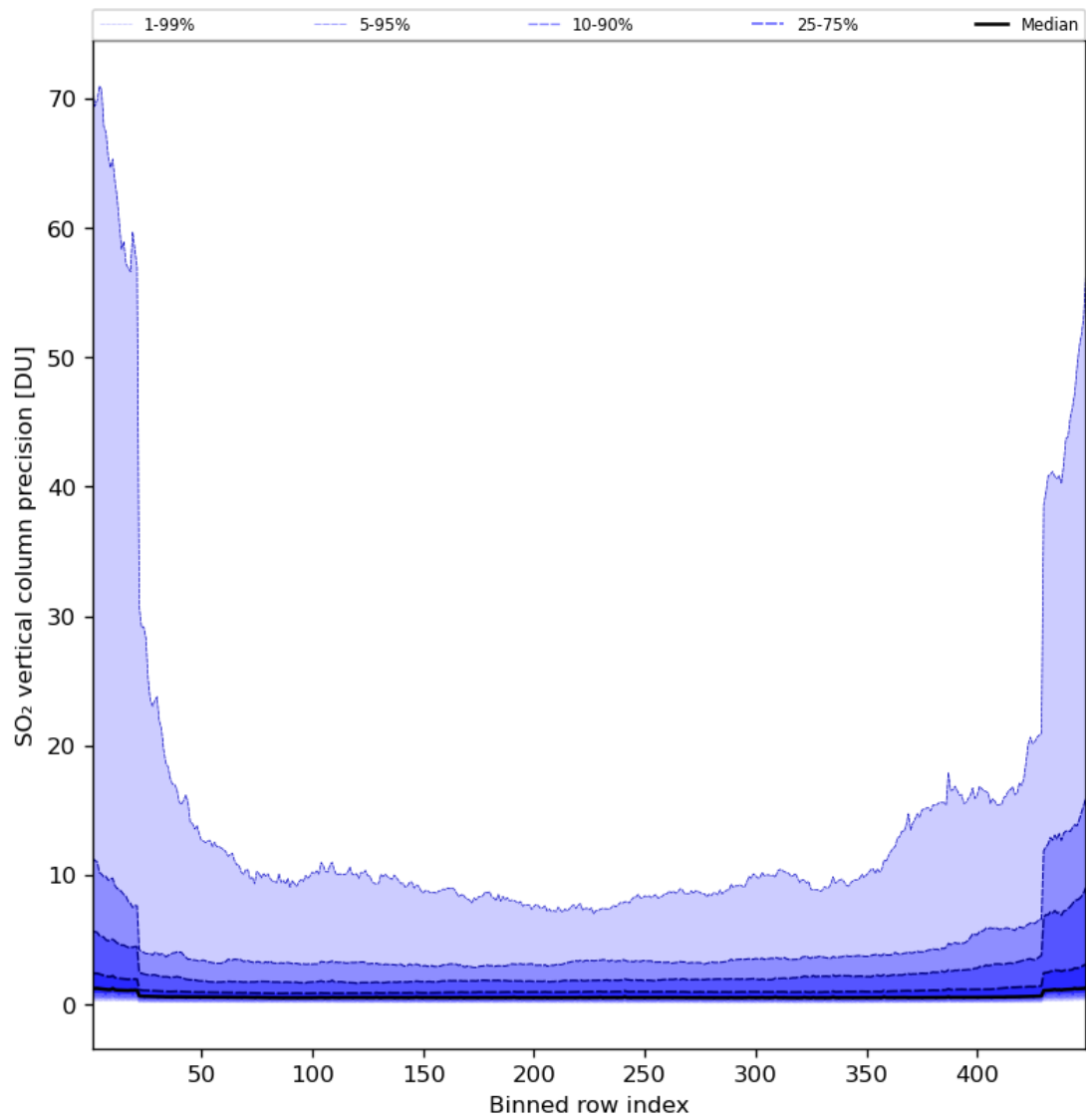


Figure 77: Along track statistics of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10

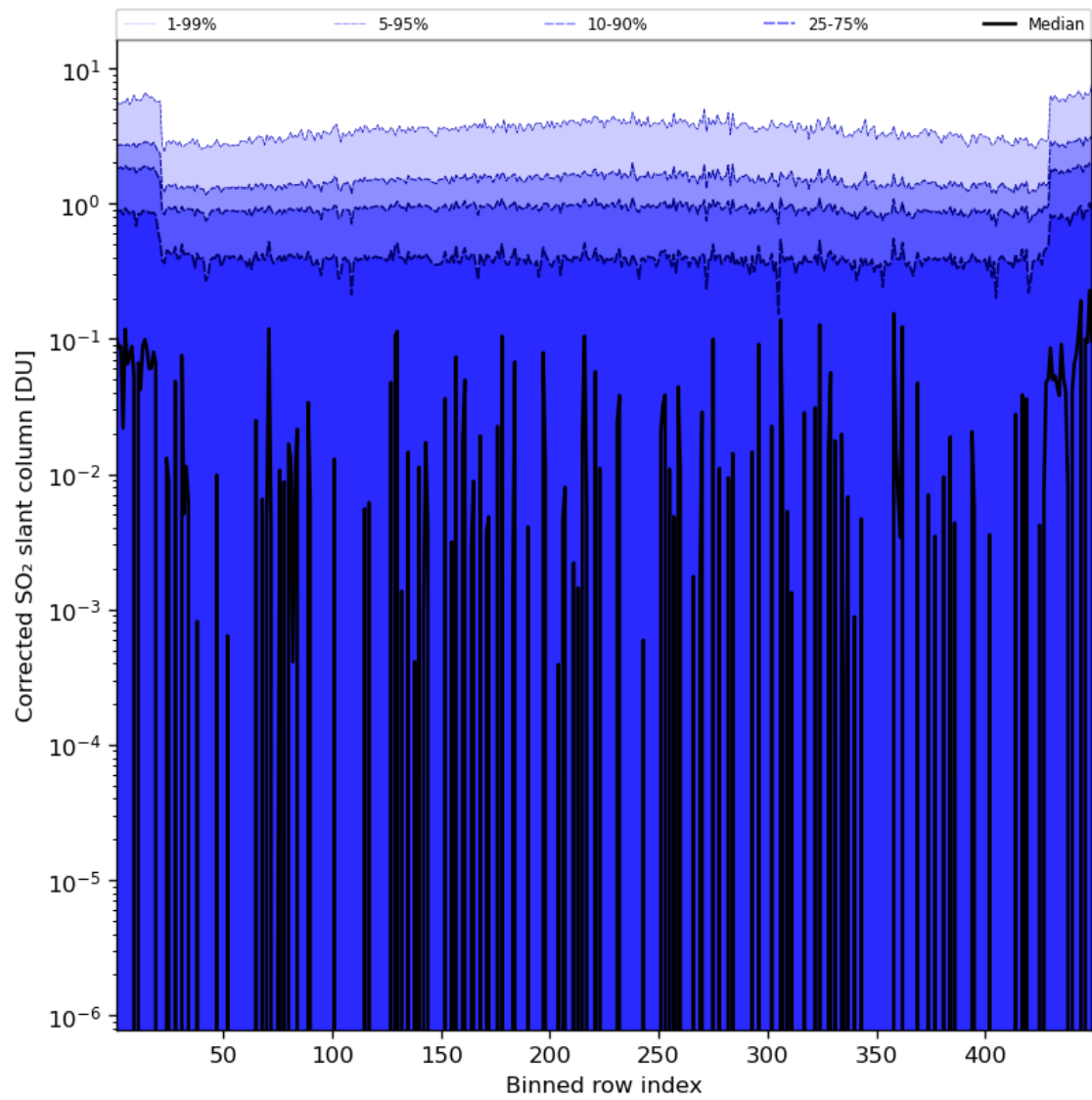


Figure 78: Along track statistics of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10

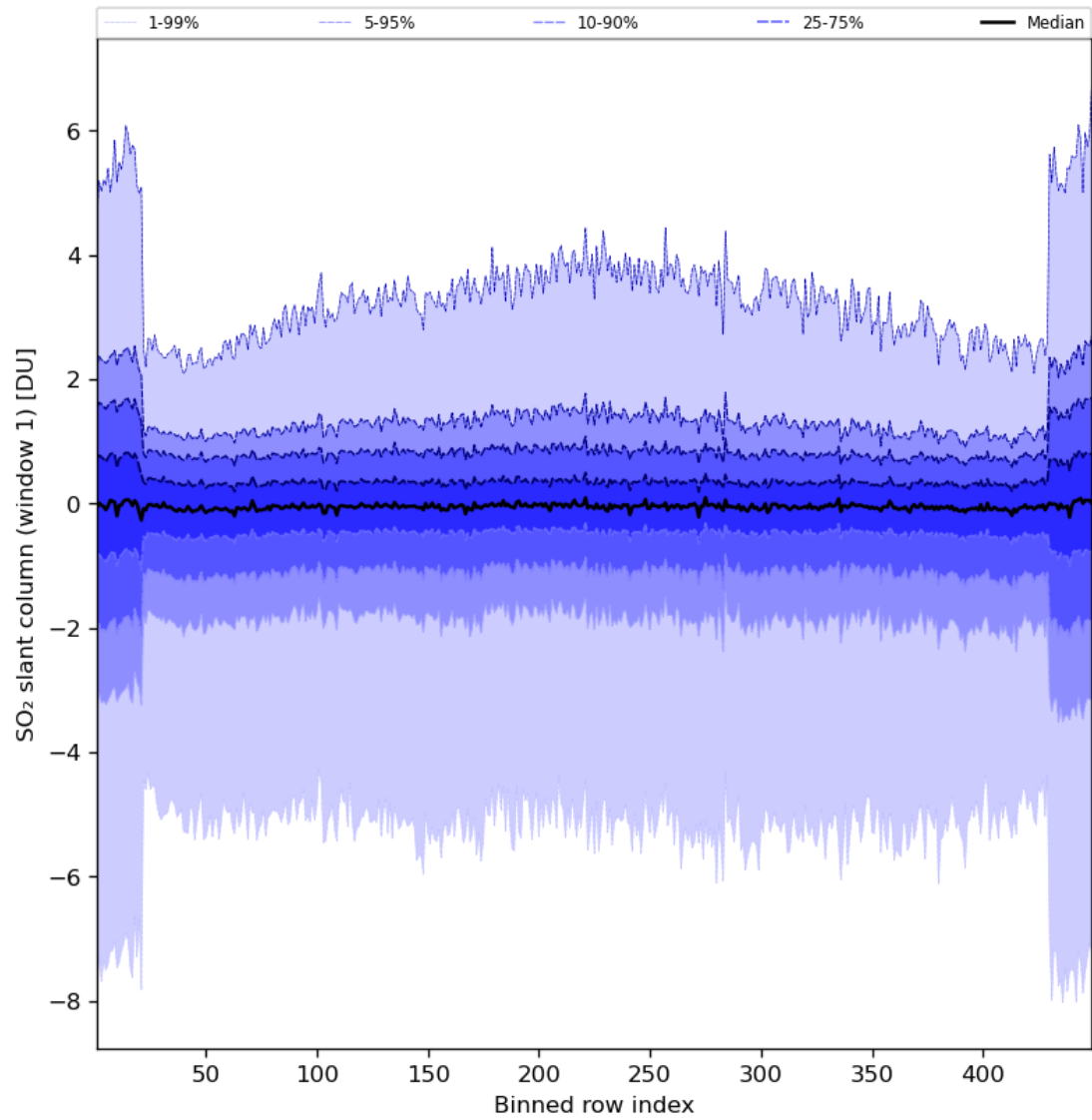


Figure 79: Along track statistics of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

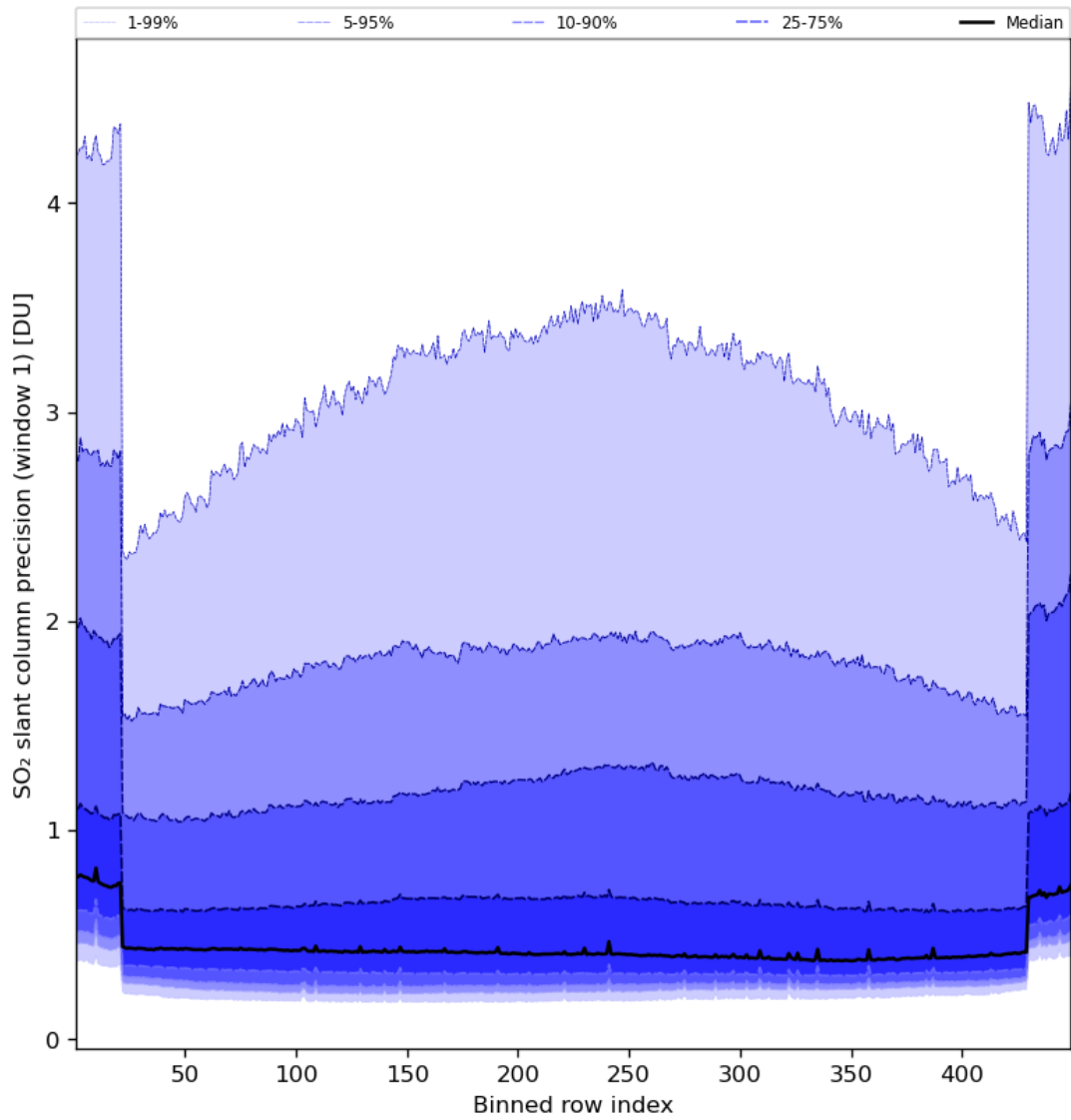


Figure 80: Along track statistics of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10

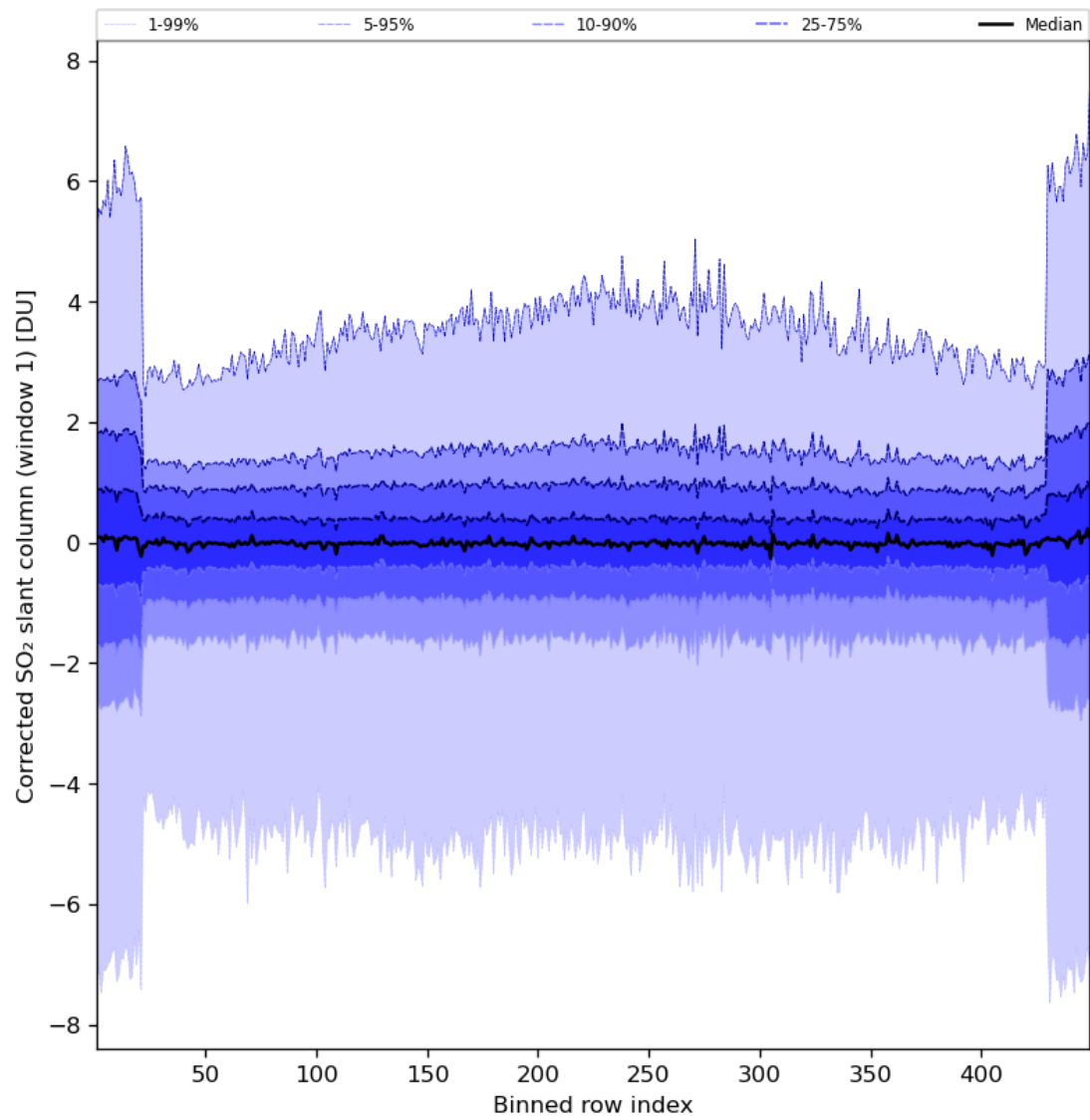


Figure 81: Along track statistics of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10

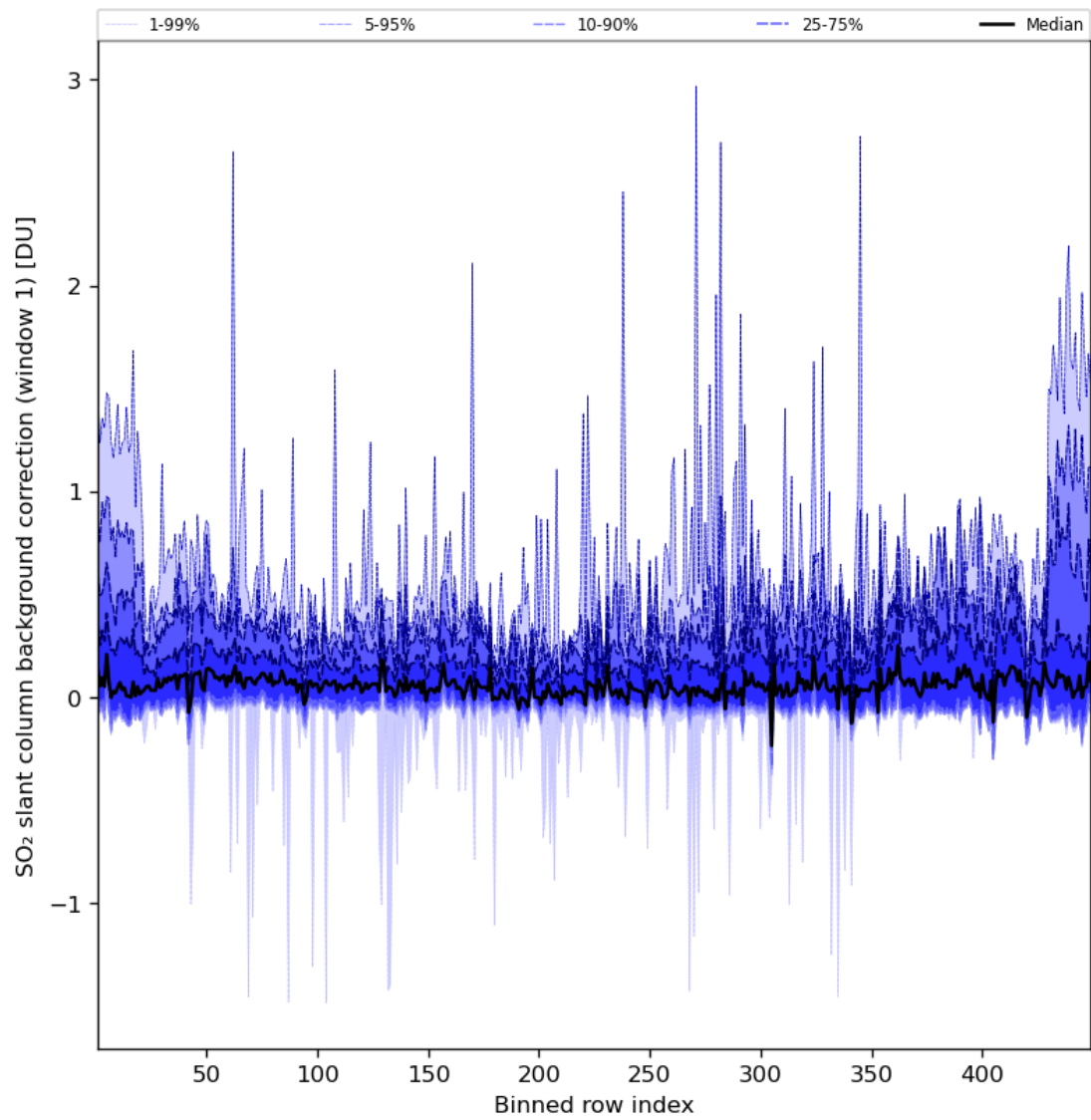


Figure 82: Along track statistics of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10

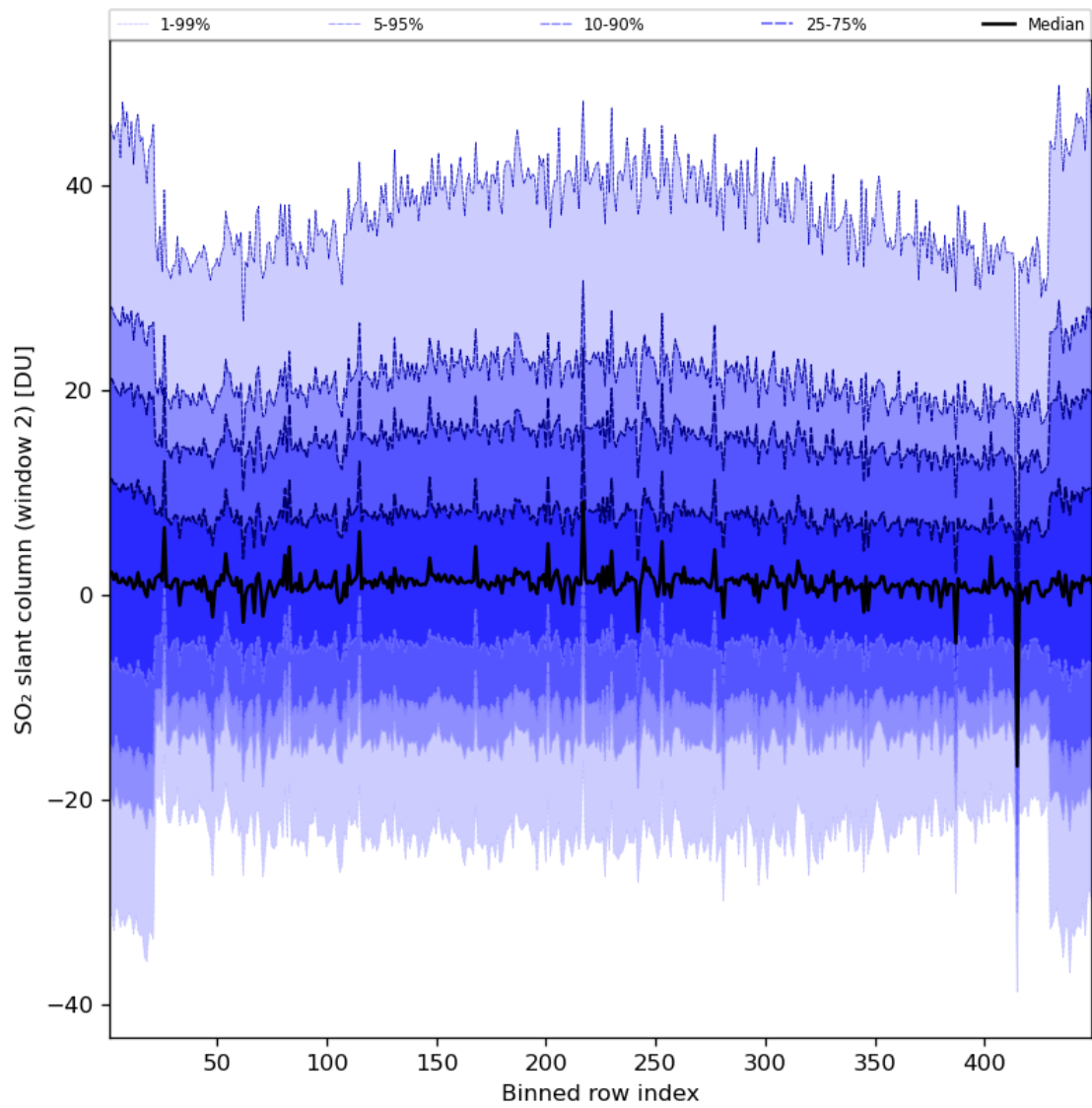


Figure 83: Along track statistics of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

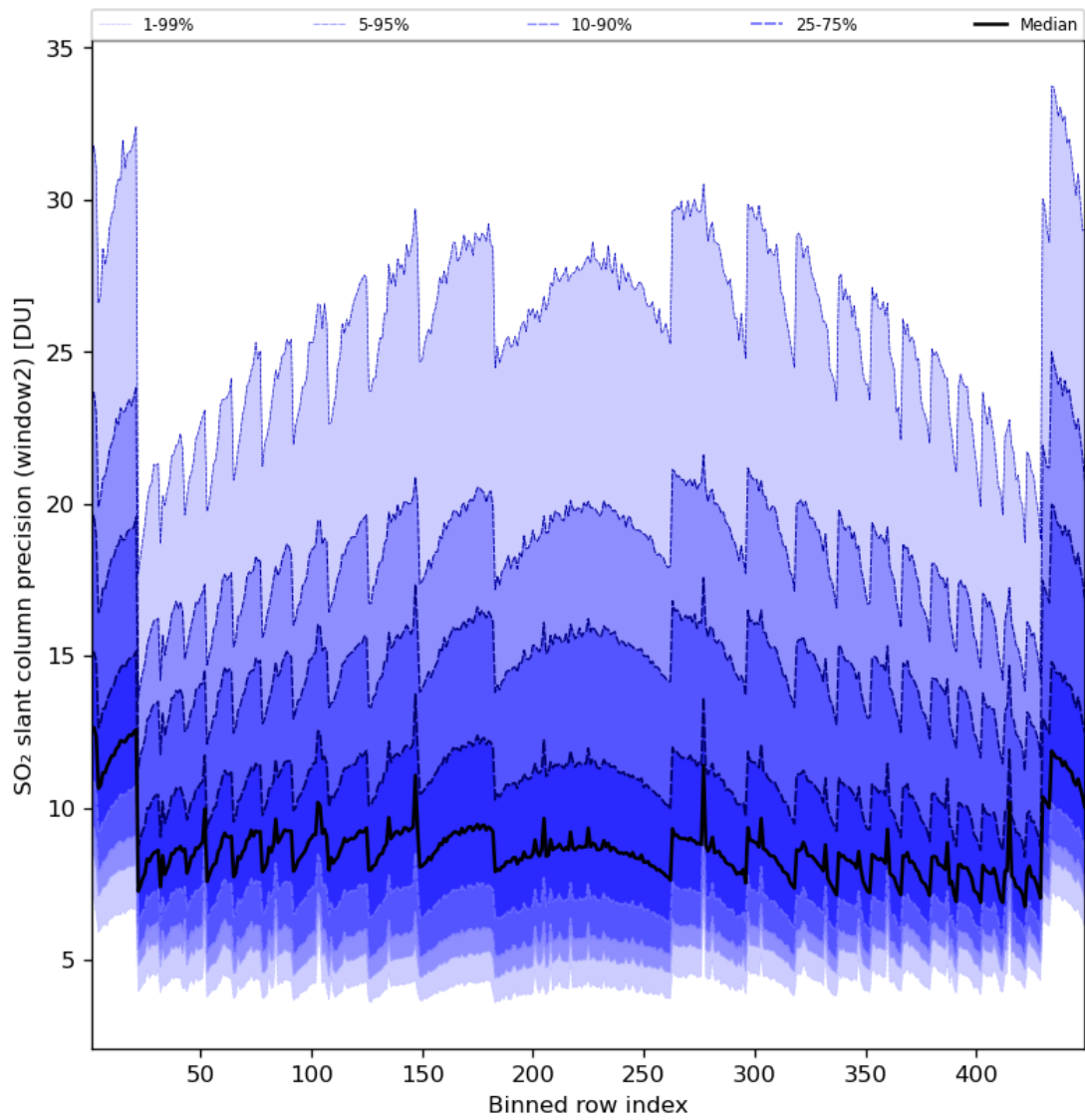


Figure 84: Along track statistics of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10

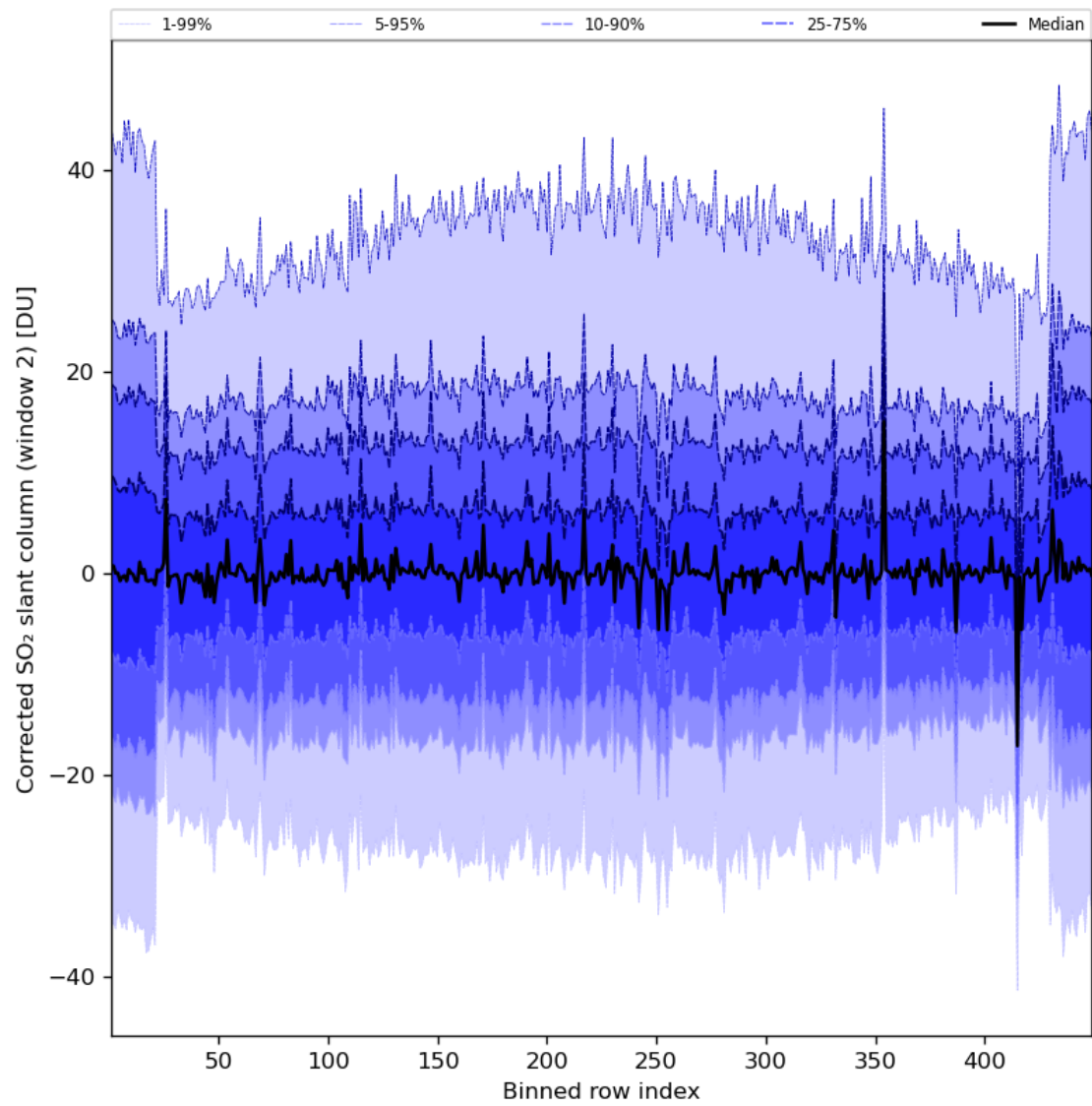


Figure 85: Along track statistics of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10

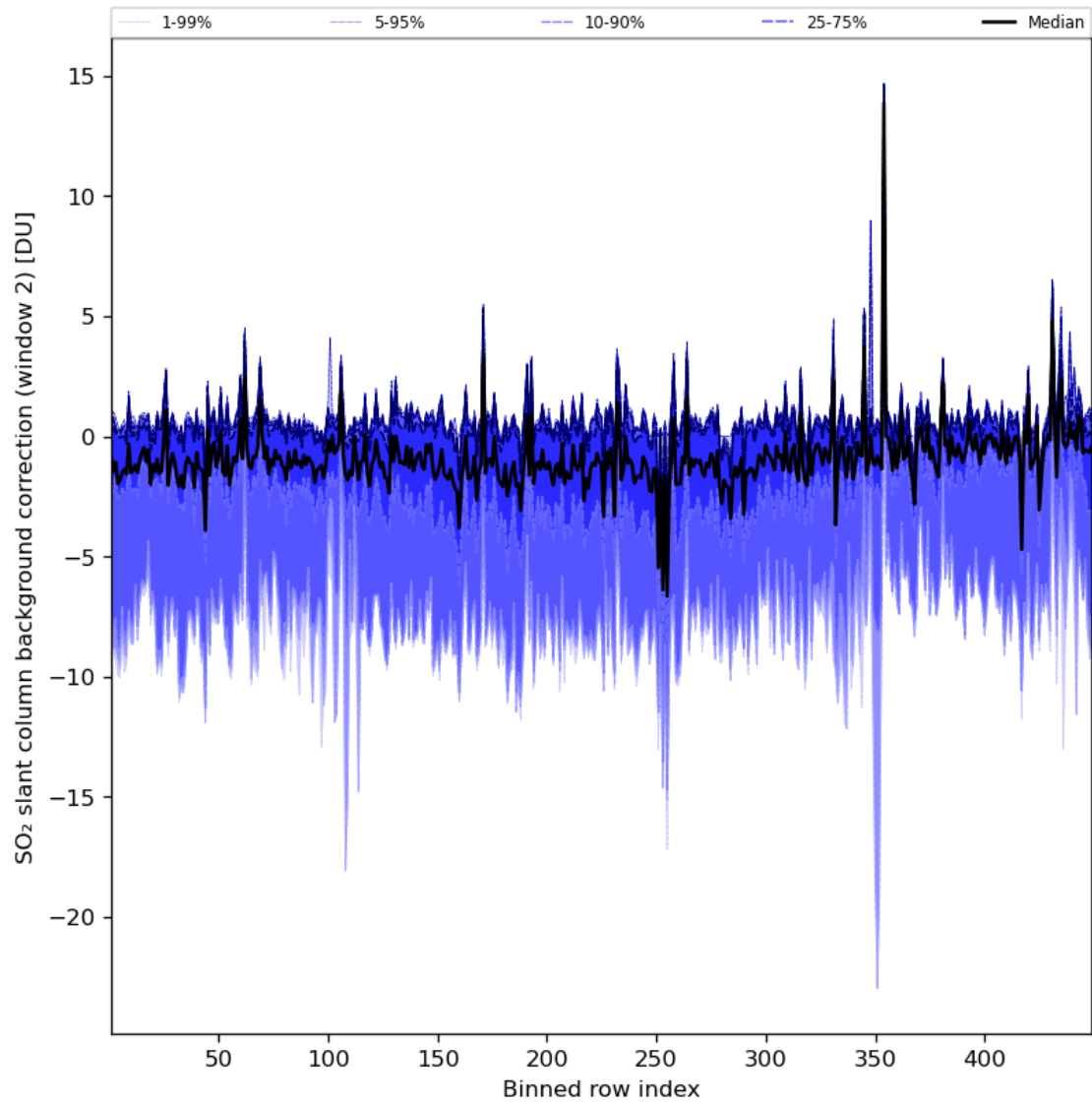


Figure 86: Along track statistics of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10

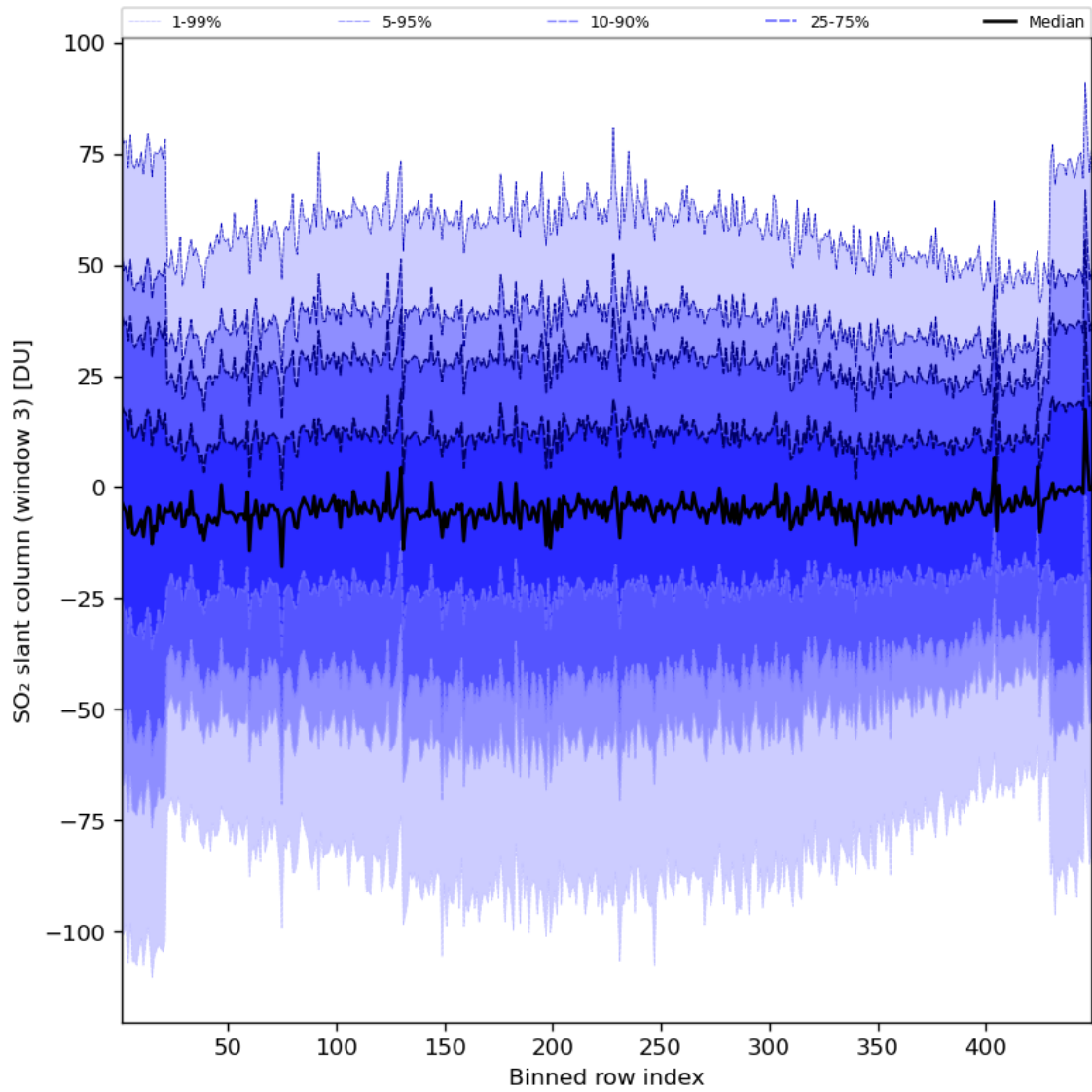


Figure 87: Along track statistics of "SO₂ slant column (window 3)" for 2023-08-09 to 2023-08-10

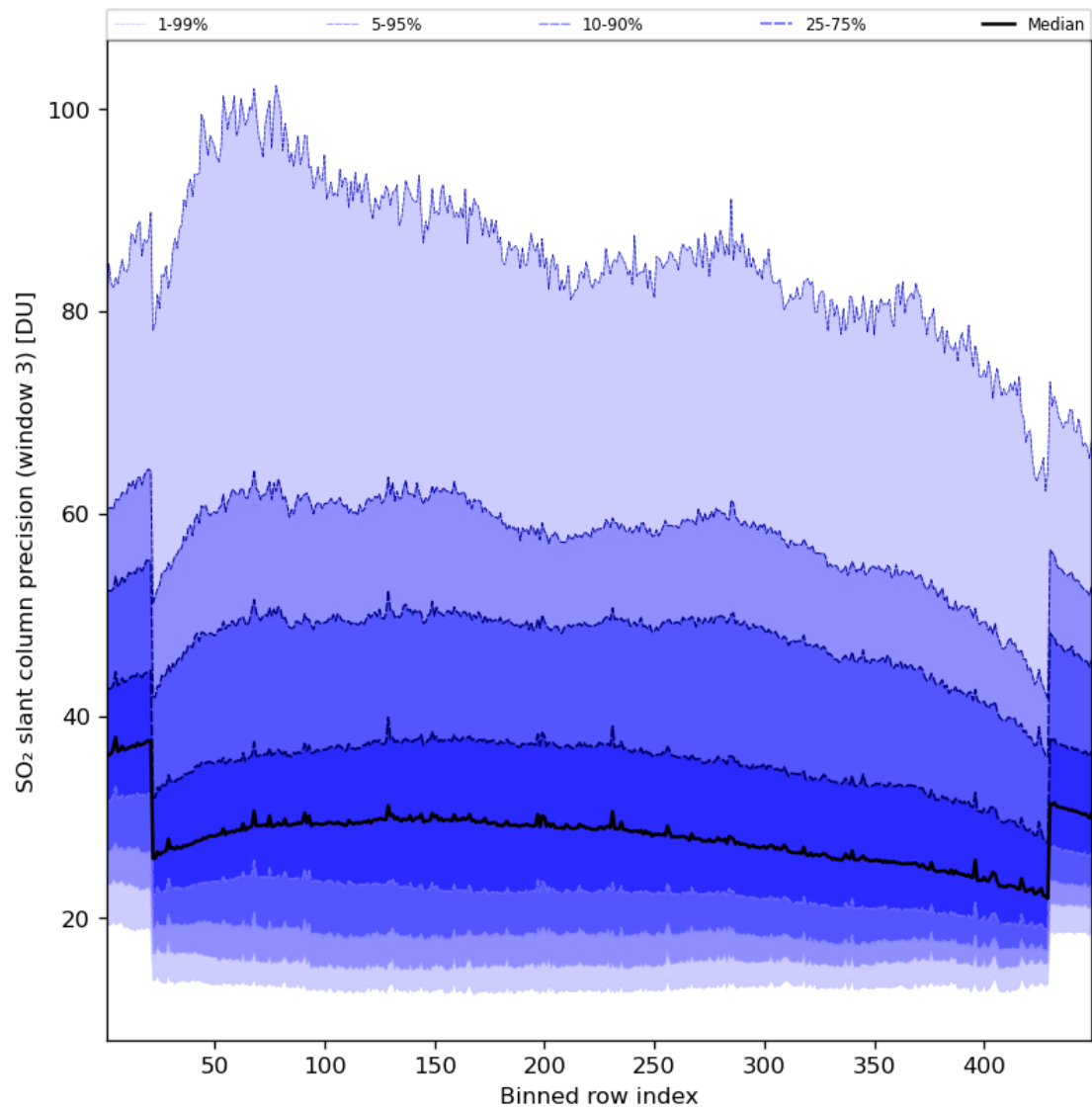


Figure 88: Along track statistics of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10

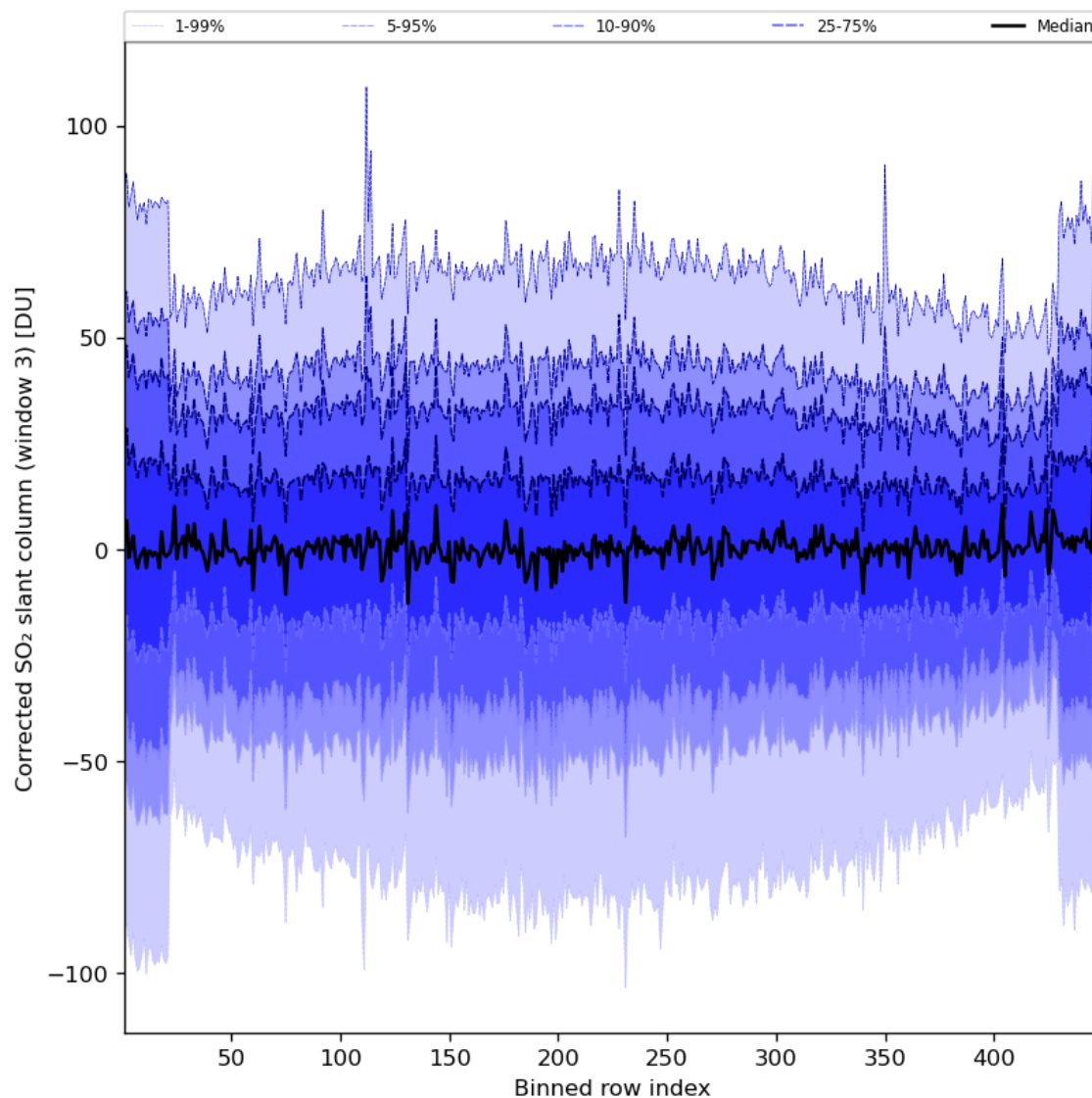


Figure 89: Along track statistics of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10

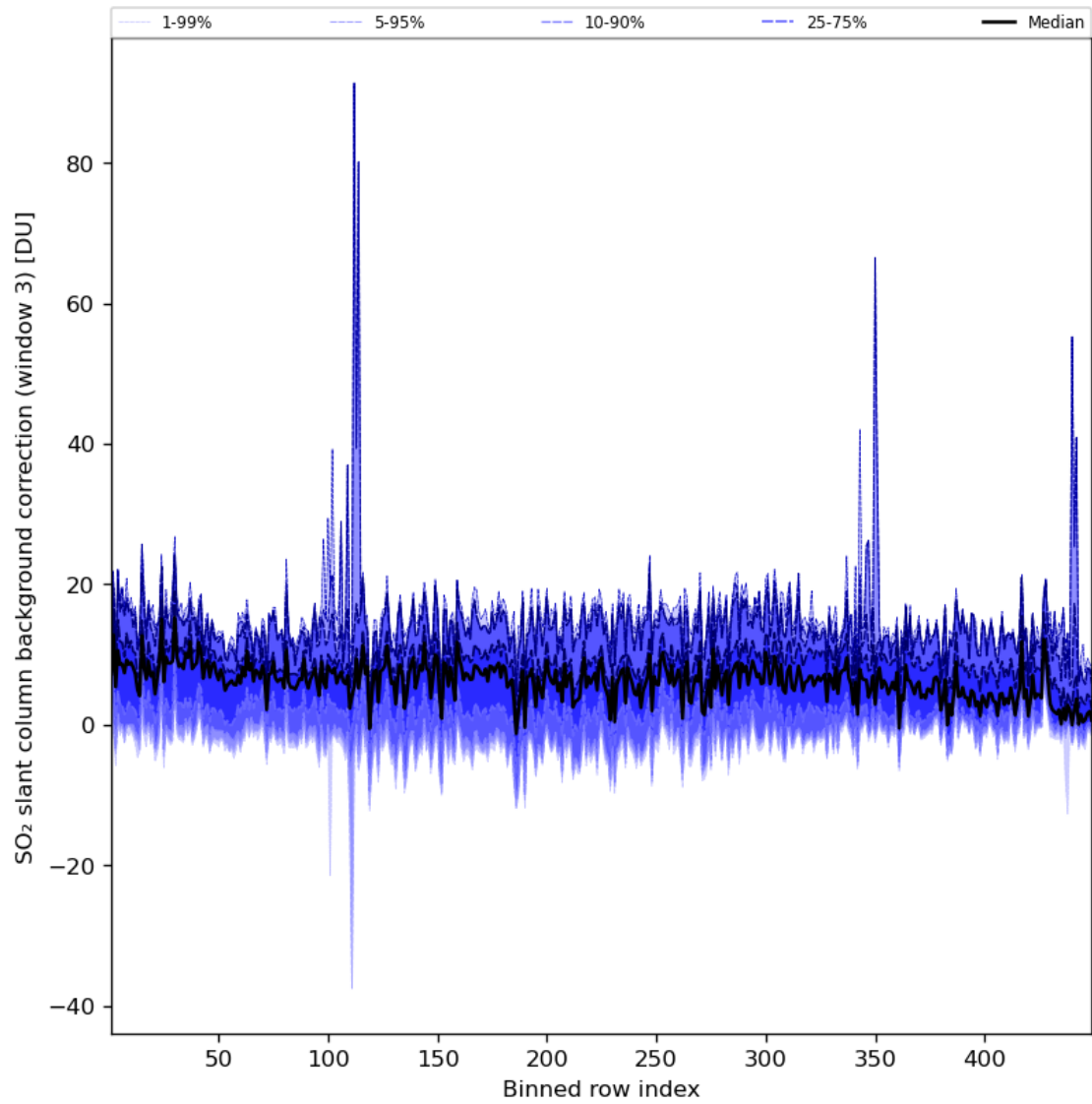


Figure 90: Along track statistics of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10

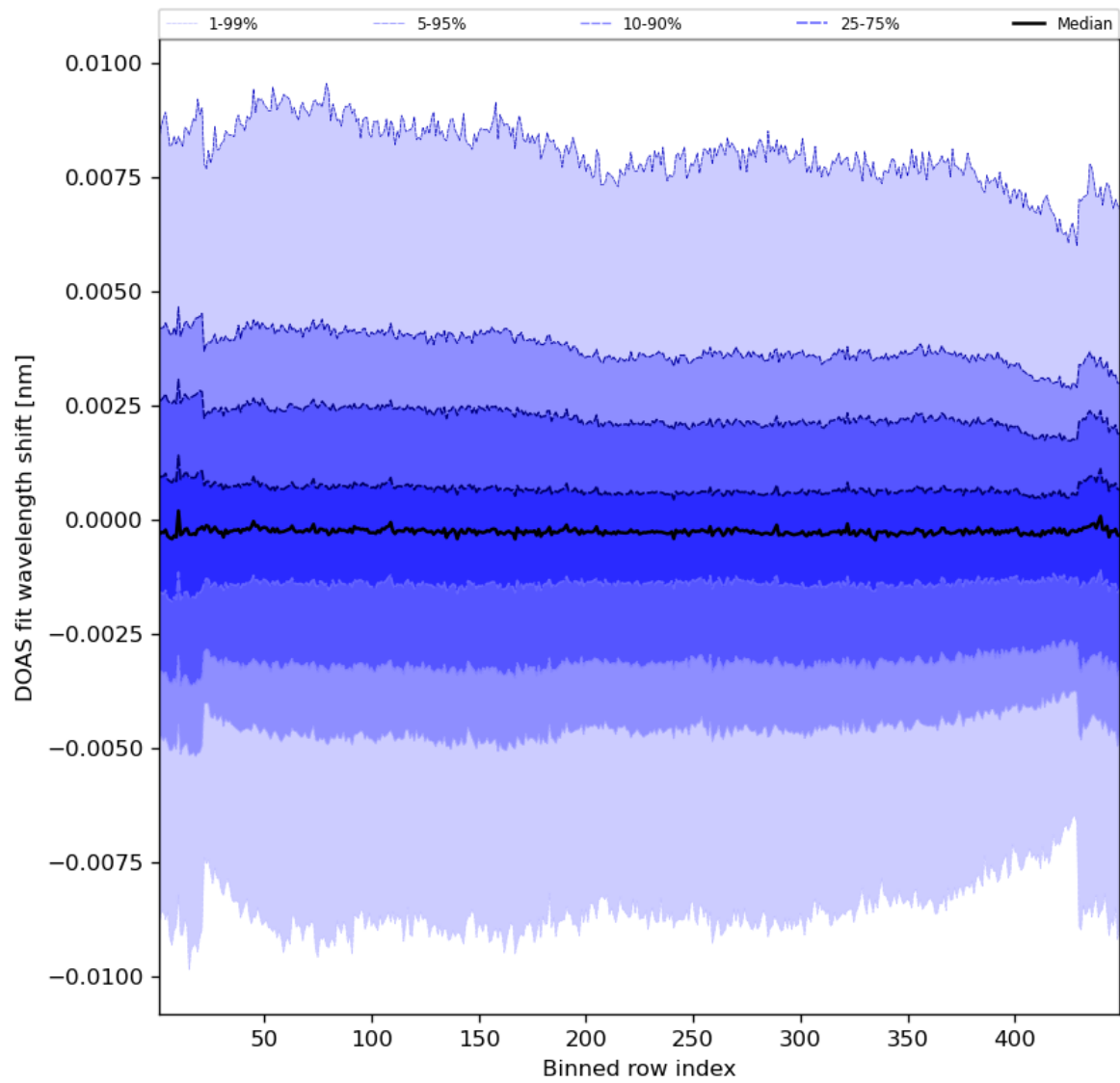


Figure 91: Along track statistics of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10

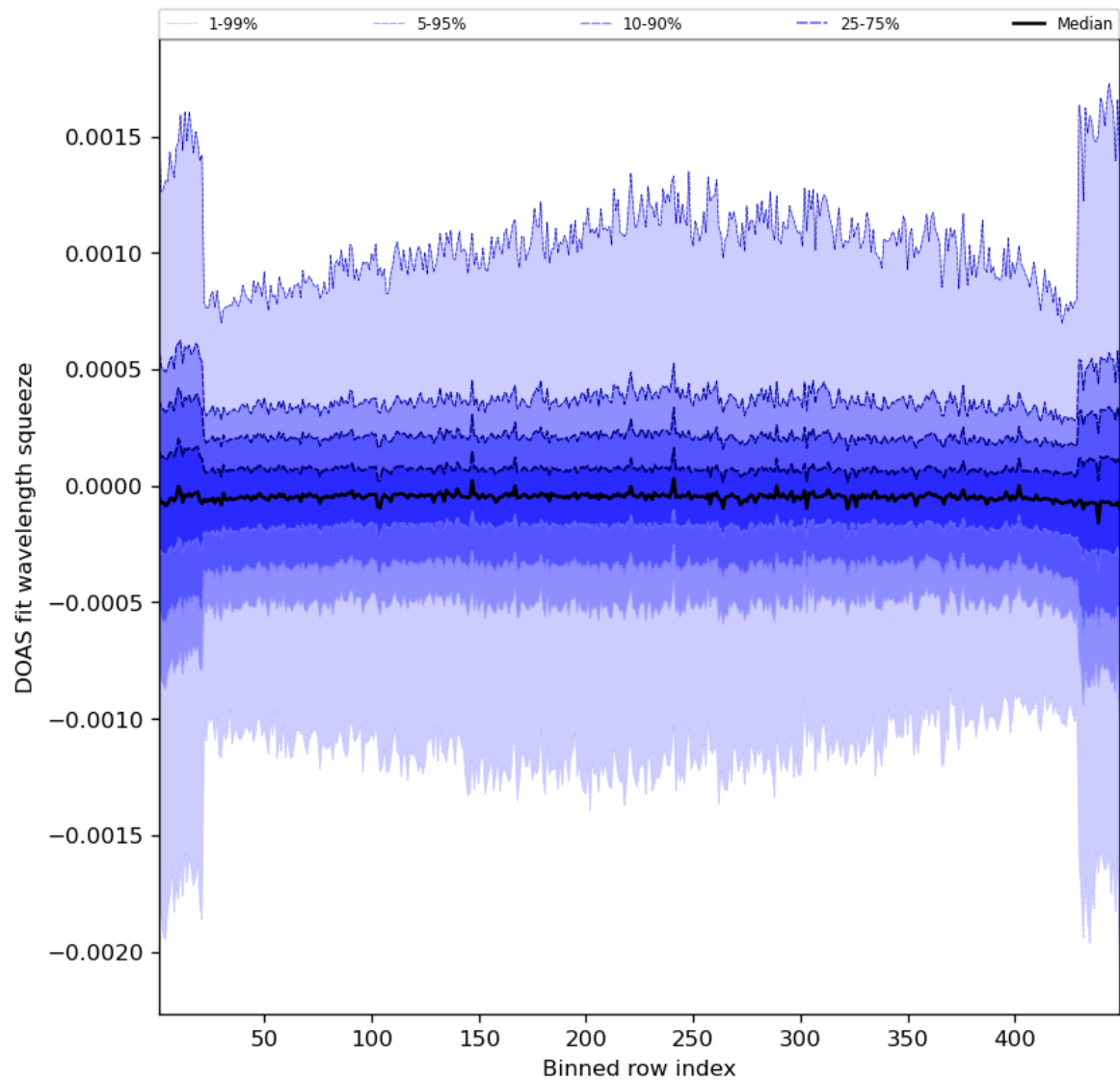


Figure 92: Along track statistics of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10

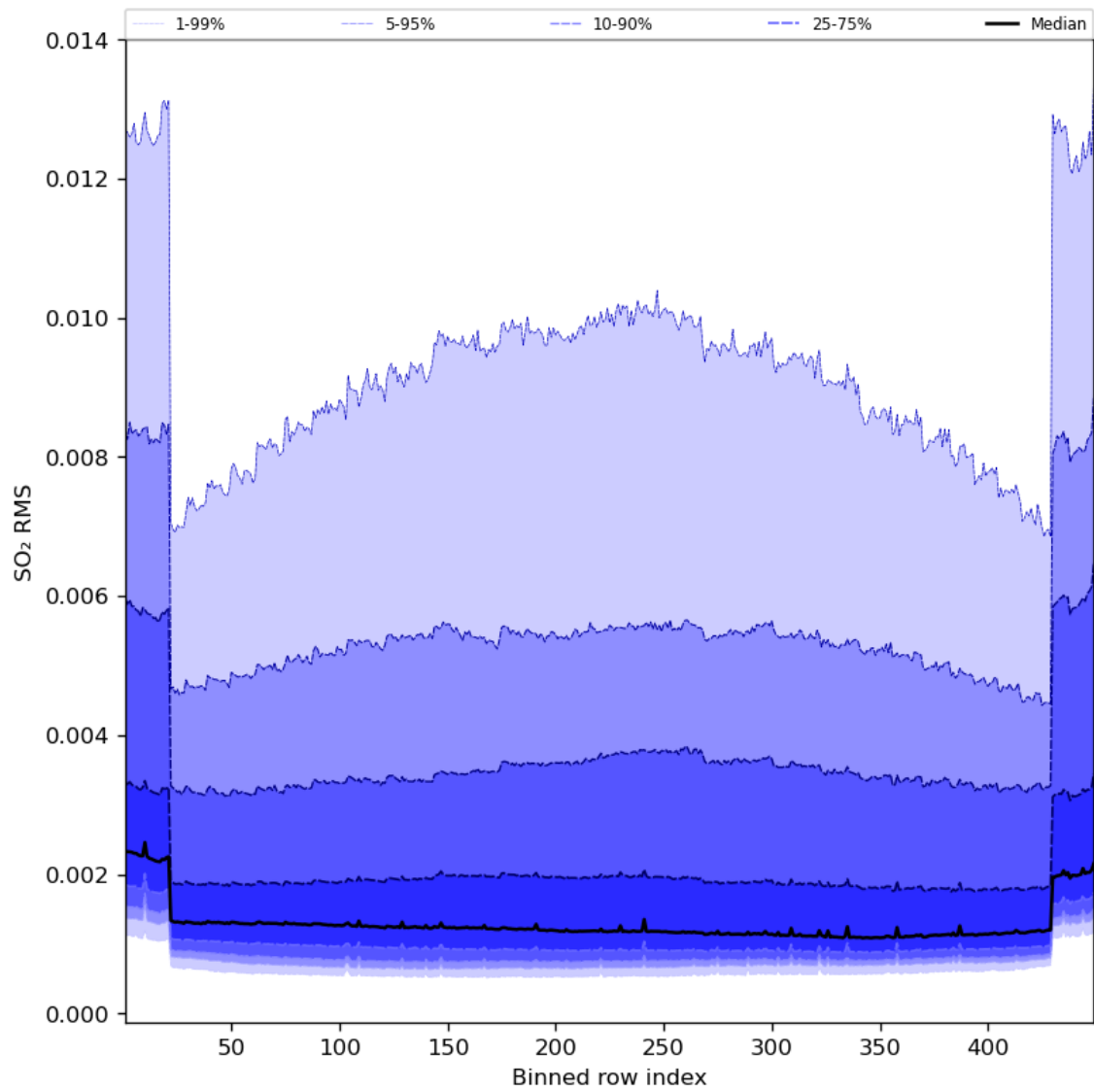


Figure 93: Along track statistics of “SO₂ RMS” for 2023-08-09 to 2023-08-10

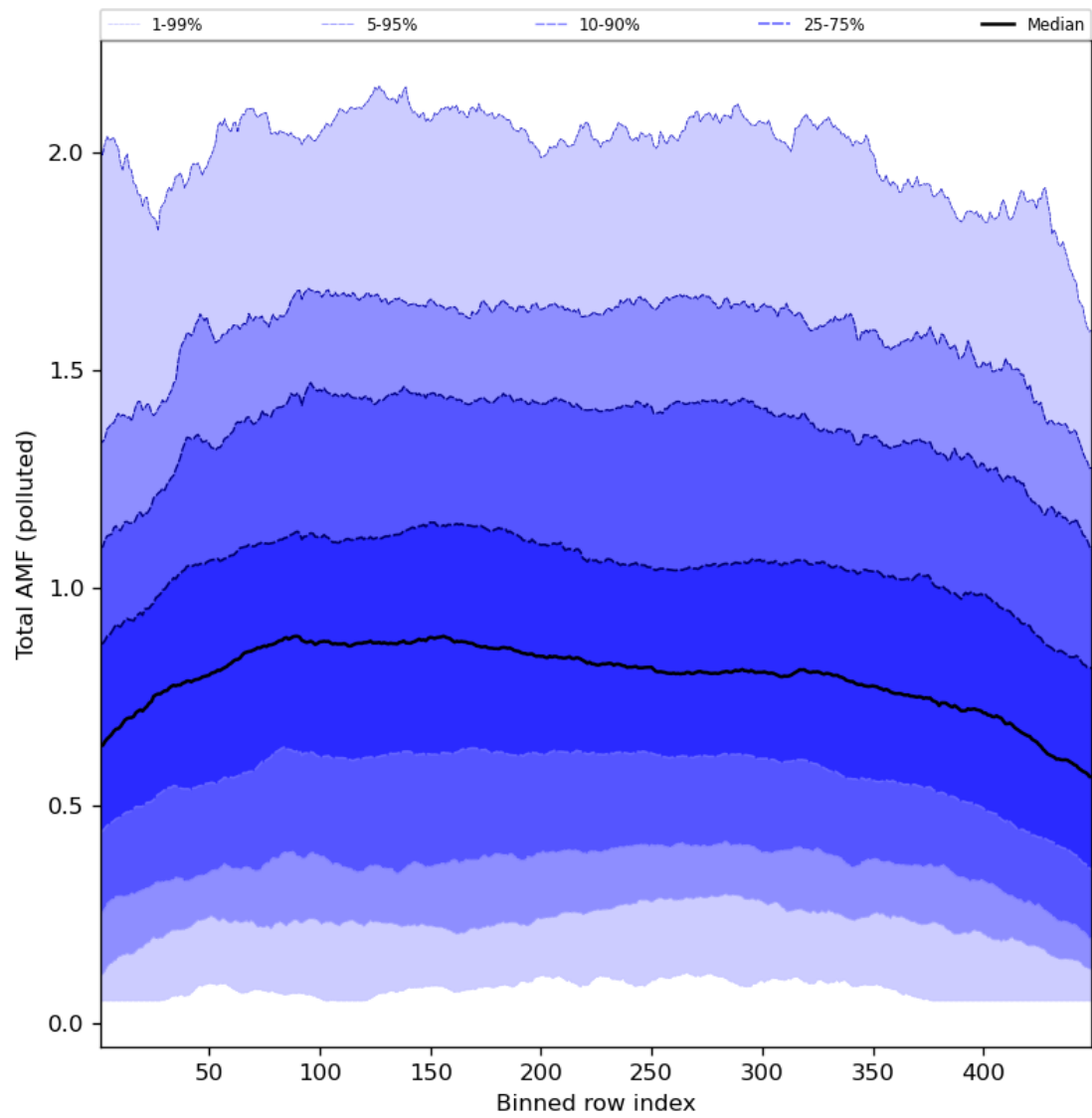


Figure 94: Along track statistics of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10

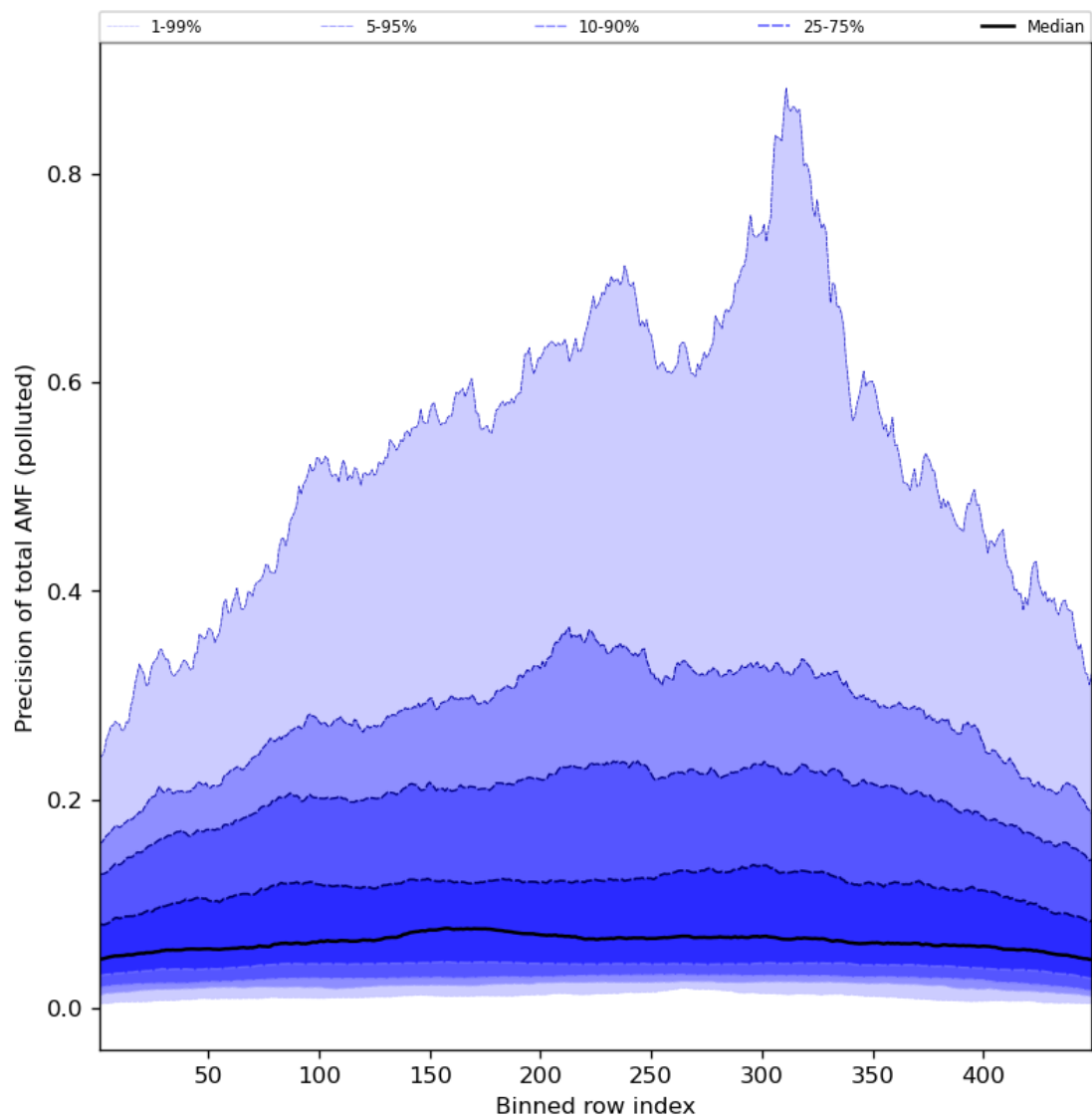


Figure 95: Along track statistics of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10

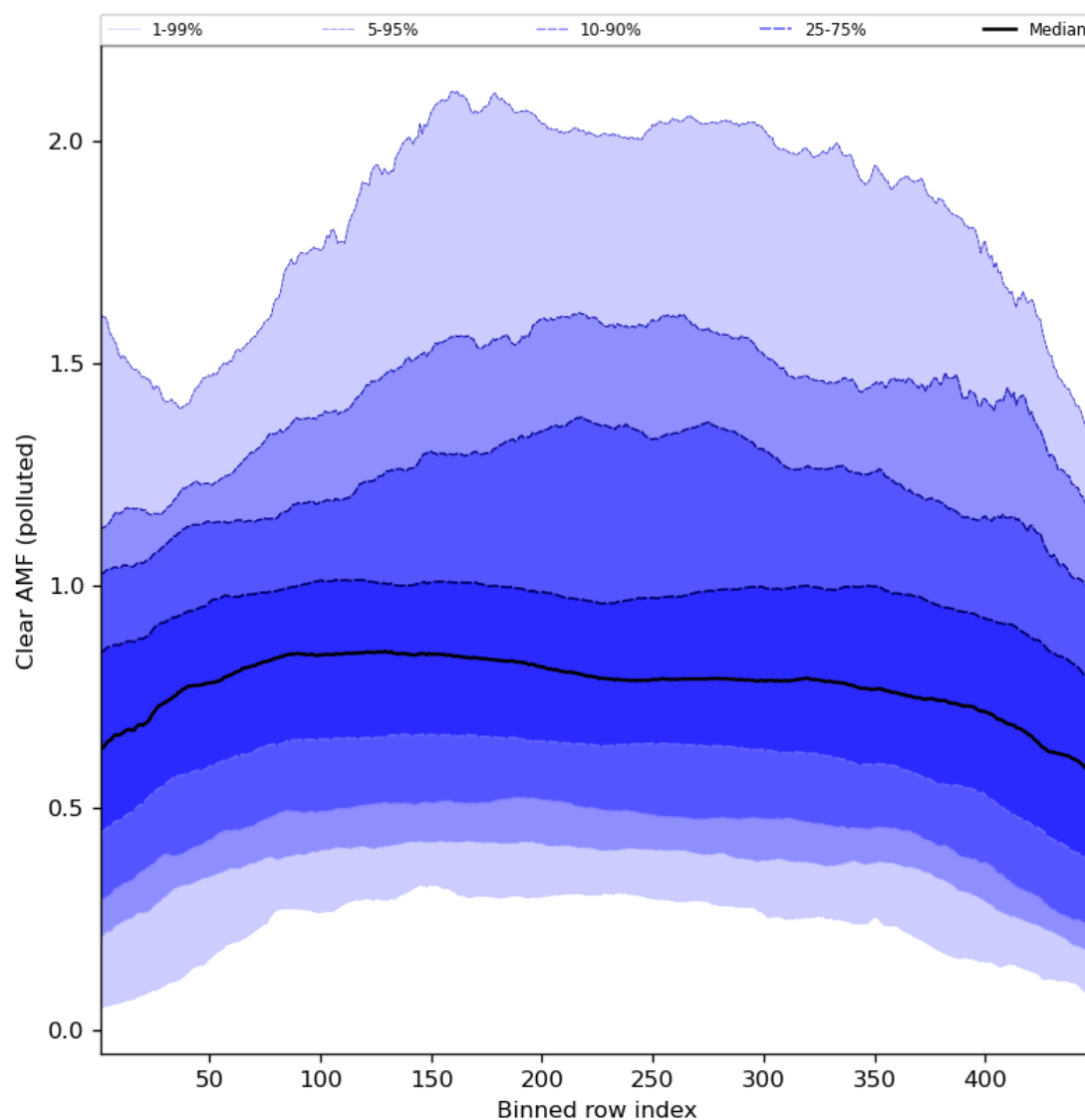


Figure 96: Along track statistics of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10

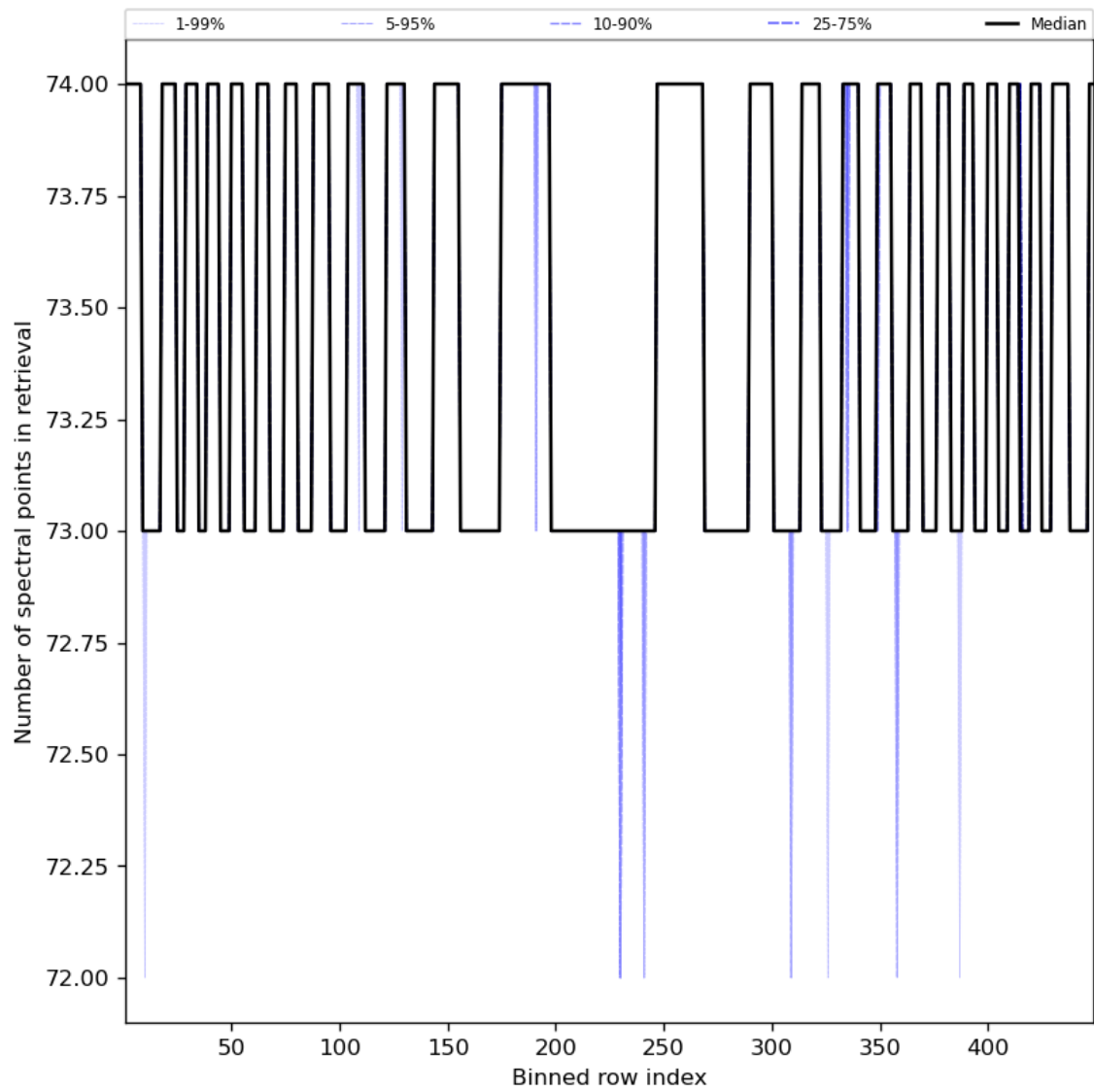


Figure 97: Along track statistics of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10

10 Coincidence density

To investigate the relation between parameters scatter density plots are produced. These include some ‘hidden’ parameters, latitude and the solar- and viewing geometries, in addition to all configured parameters. All combinations of pairs of parameters are included *once*, in one direction alone.

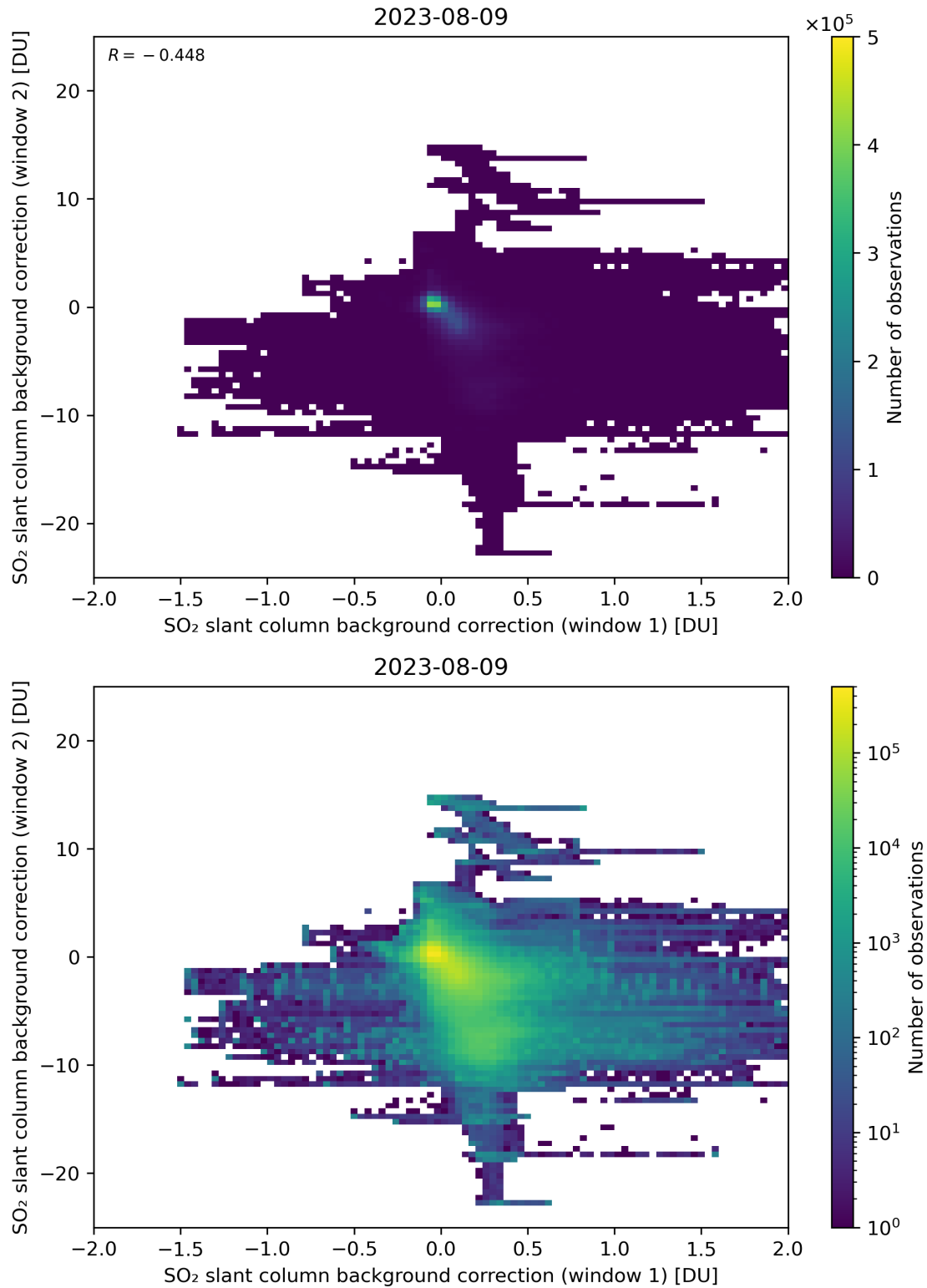


Figure 98: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

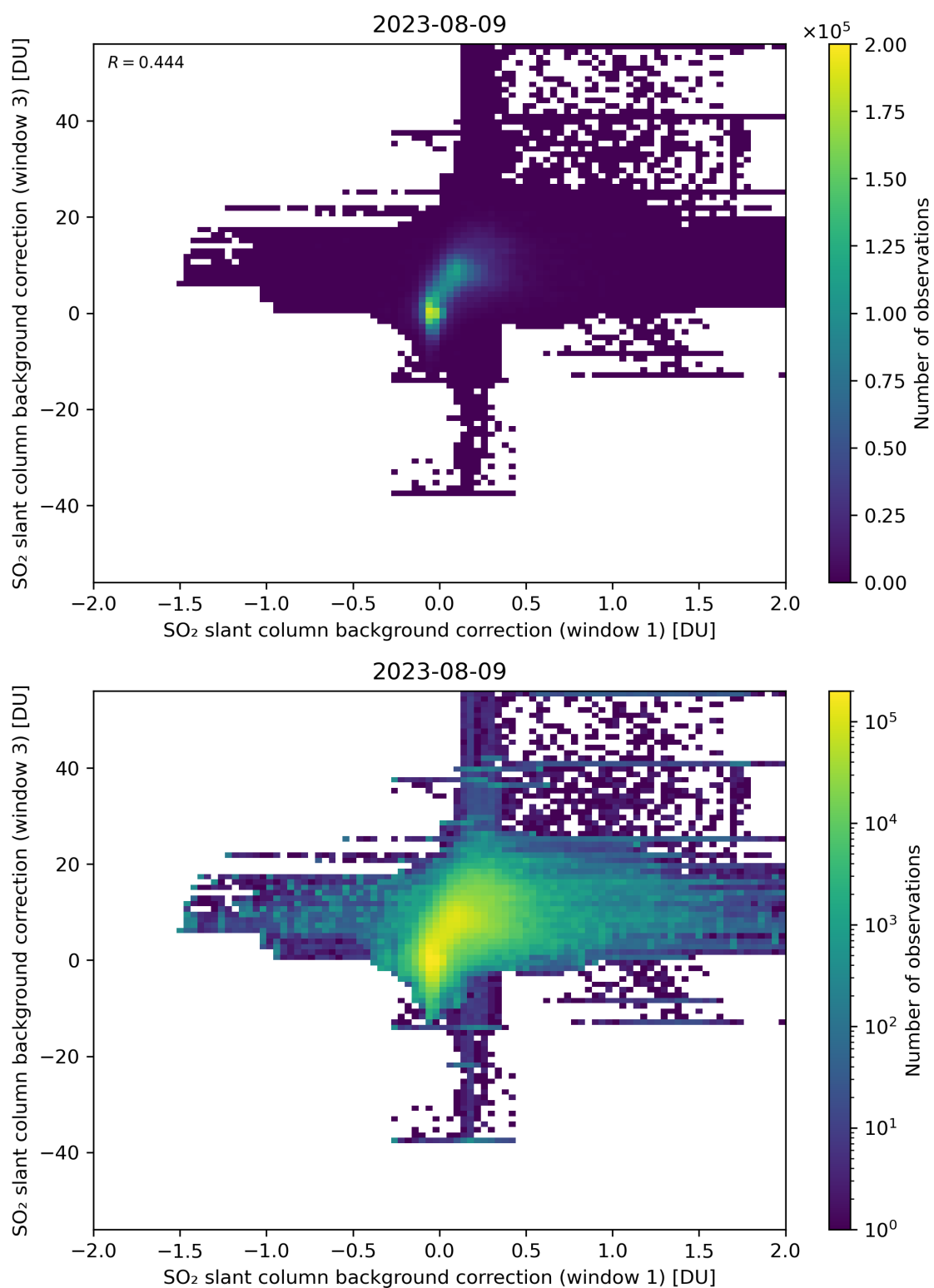


Figure 99: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

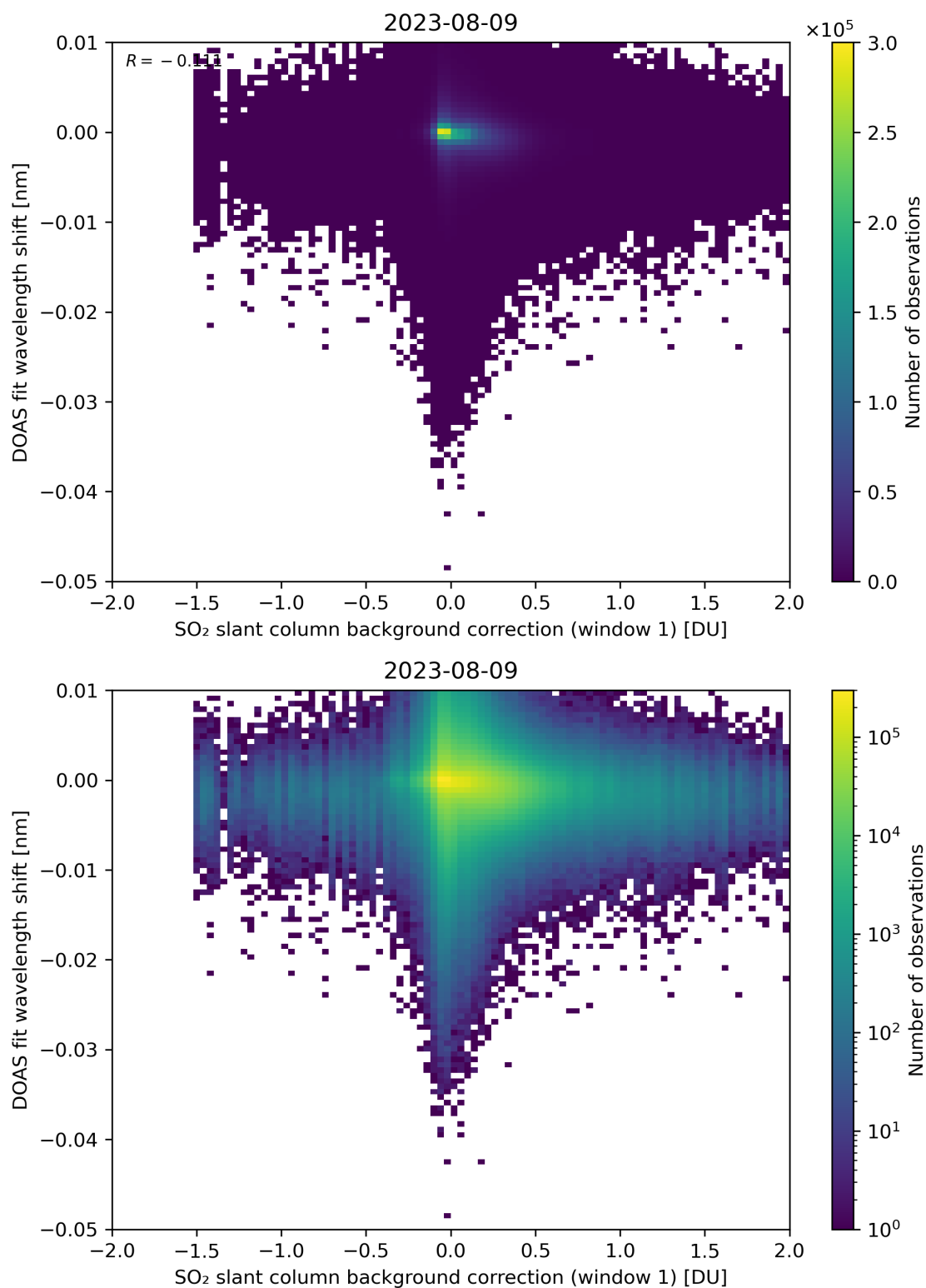


Figure 100: Scatter density plot of “SO₂ slant column background correction (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

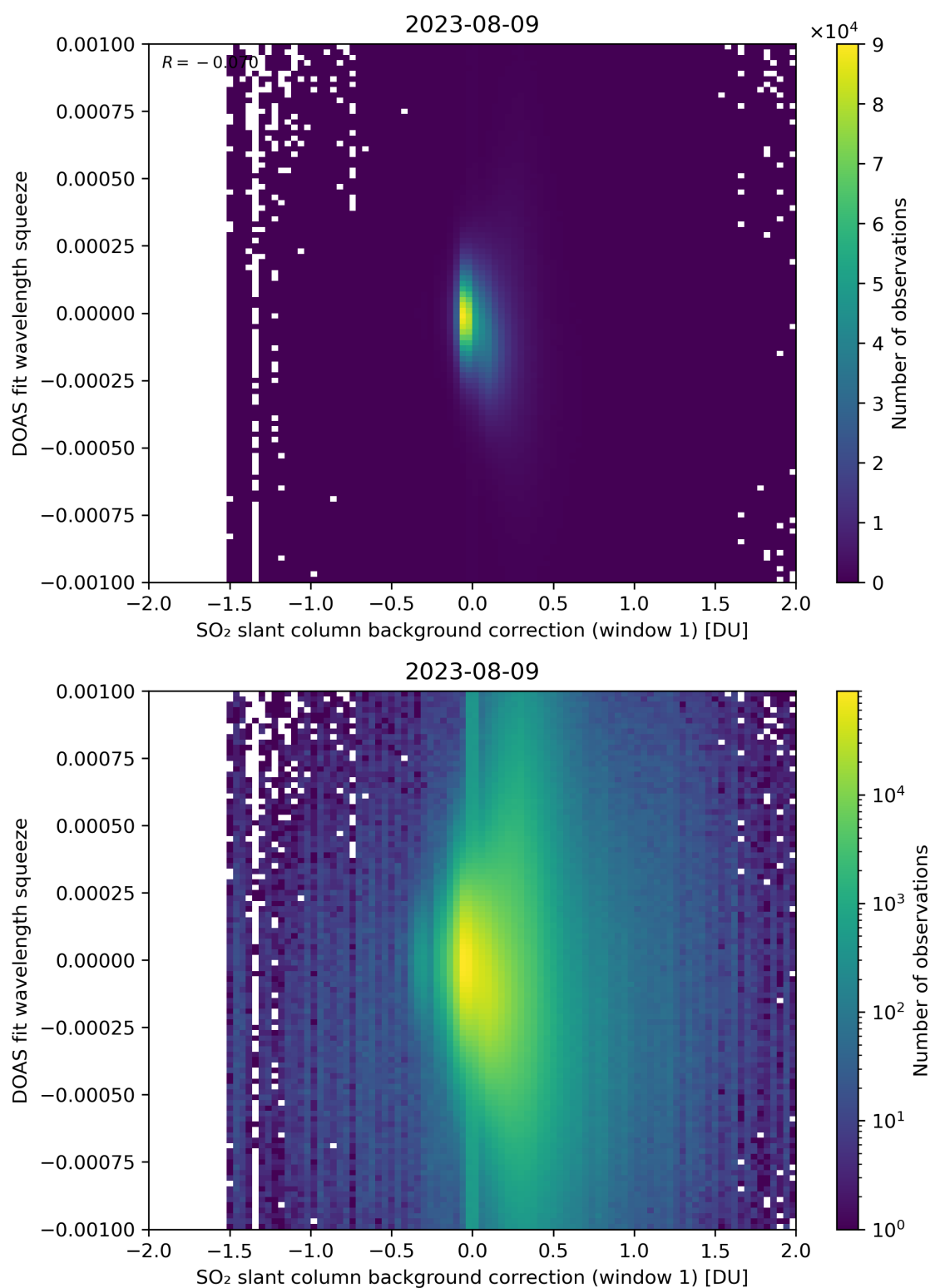


Figure 101: Scatter density plot of “SO₂ slant column background correction (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

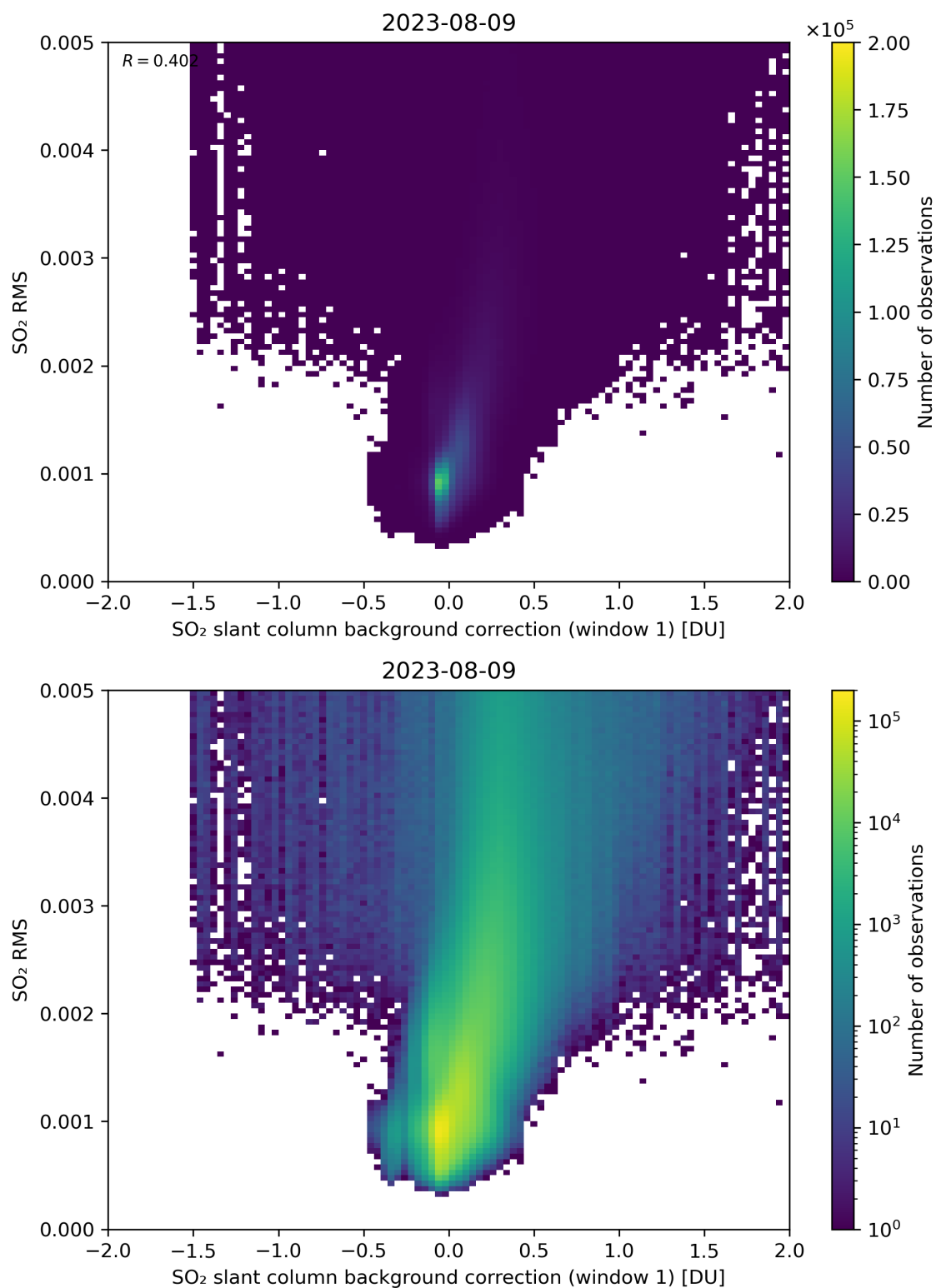


Figure 102: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

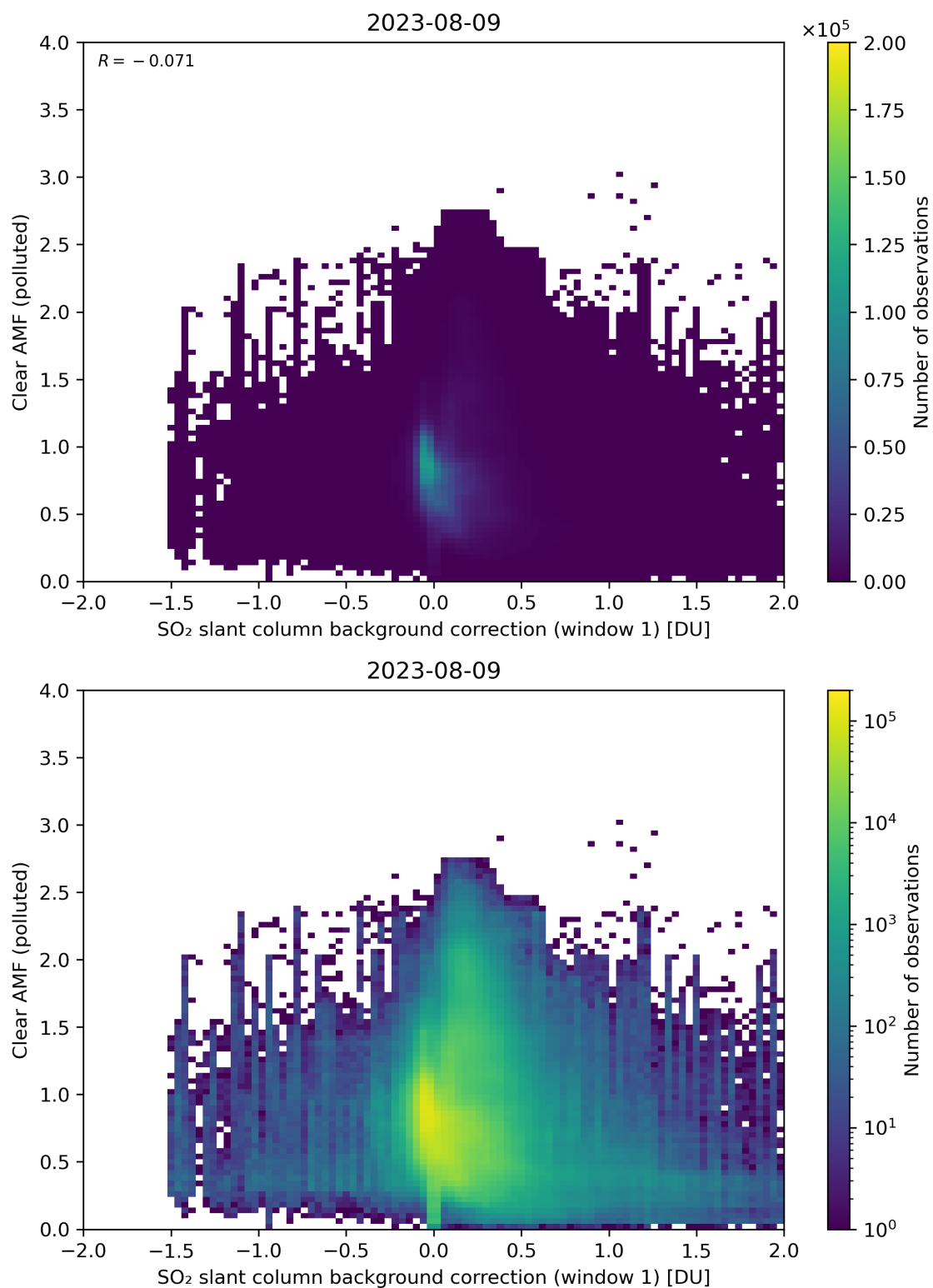


Figure 103: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

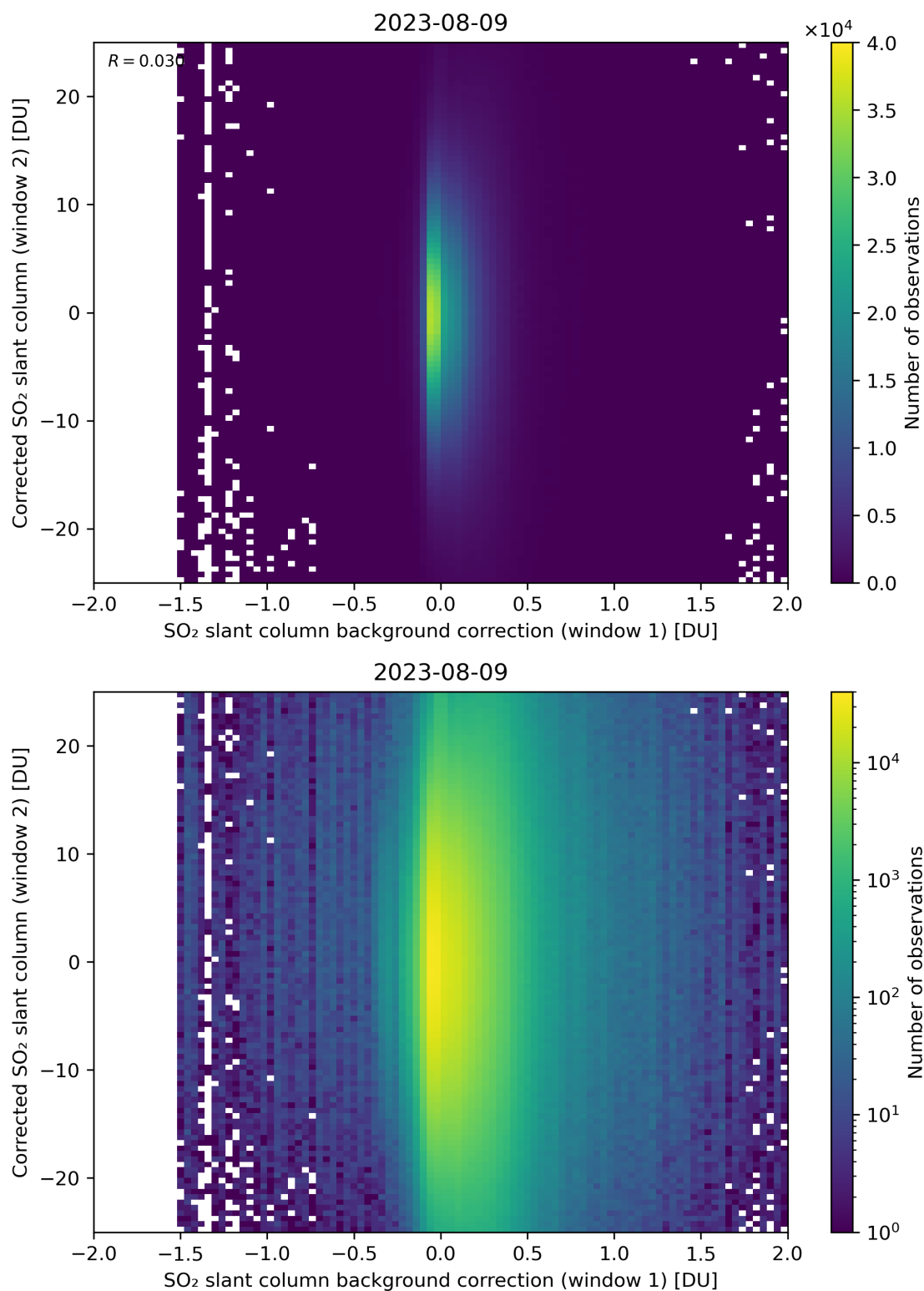


Figure 104: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

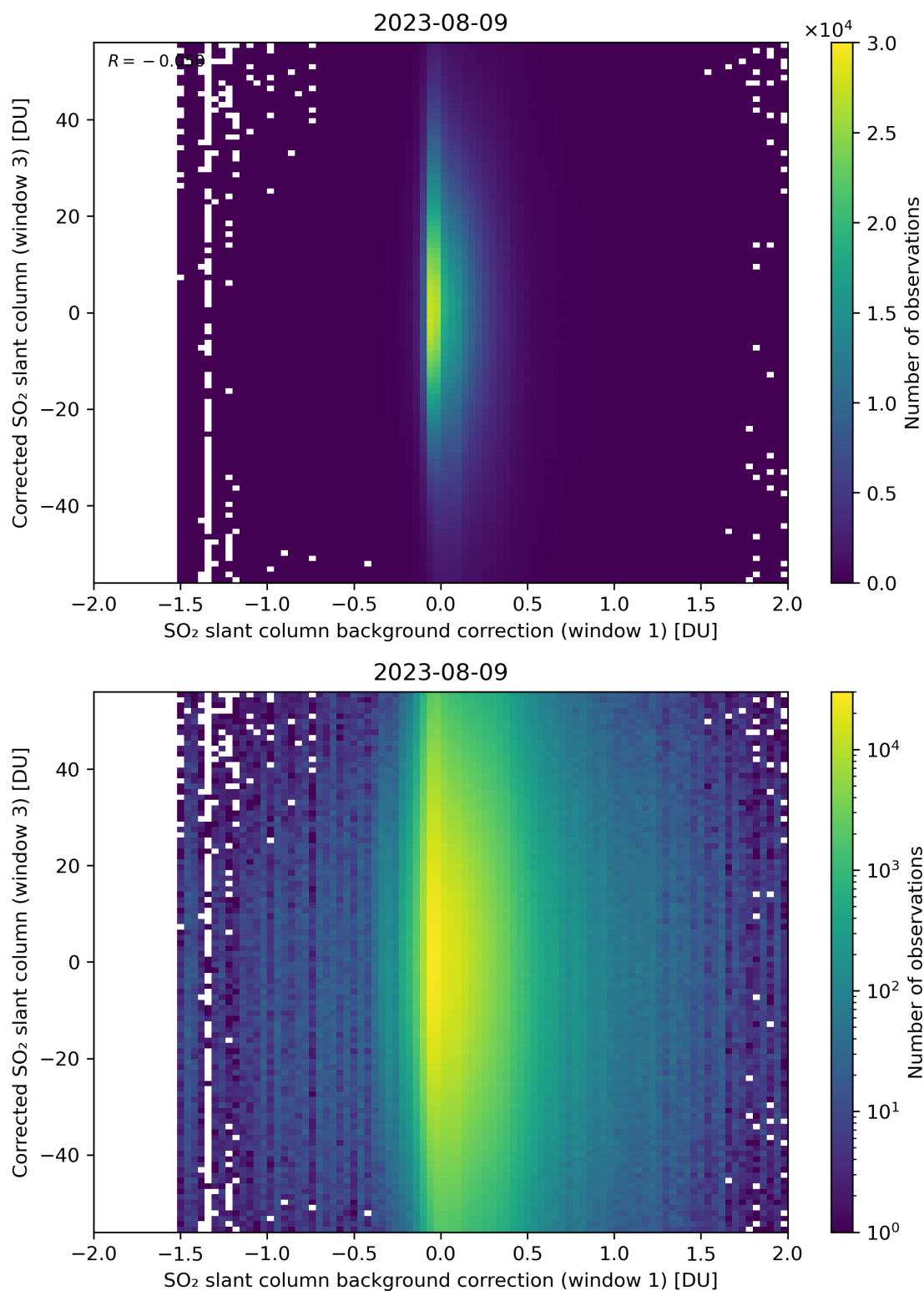


Figure 105: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

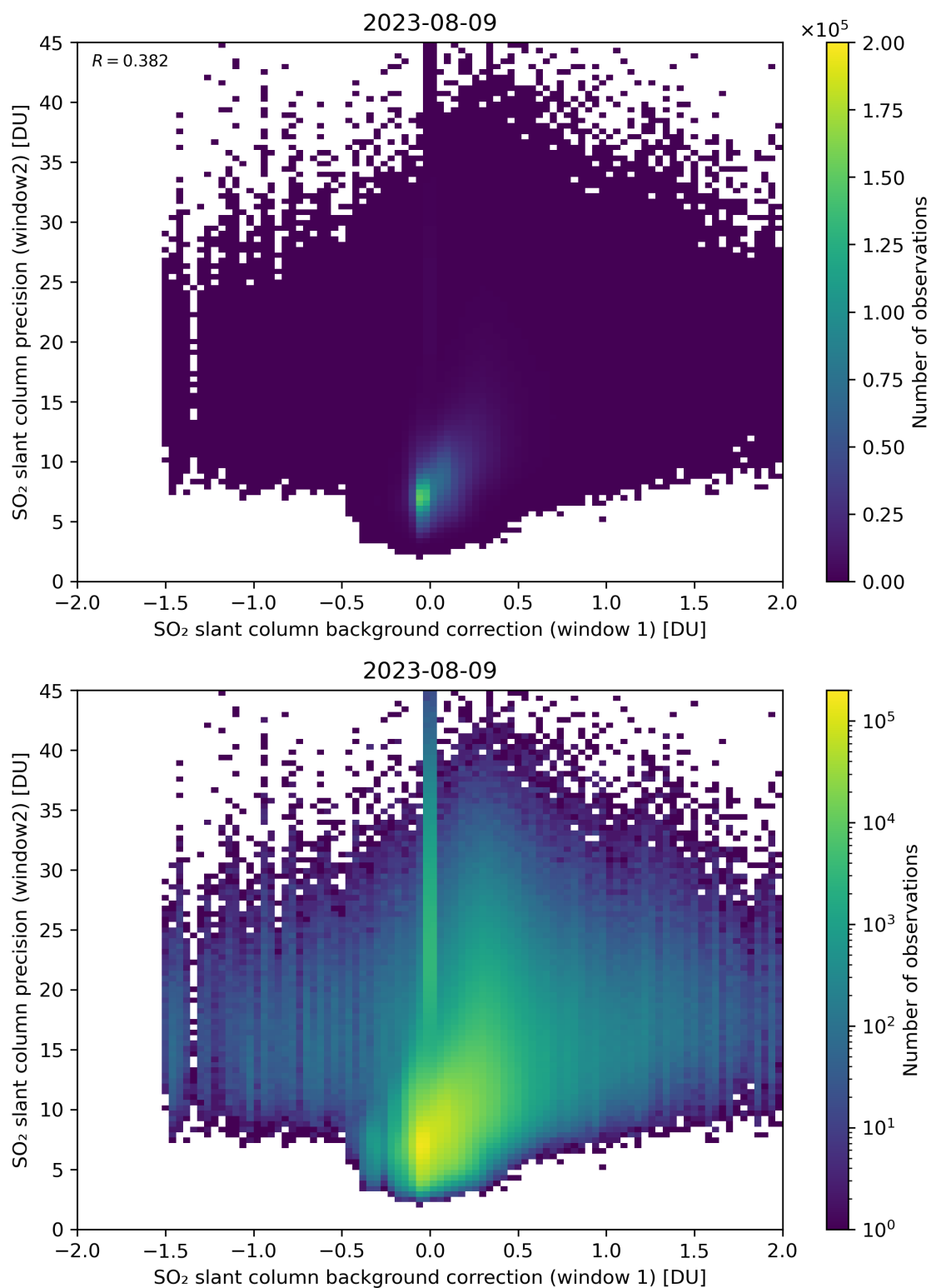


Figure 106: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

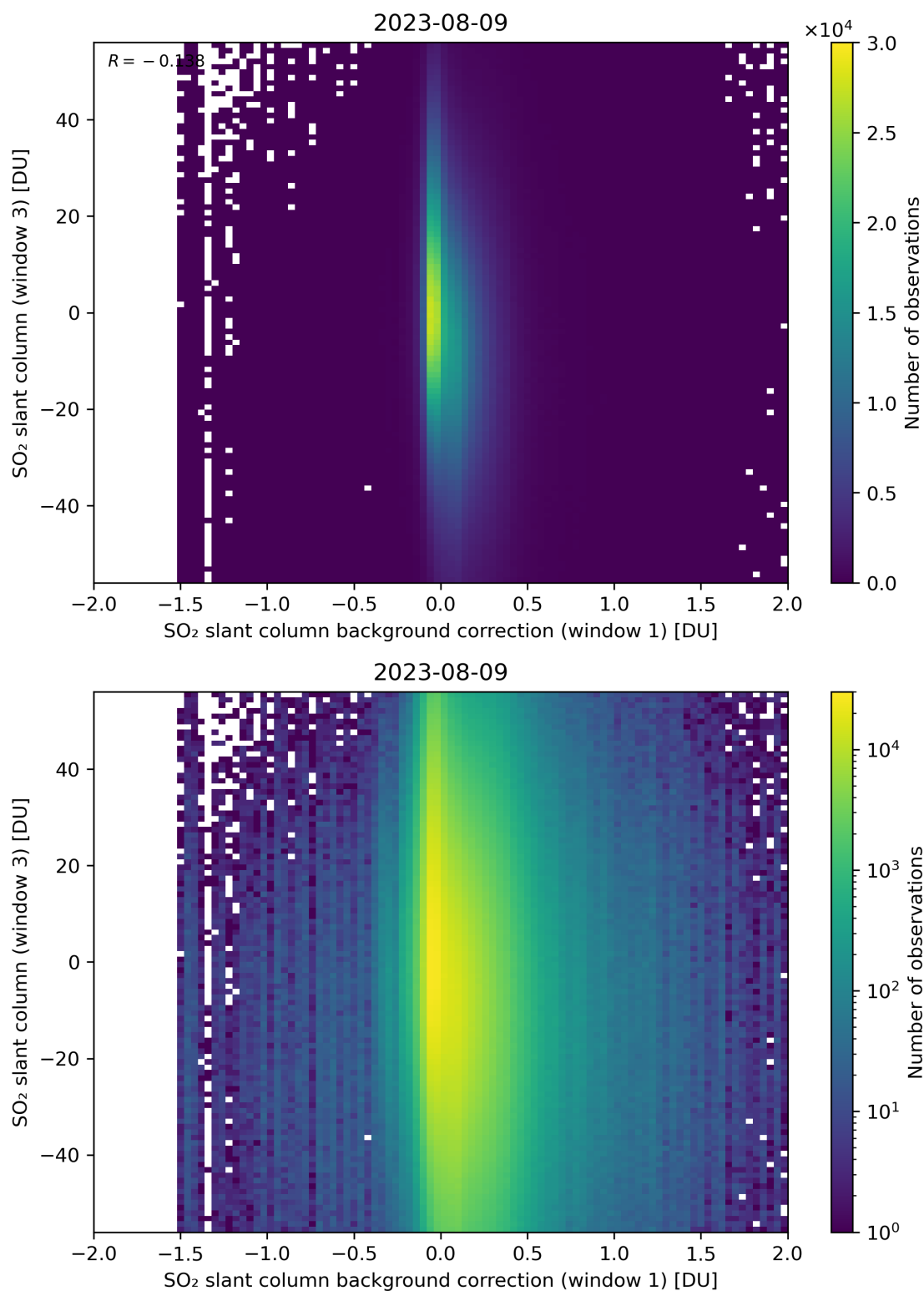


Figure 107: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

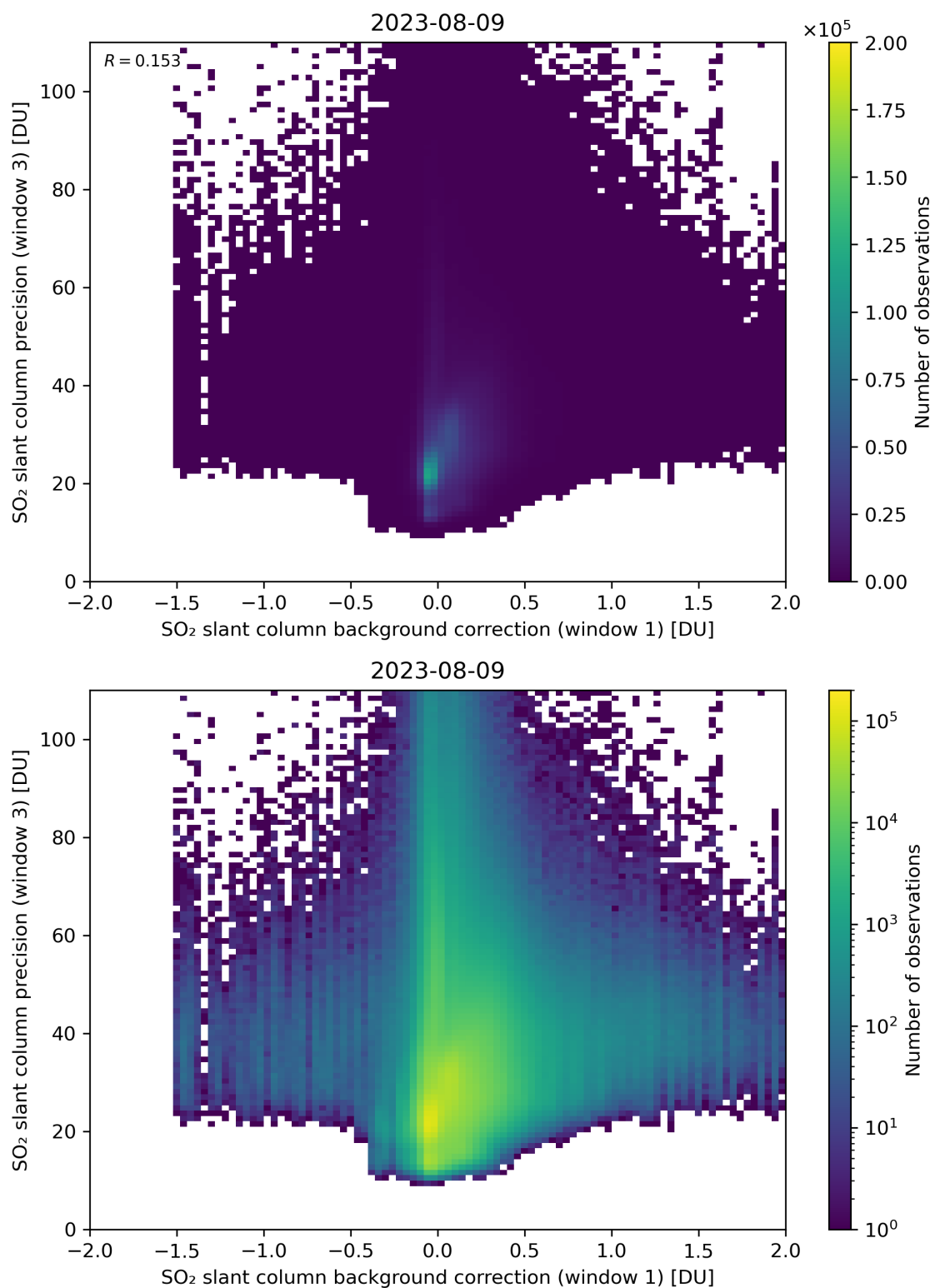


Figure 108: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

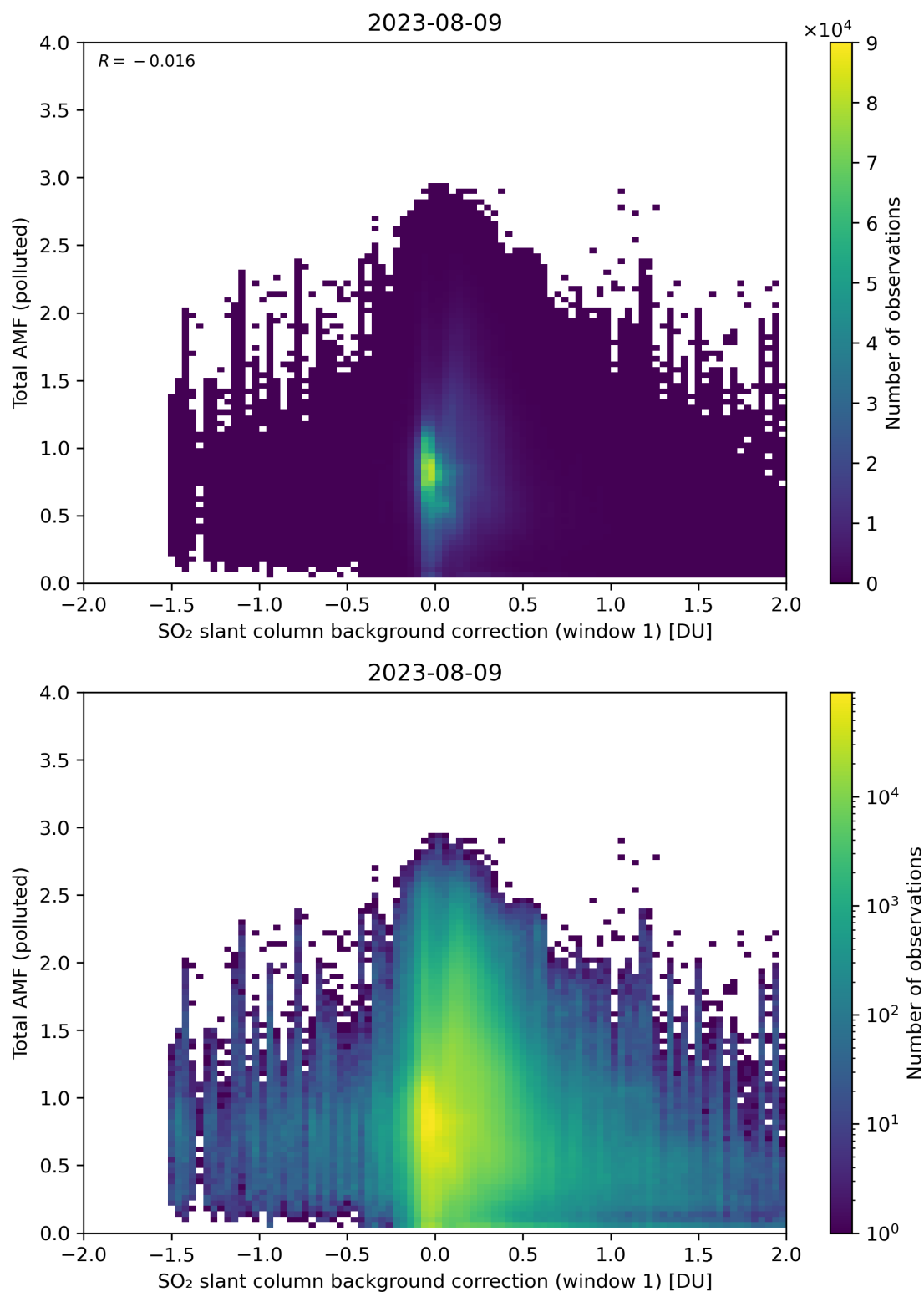


Figure 109: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

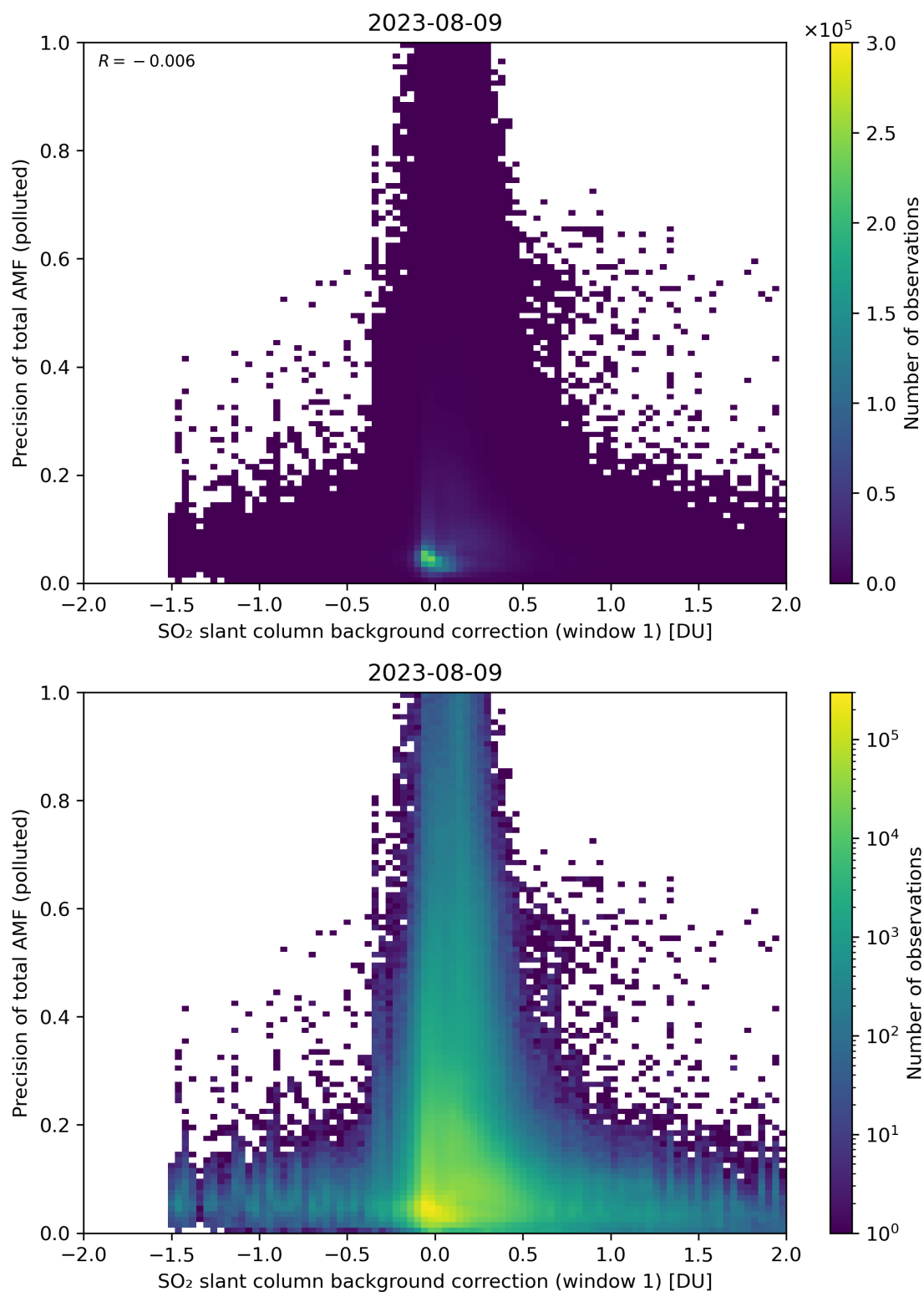


Figure 110: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

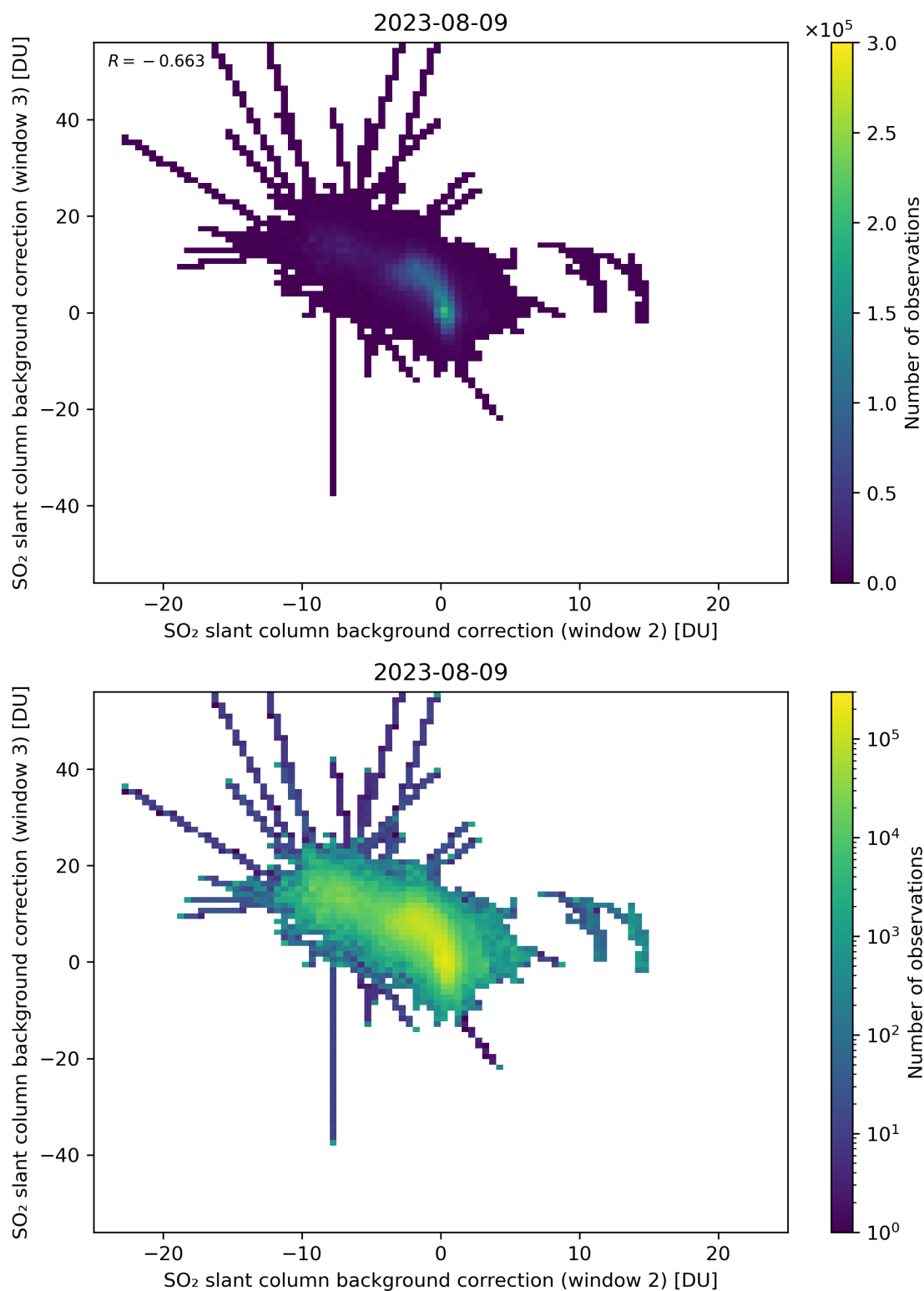


Figure 111: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

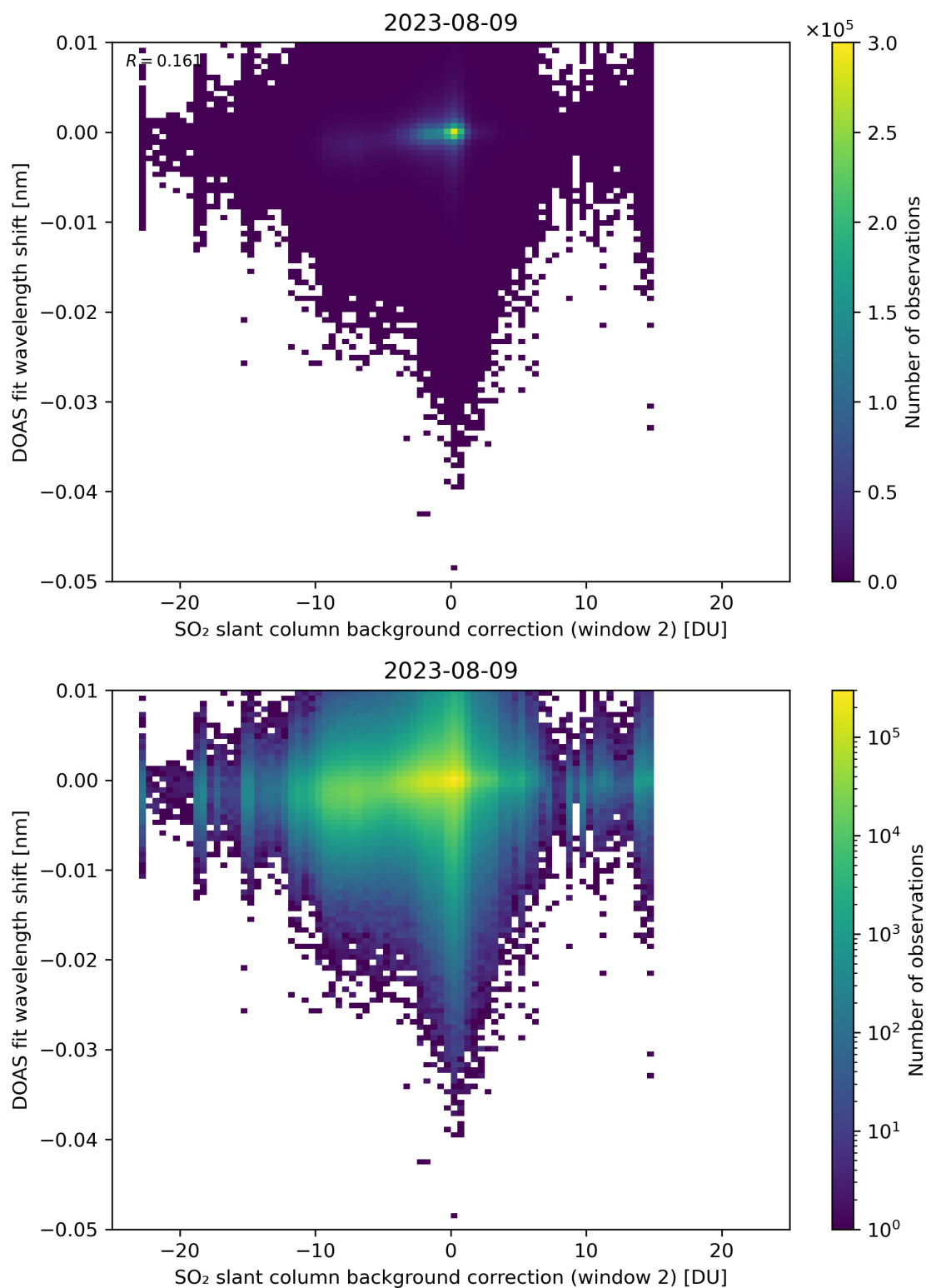


Figure 112: Scatter density plot of “SO₂ slant column background correction (window 2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

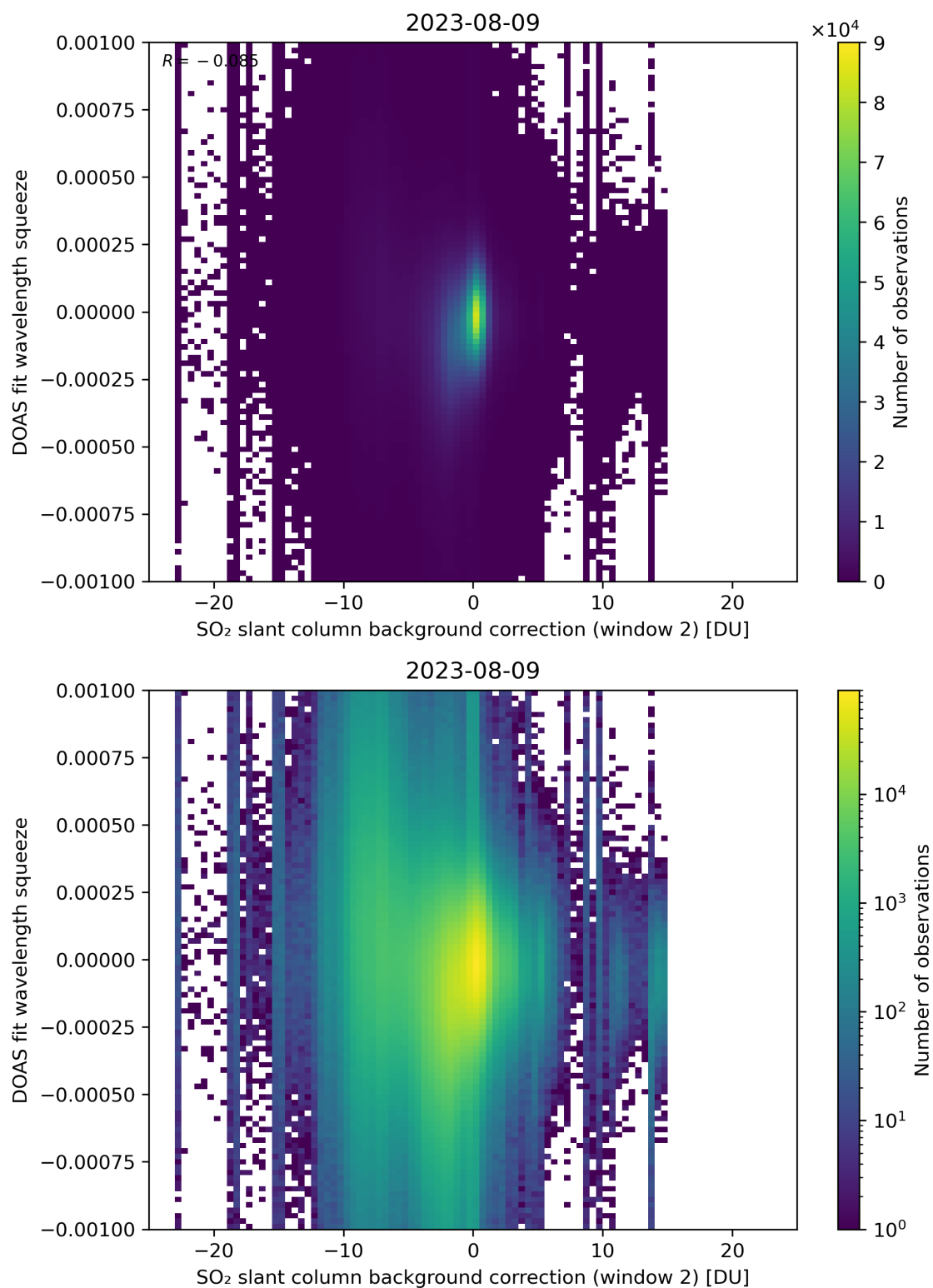


Figure 113: Scatter density plot of “SO₂ slant column background correction (window 2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

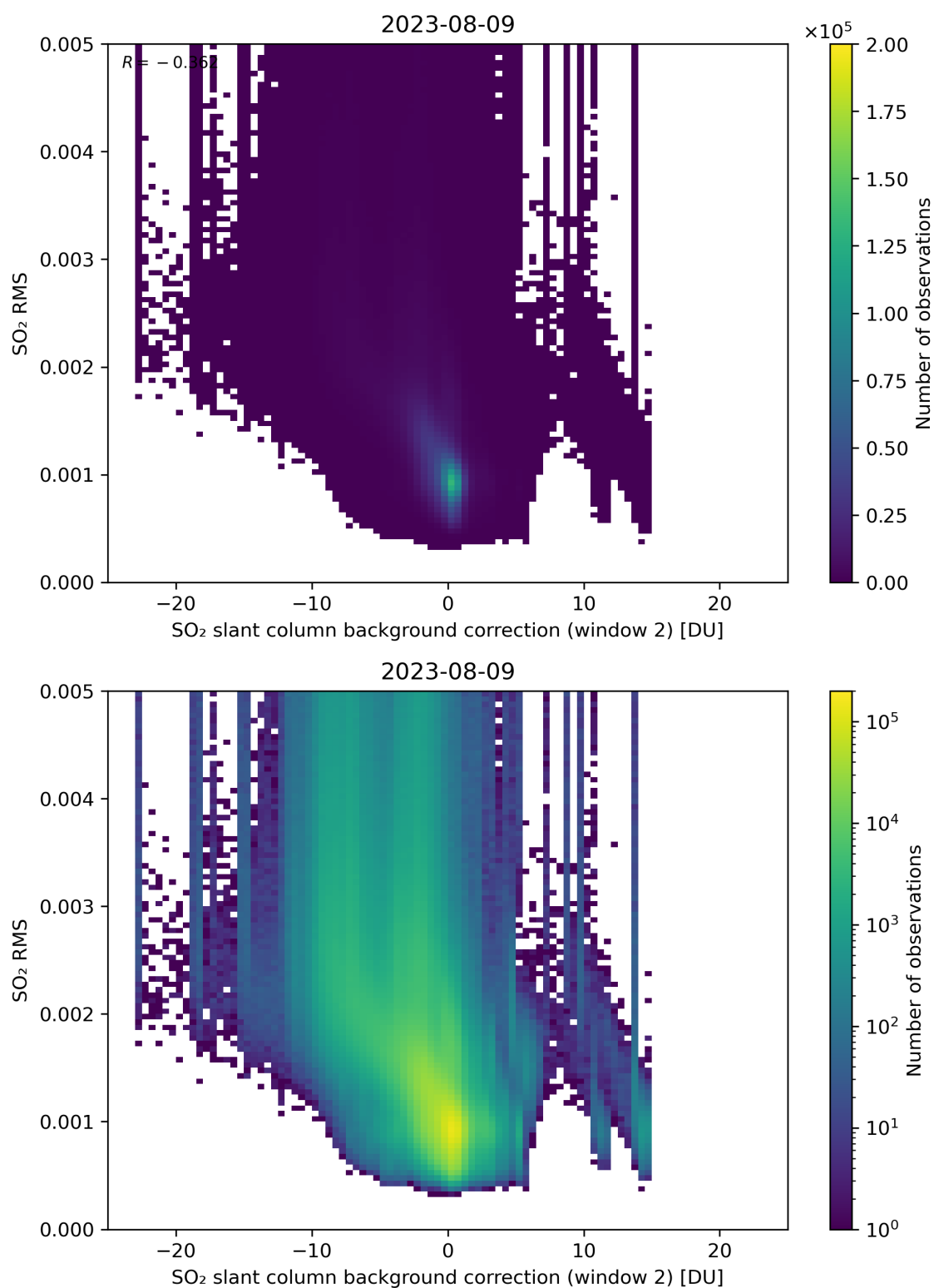


Figure 114: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

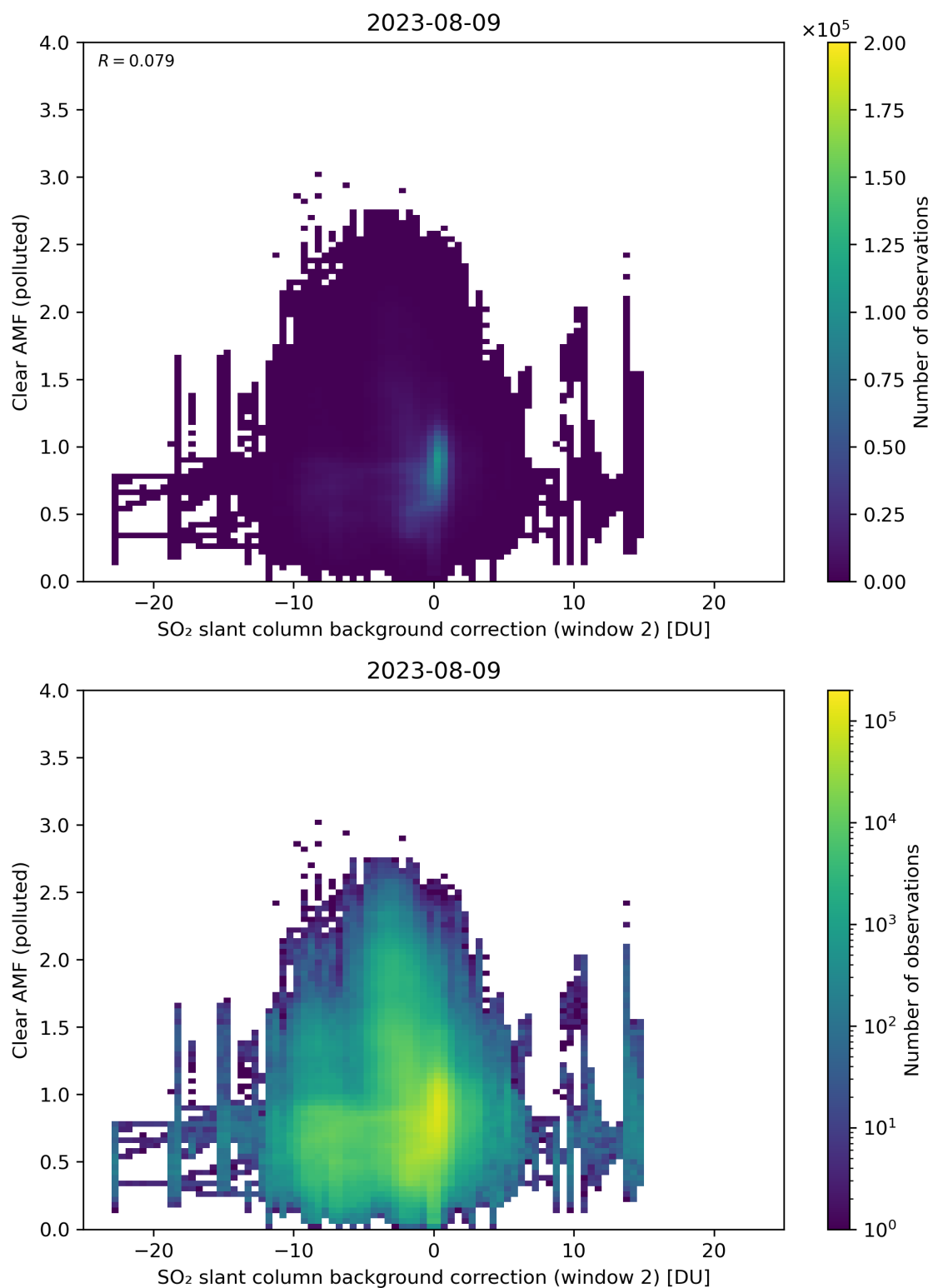


Figure 115: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

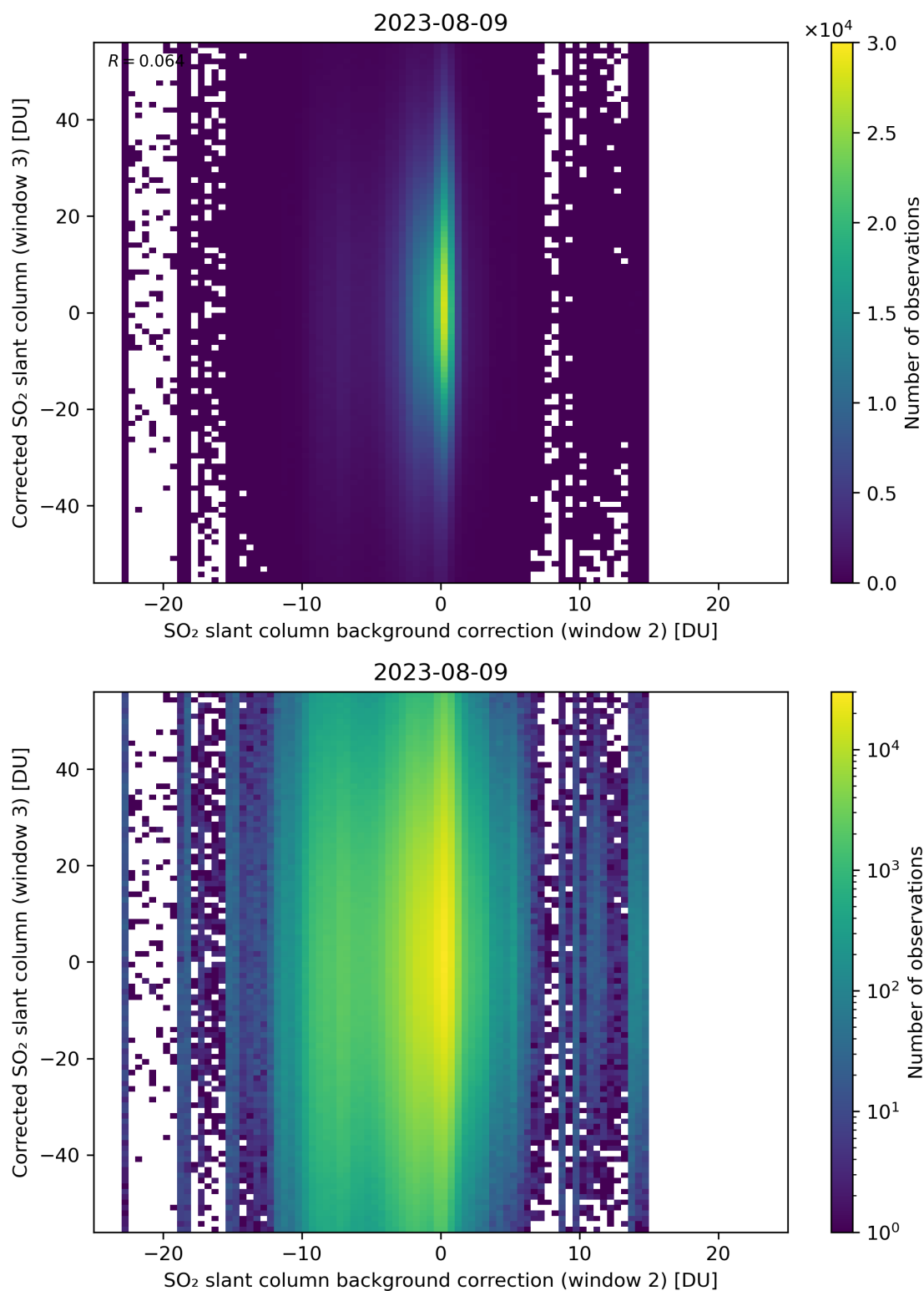


Figure 116: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

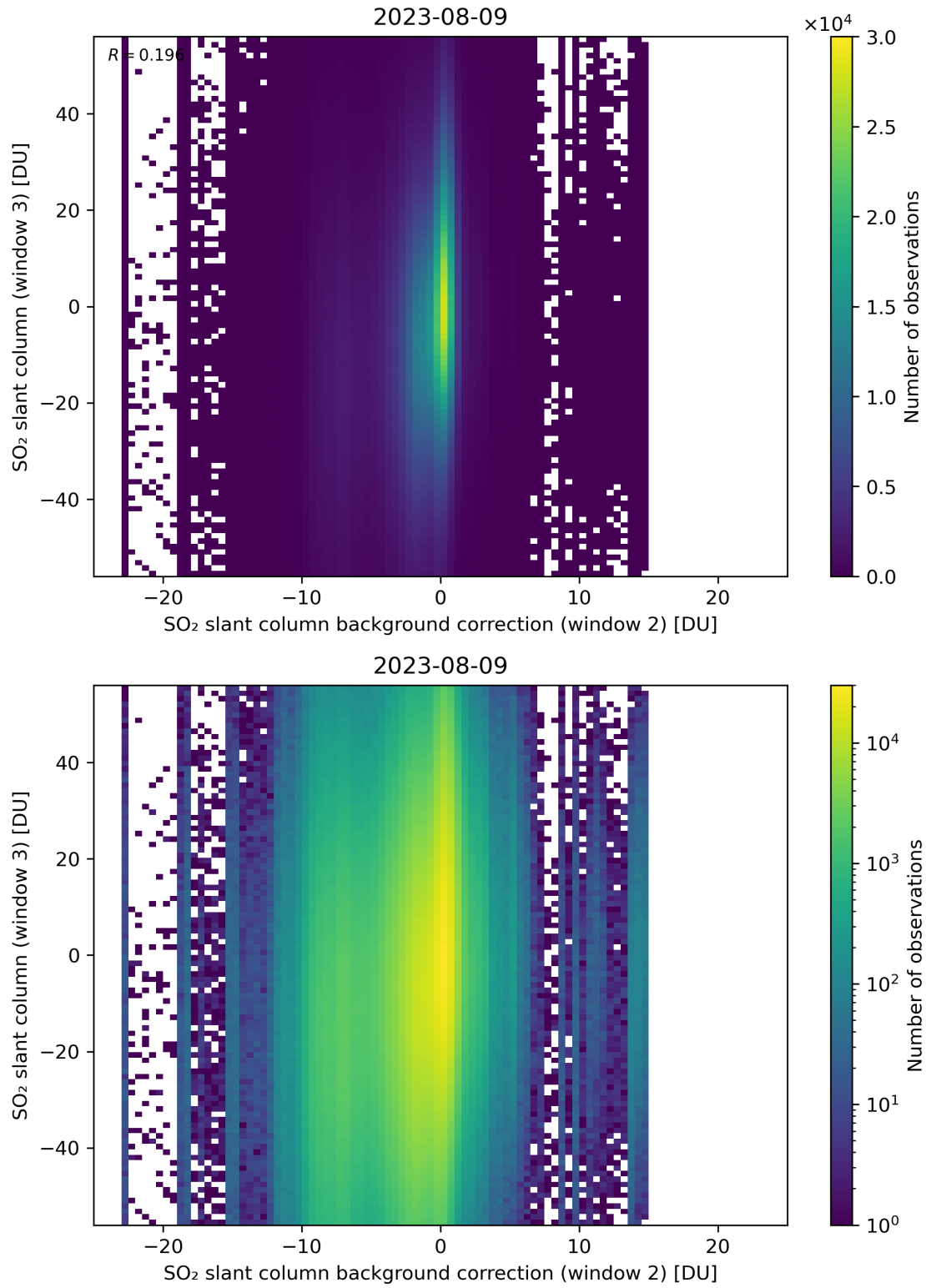


Figure 117: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

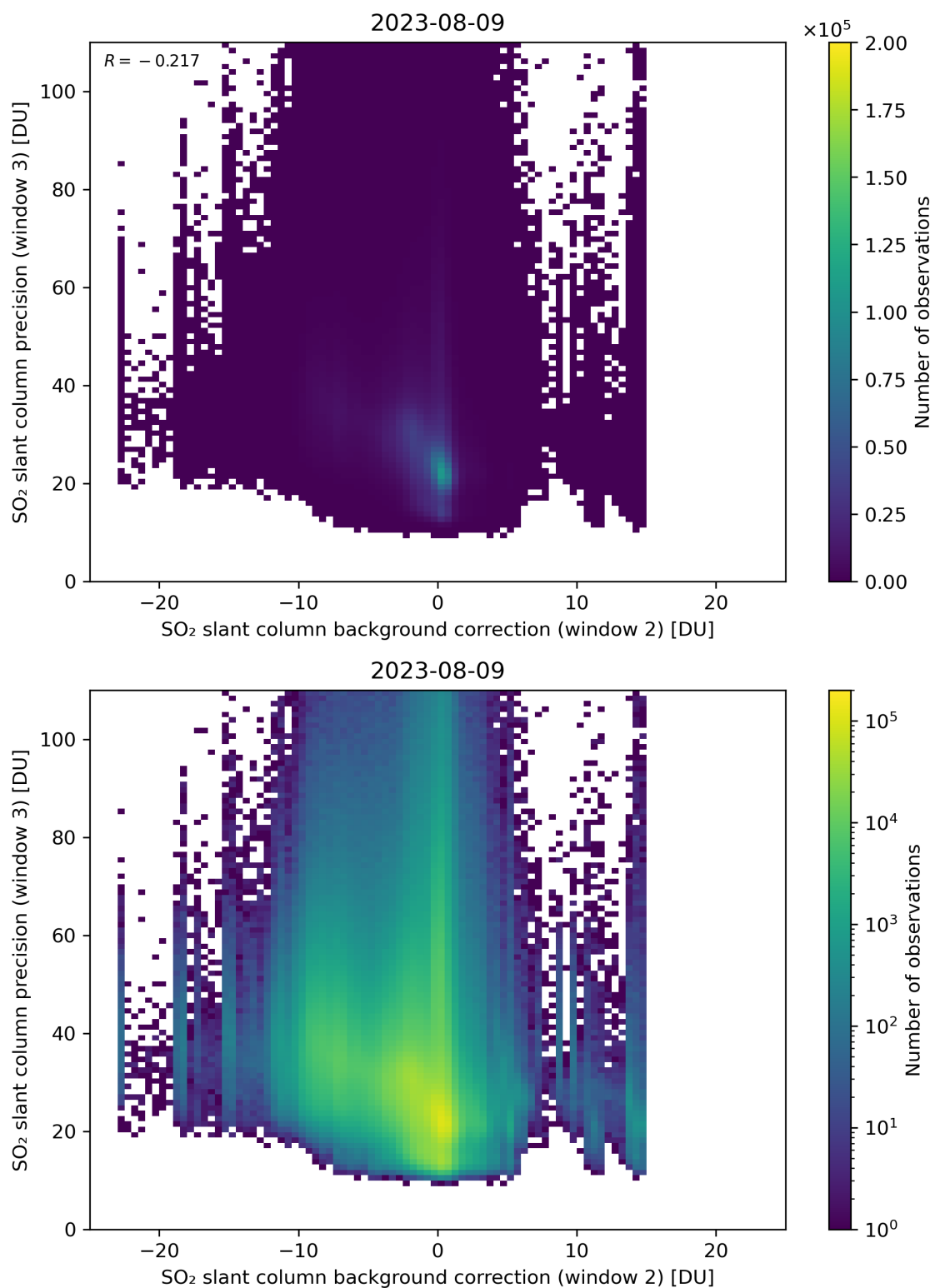


Figure 118: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

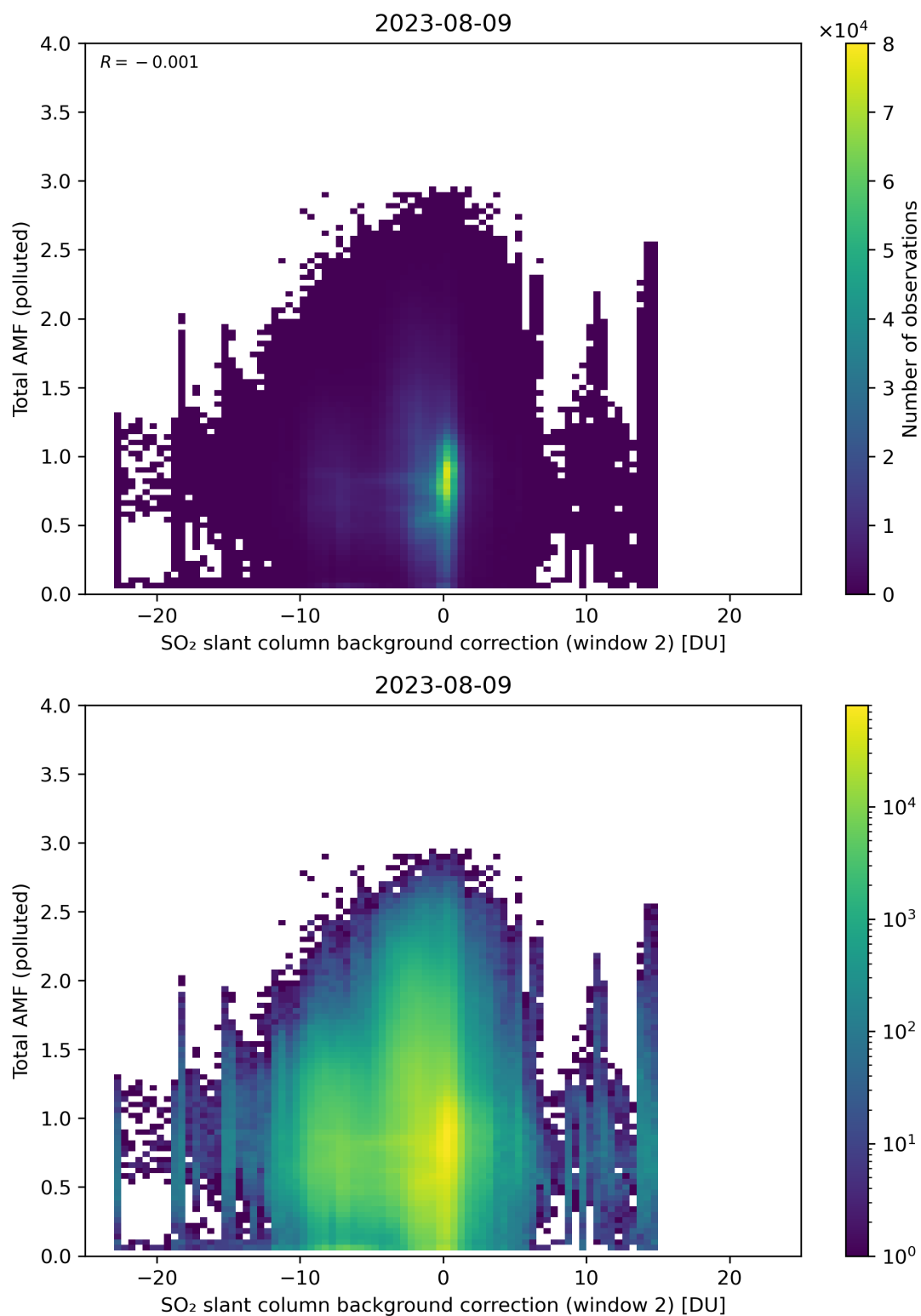


Figure 119: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

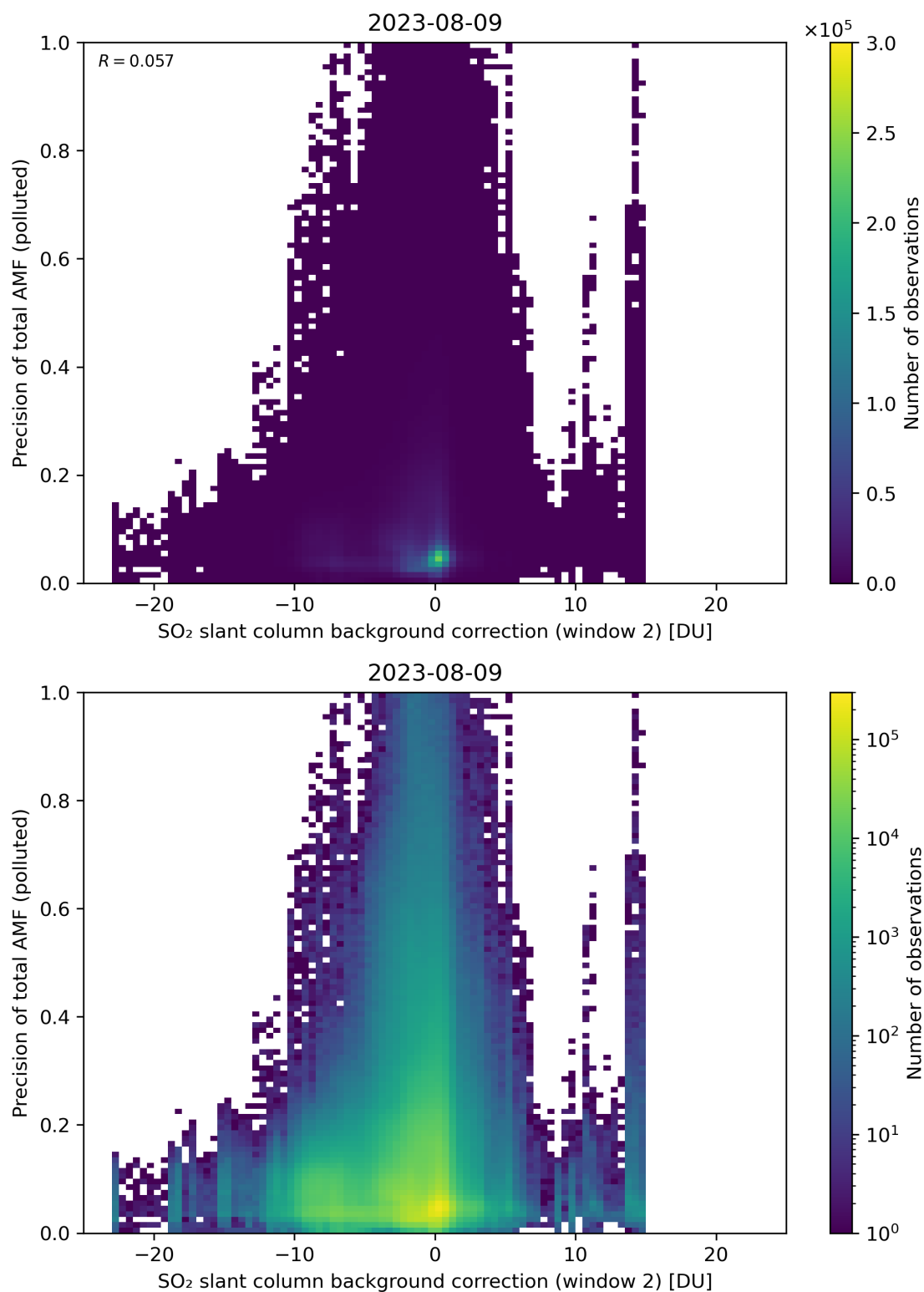


Figure 120: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

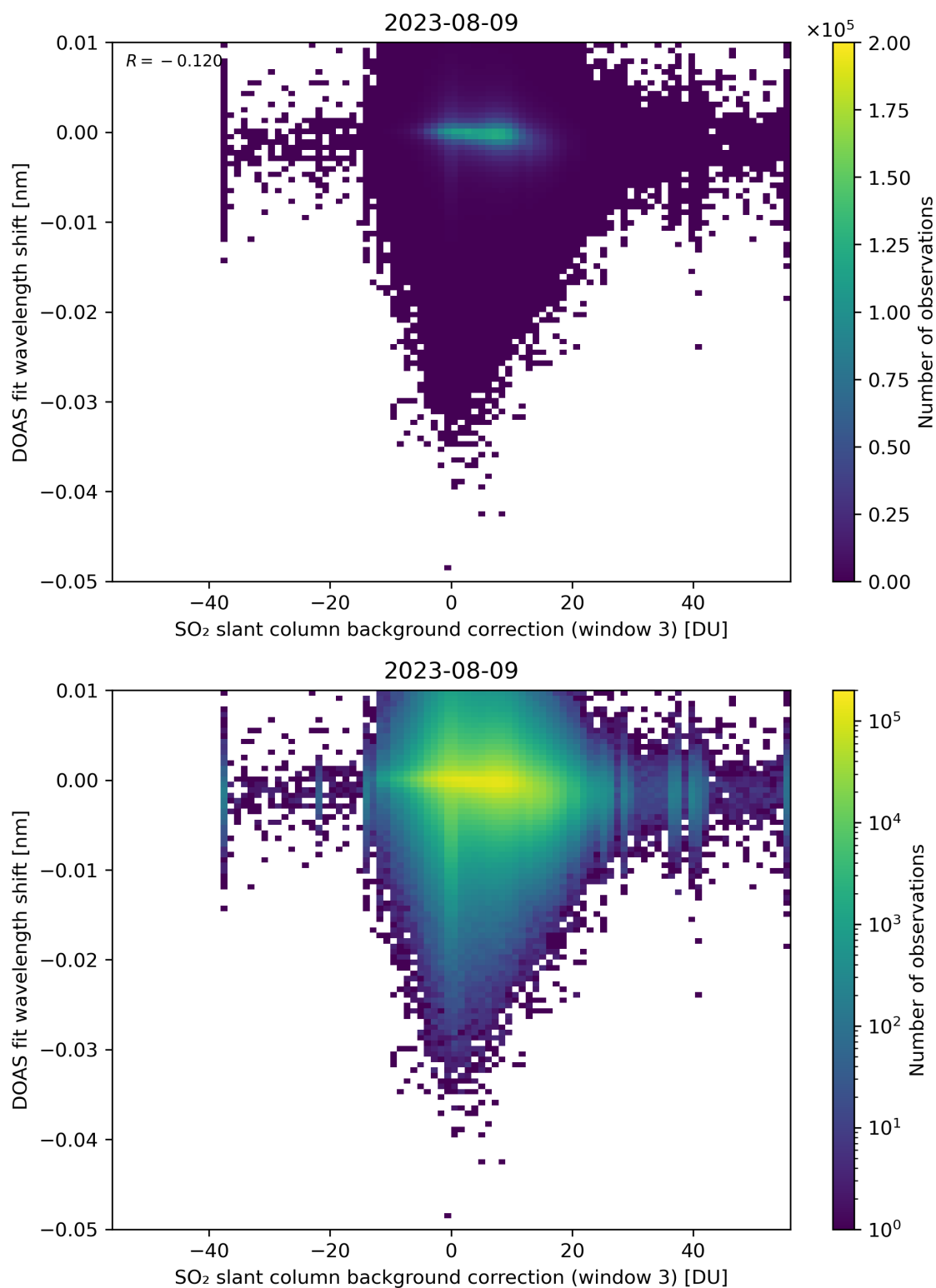


Figure 121: Scatter density plot of “SO₂ slant column background correction (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

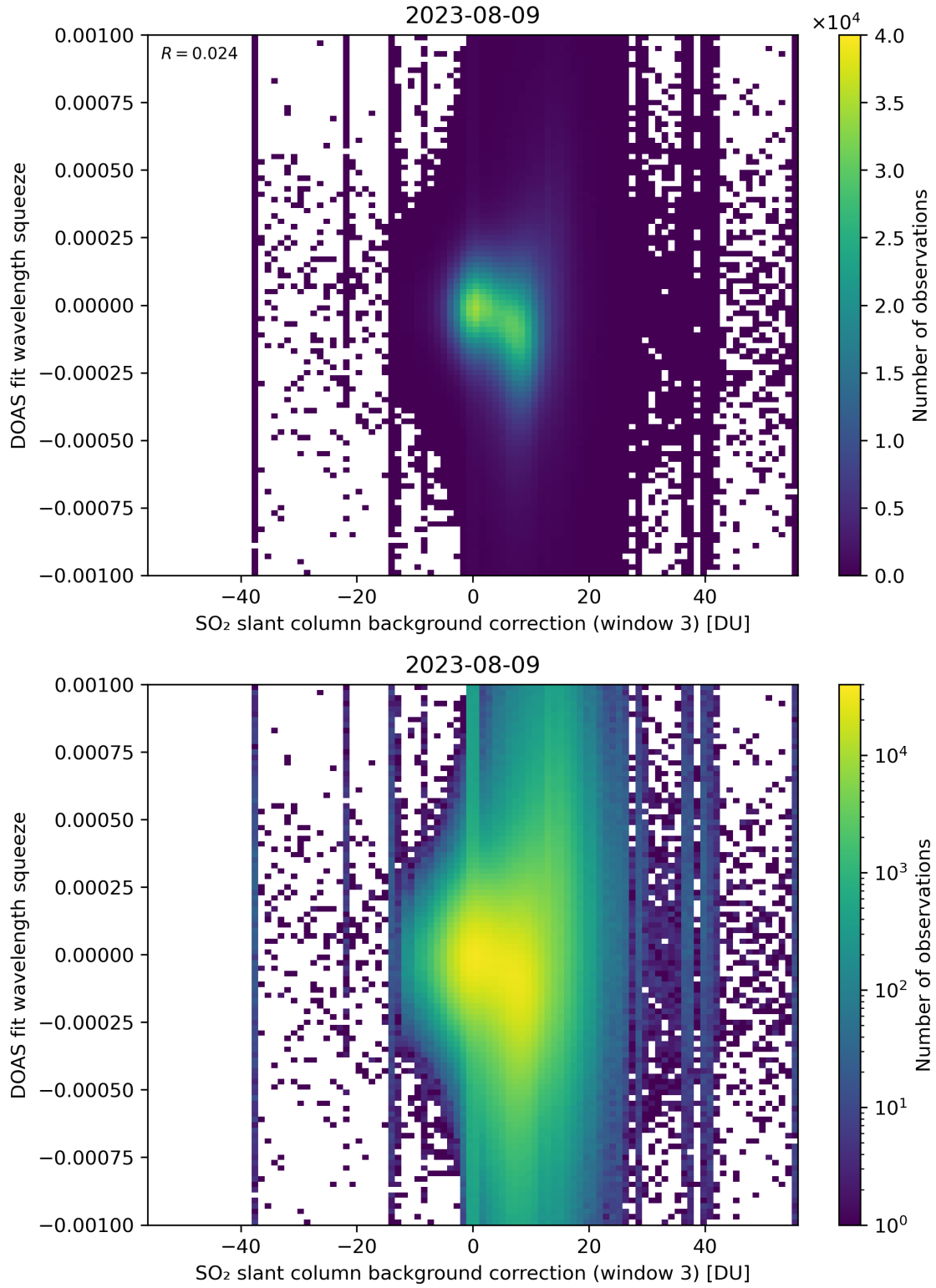


Figure 122: Scatter density plot of “SO₂ slant column background correction (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

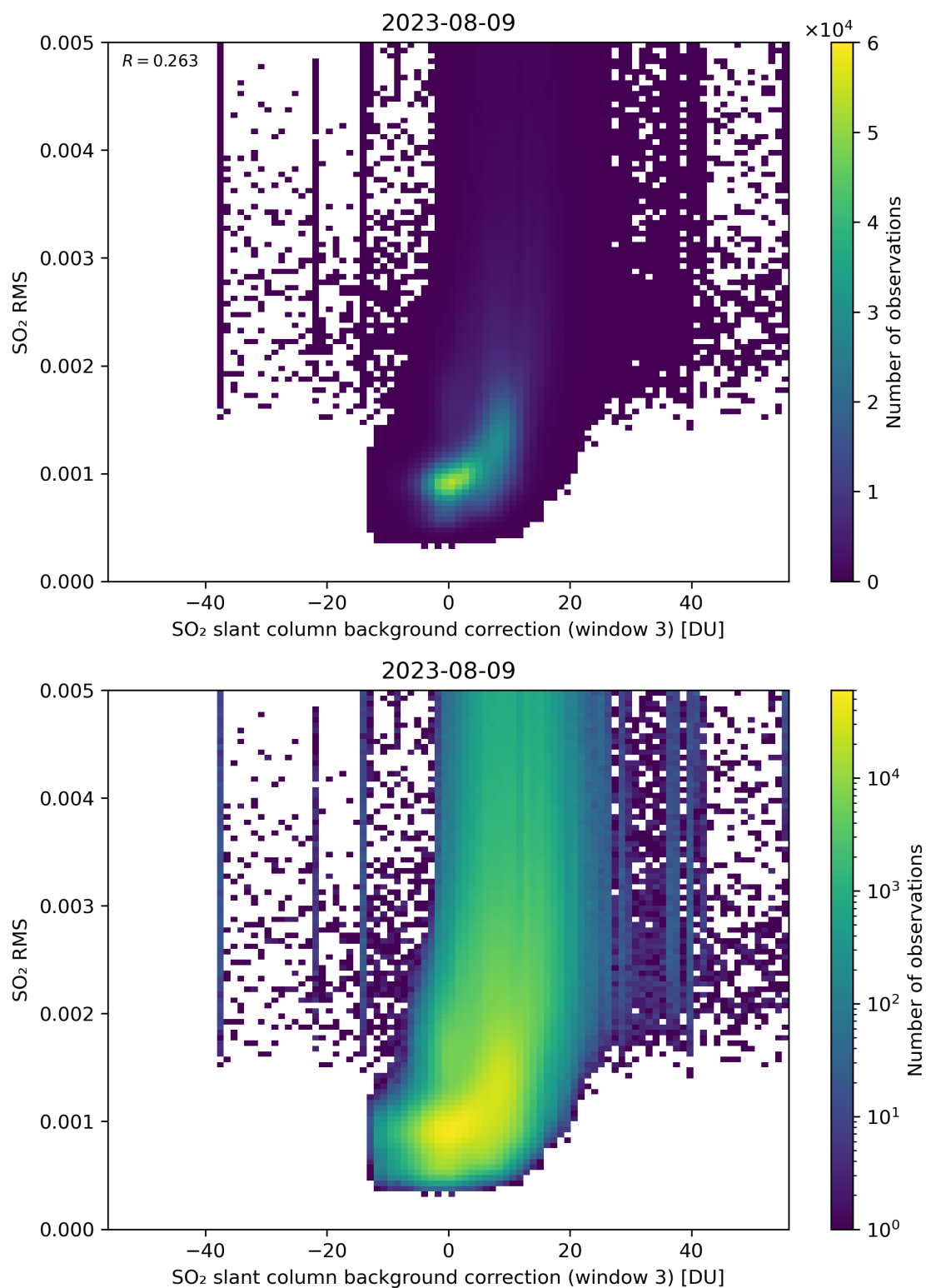


Figure 123: Scatter density plot of “SO₂ slant column background correction (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

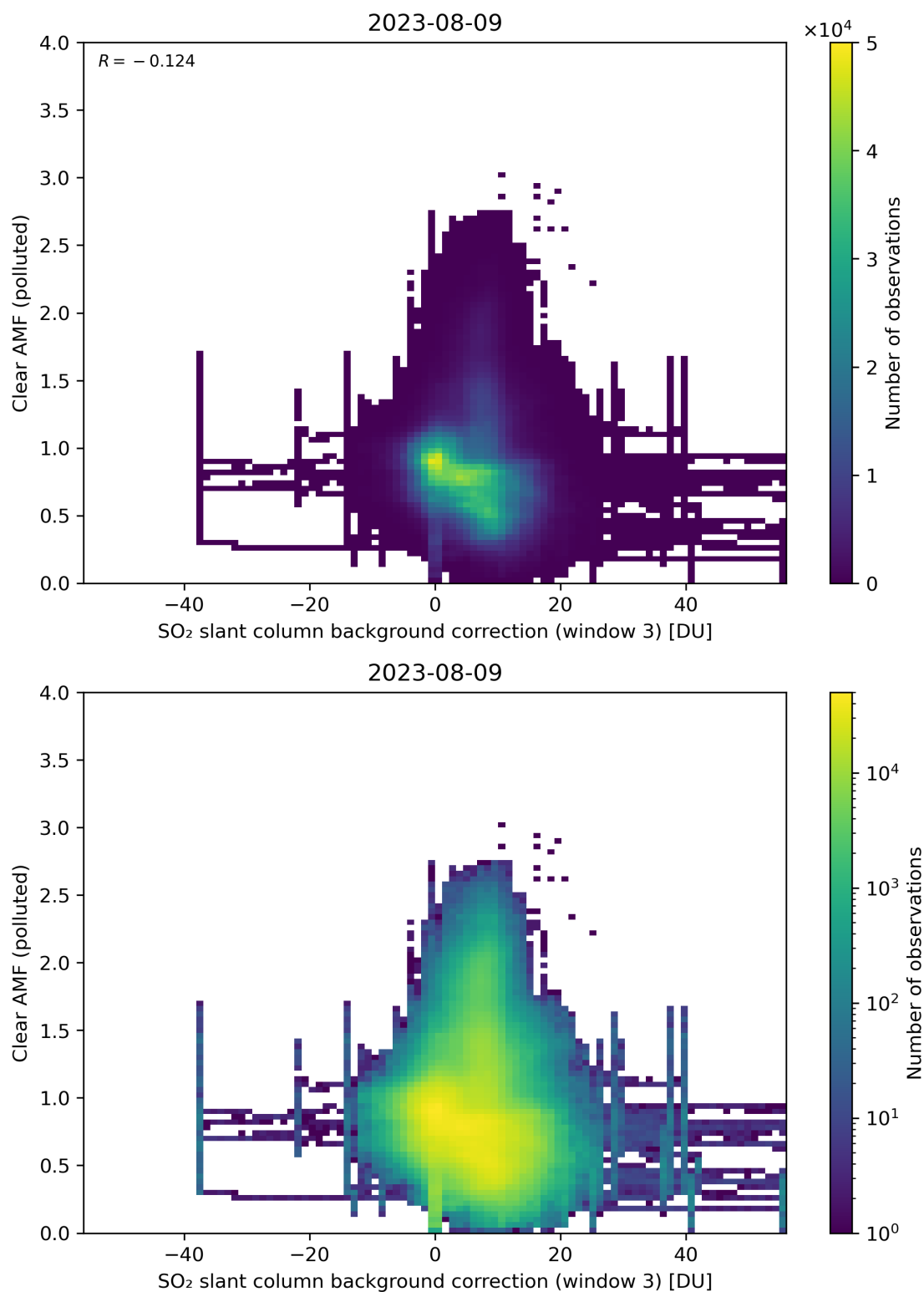


Figure 124: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

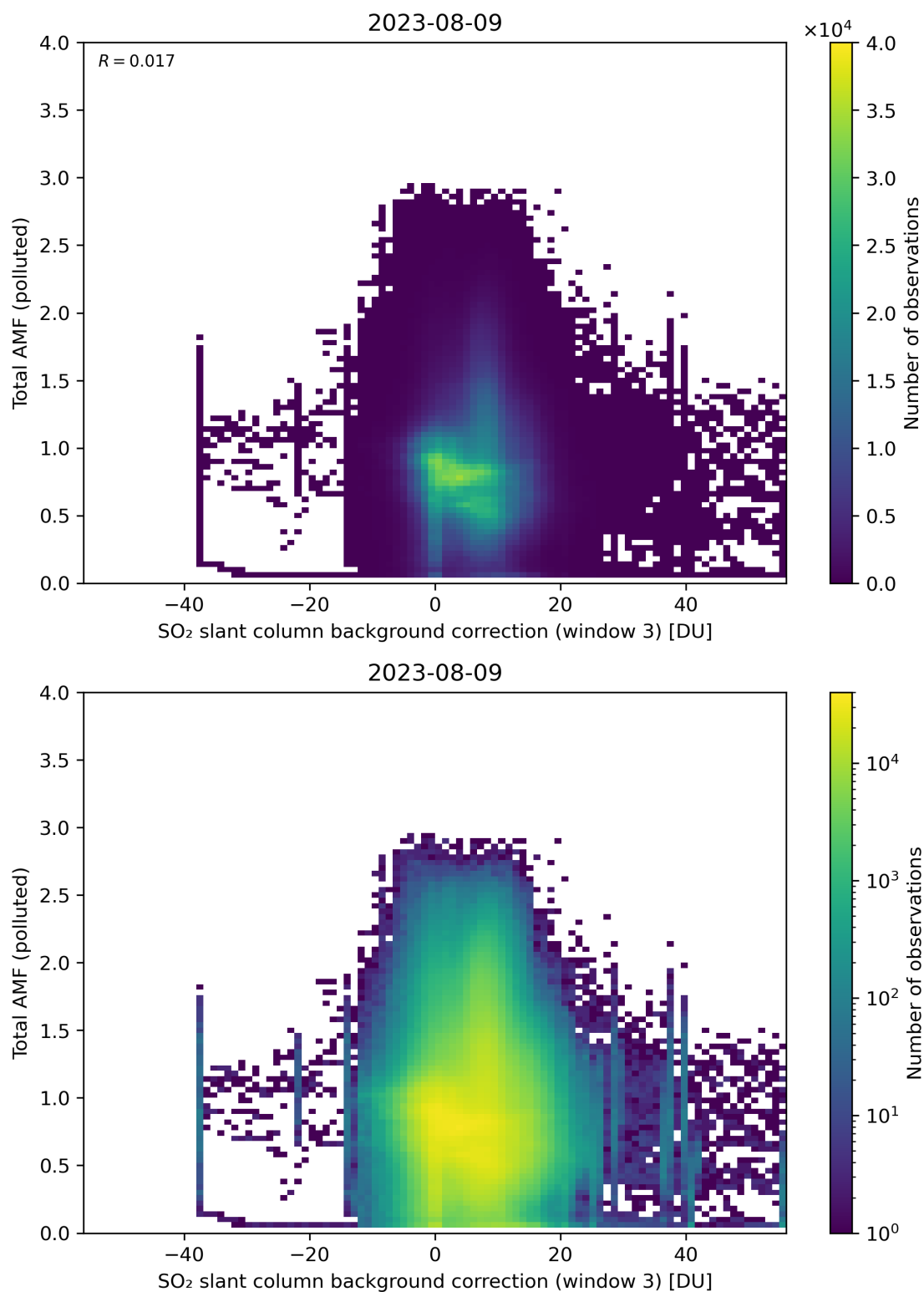


Figure 125: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

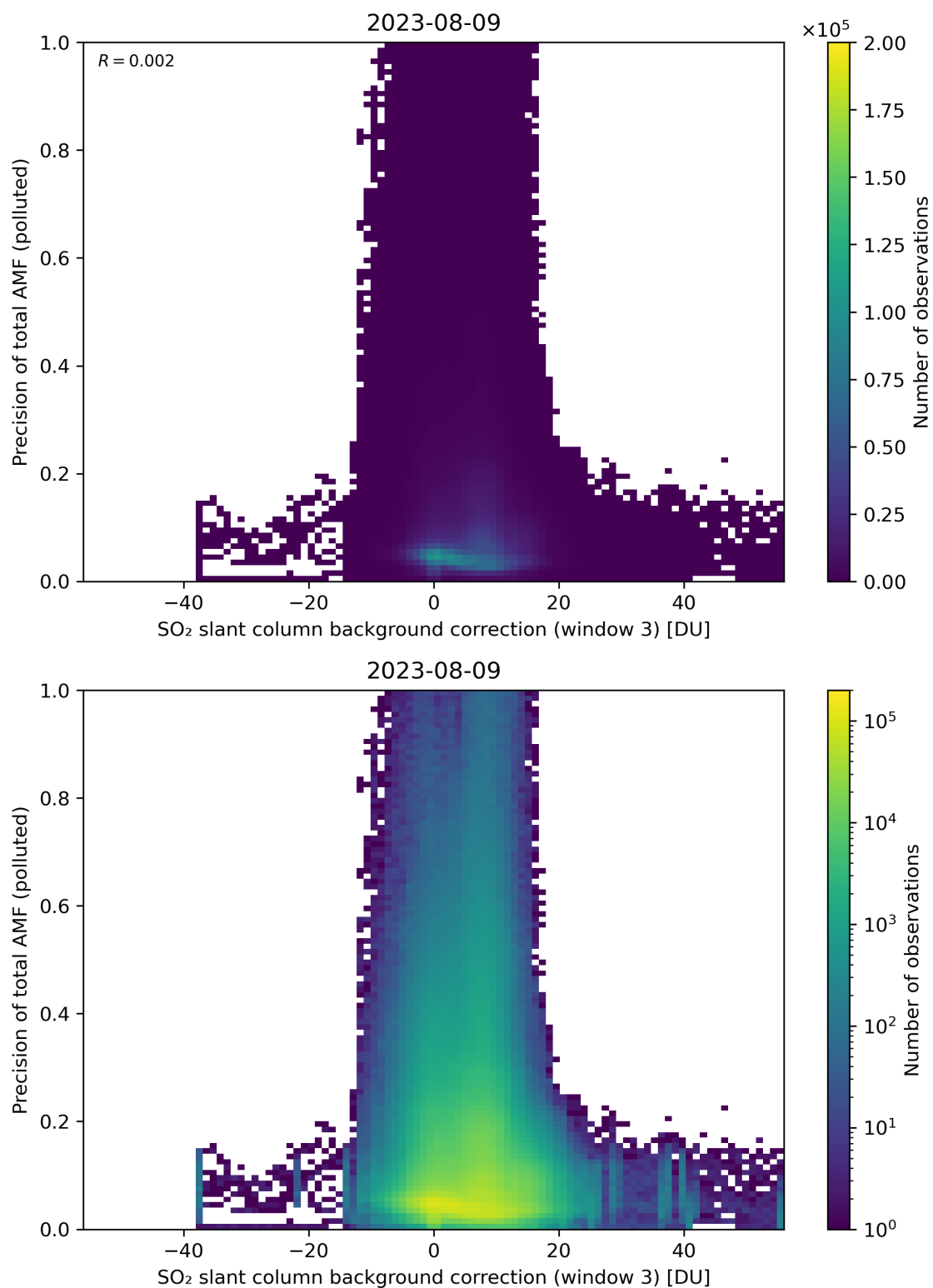


Figure 126: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

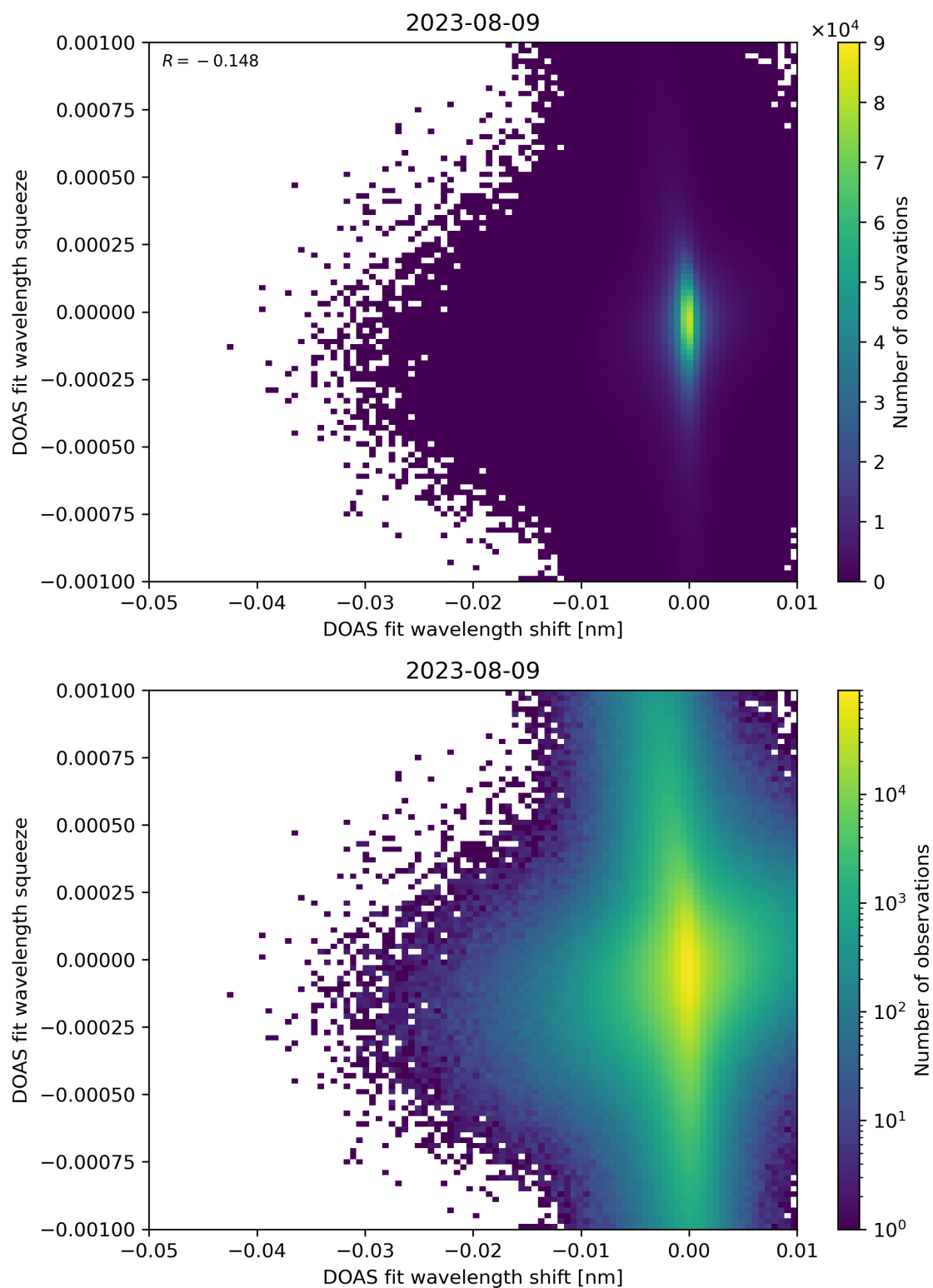


Figure 127: Scatter density plot of “DOAS fit wavelength shift” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

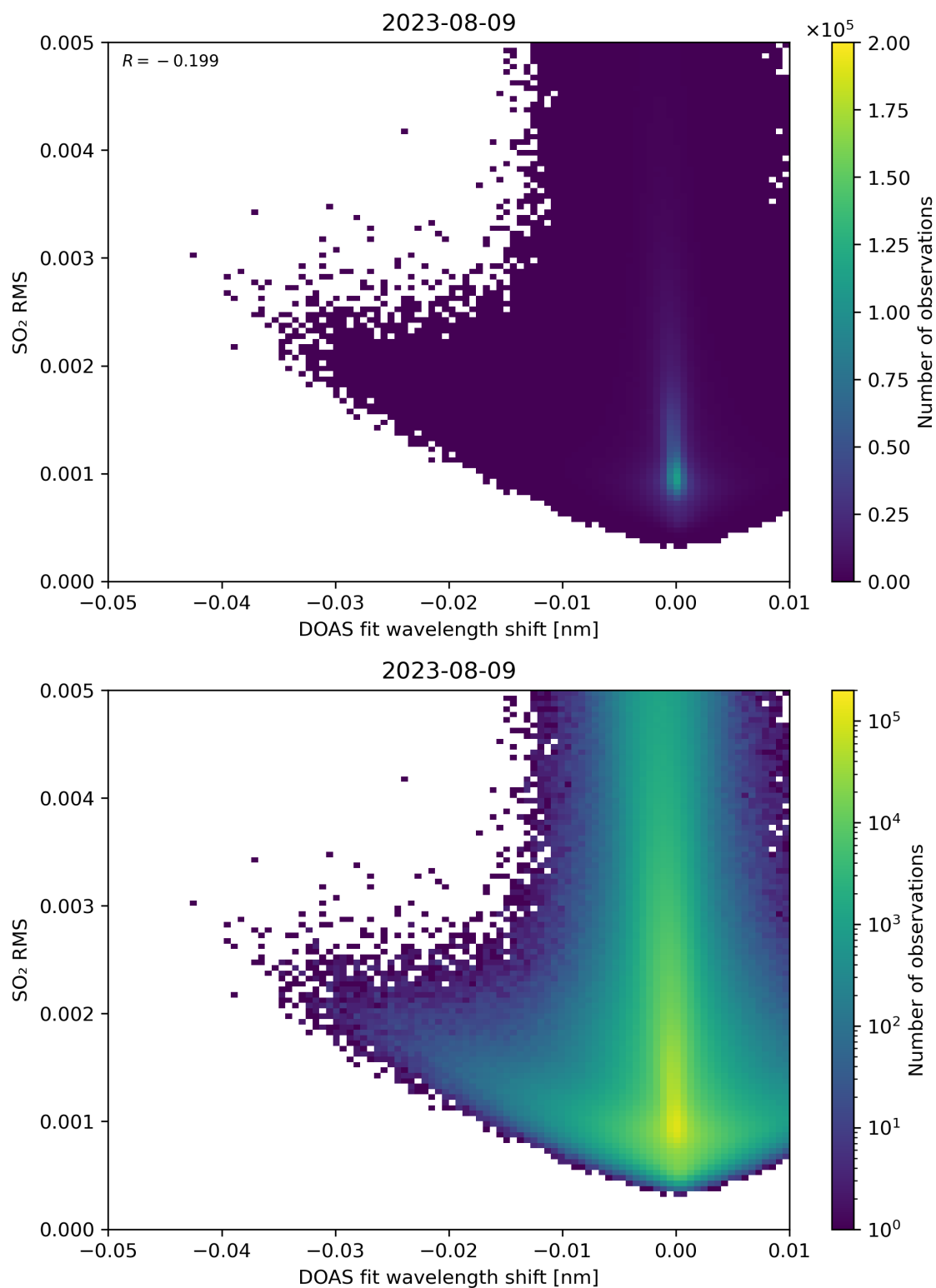


Figure 128: Scatter density plot of “DOAS fit wavelength shift” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

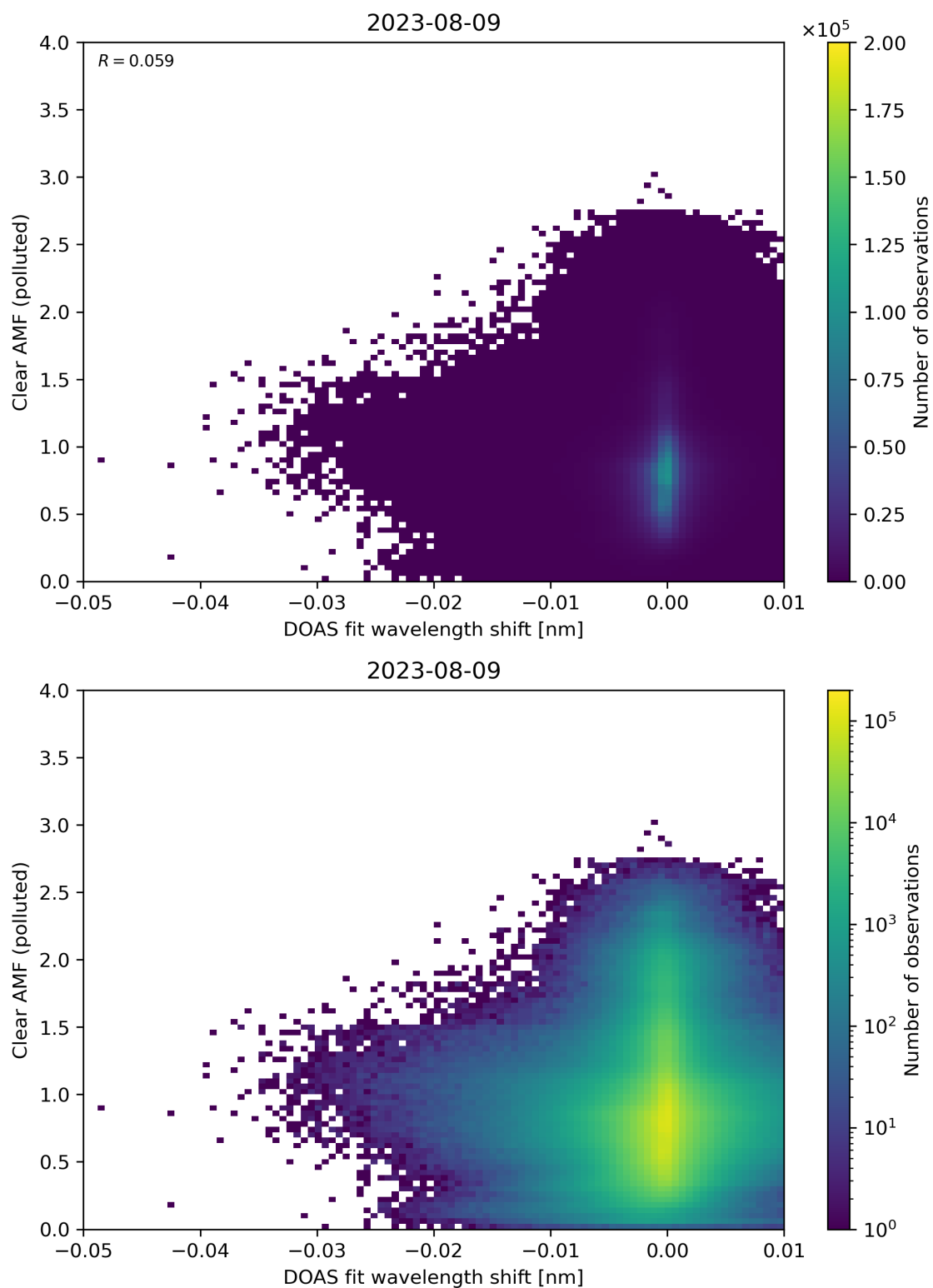


Figure 129: Scatter density plot of “DOAS fit wavelength shift” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

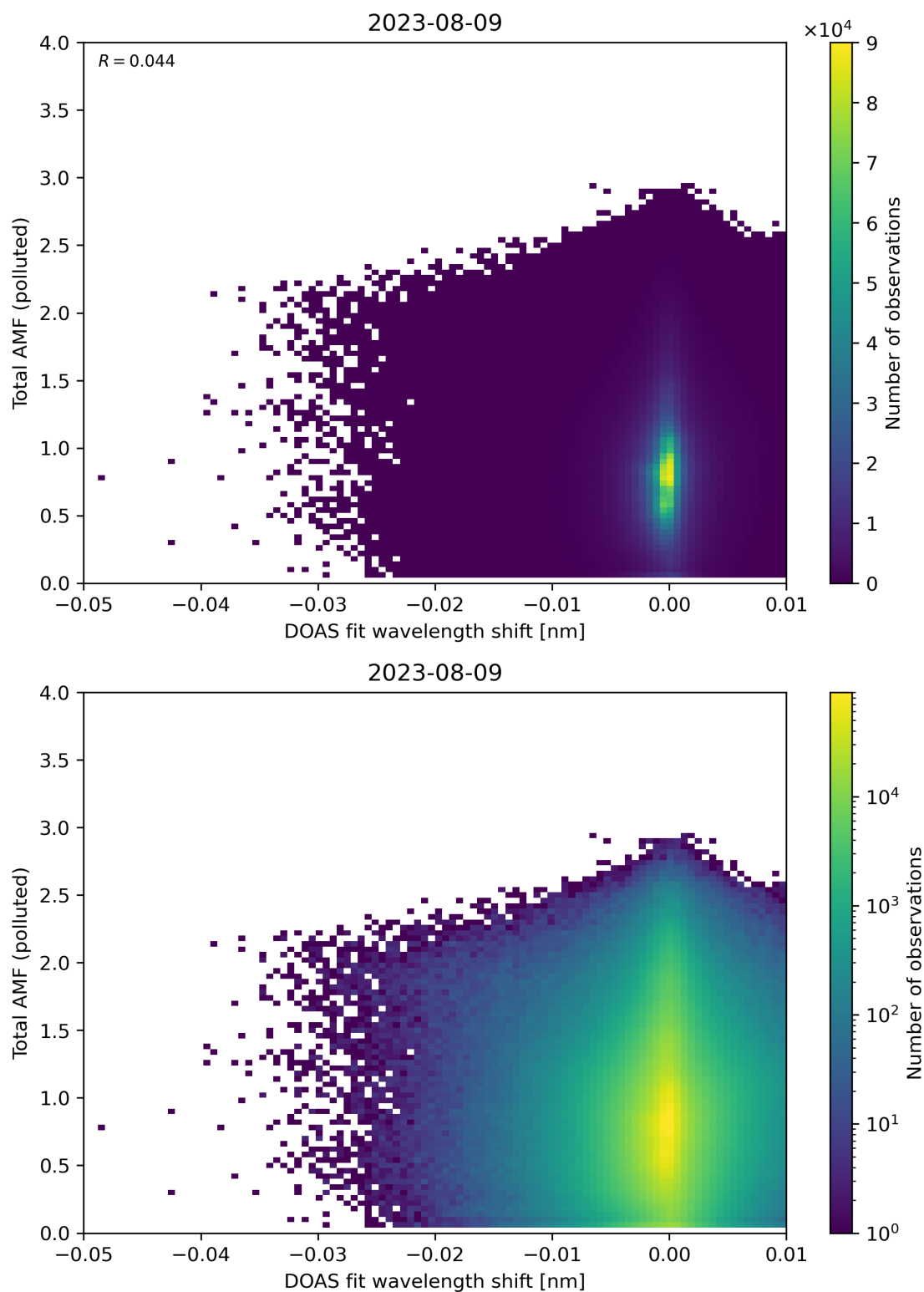


Figure 130: Scatter density plot of “DOAS fit wavelength shift” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

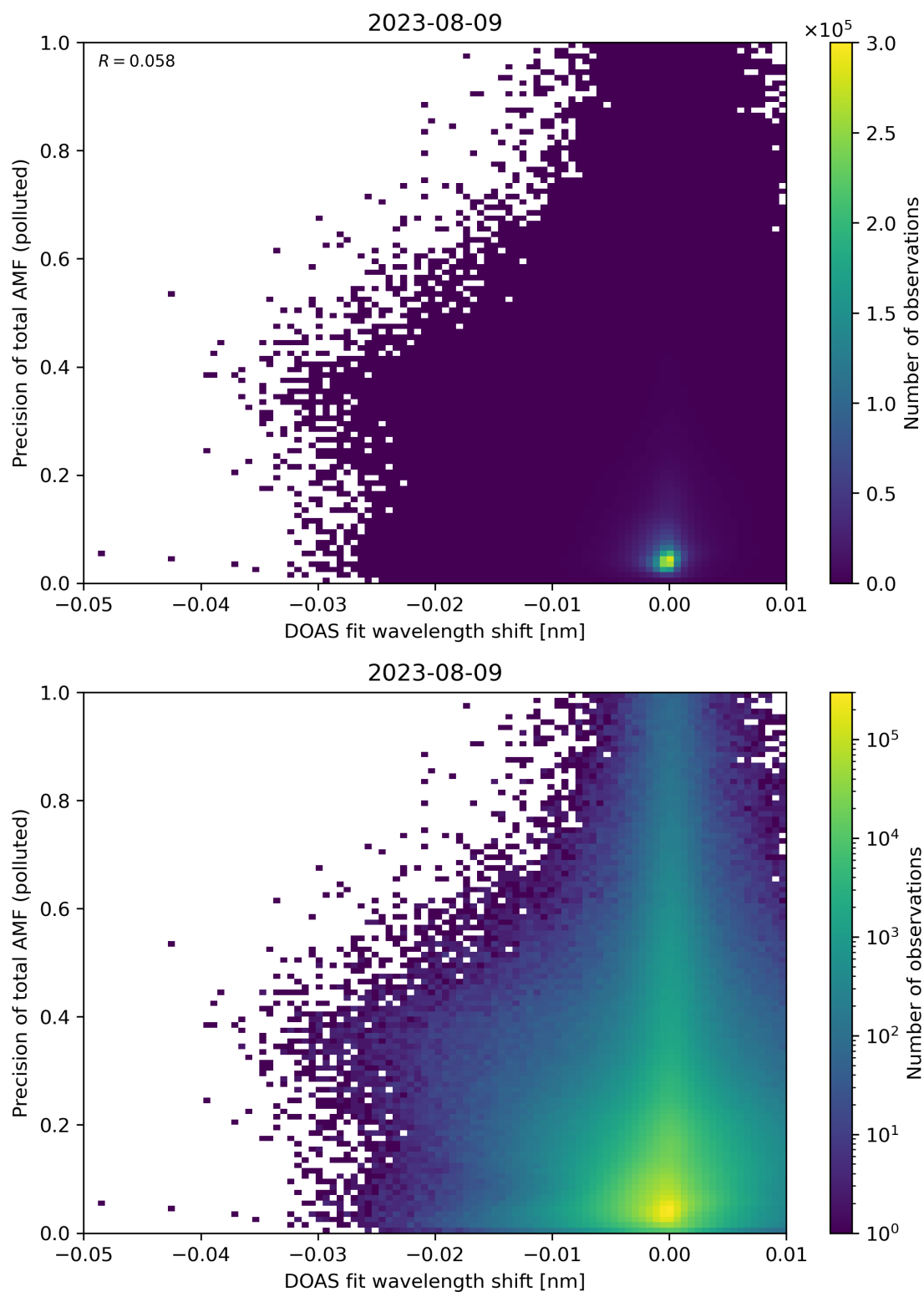


Figure 131: Scatter density plot of “DOAS fit wavelength shift” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

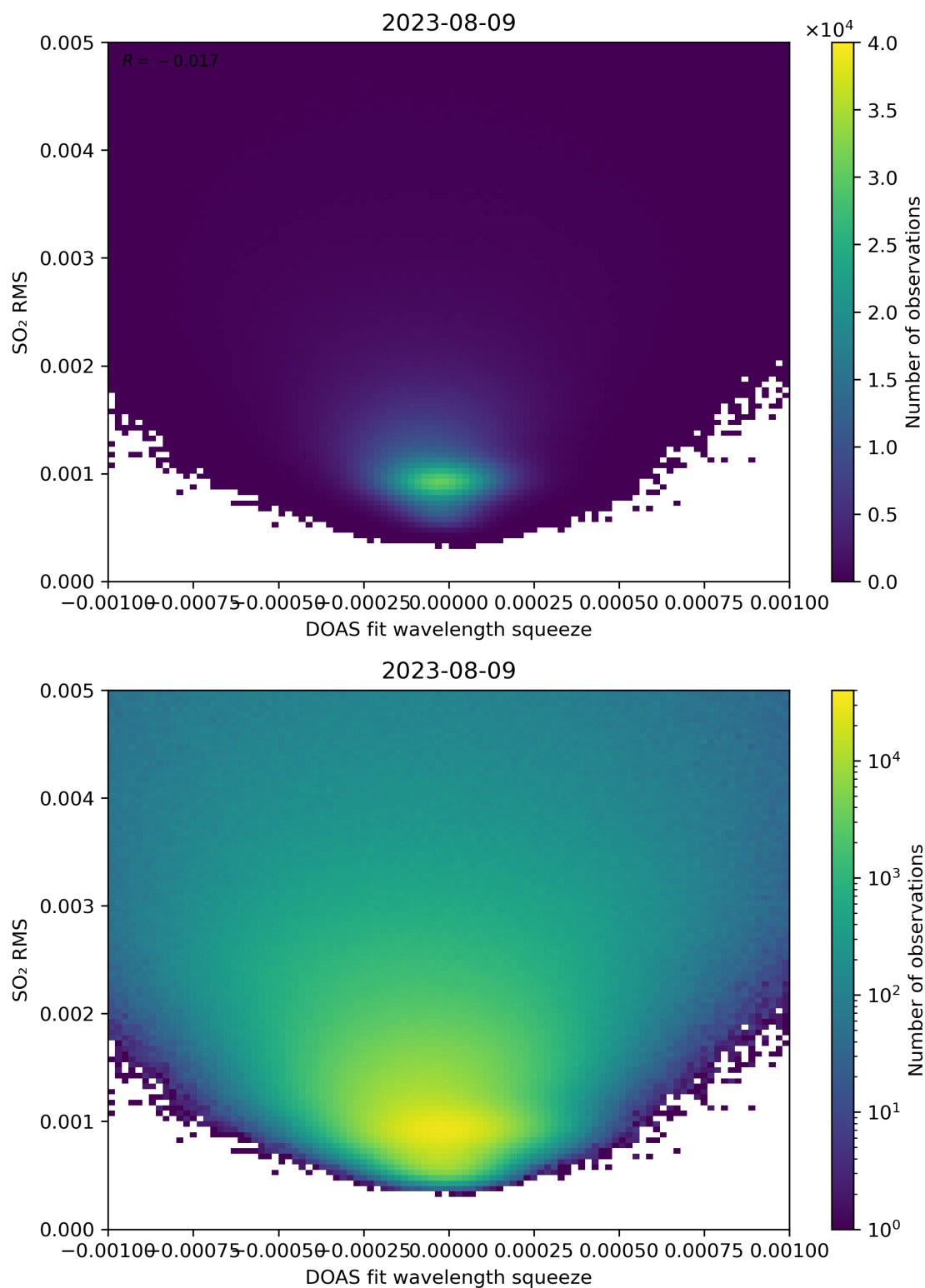


Figure 132: Scatter density plot of “DOAS fit wavelength squeeze” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

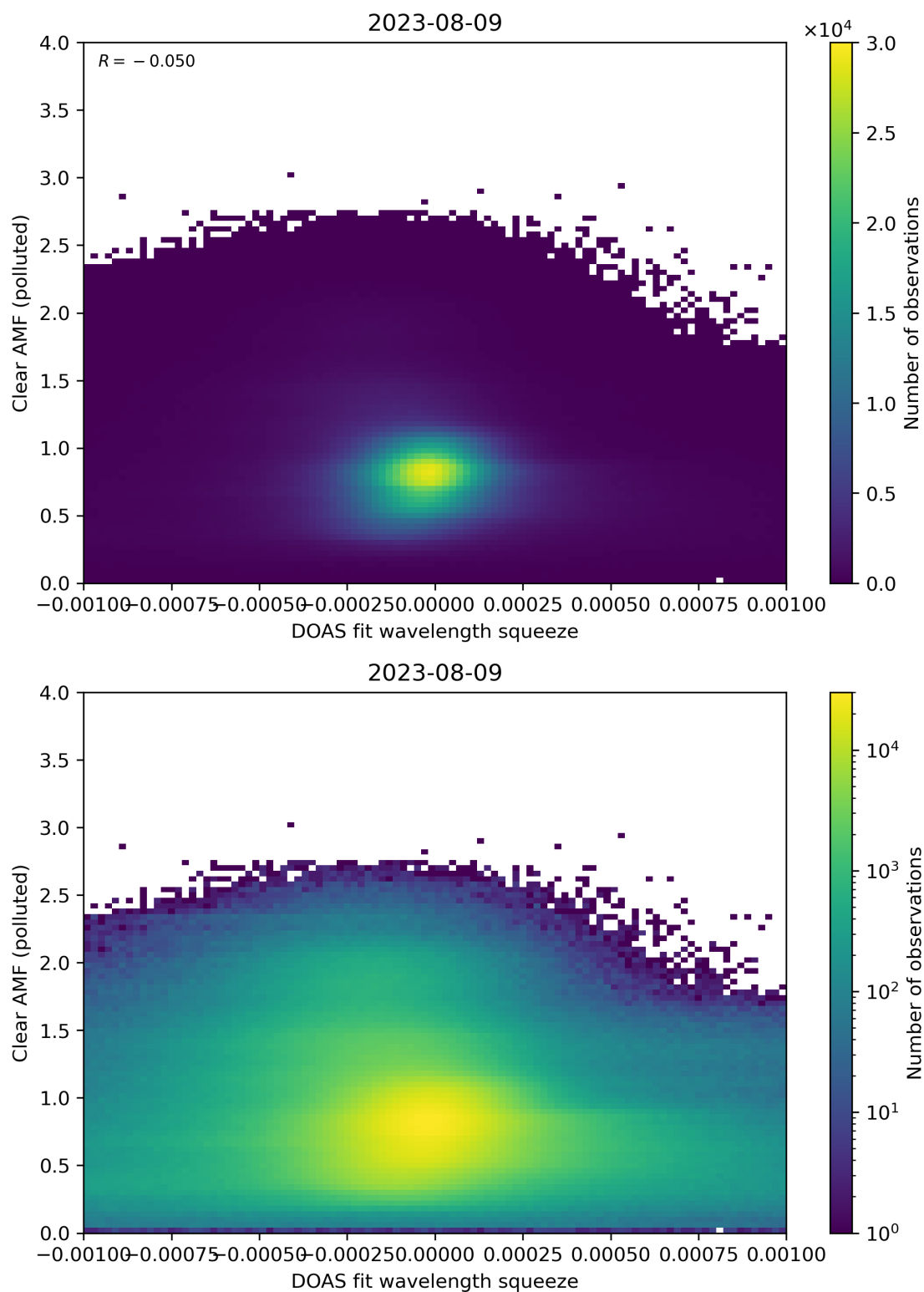


Figure 133: Scatter density plot of “DOAS fit wavelength squeeze” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

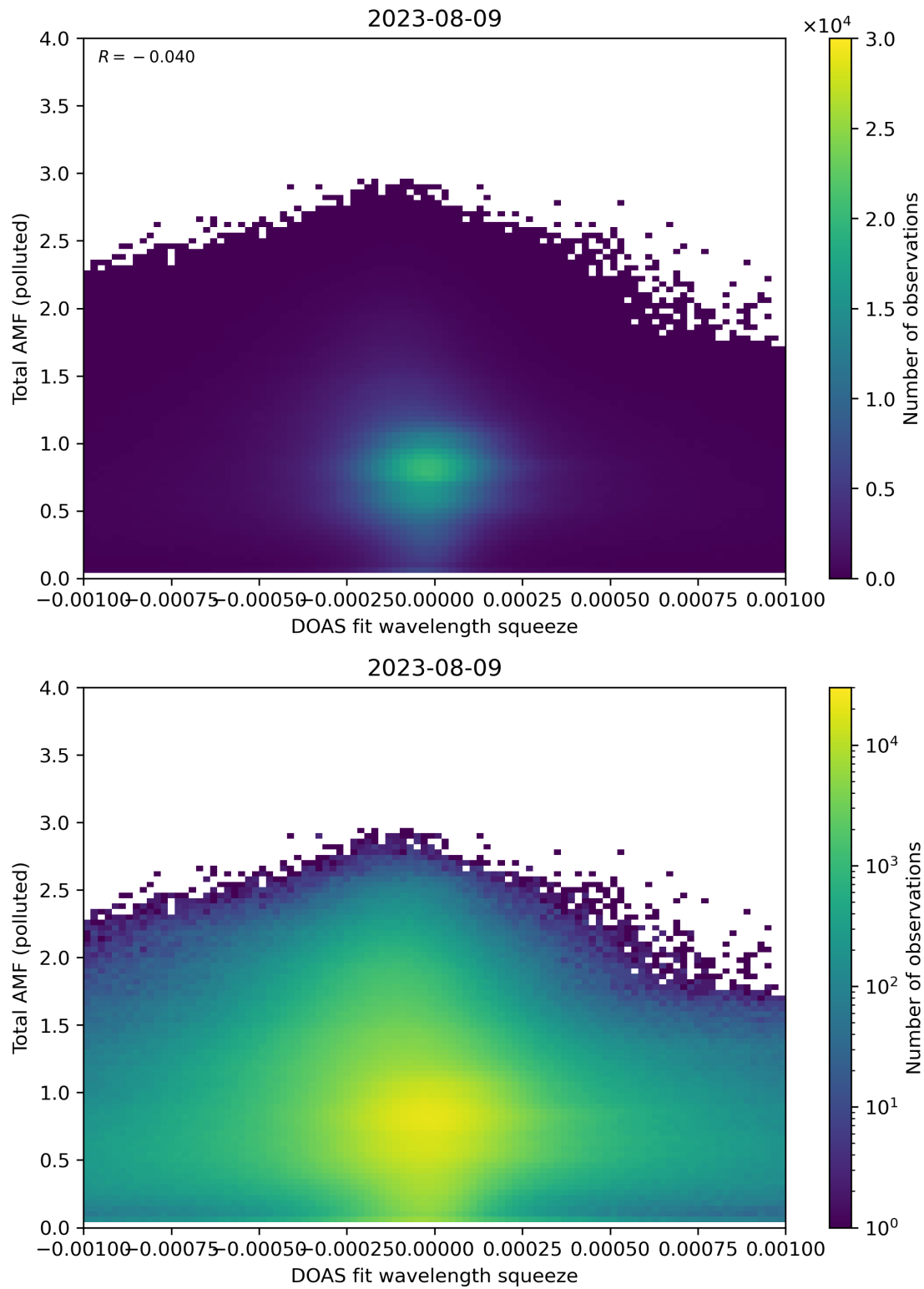


Figure 134: Scatter density plot of “DOAS fit wavelength squeeze” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

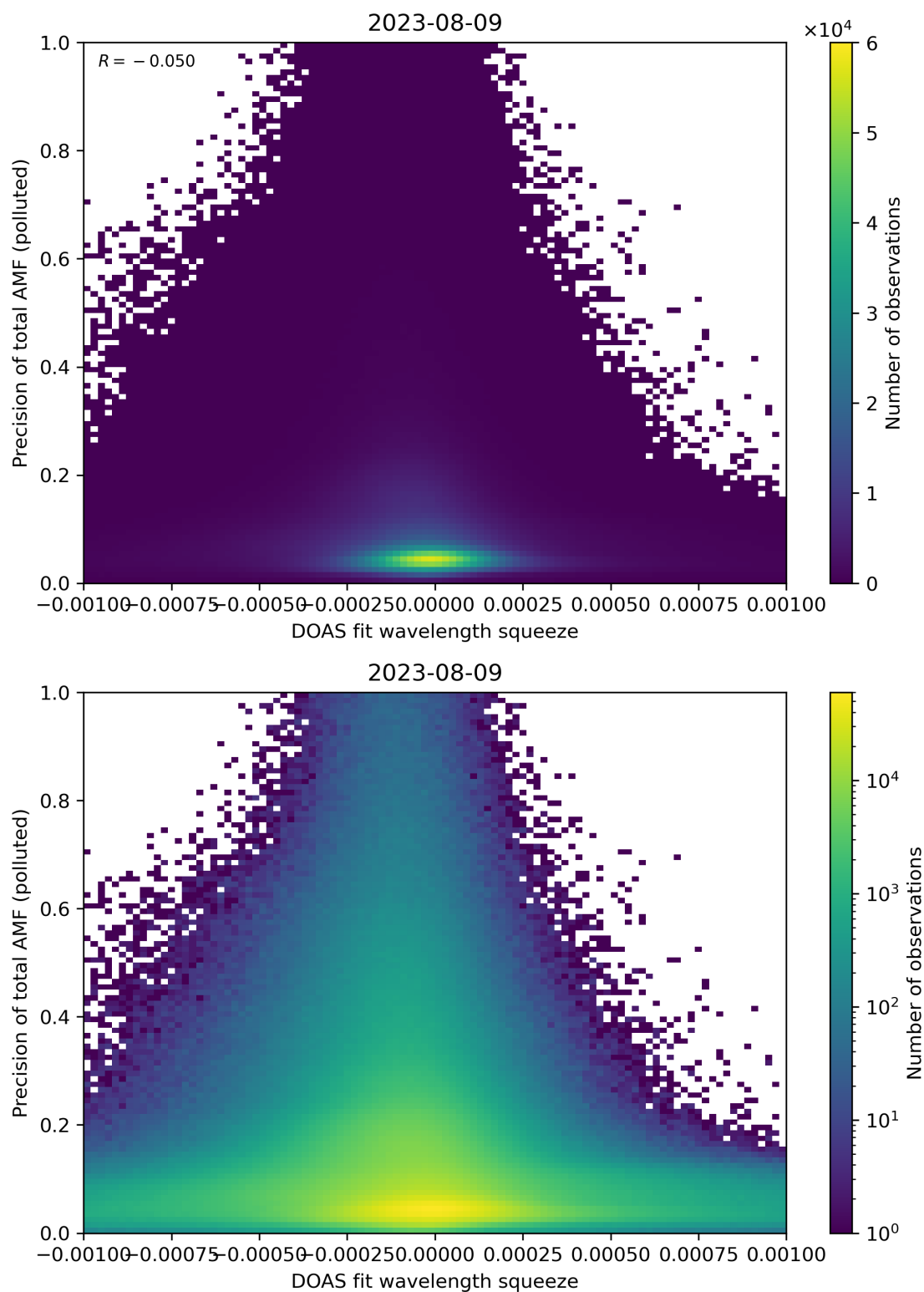


Figure 135: Scatter density plot of “DOAS fit wavelength squeeze” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

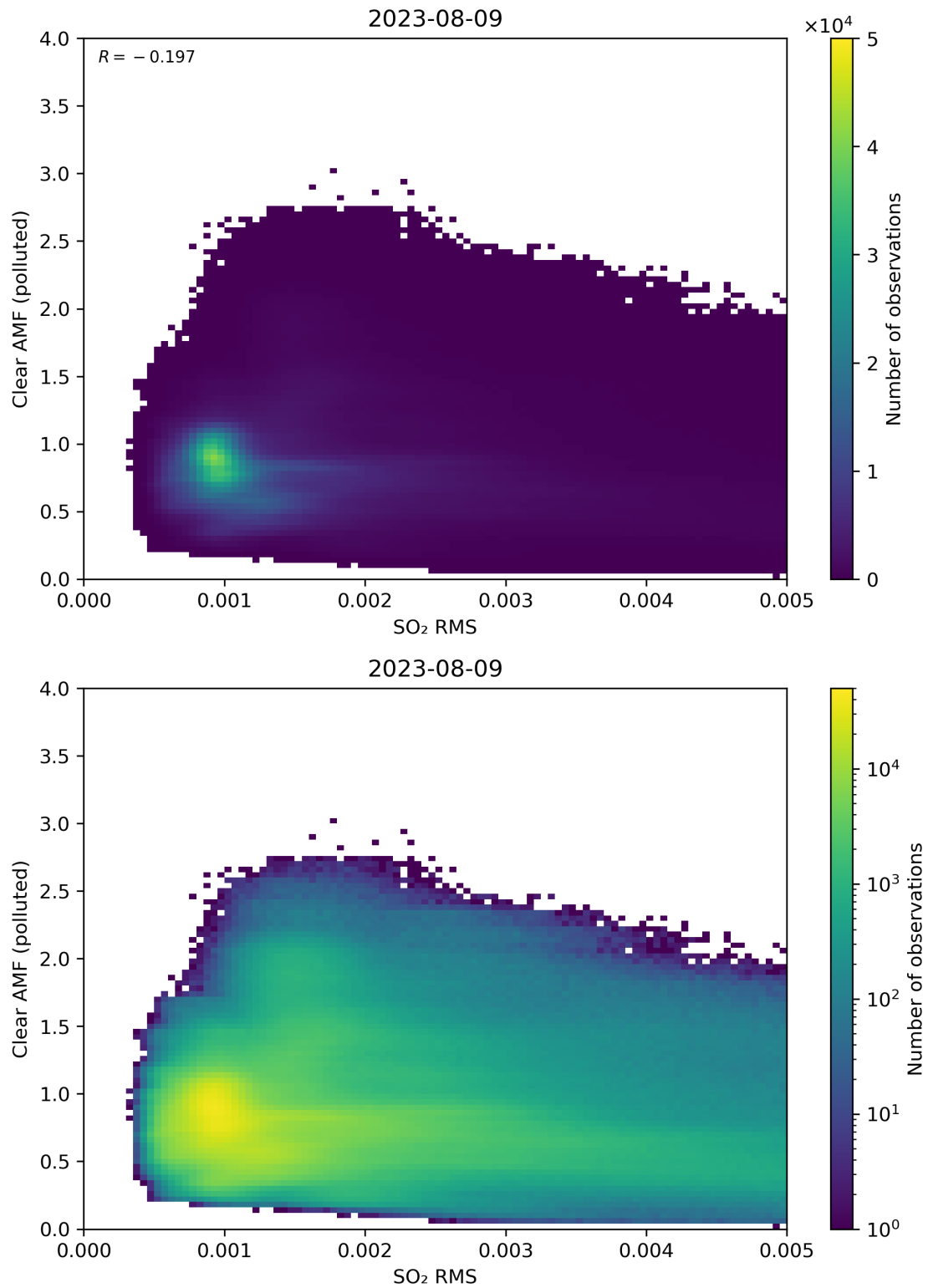


Figure 136: Scatter density plot of “SO₂ RMS” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

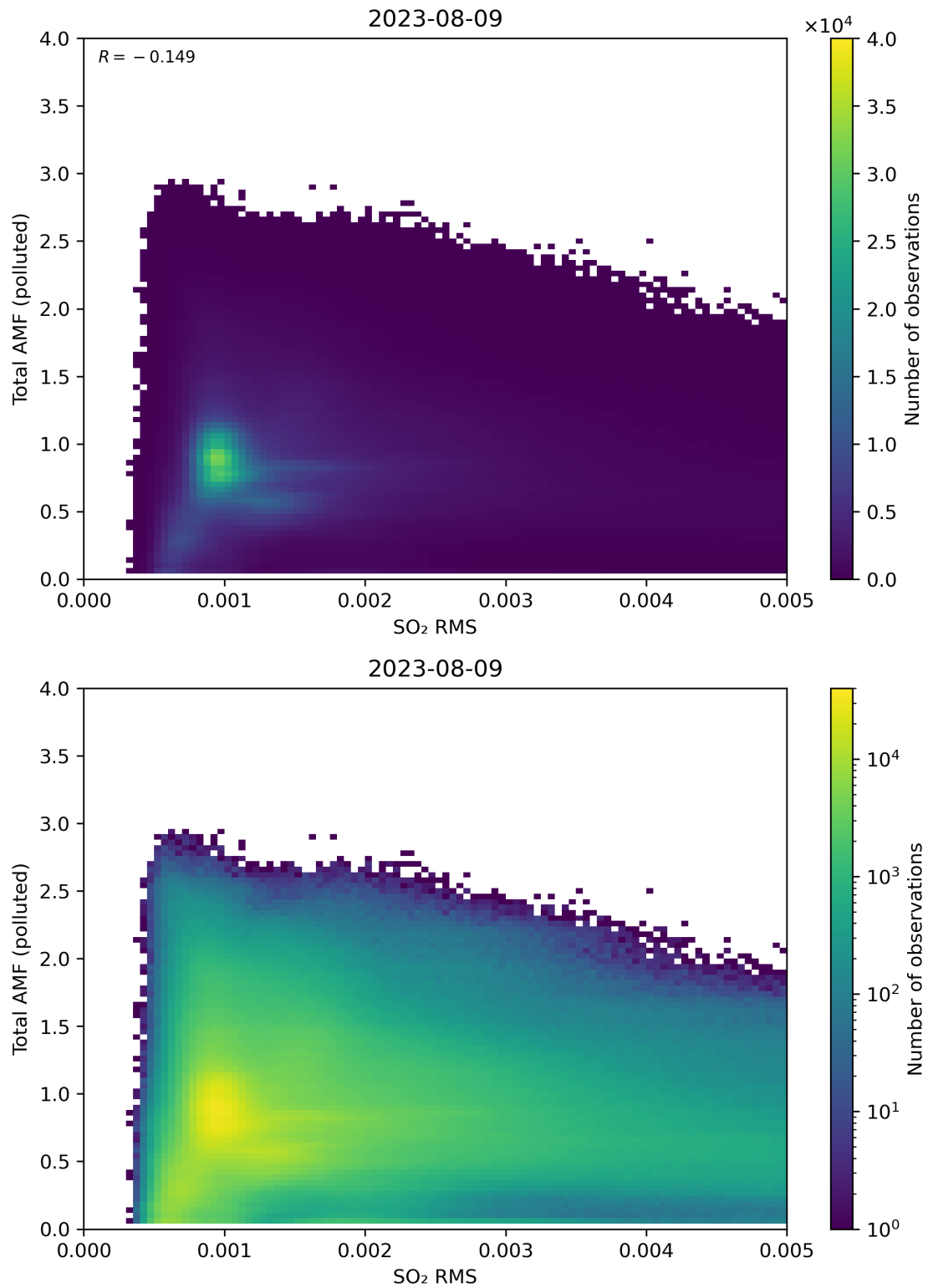


Figure 137: Scatter density plot of “SO₂ RMS” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

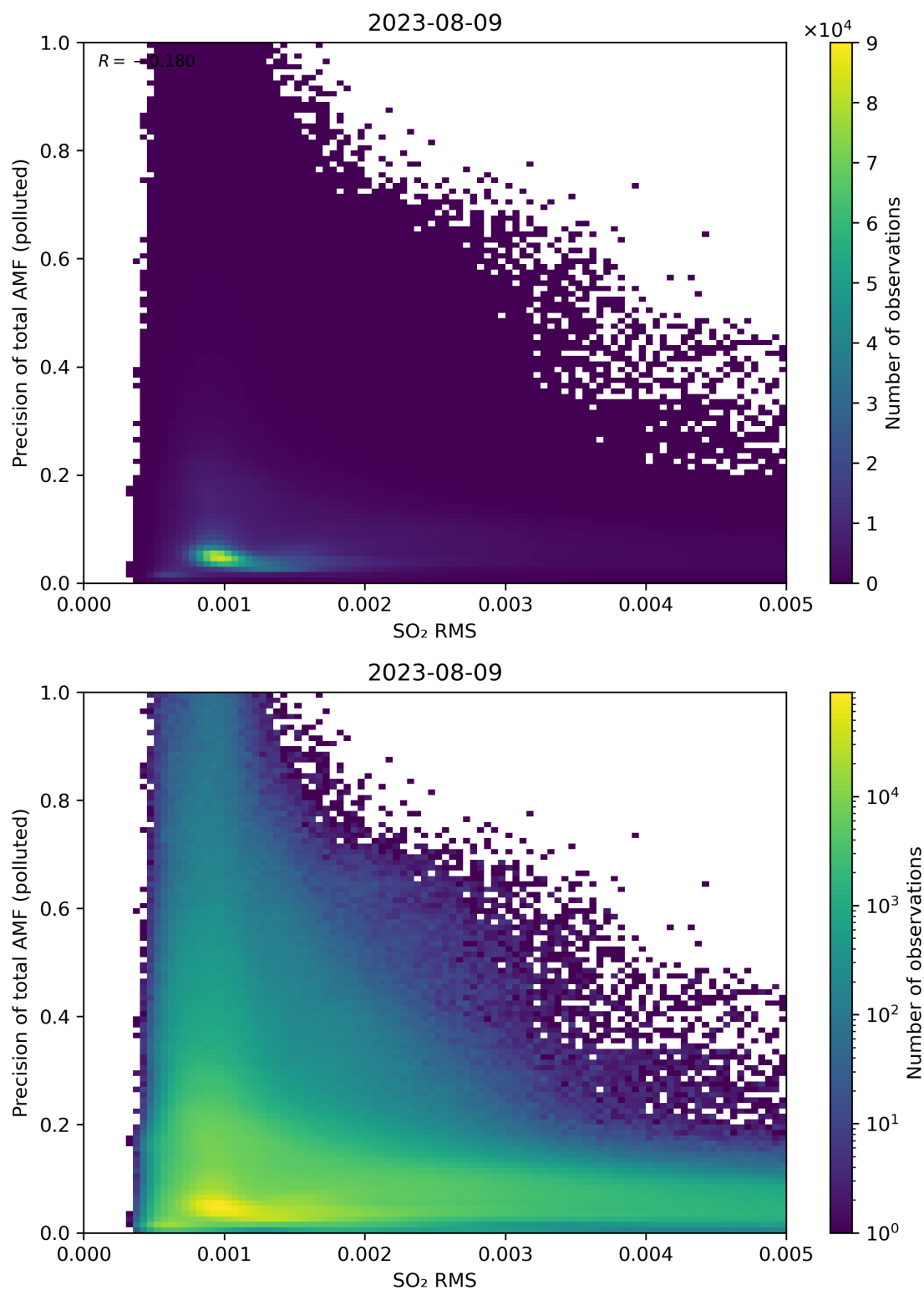


Figure 138: Scatter density plot of “SO₂ RMS” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

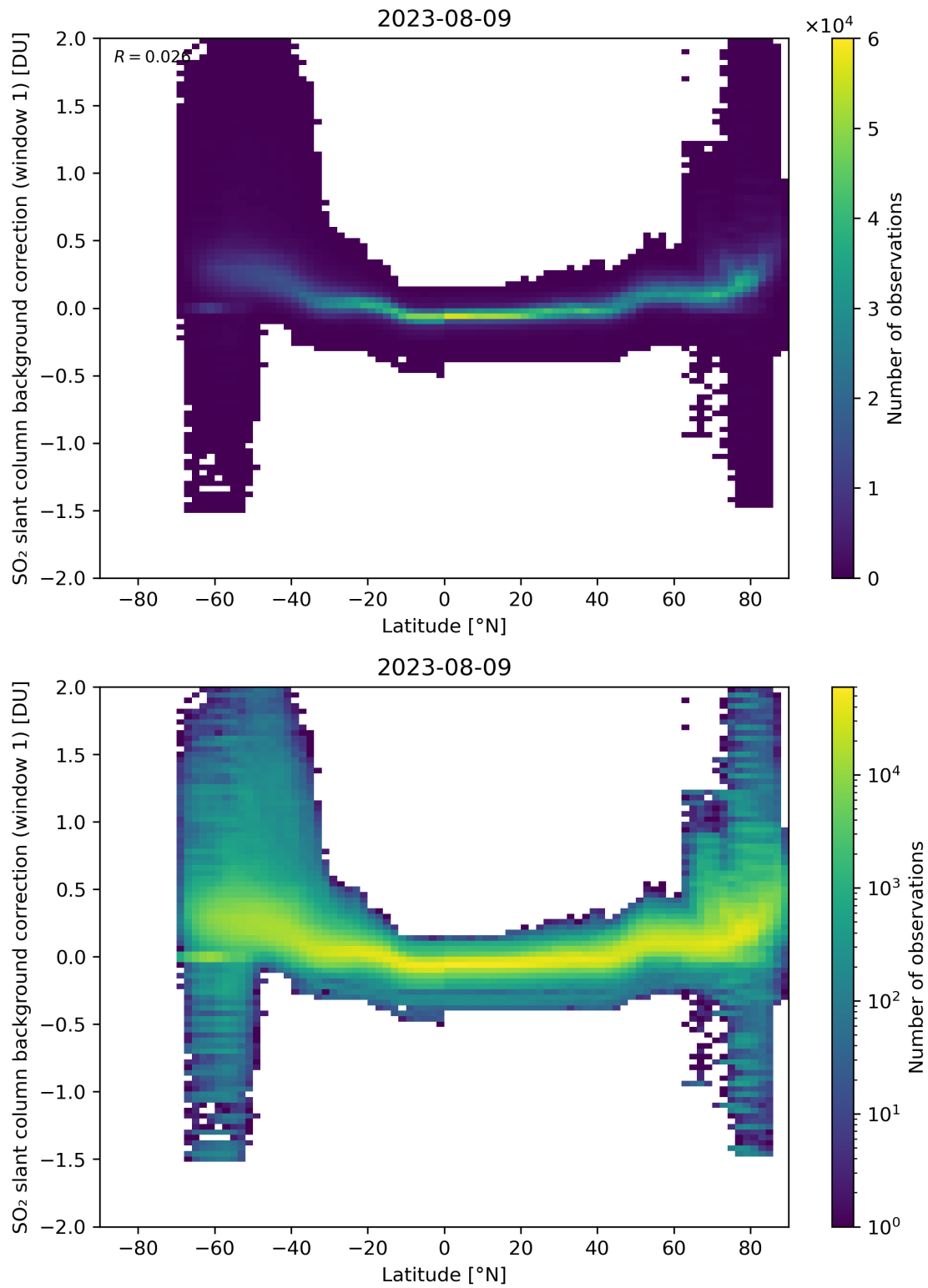


Figure 139: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

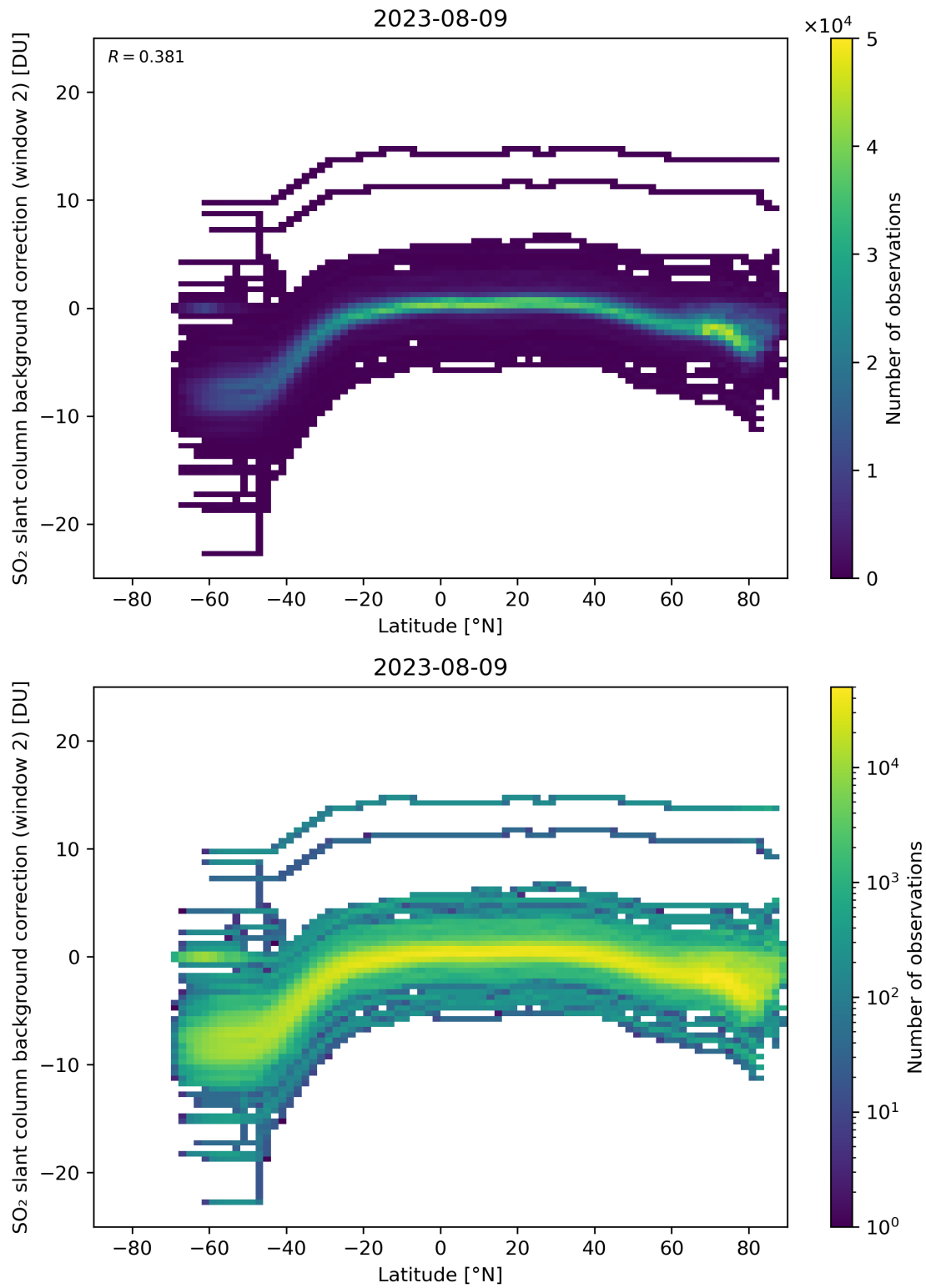


Figure 140: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

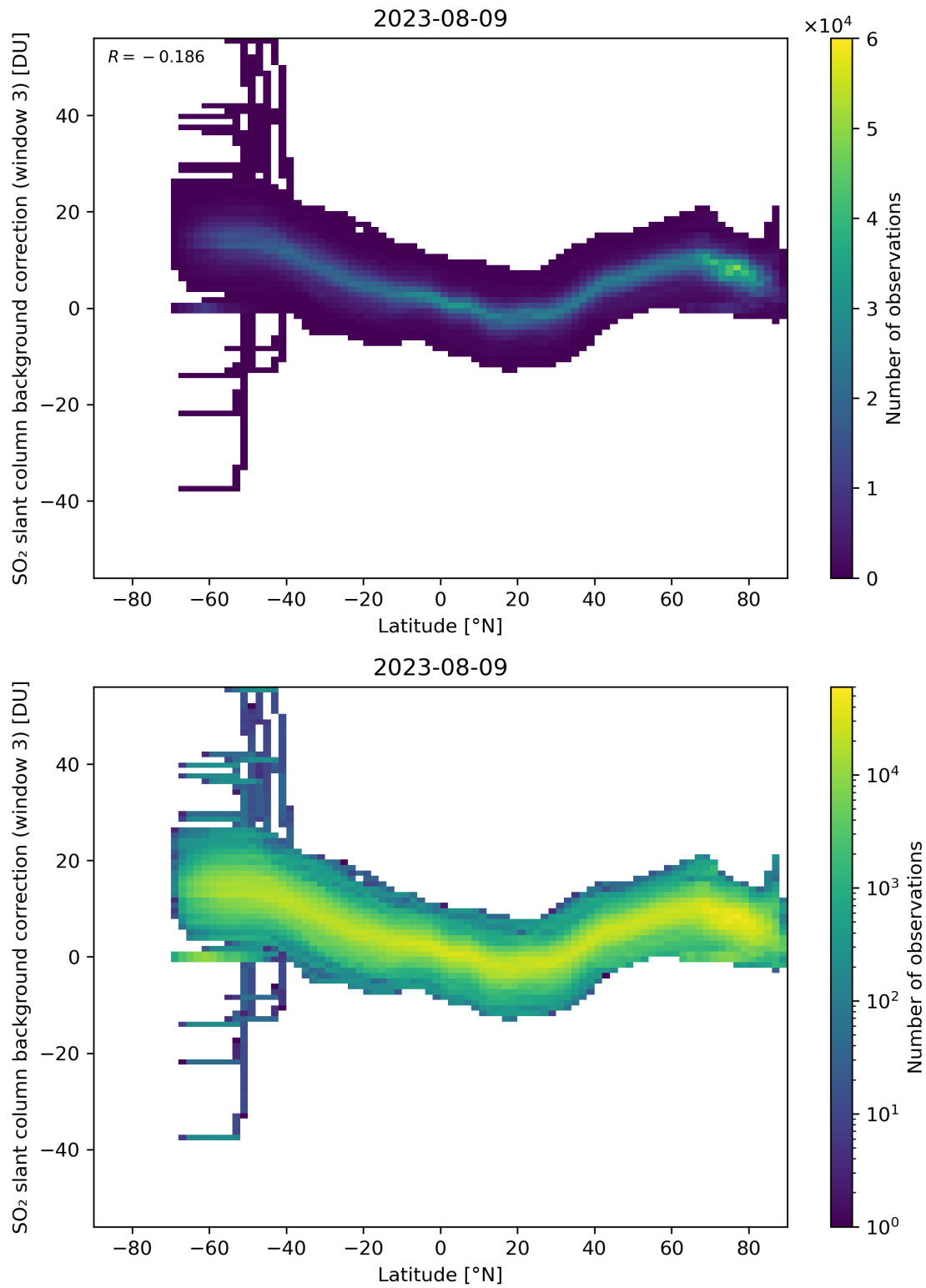


Figure 141: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

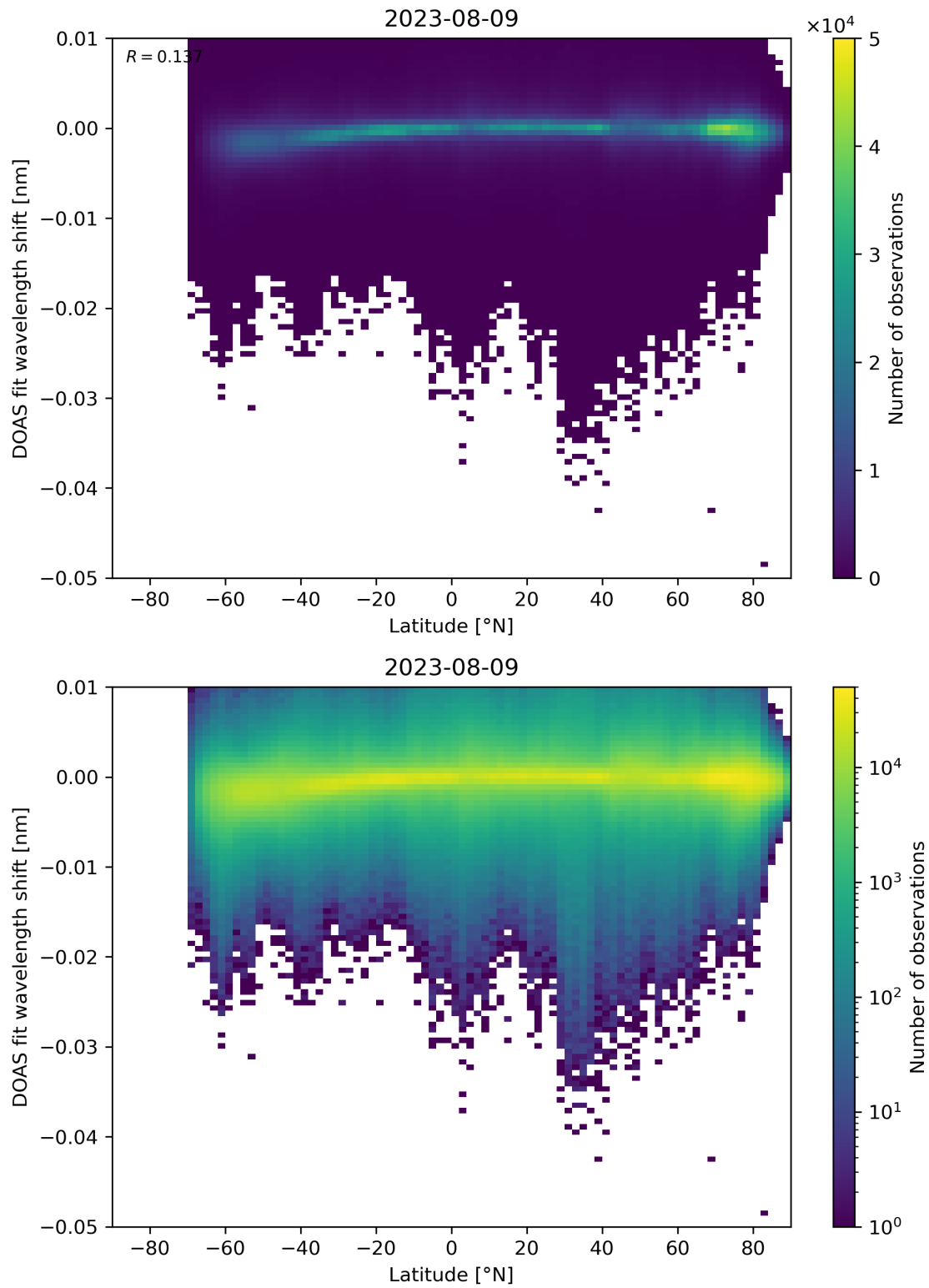


Figure 142: Scatter density plot of “Latitude” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

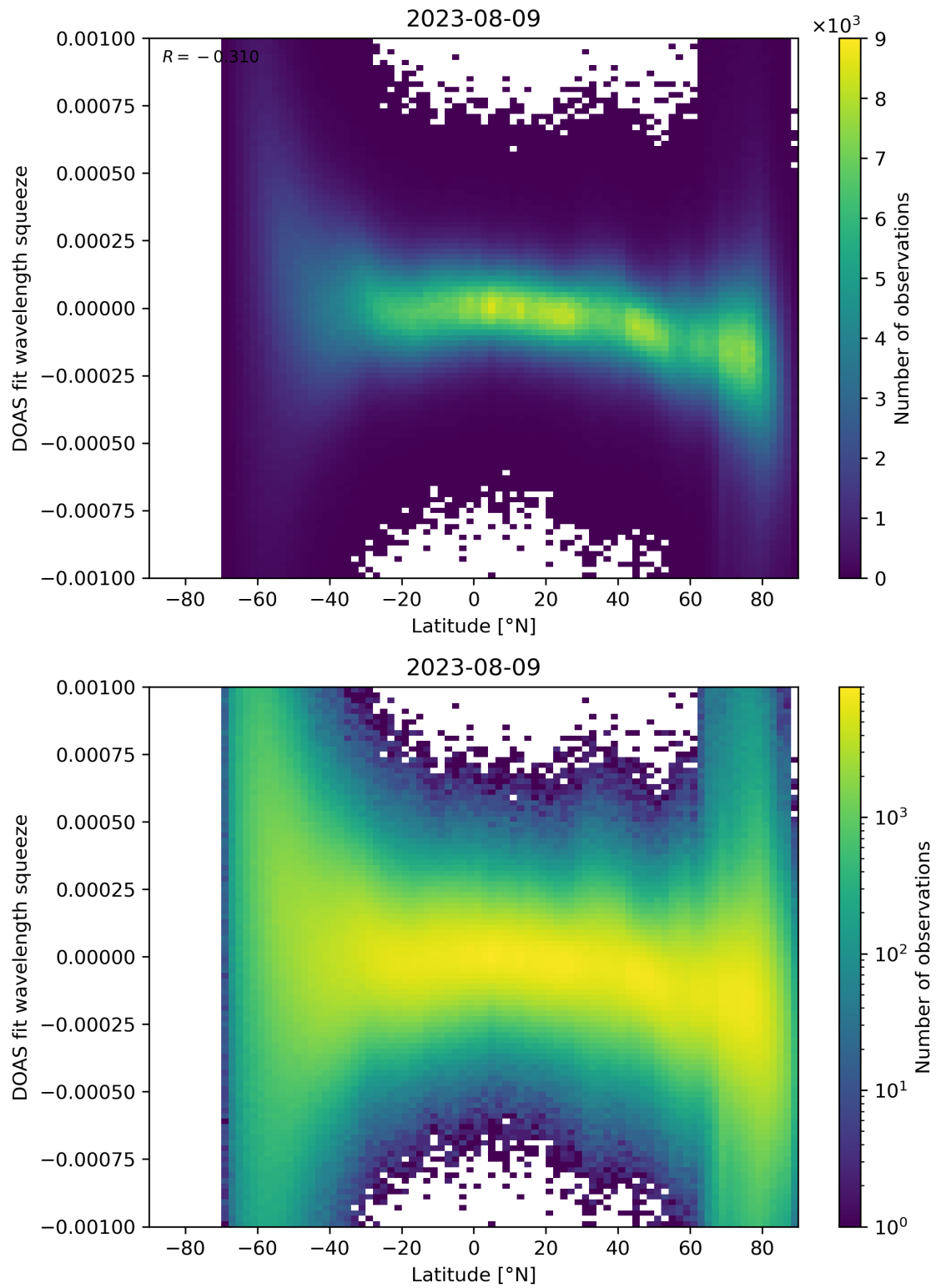


Figure 143: Scatter density plot of “Latitude” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

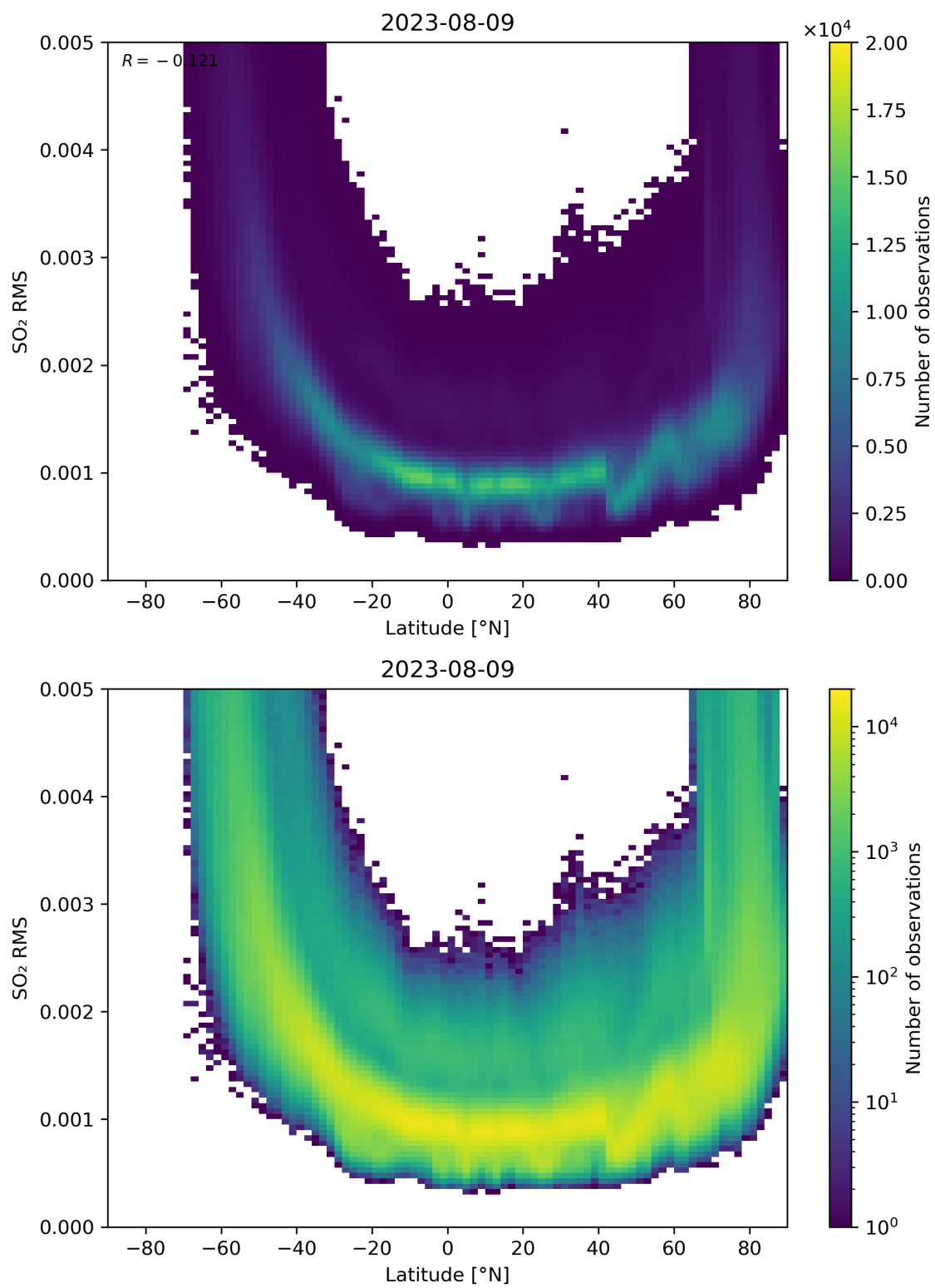


Figure 144: Scatter density plot of “Latitude” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

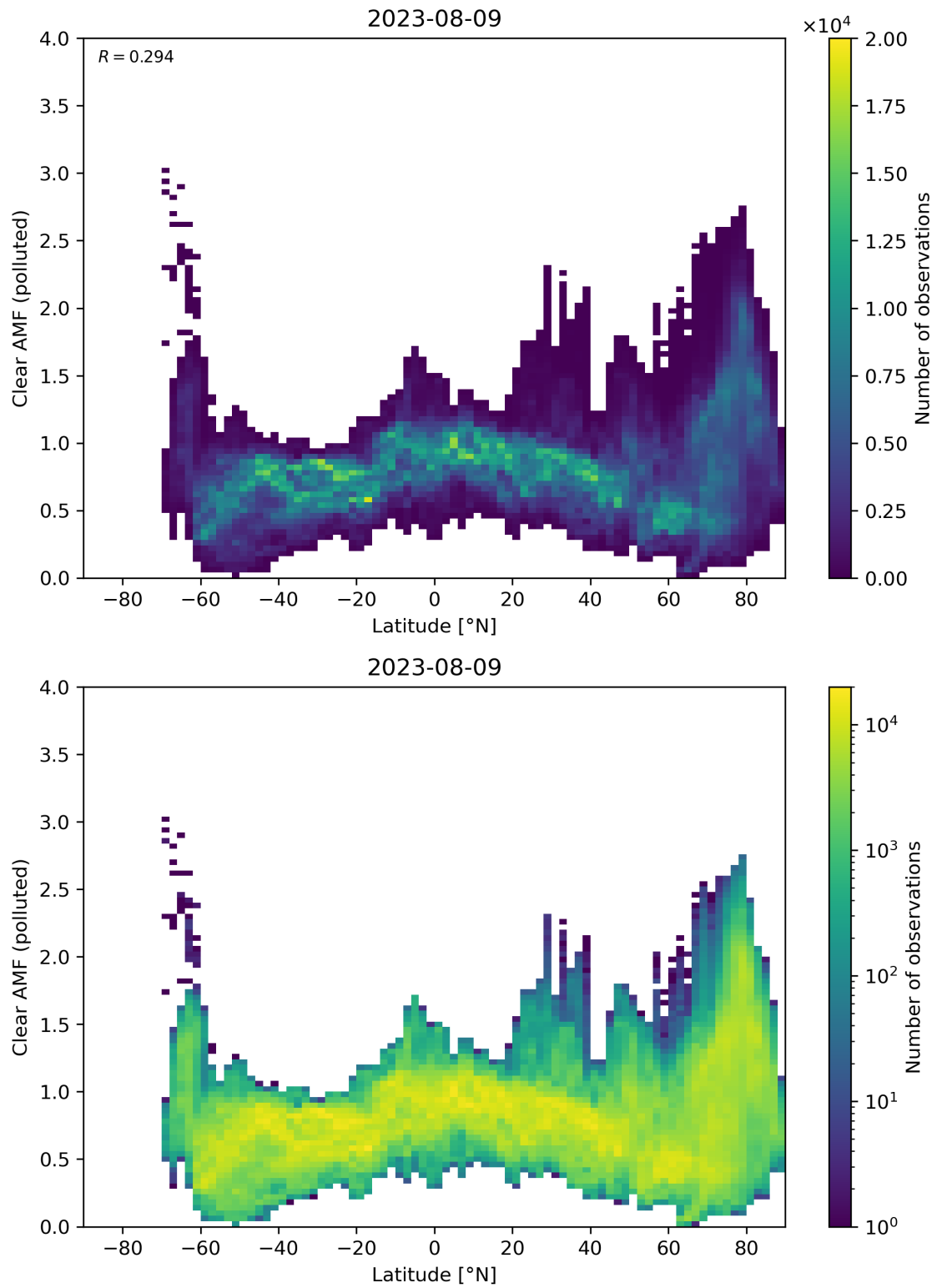


Figure 145: Scatter density plot of “Latitude” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

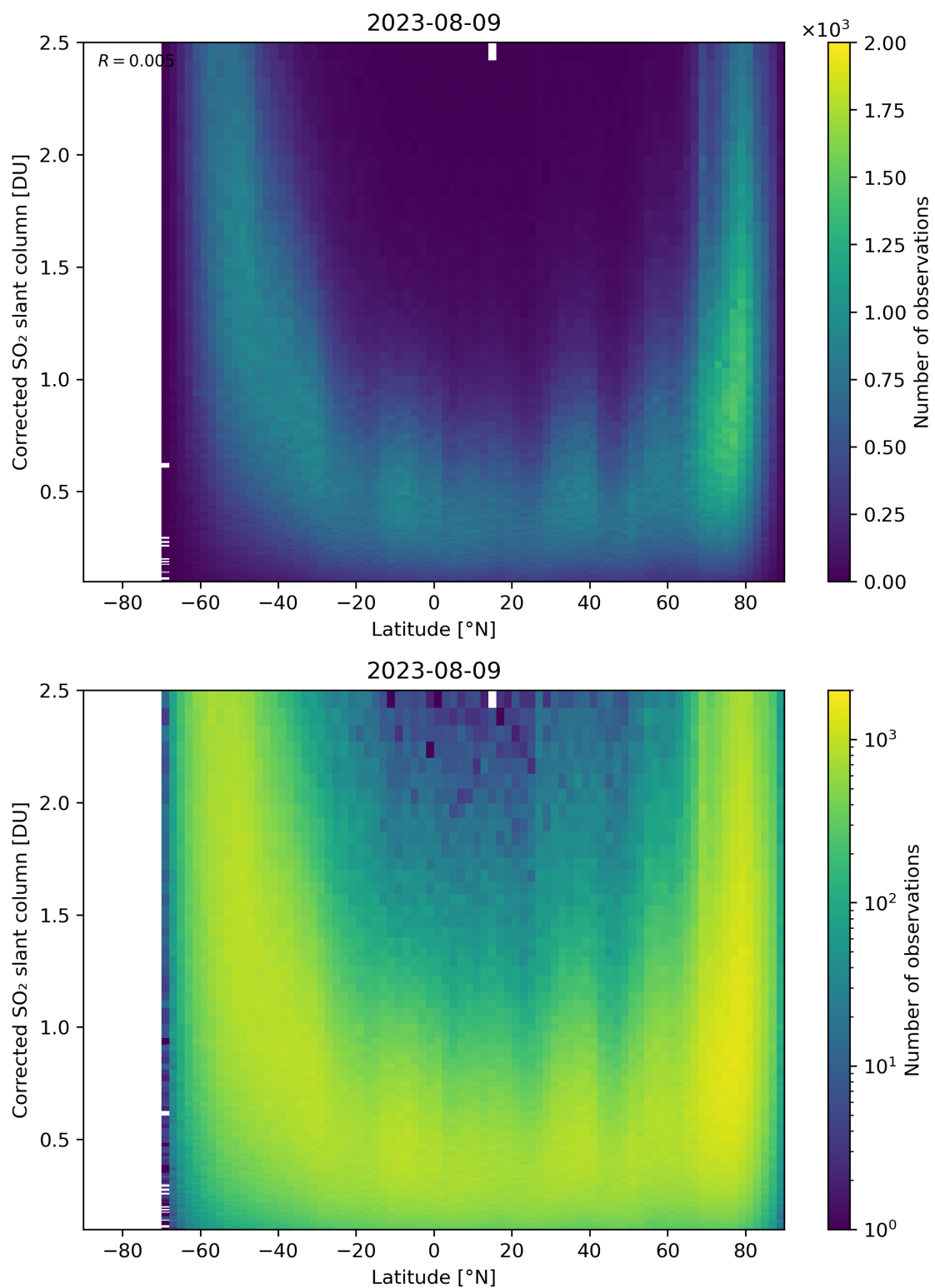


Figure 146: Scatter density plot of “Latitude” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10.

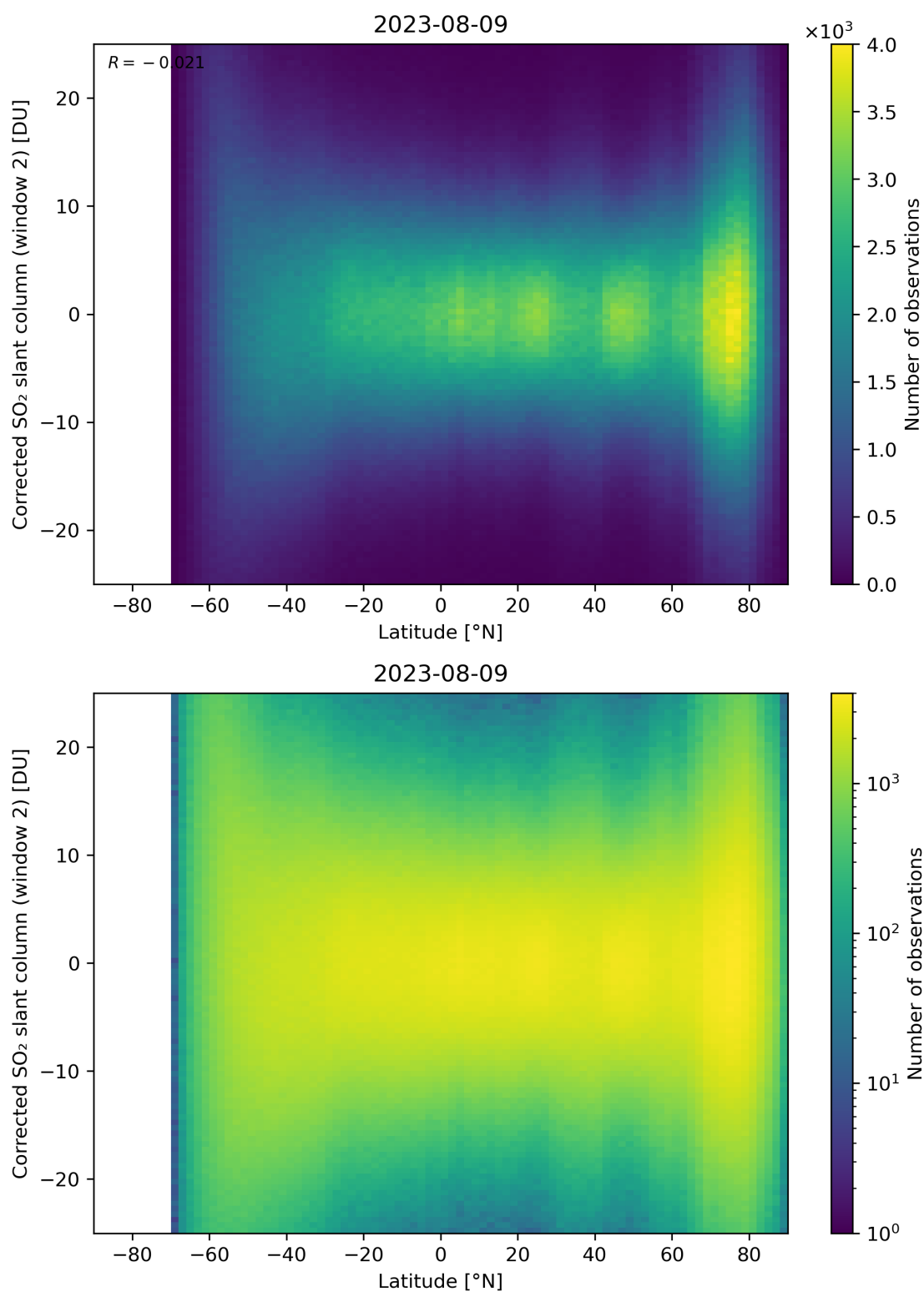


Figure 147: Scatter density plot of “Latitude” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

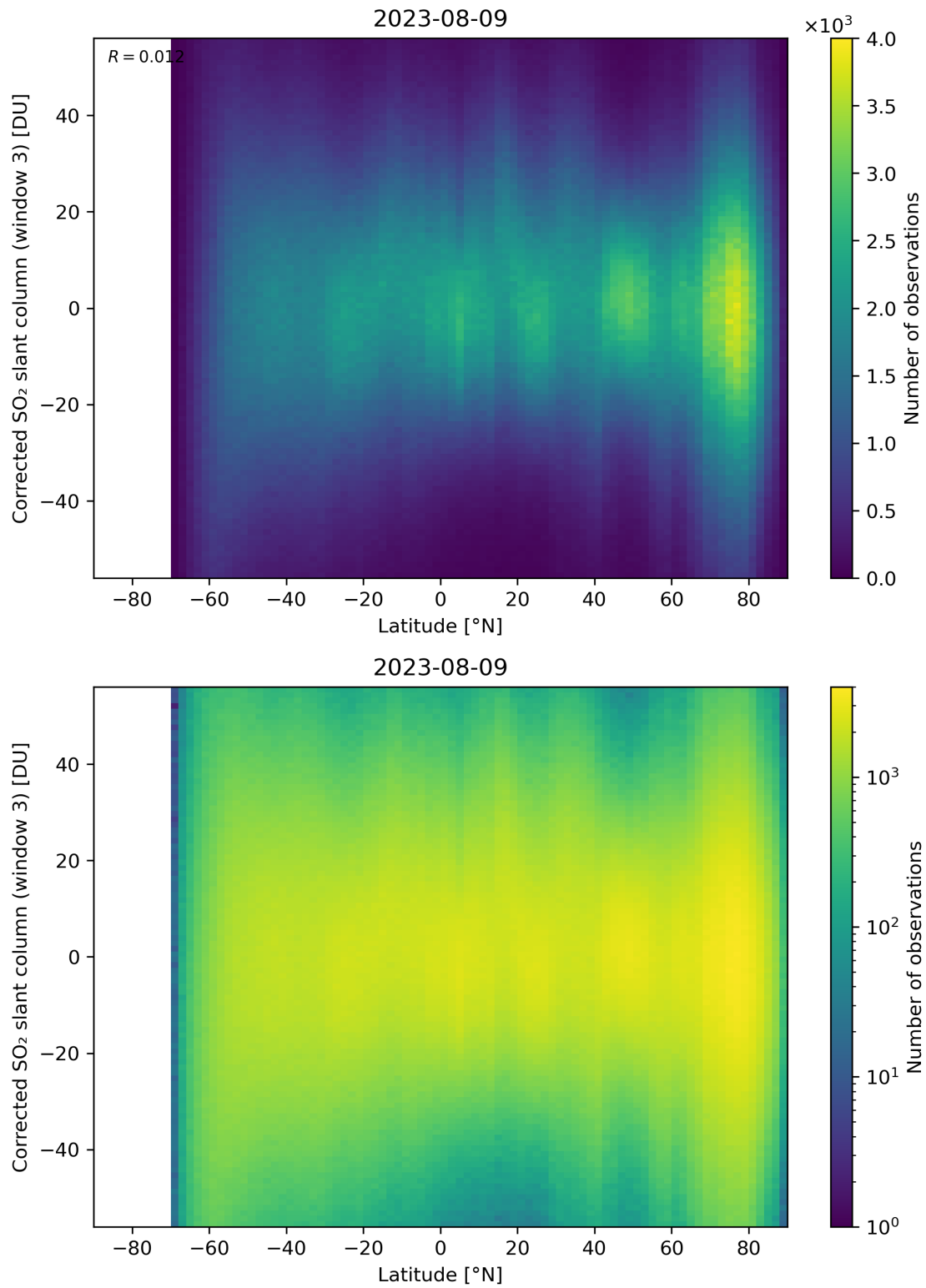


Figure 148: Scatter density plot of “Latitude” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

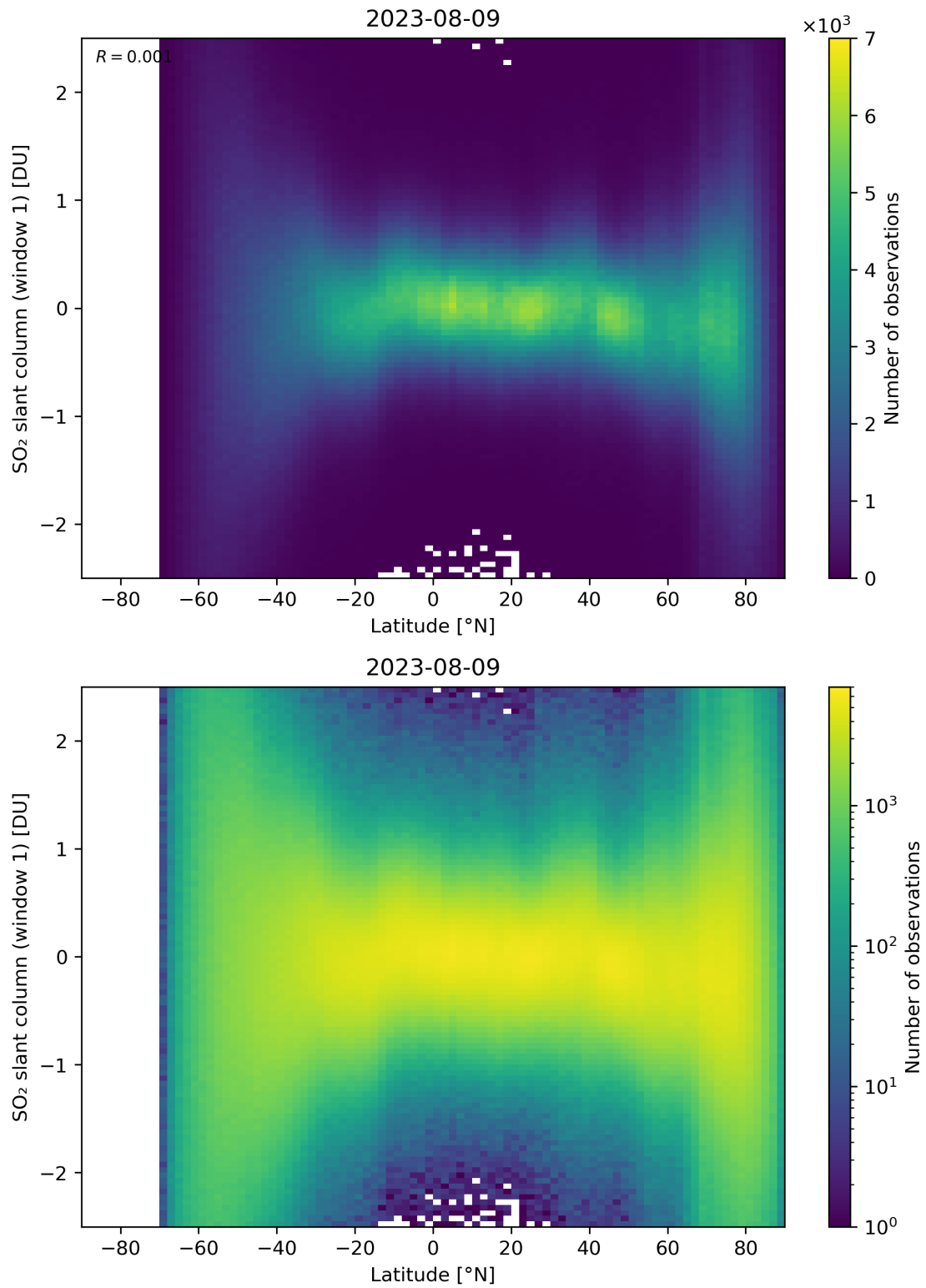


Figure 149: Scatter density plot of “Latitude” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

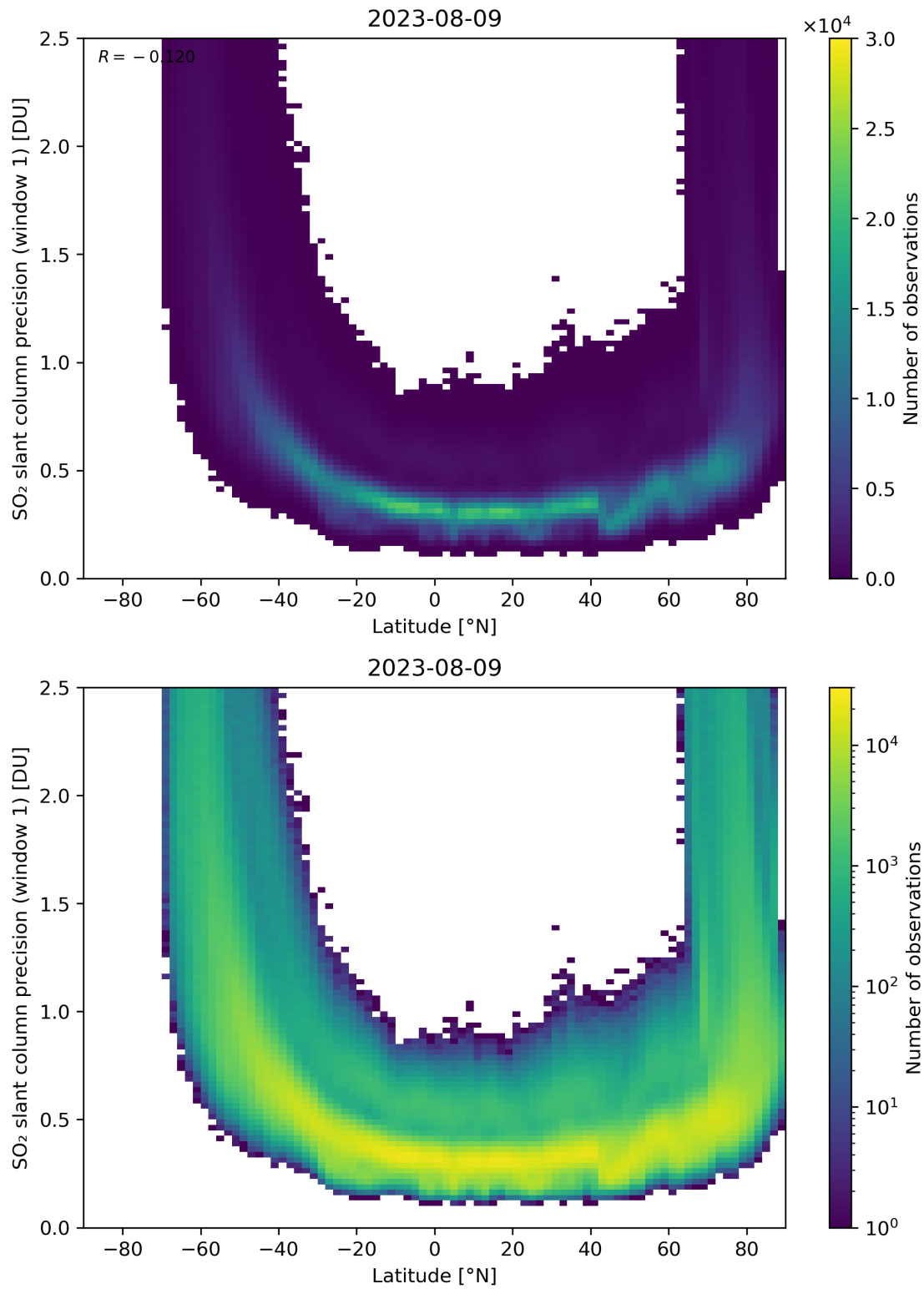


Figure 150: Scatter density plot of “Latitude” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

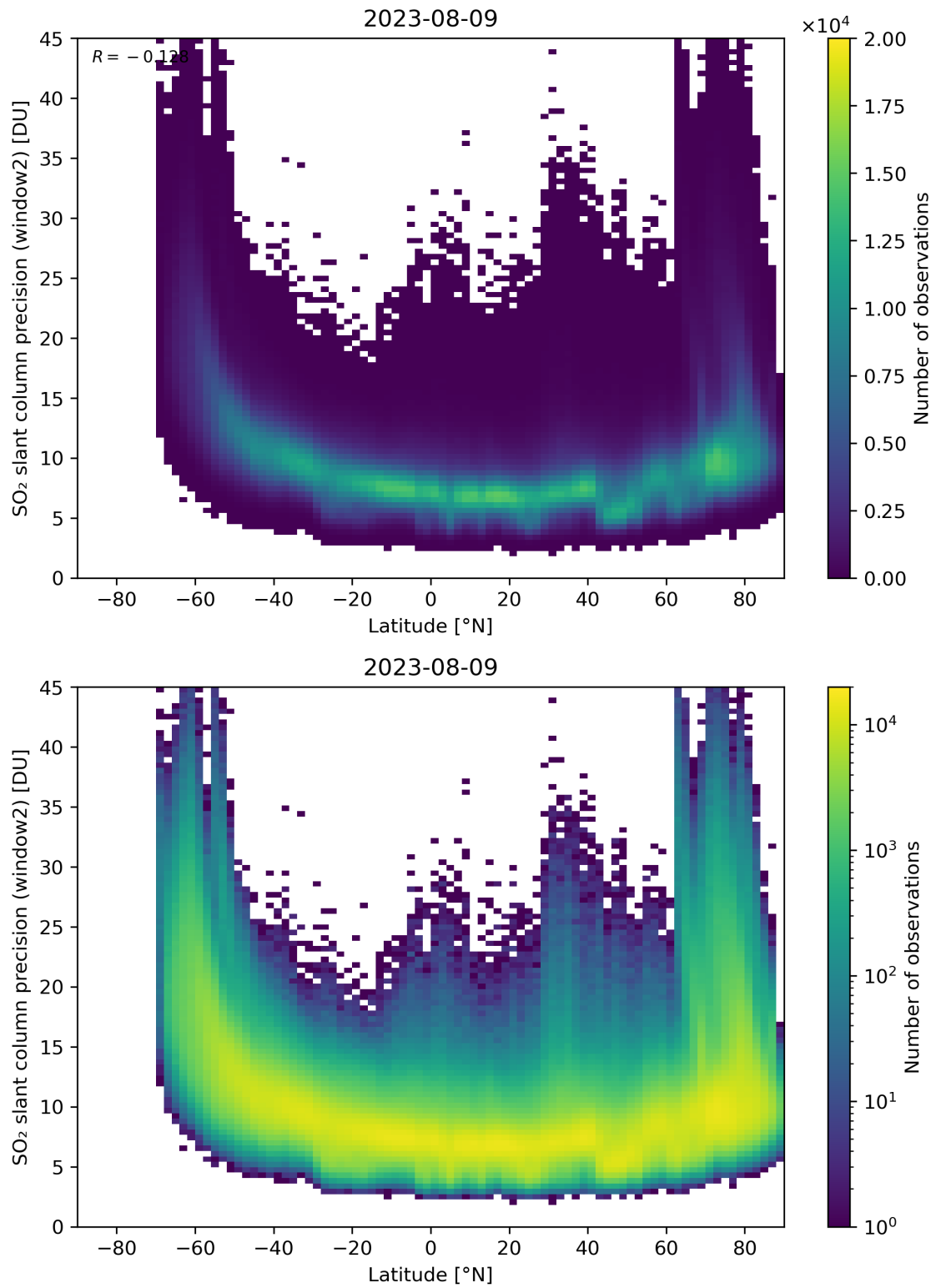


Figure 151: Scatter density plot of “Latitude” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

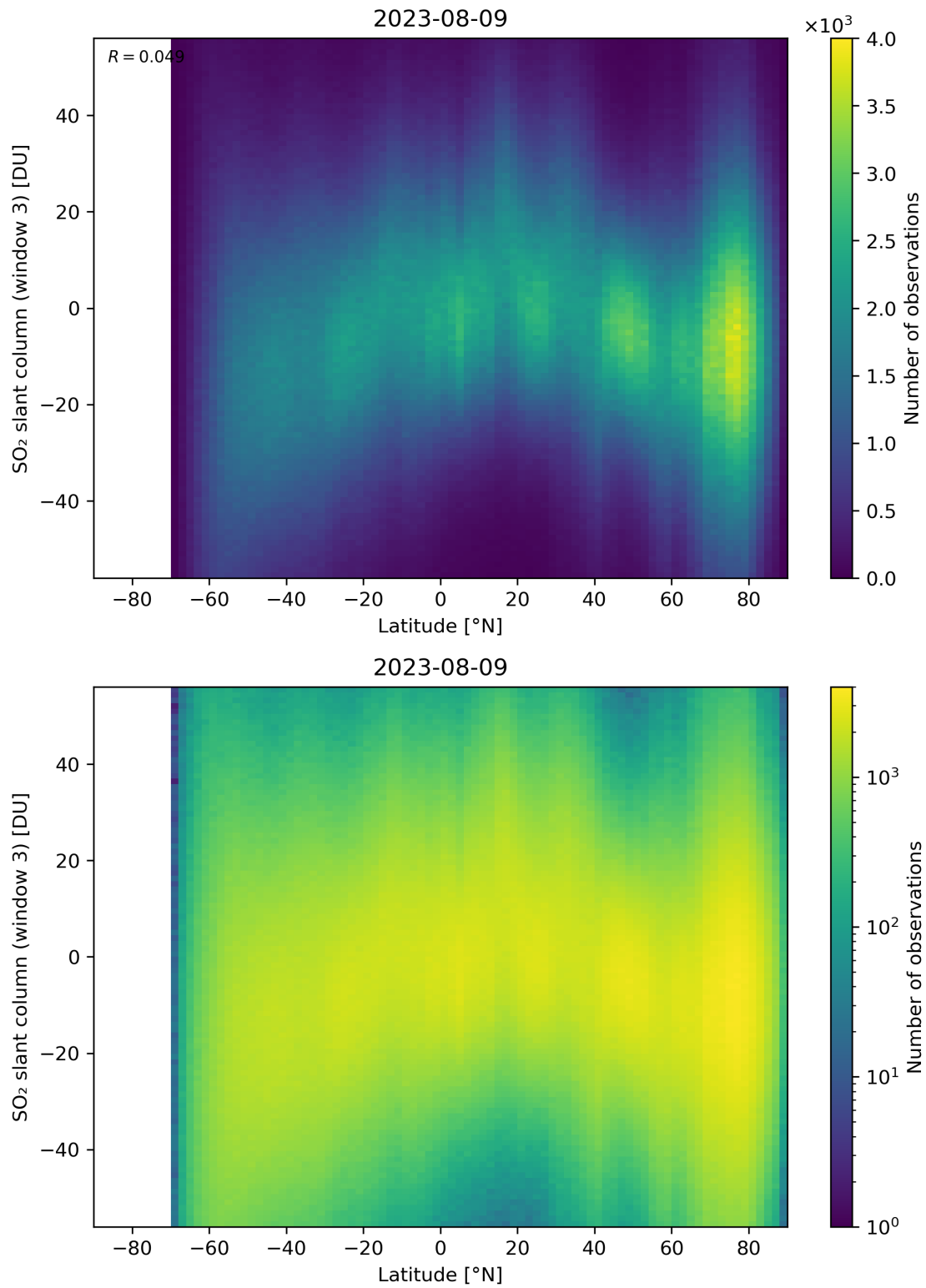


Figure 152: Scatter density plot of “Latitude” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

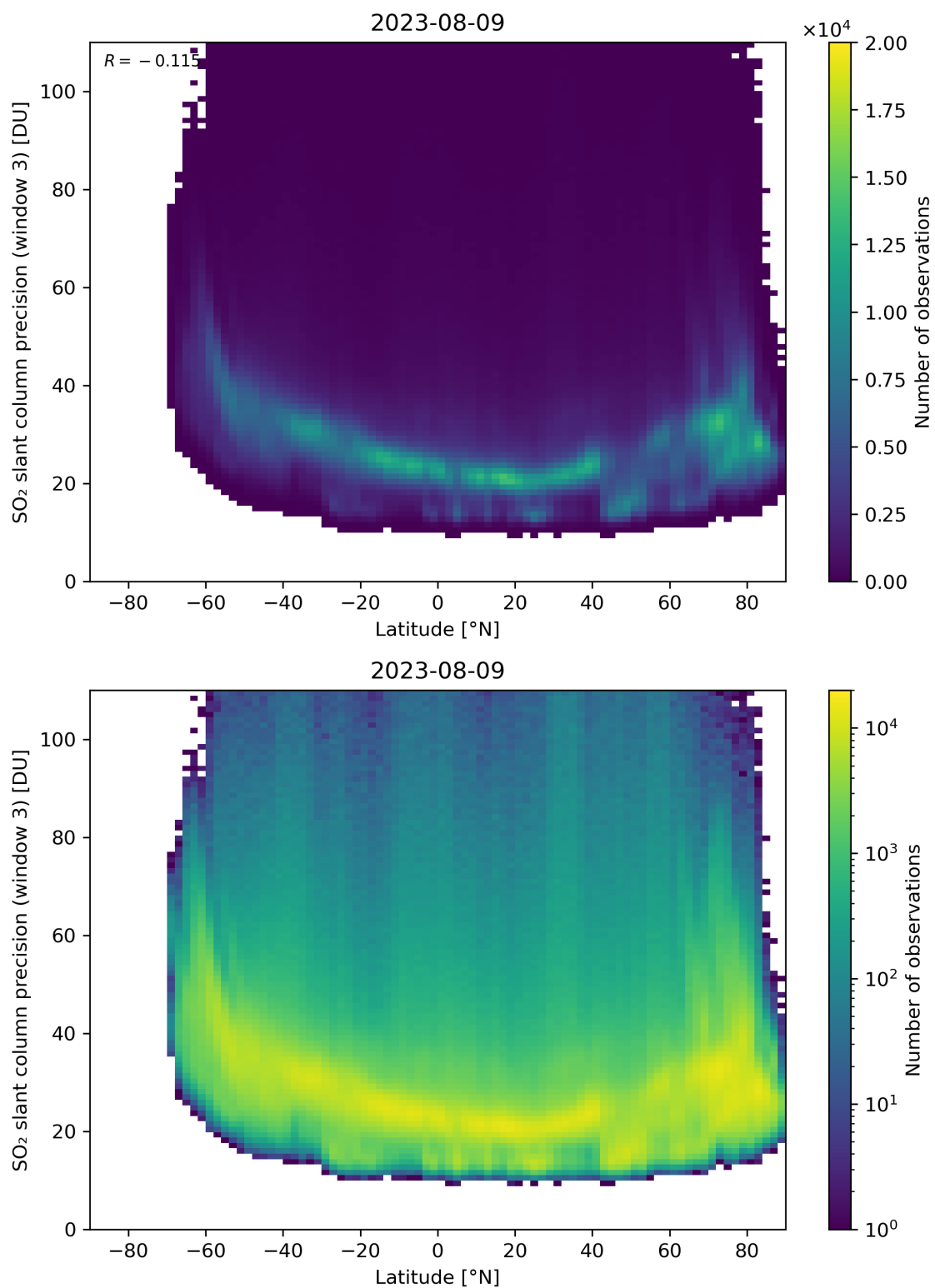


Figure 153: Scatter density plot of “Latitude” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

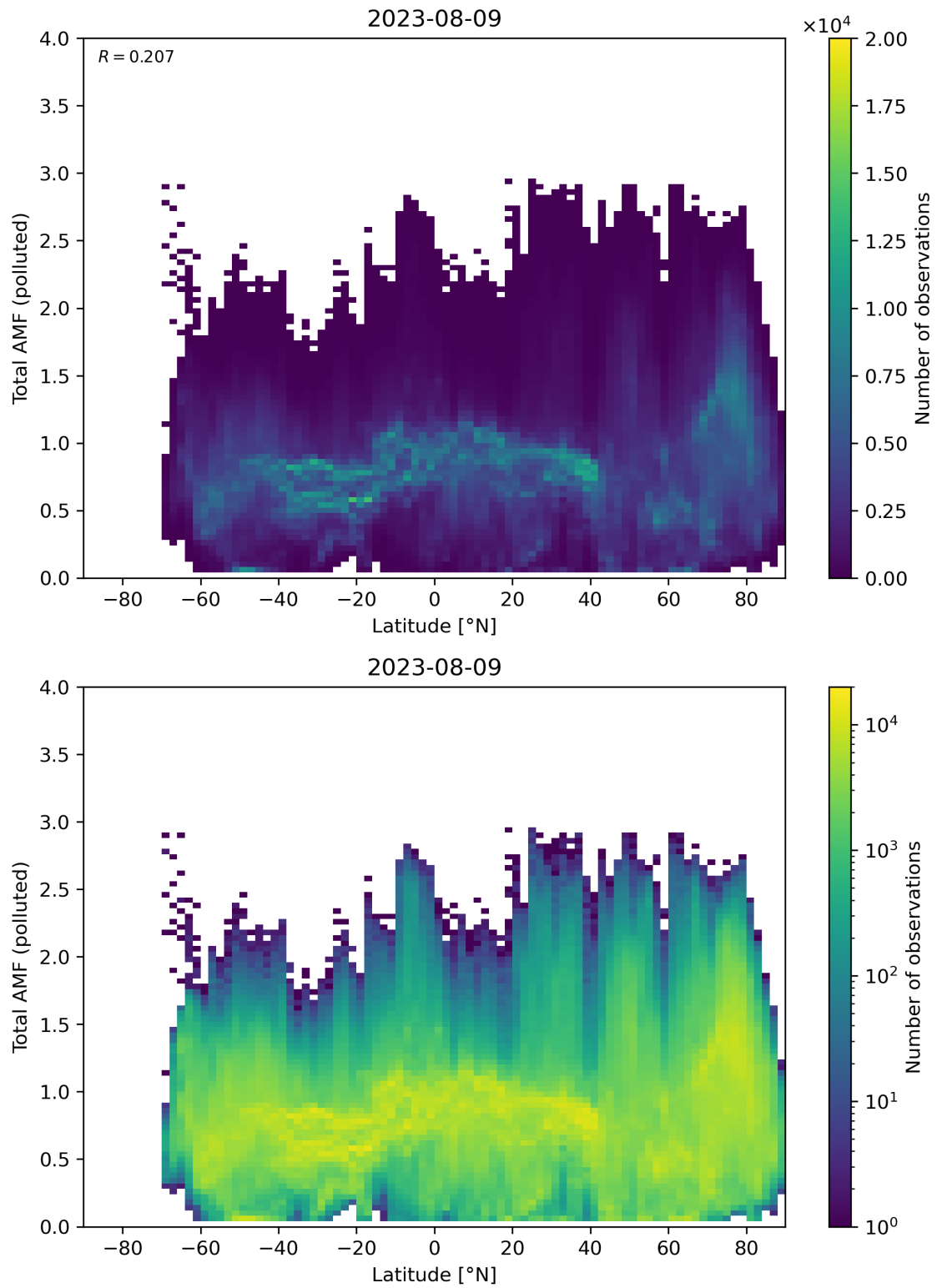


Figure 154: Scatter density plot of “Latitude” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

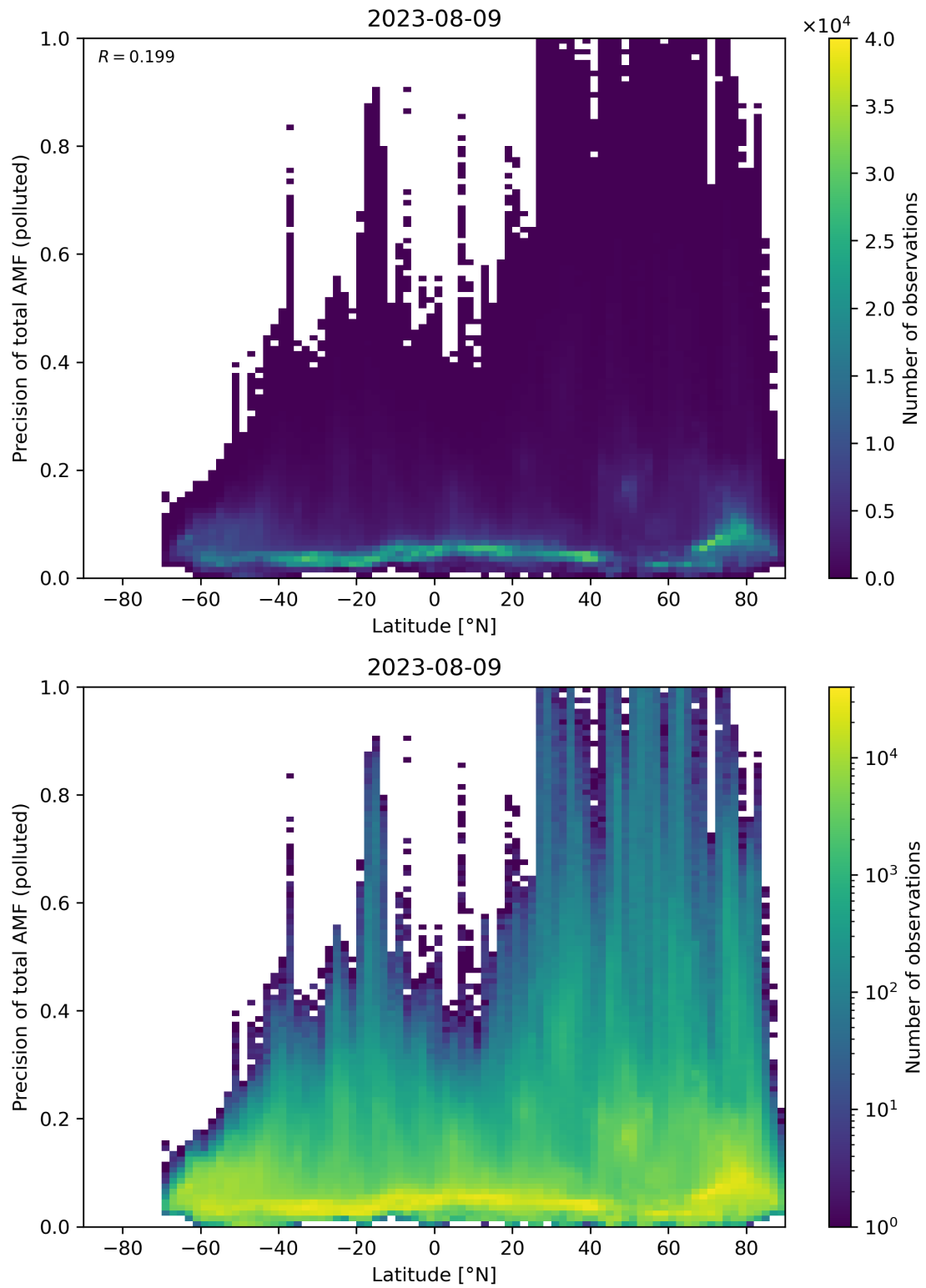


Figure 155: Scatter density plot of “Latitude” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

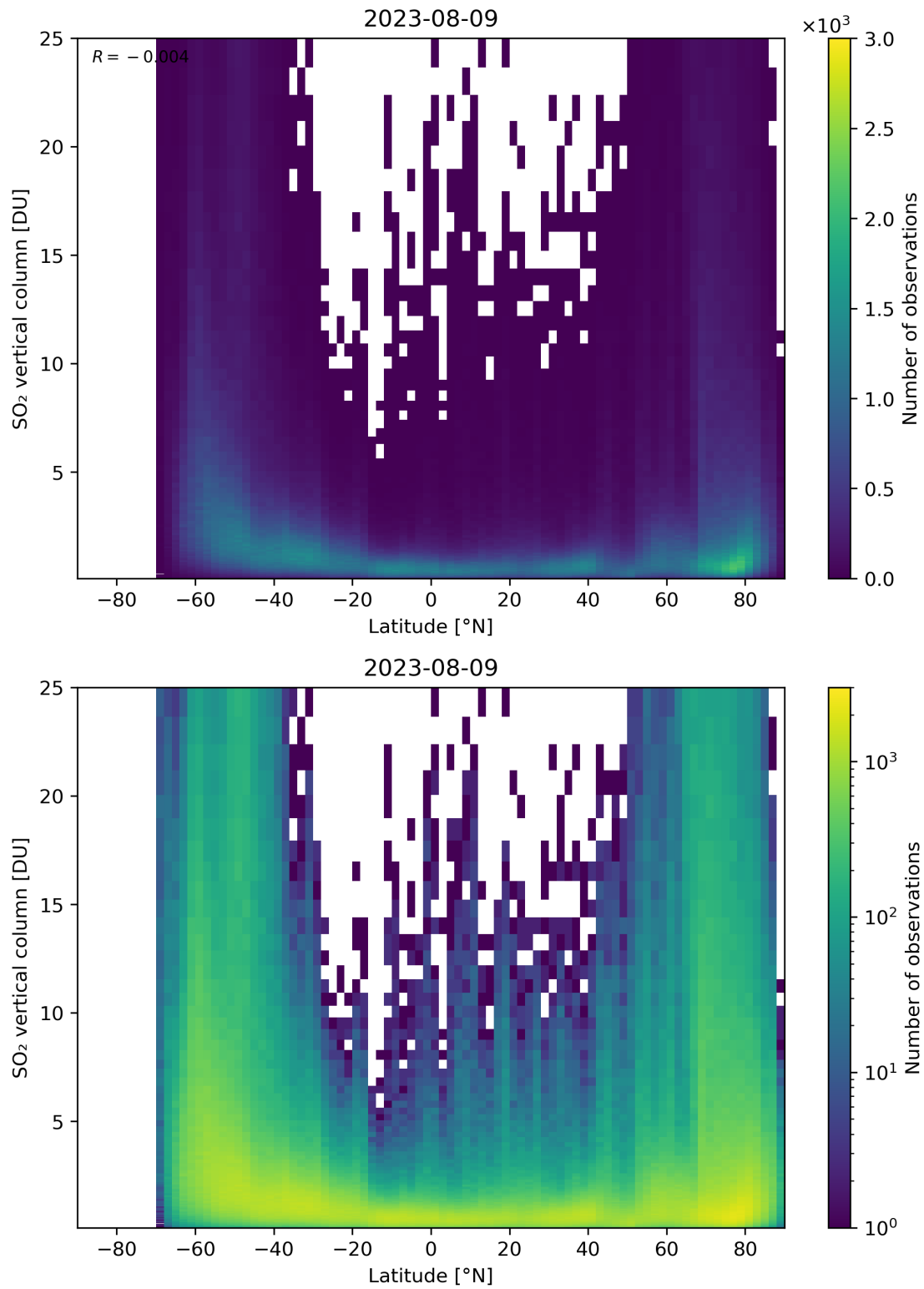


Figure 156: Scatter density plot of “Latitude” against “SO₂ vertical column” for 2023-08-09 to 2023-08-10.

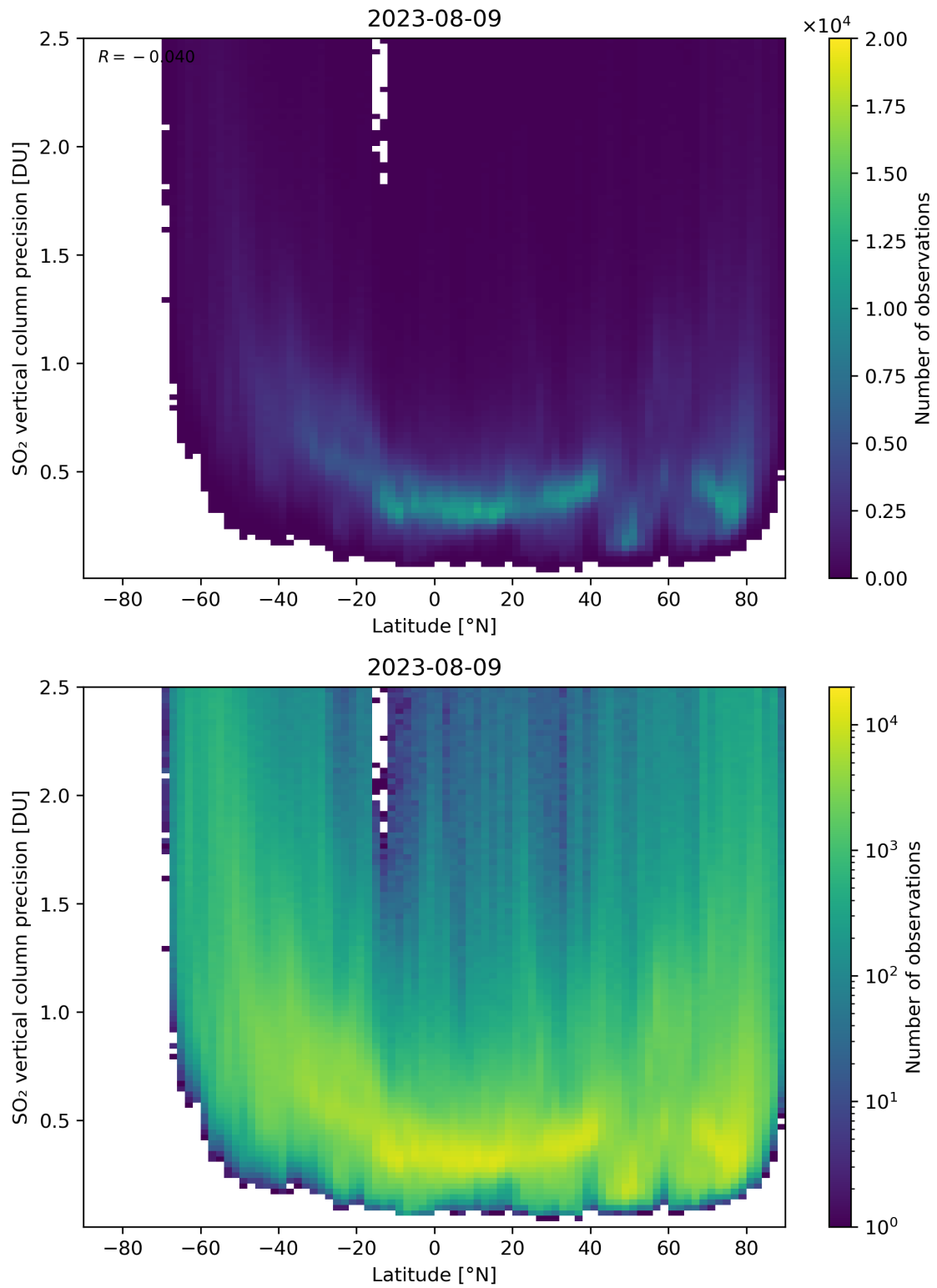


Figure 157: Scatter density plot of “Latitude” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10.

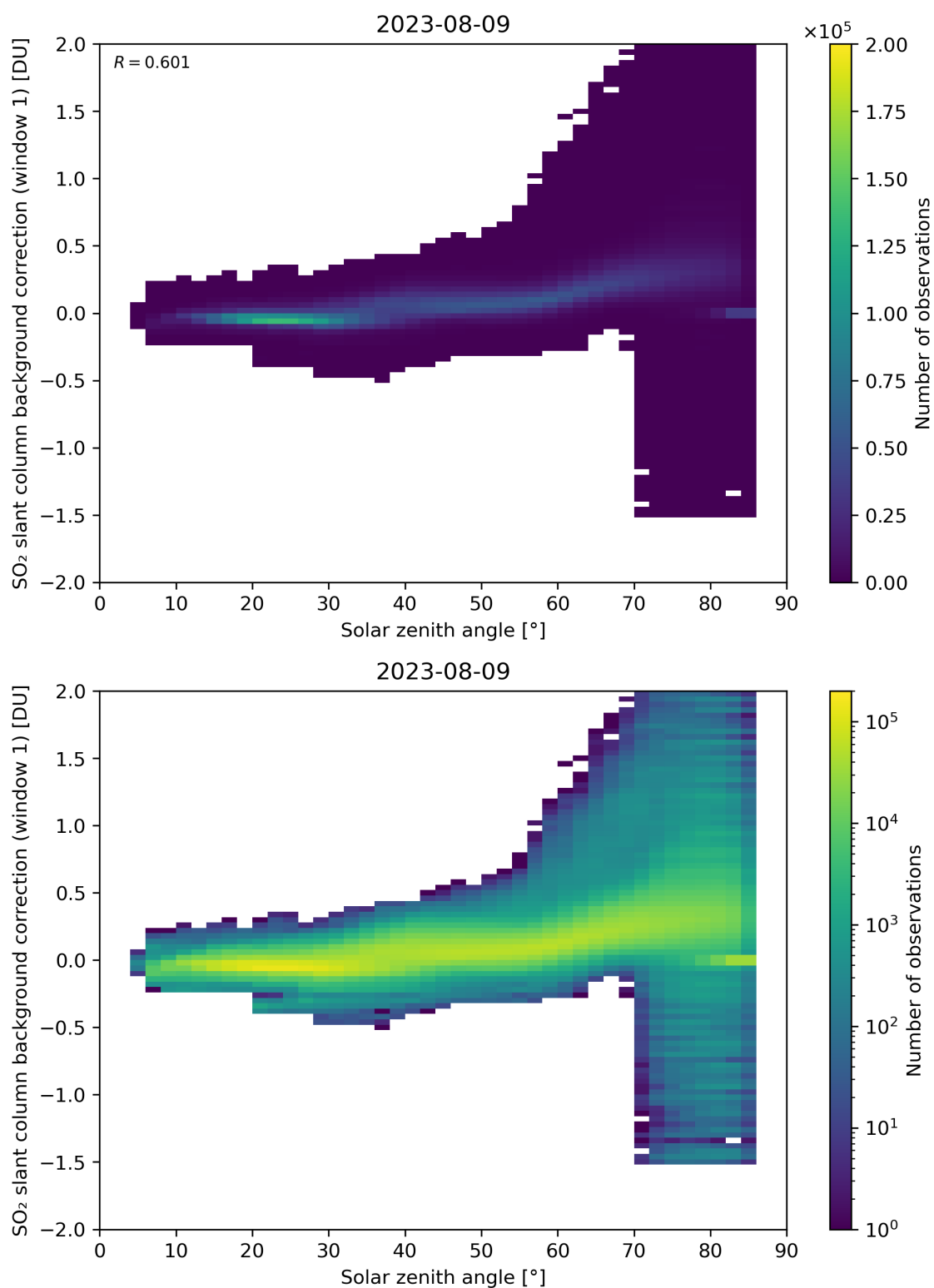


Figure 158: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

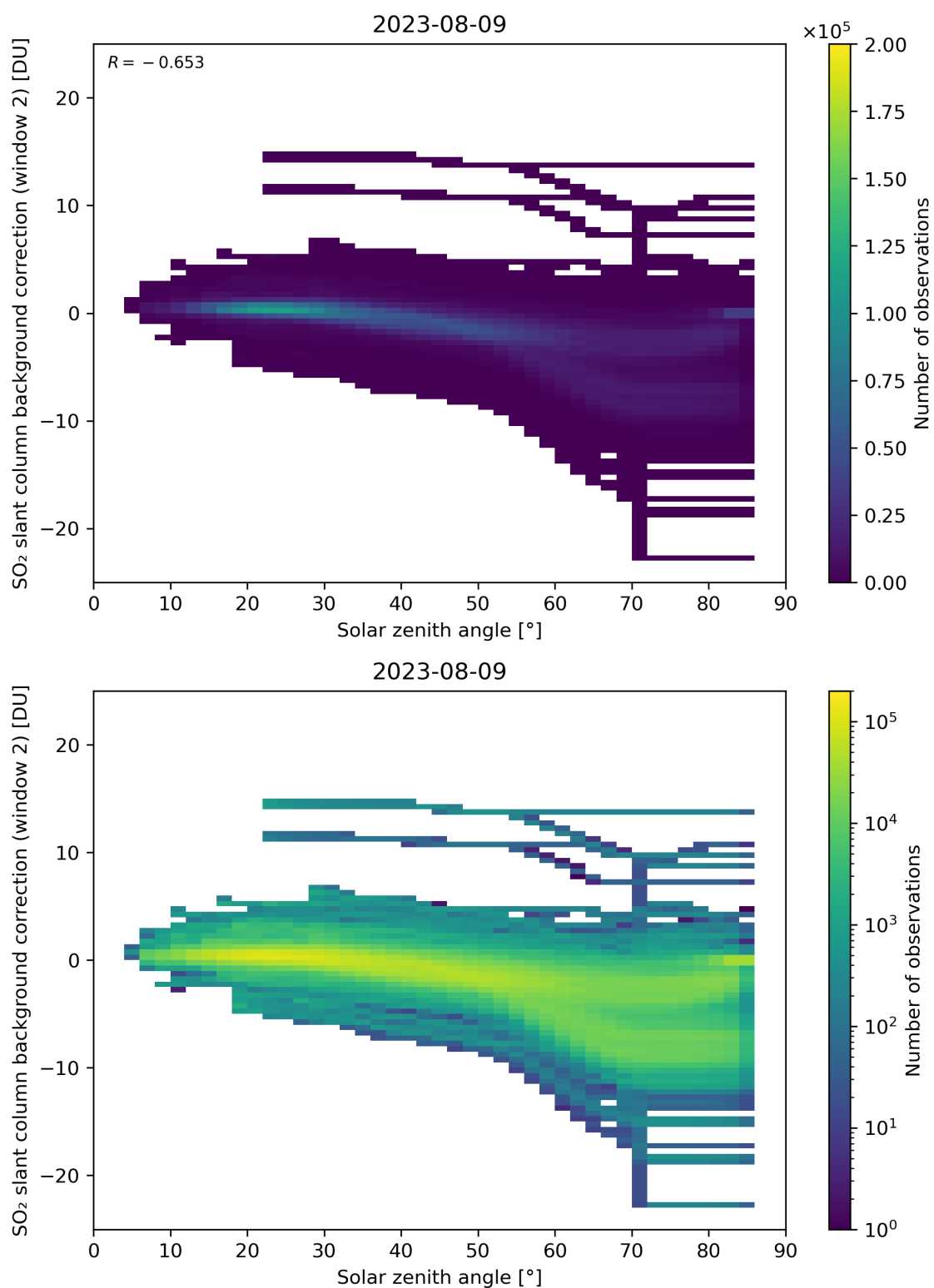


Figure 159: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

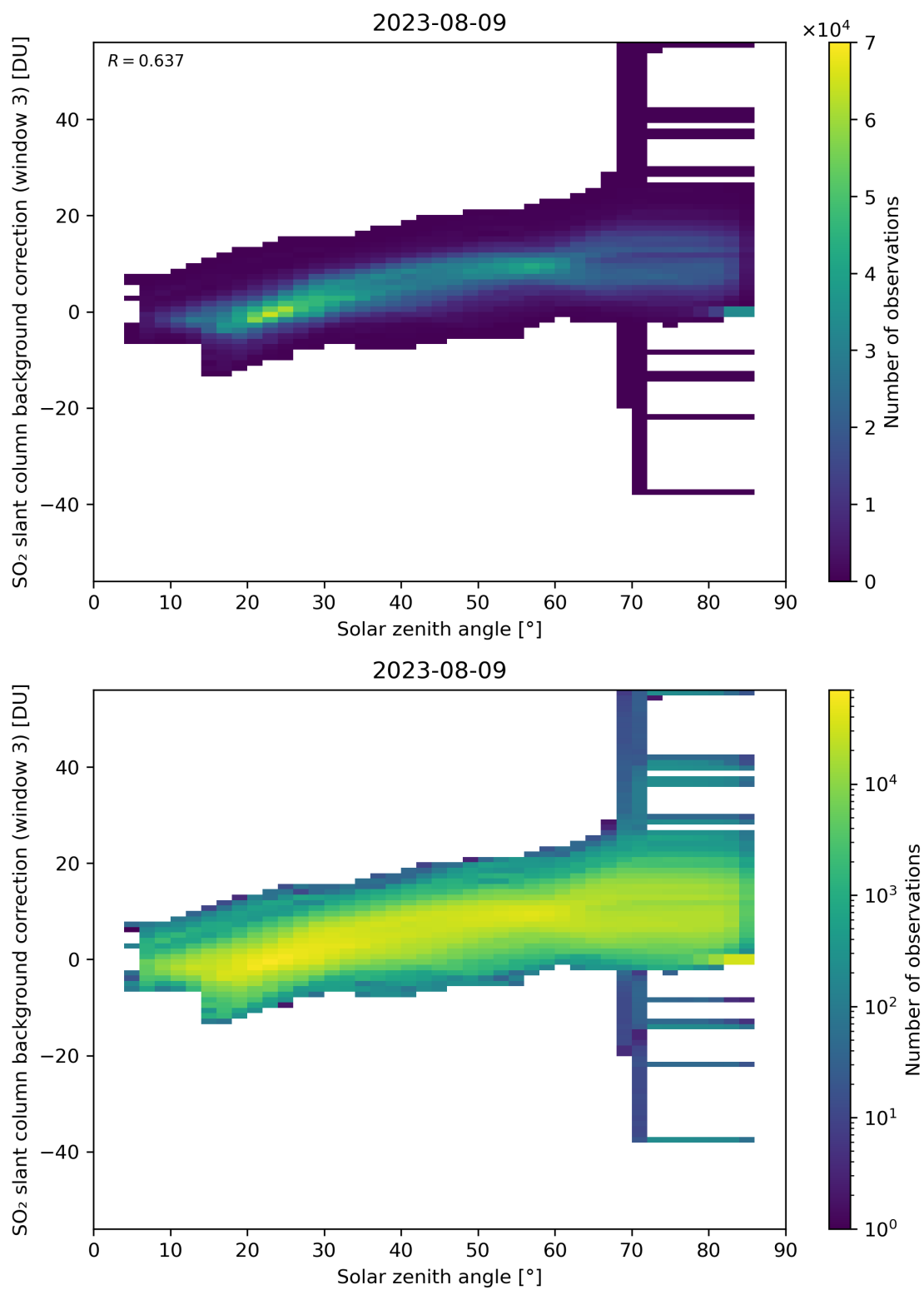


Figure 160: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

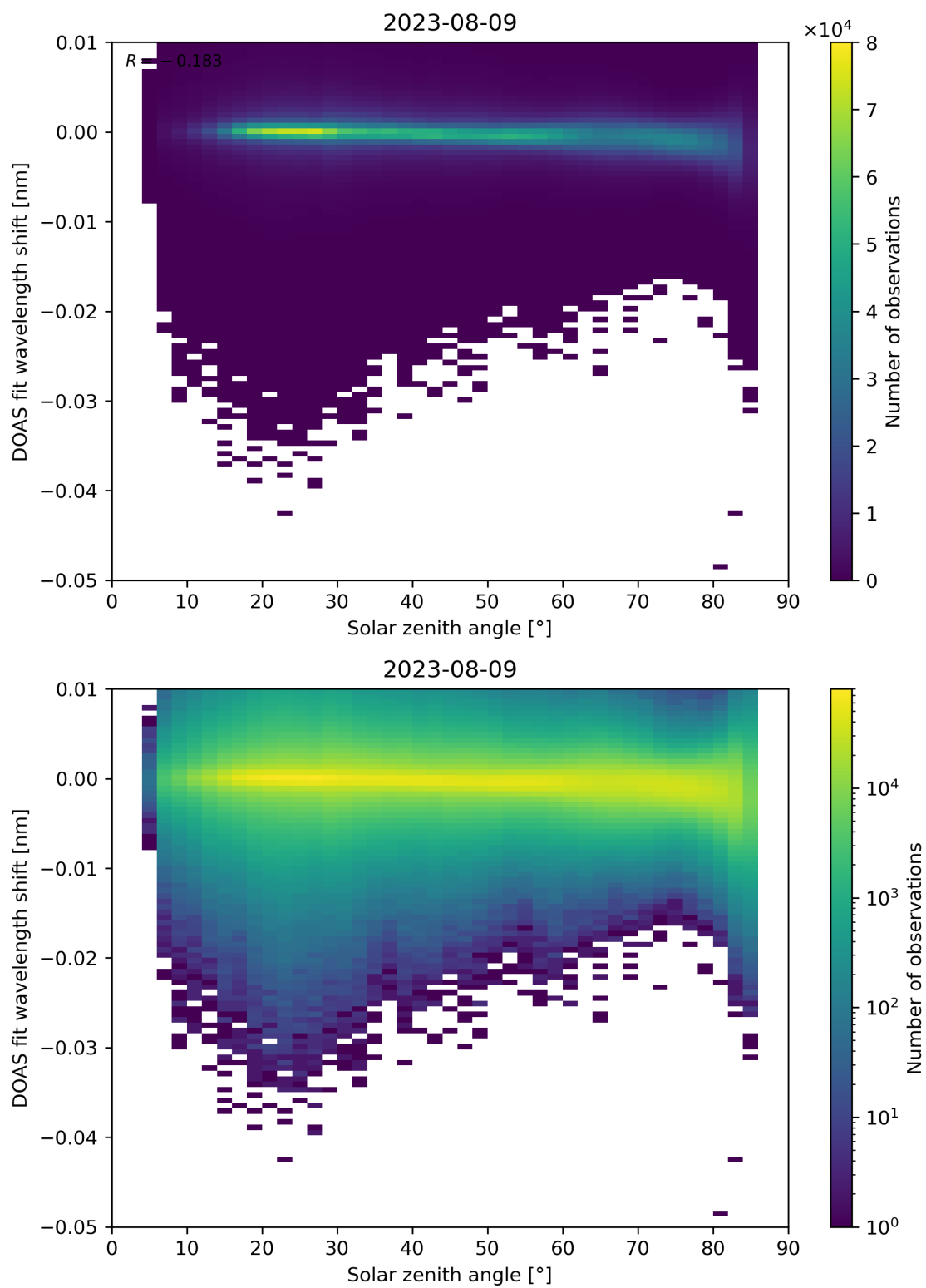


Figure 161: Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

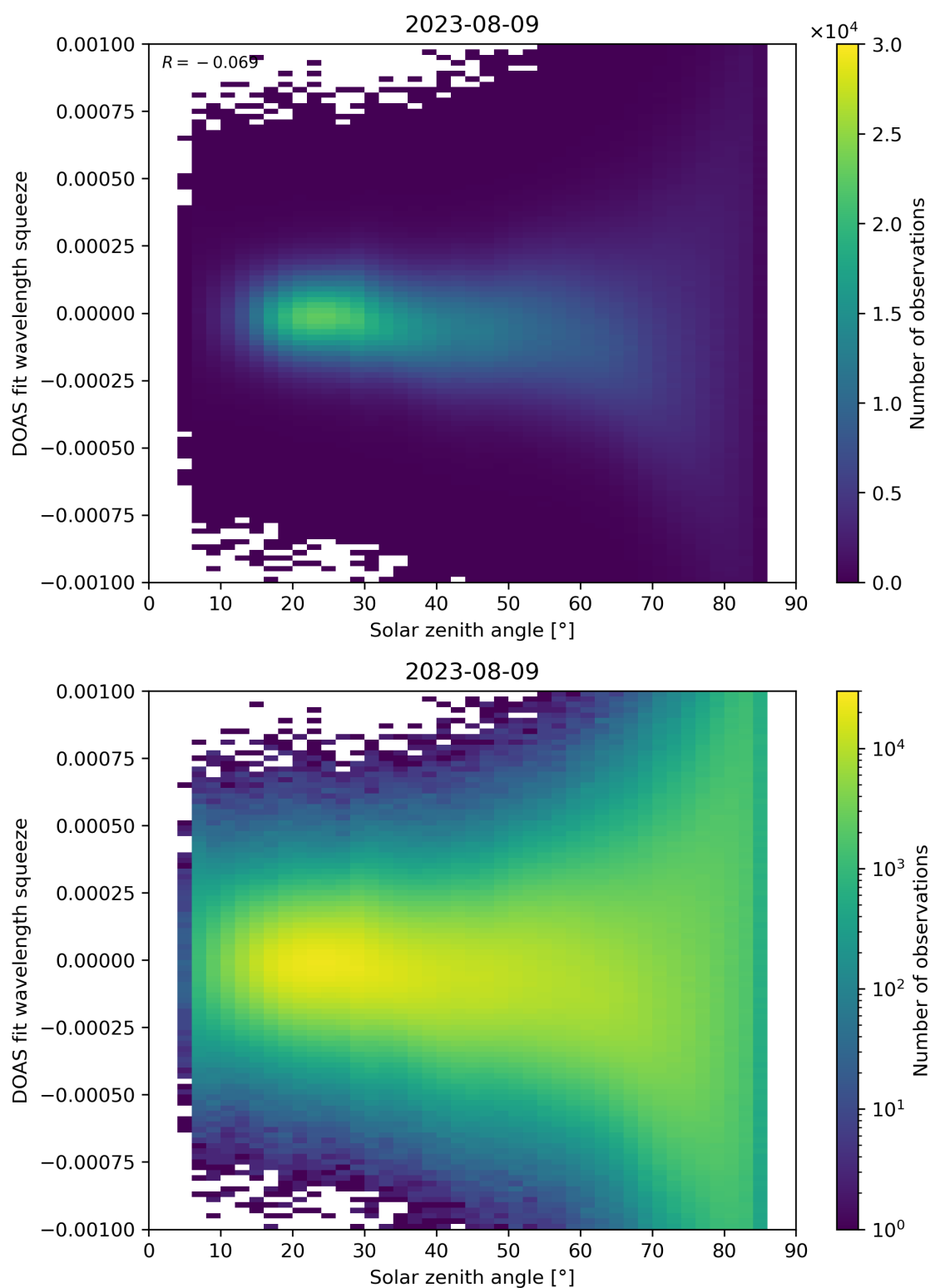


Figure 162: Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

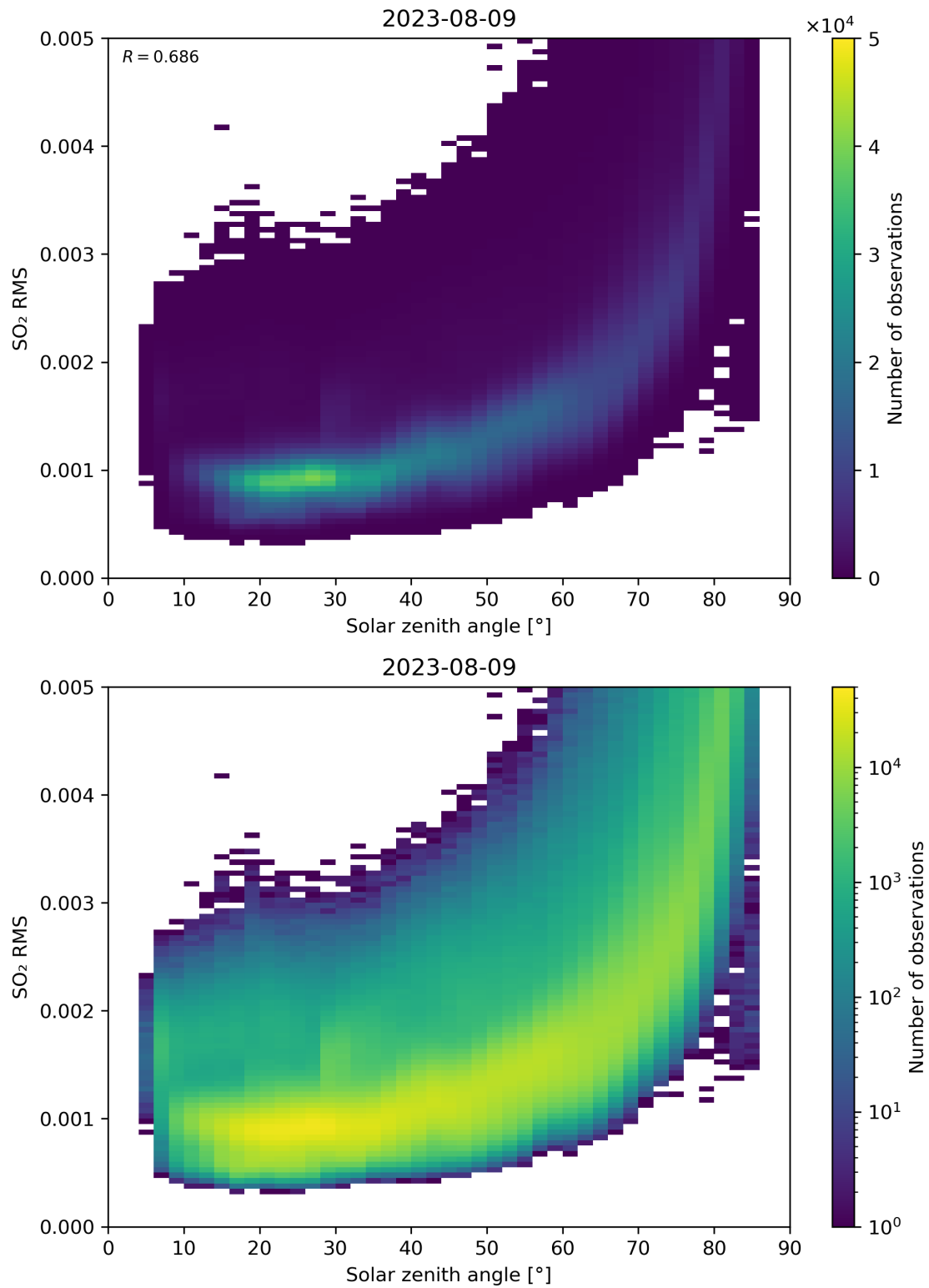


Figure 163: Scatter density plot of “Solar zenith angle” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

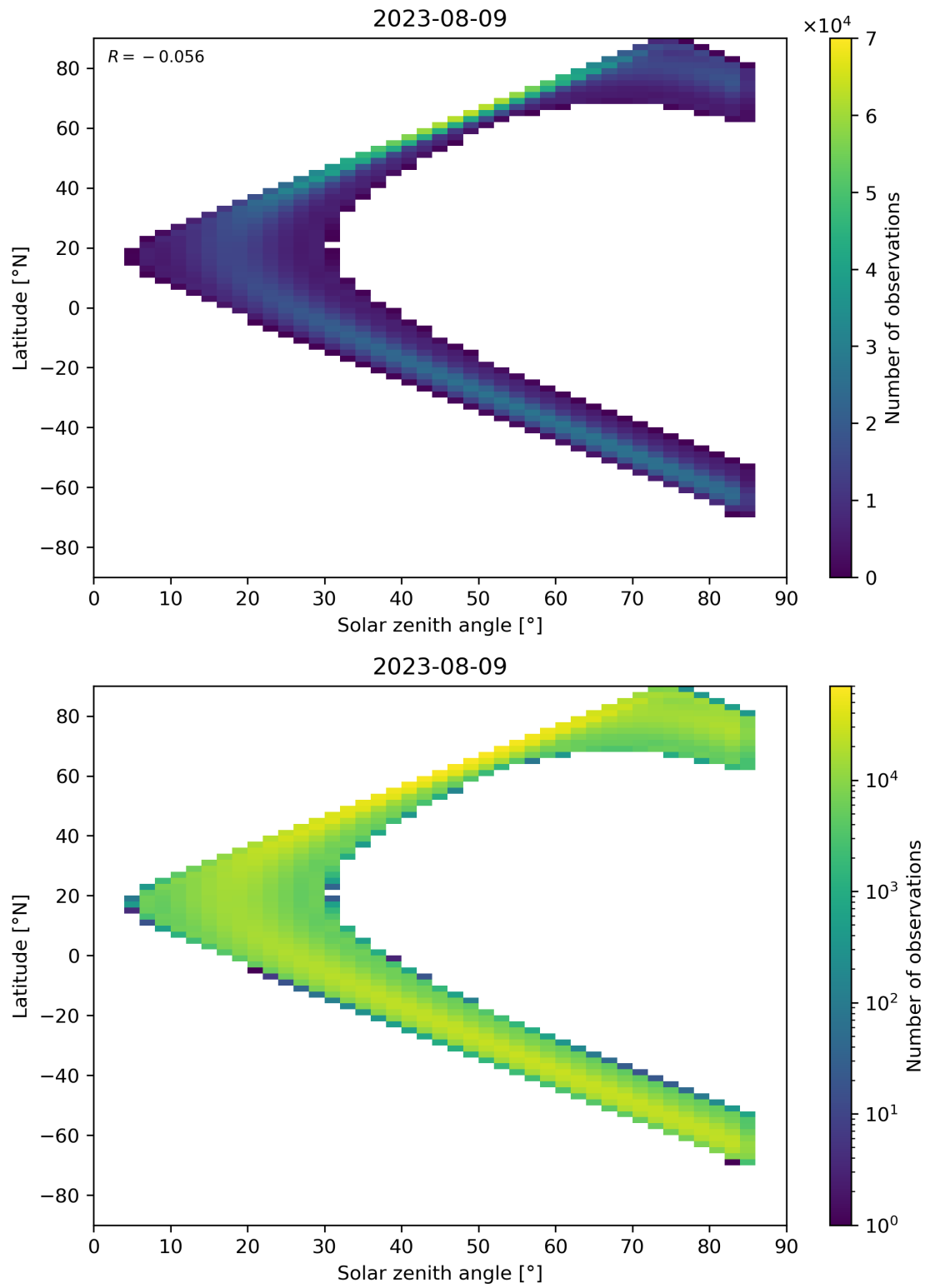


Figure 164: Scatter density plot of “Solar zenith angle” against “Latitude” for 2023-08-09 to 2023-08-10.

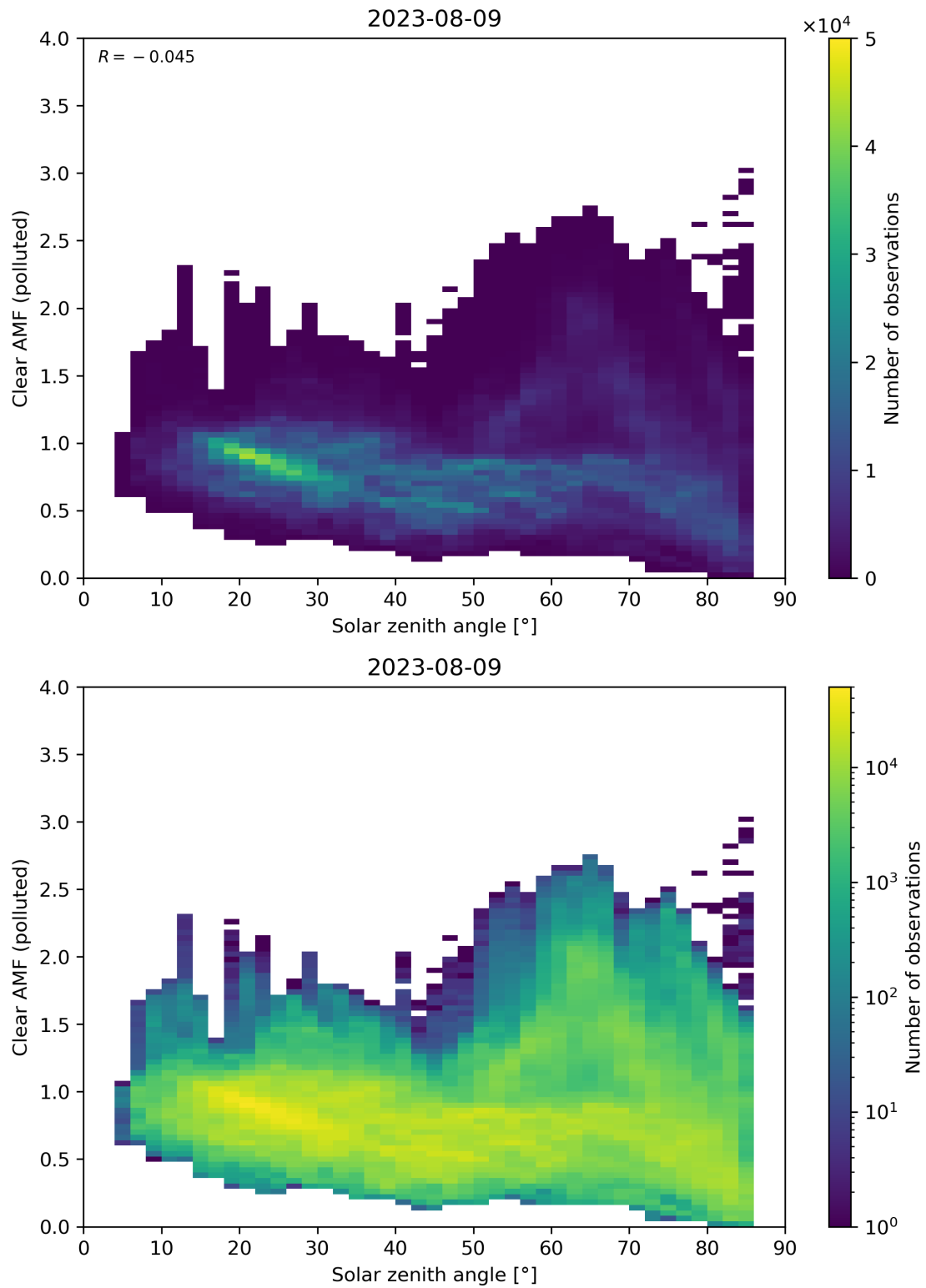


Figure 165: Scatter density plot of “Solar zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

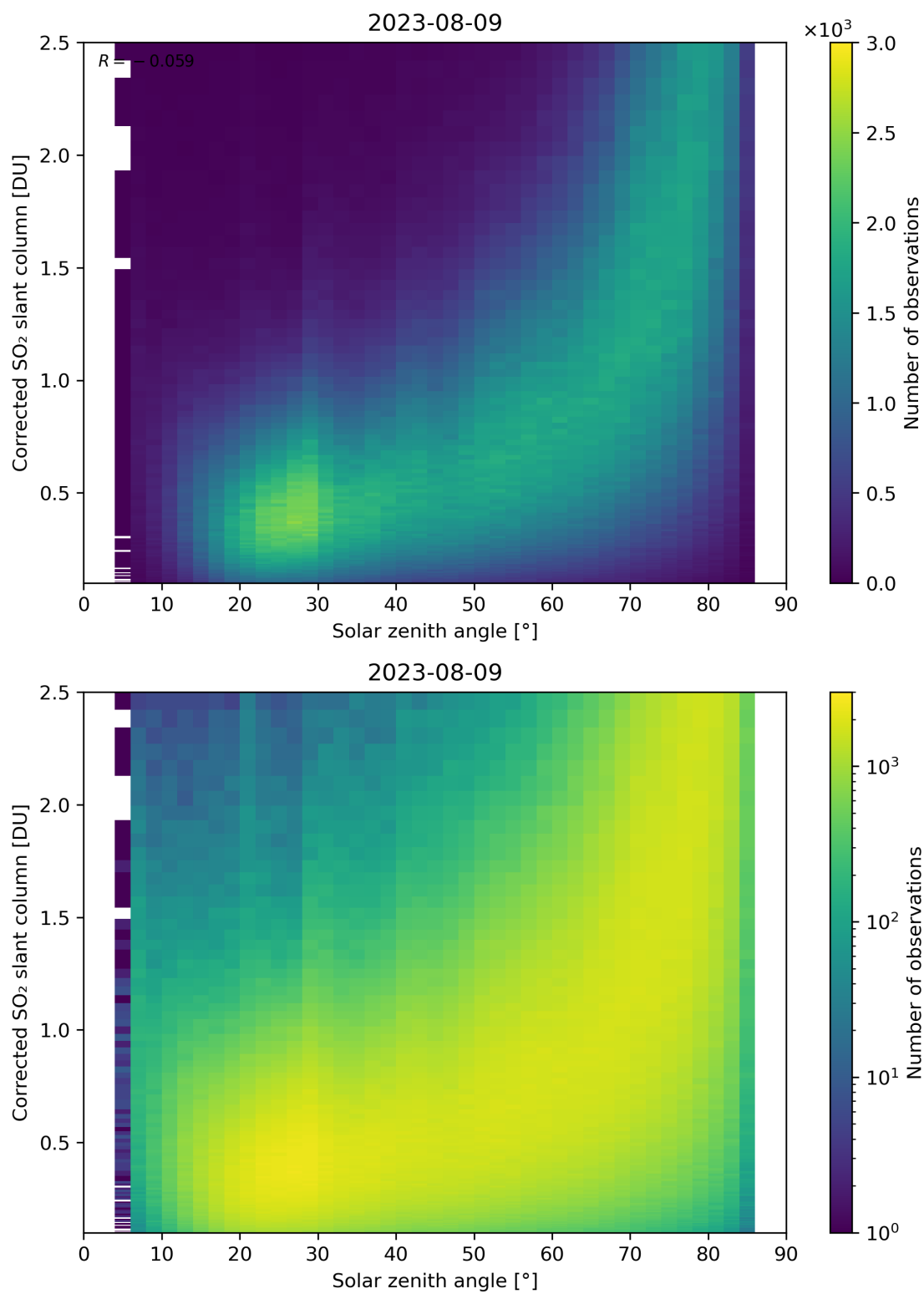


Figure 166: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10.

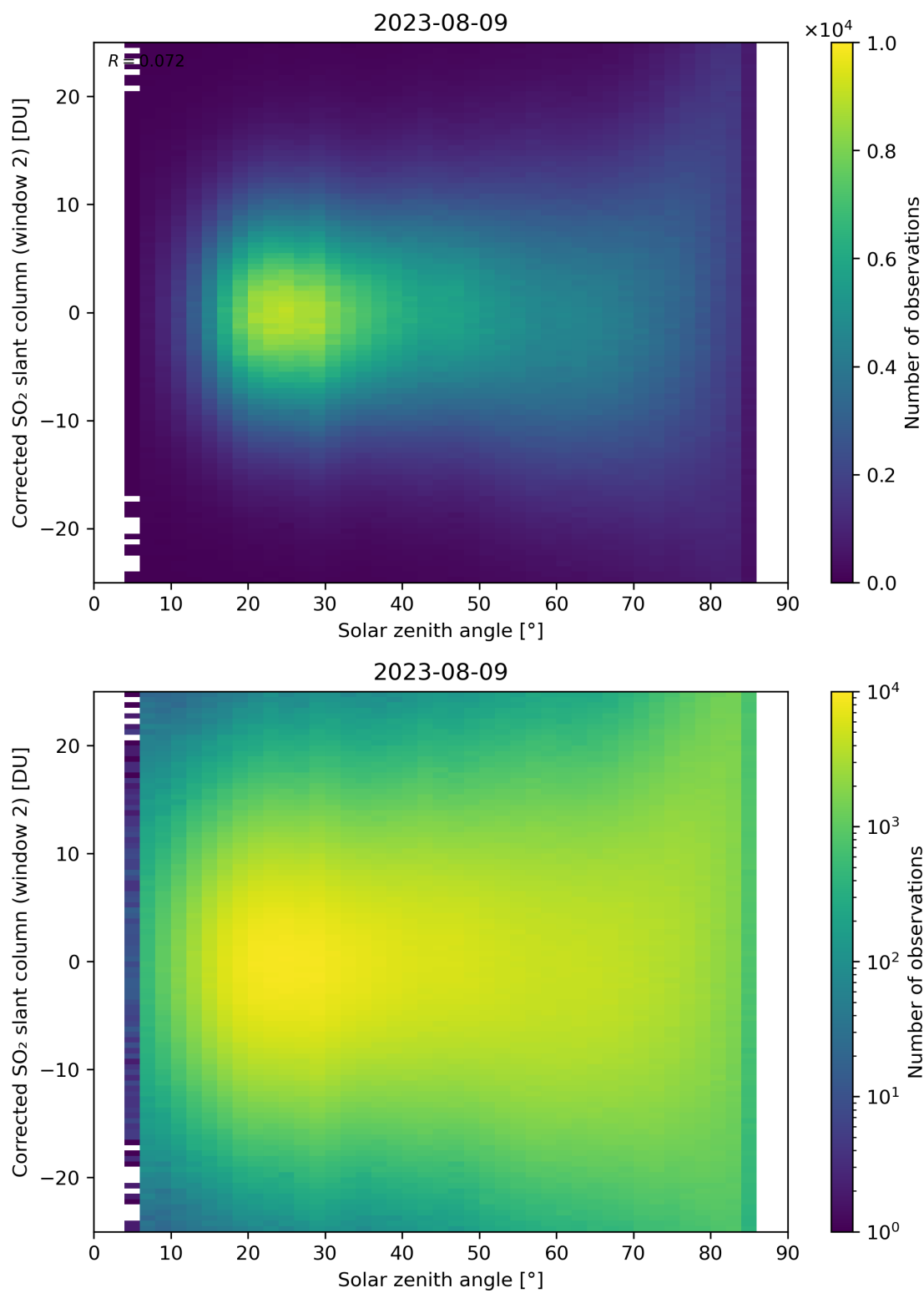


Figure 167: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

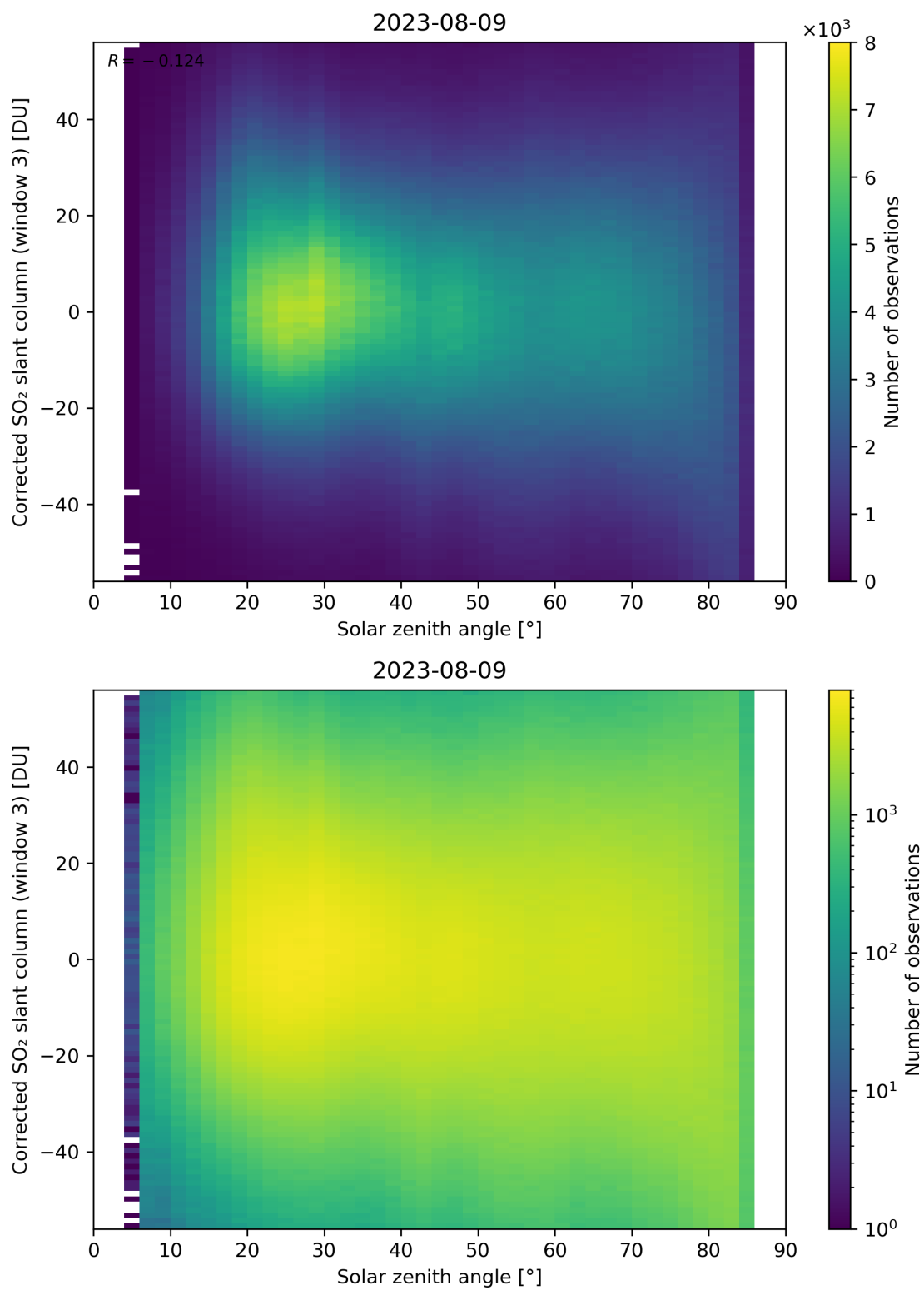


Figure 168: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

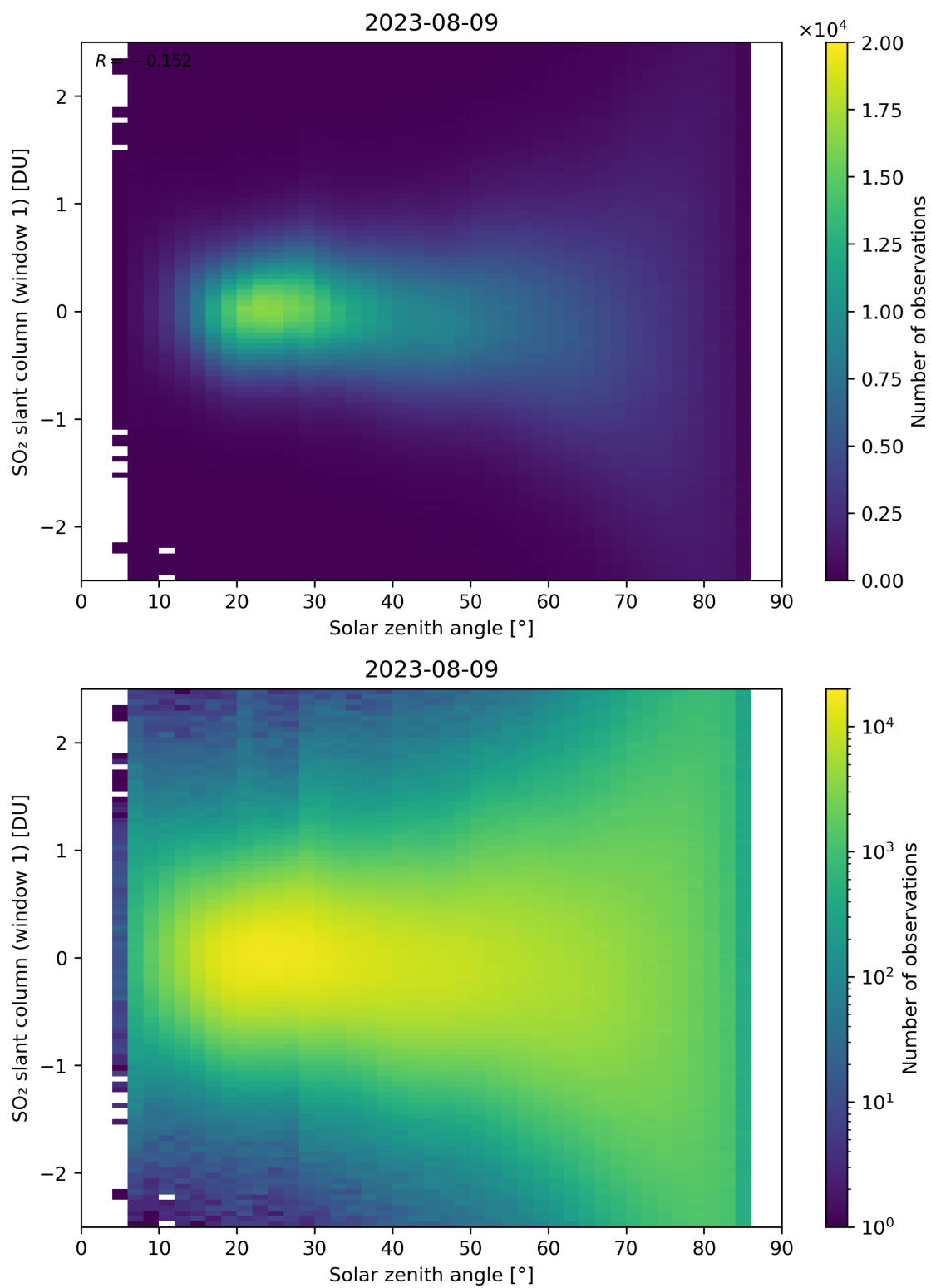


Figure 169: Scatter density plot of “Solar zenith angle” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

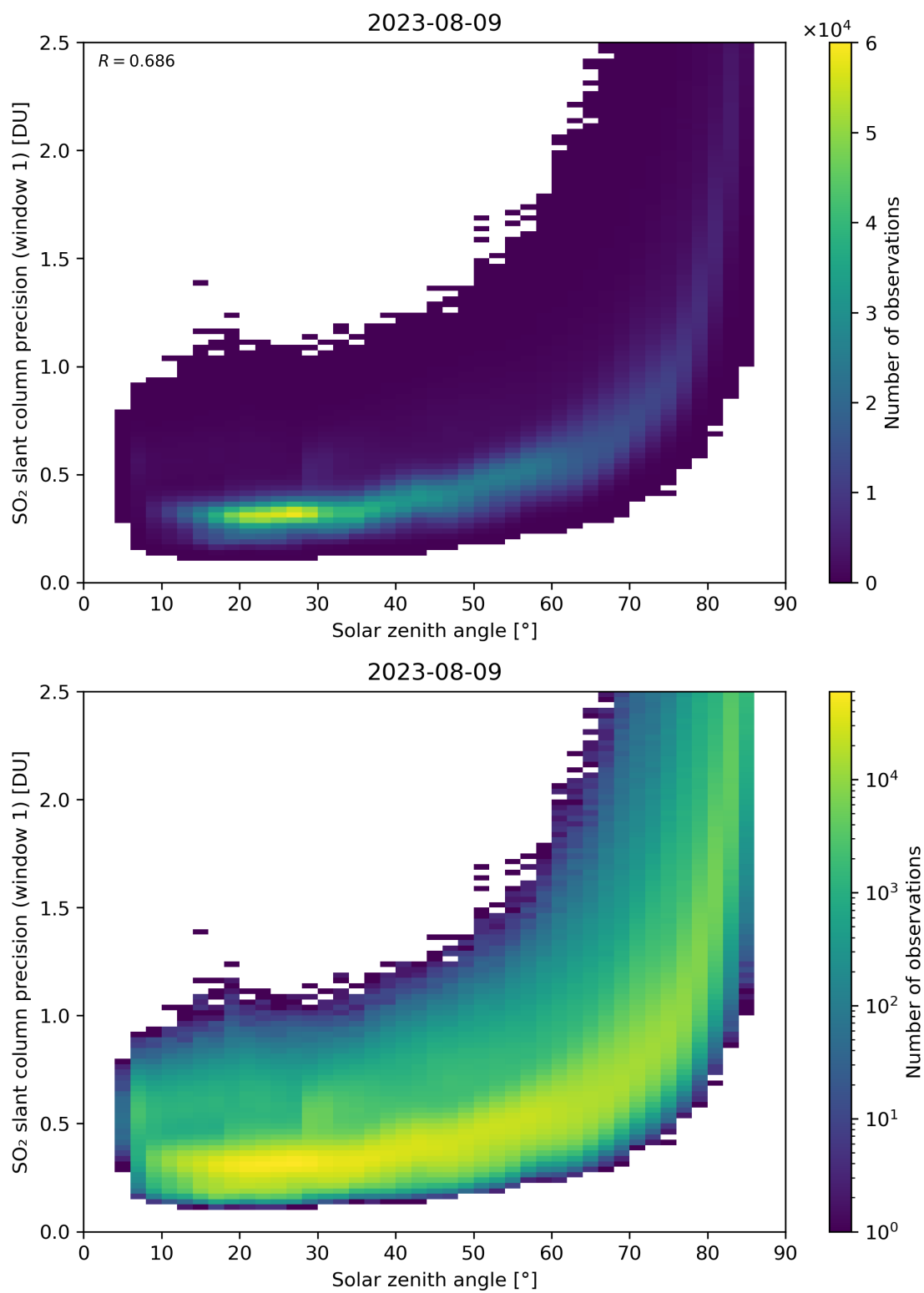


Figure 170: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

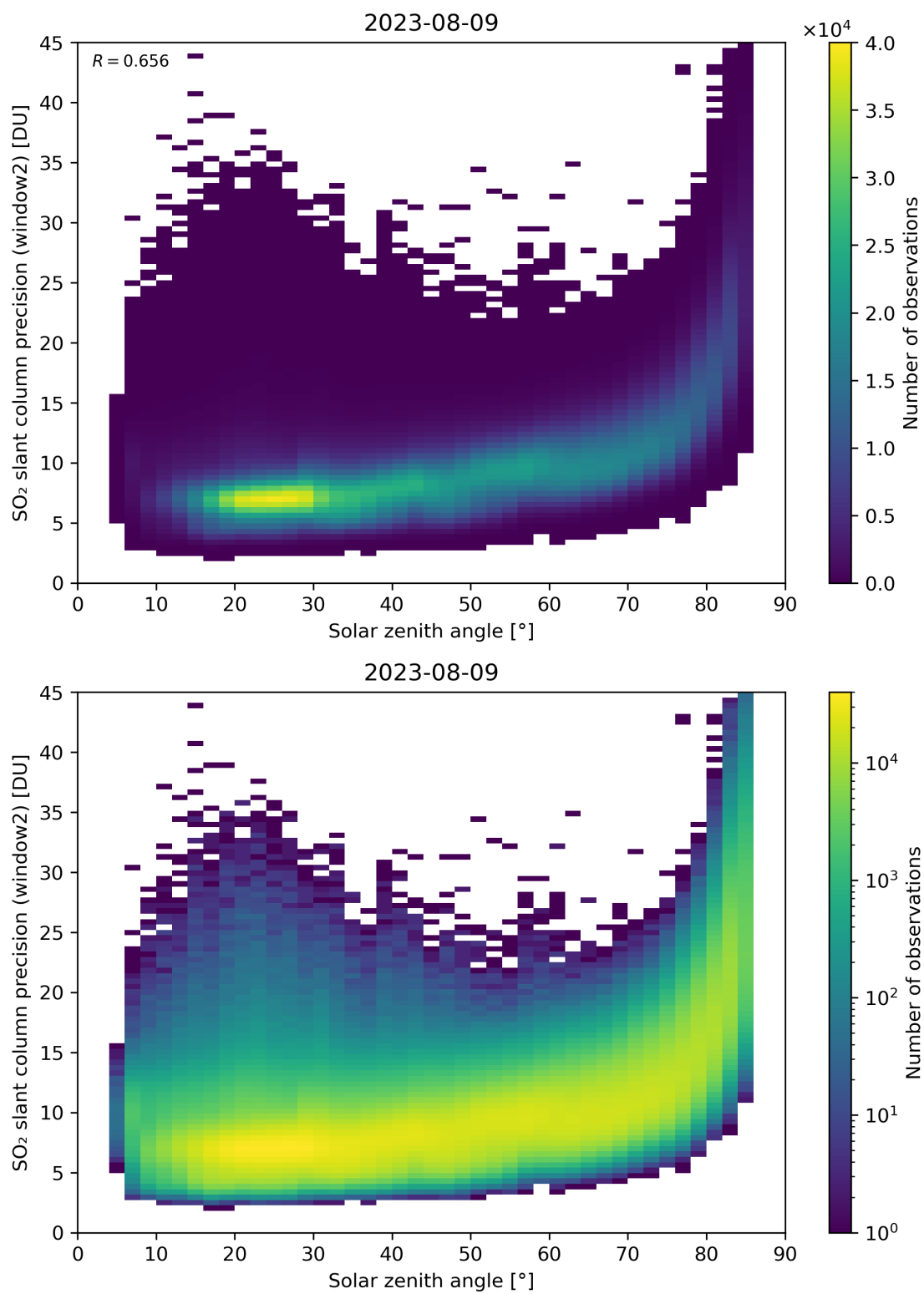


Figure 171: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

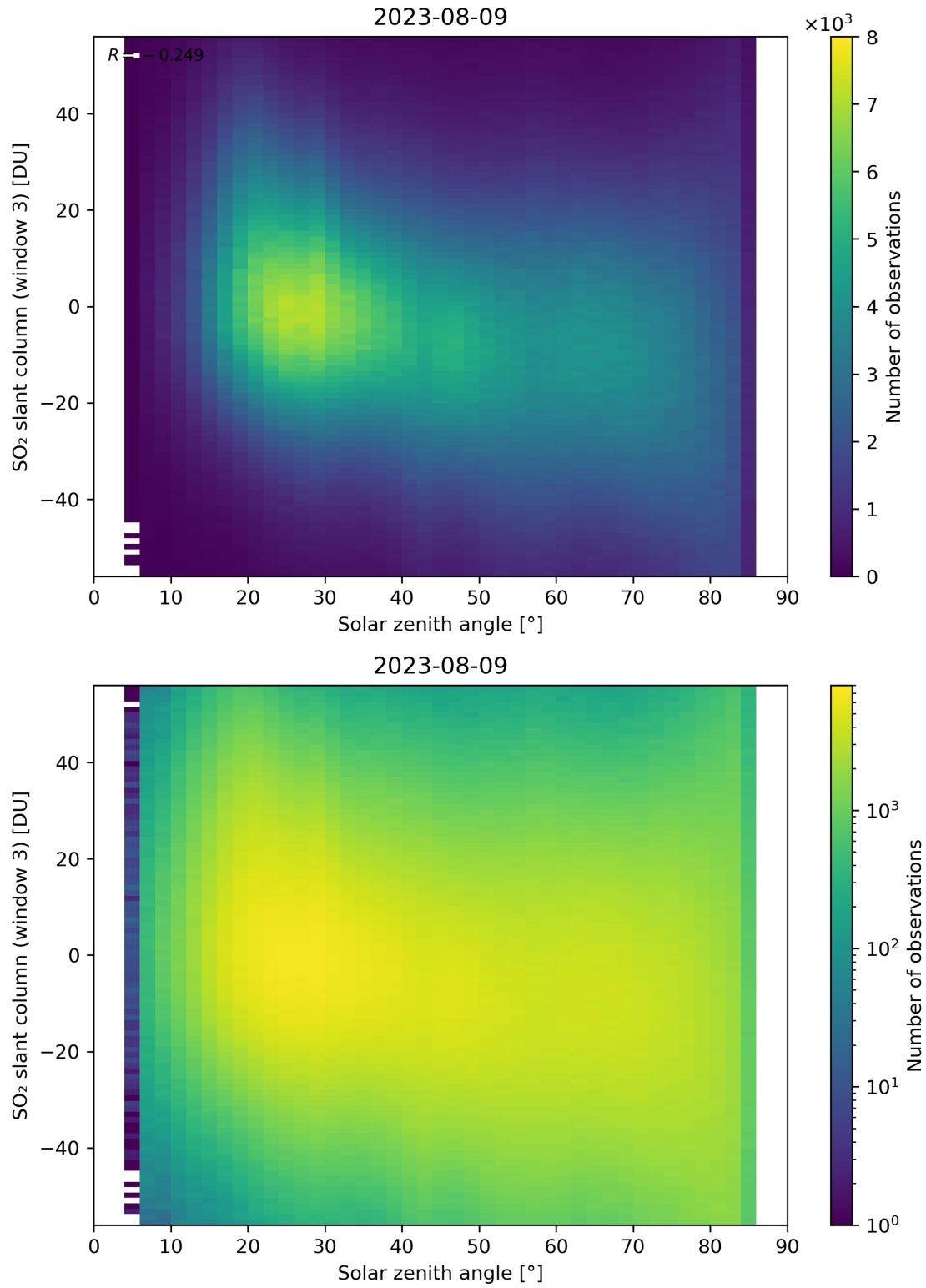


Figure 172: Scatter density plot of “Solar zenith angle” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

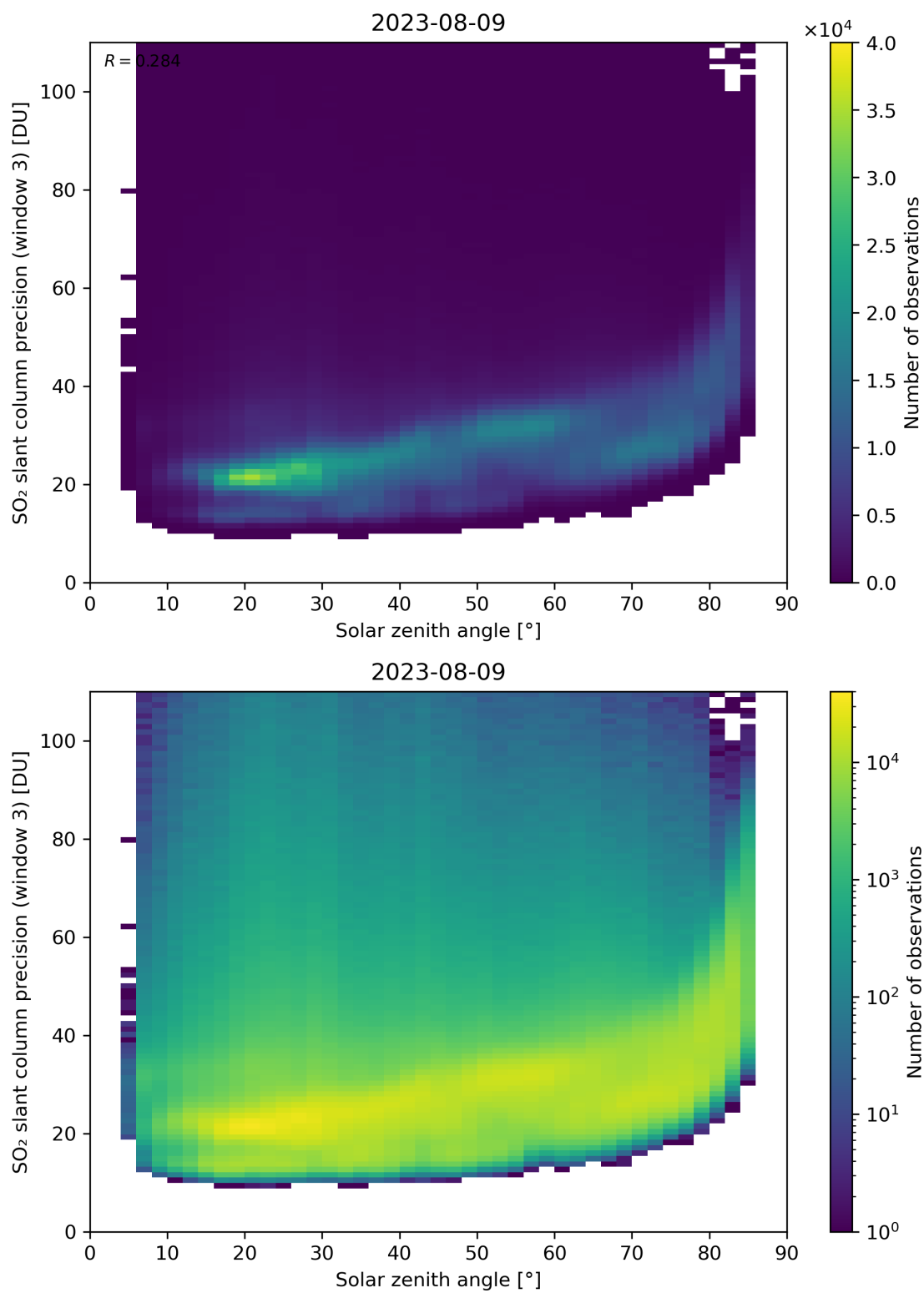


Figure 173: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

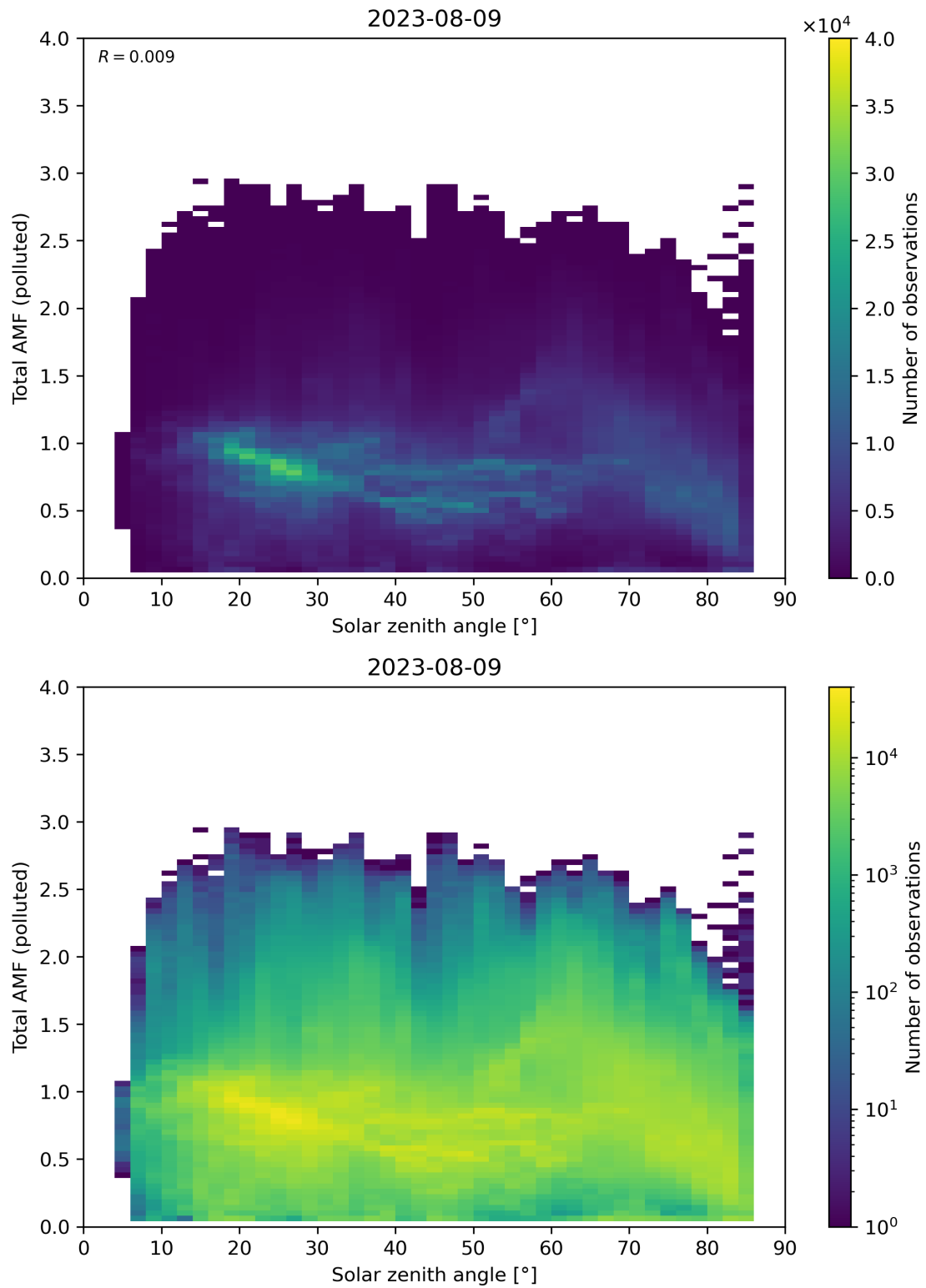


Figure 174: Scatter density plot of “Solar zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

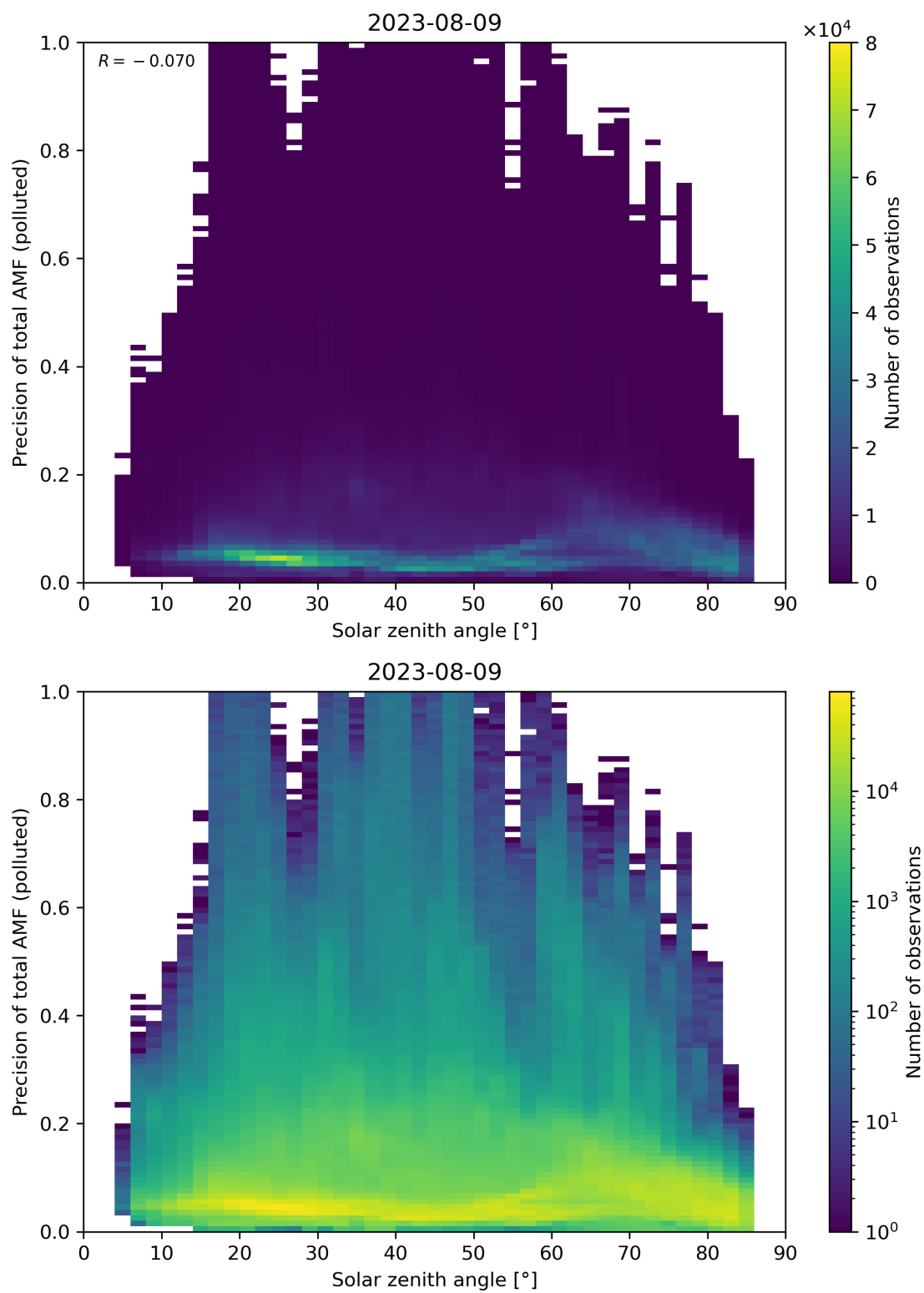


Figure 175: Scatter density plot of “Solar zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

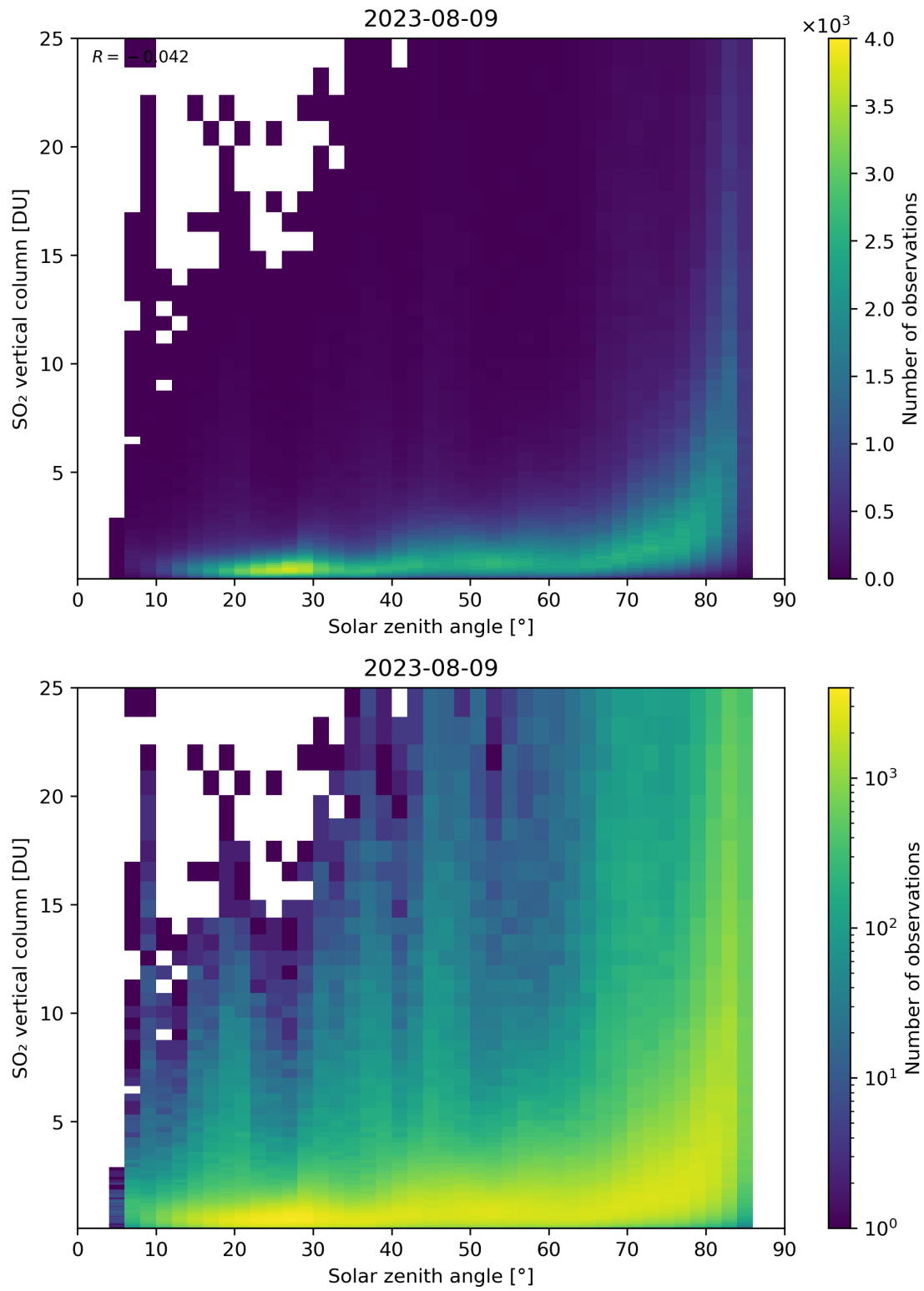


Figure 176: Scatter density plot of “Solar zenith angle” against “SO₂ vertical column” for 2023-08-09 to 2023-08-10.

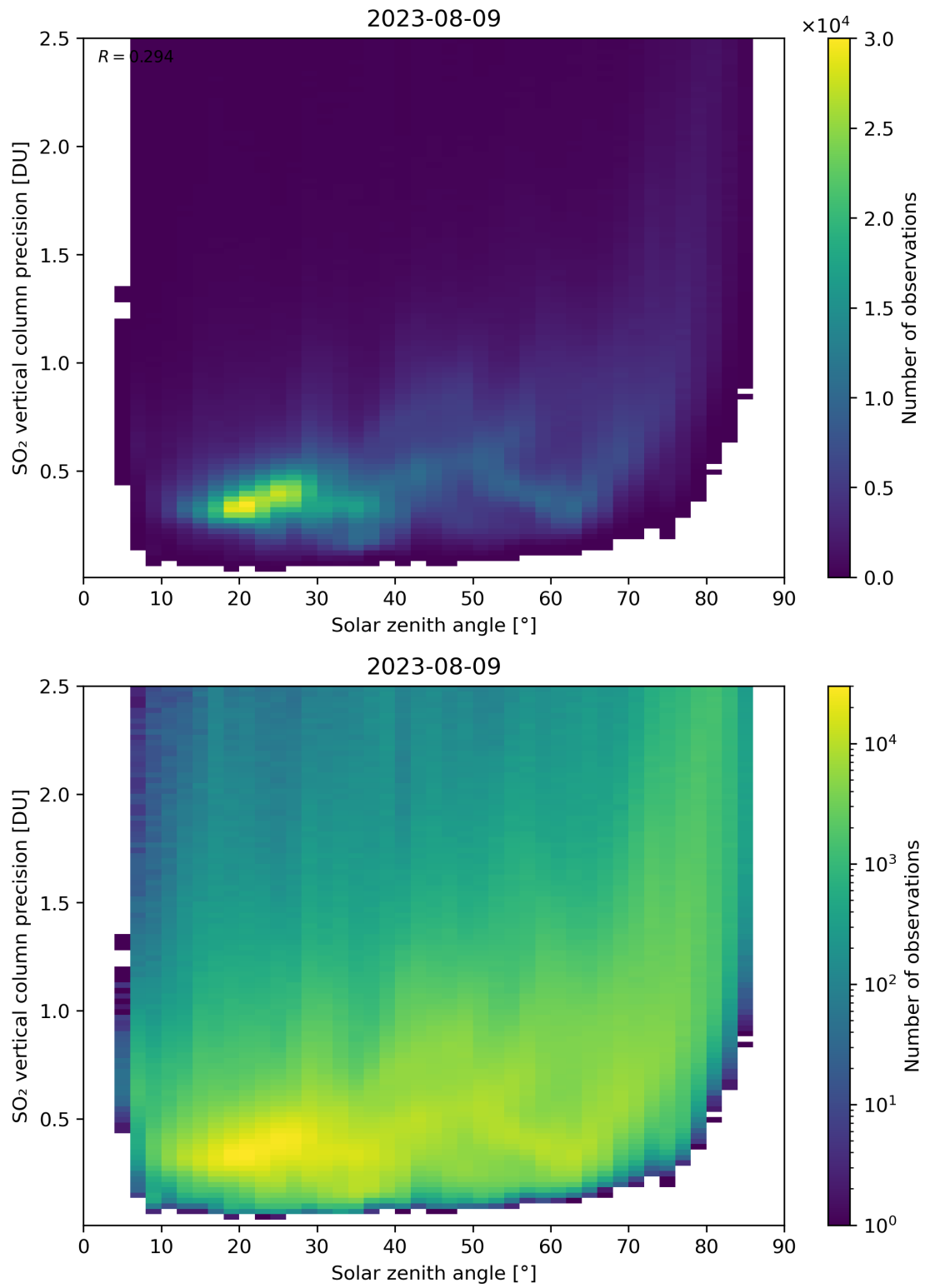


Figure 177: Scatter density plot of “Solar zenith angle” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10.

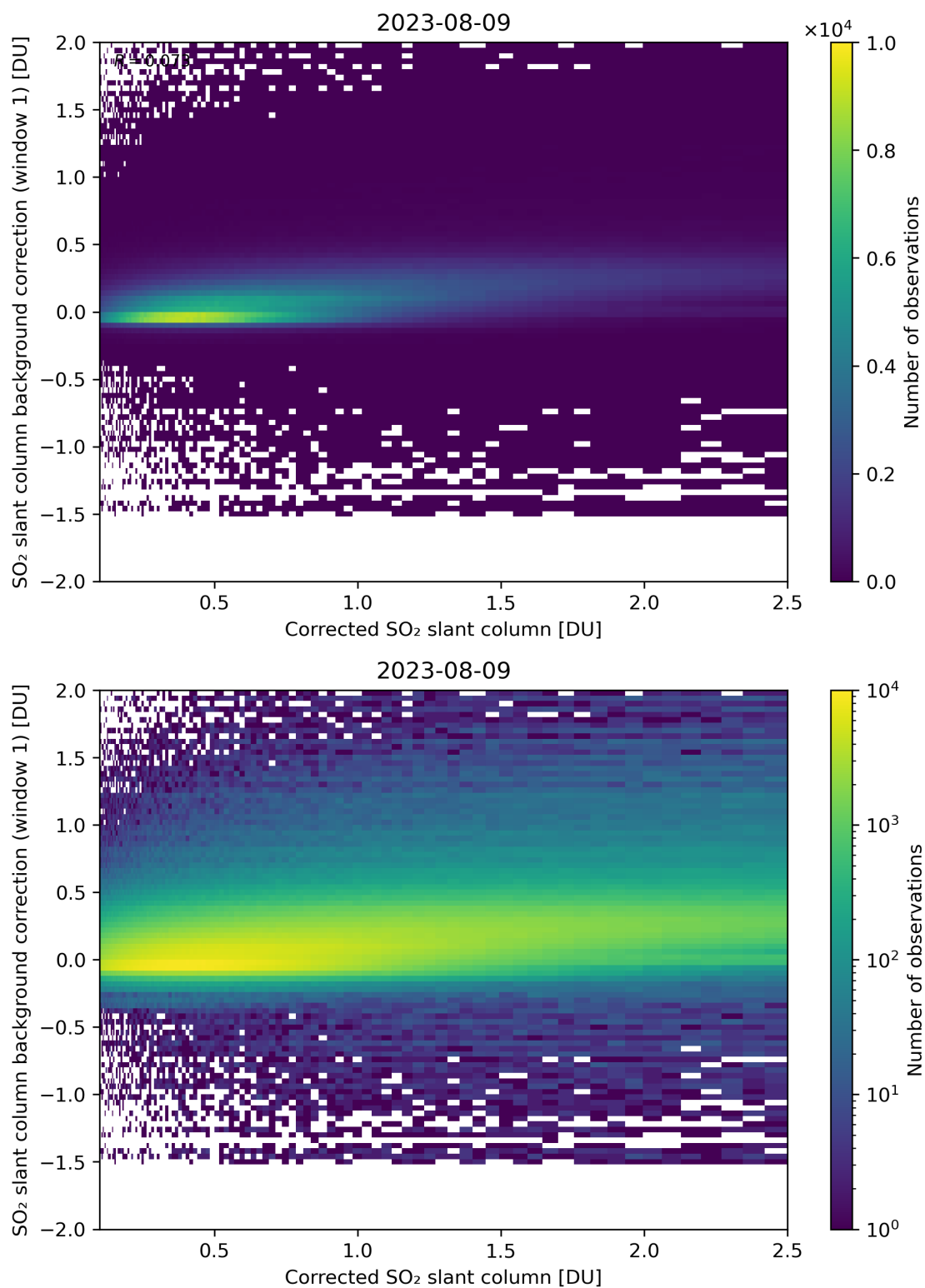


Figure 178: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

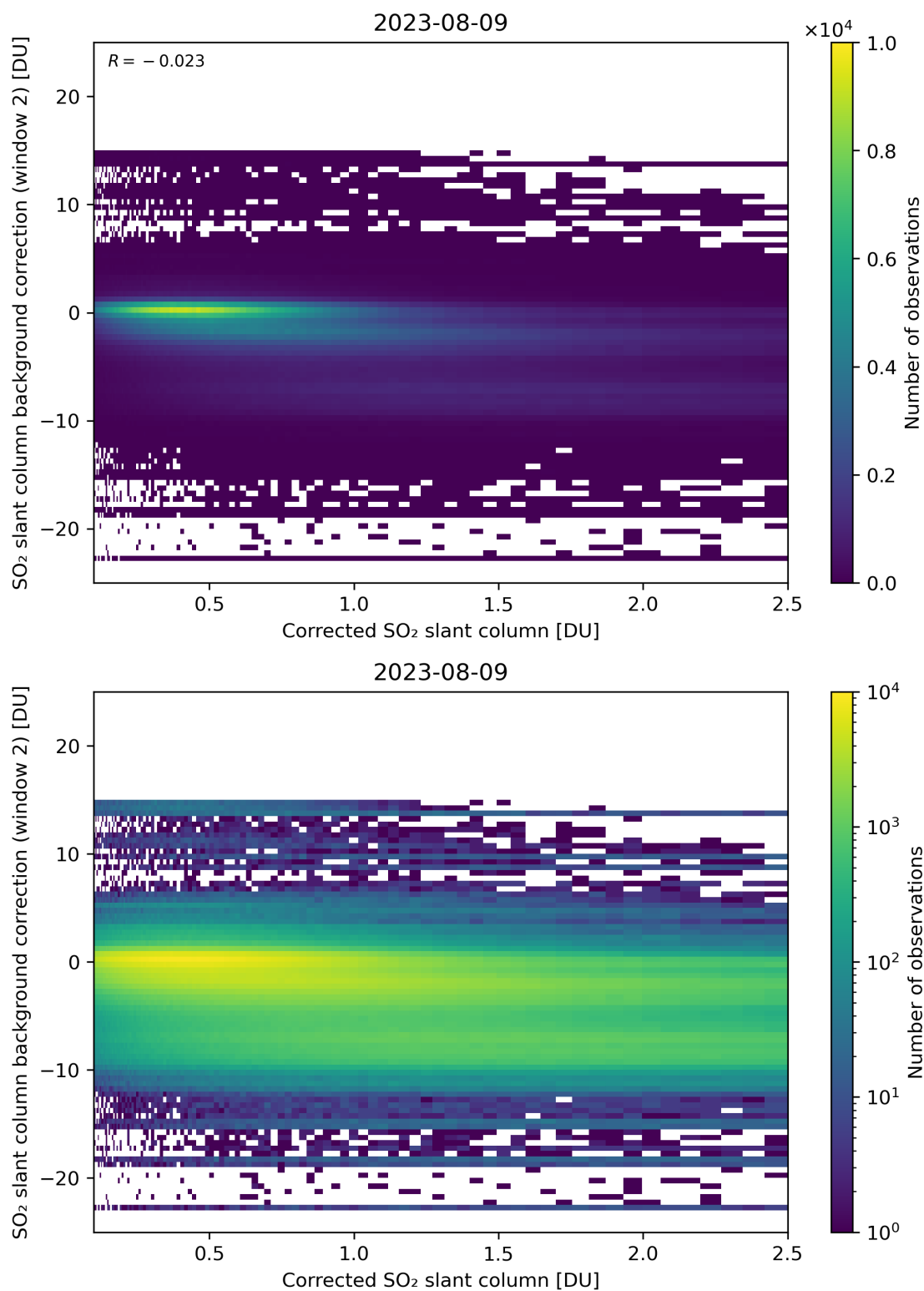


Figure 179: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

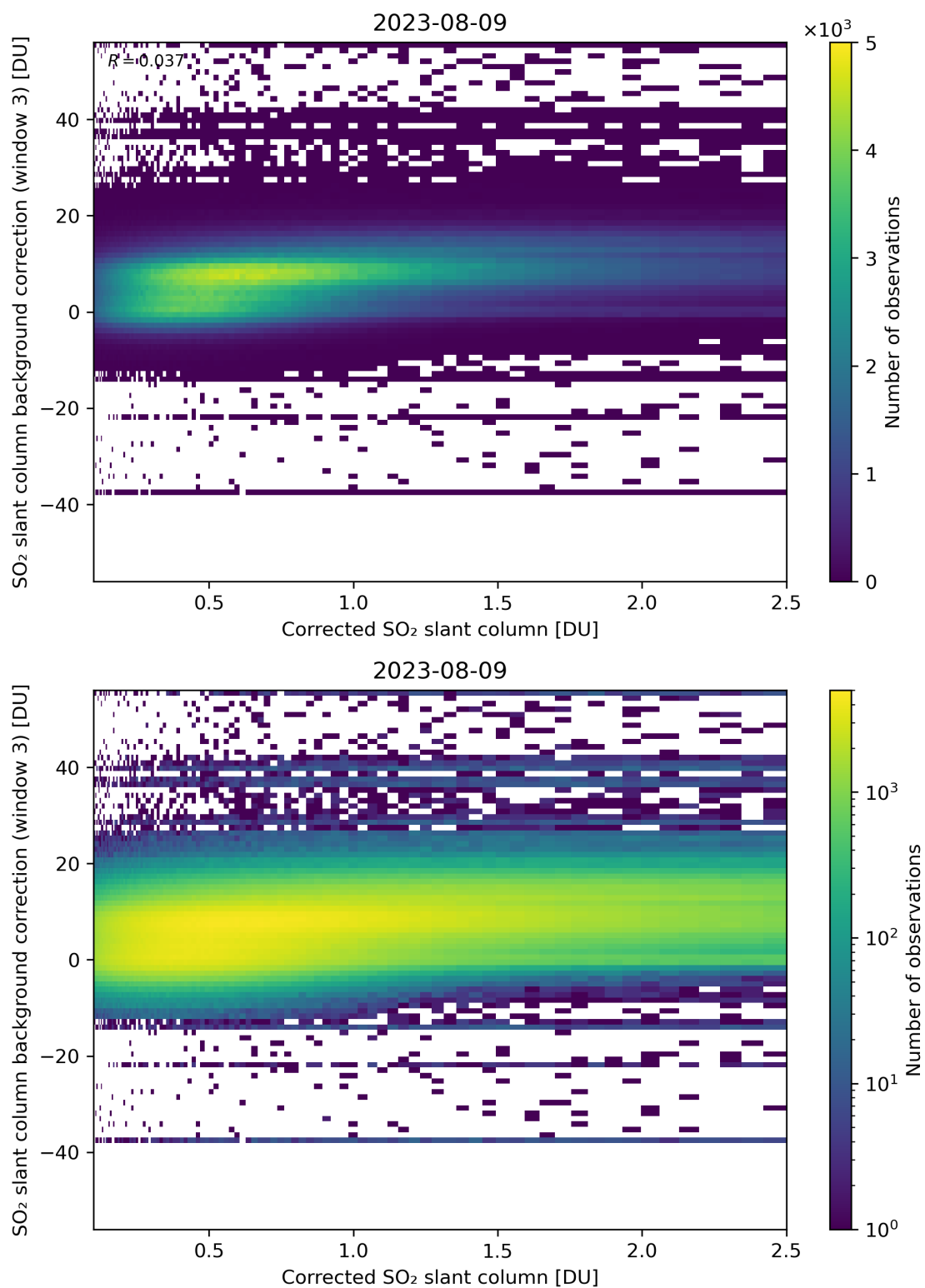


Figure 180: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

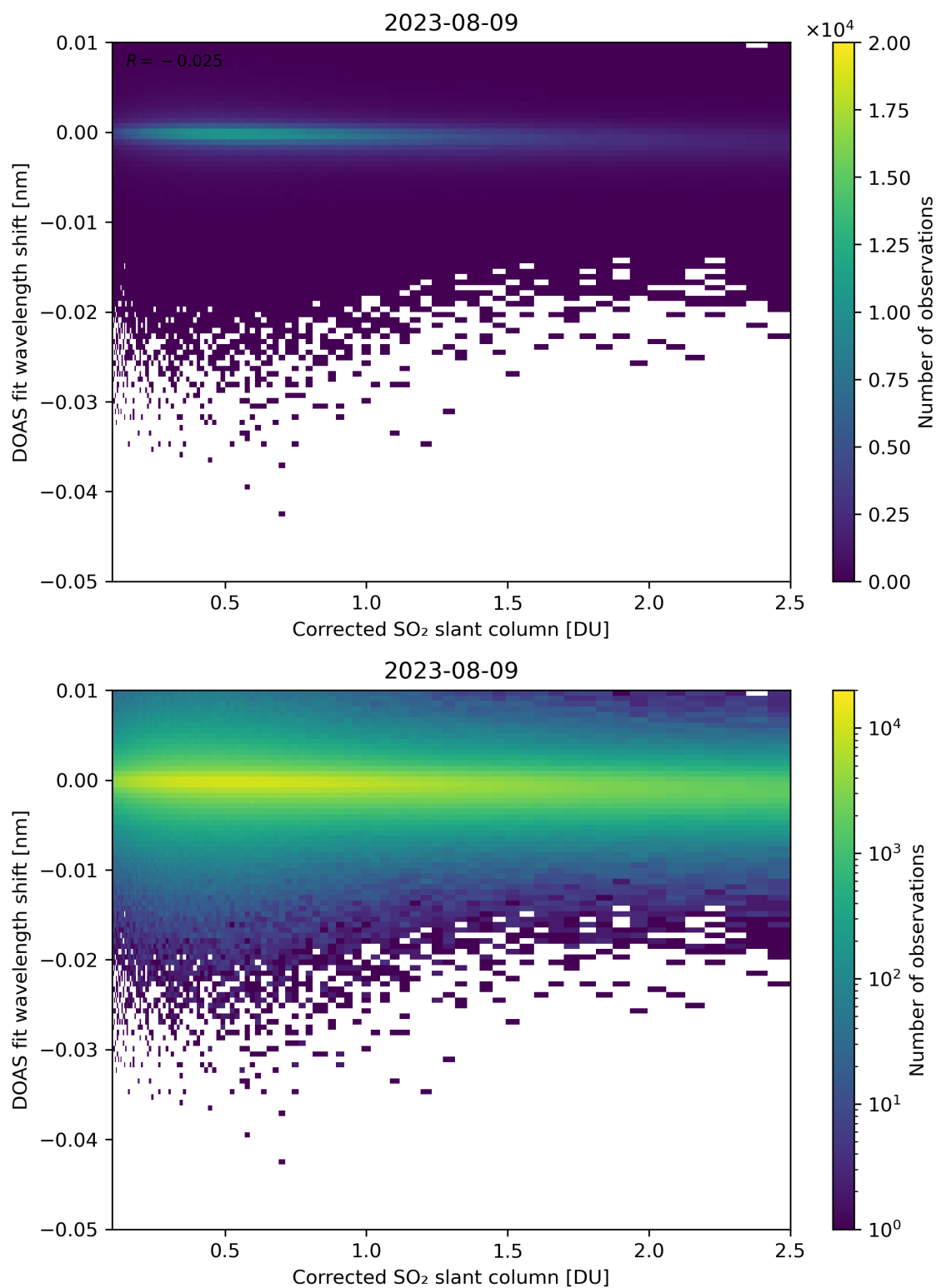


Figure 181: Scatter density plot of “Corrected SO₂ slant column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

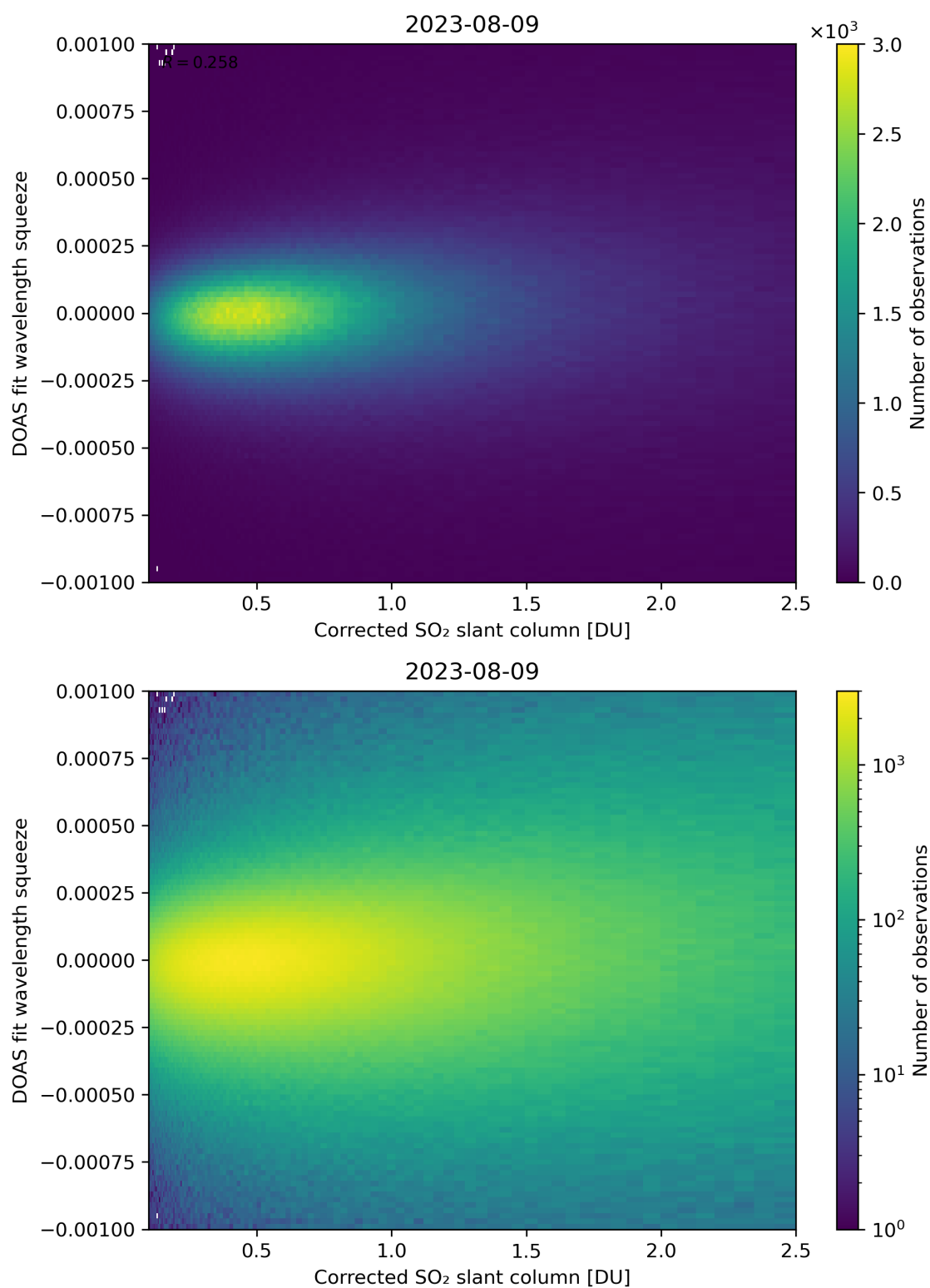


Figure 182: Scatter density plot of “Corrected SO₂ slant column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

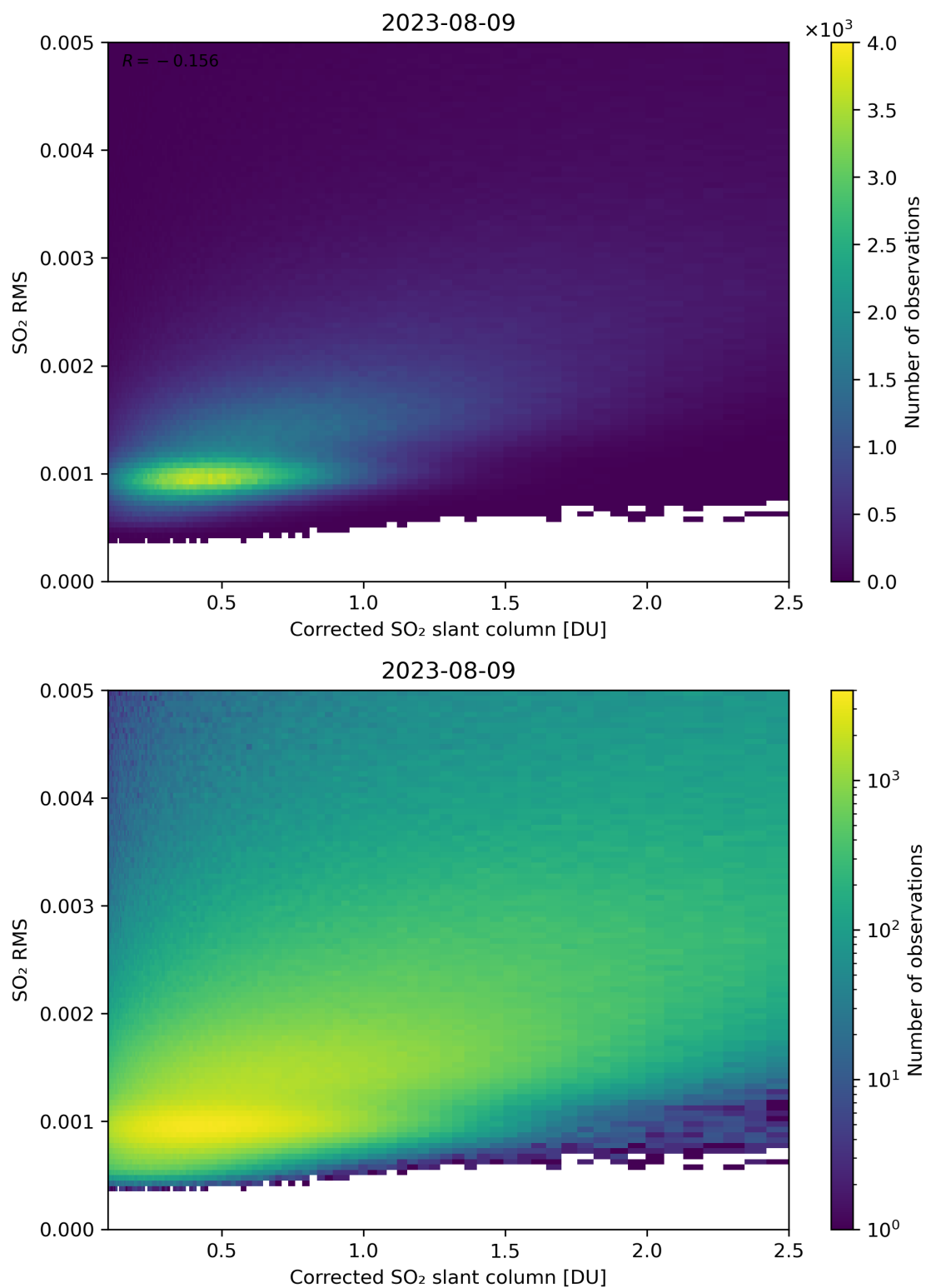


Figure 183: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

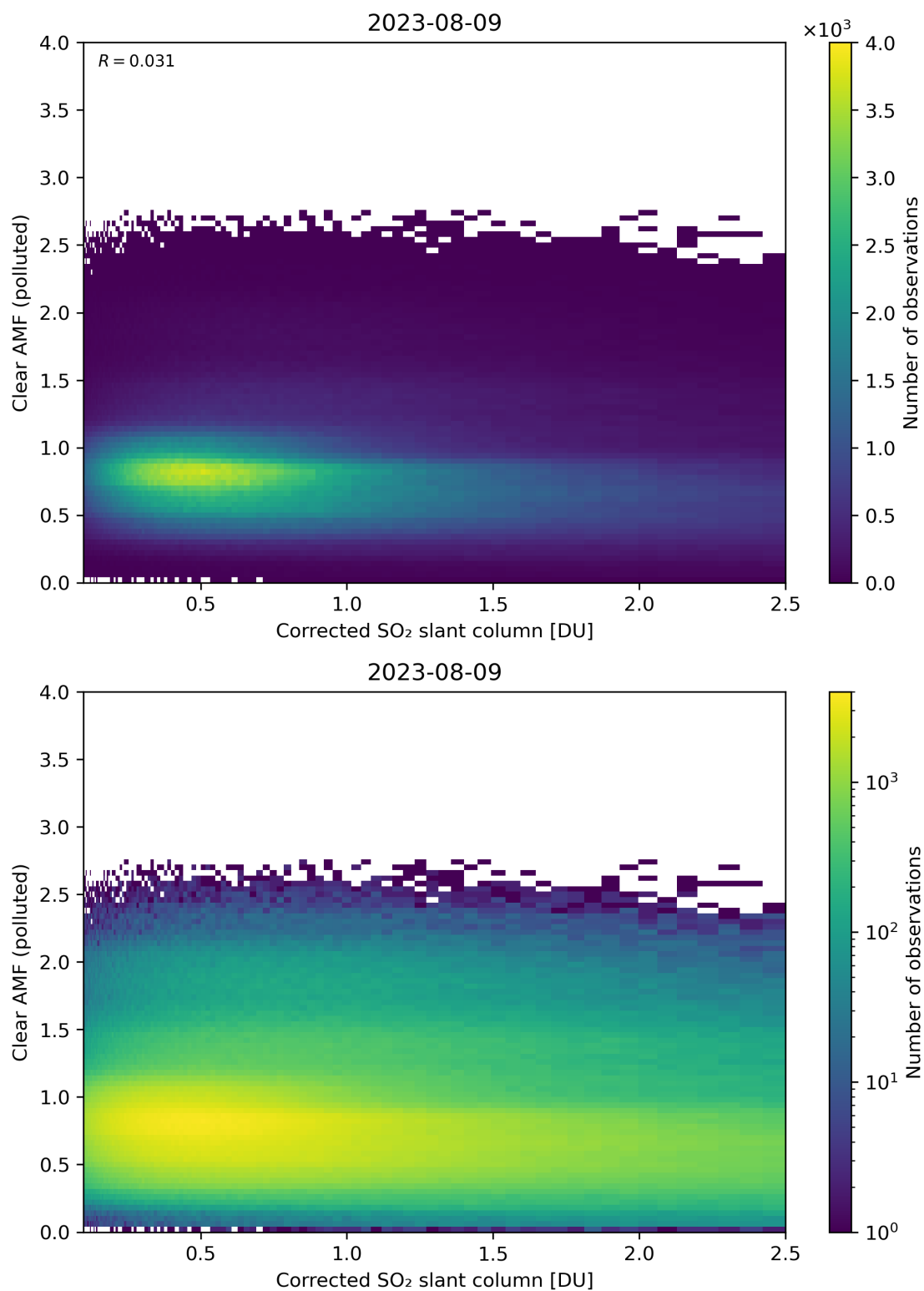


Figure 184: Scatter density plot of “Corrected SO₂ slant column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

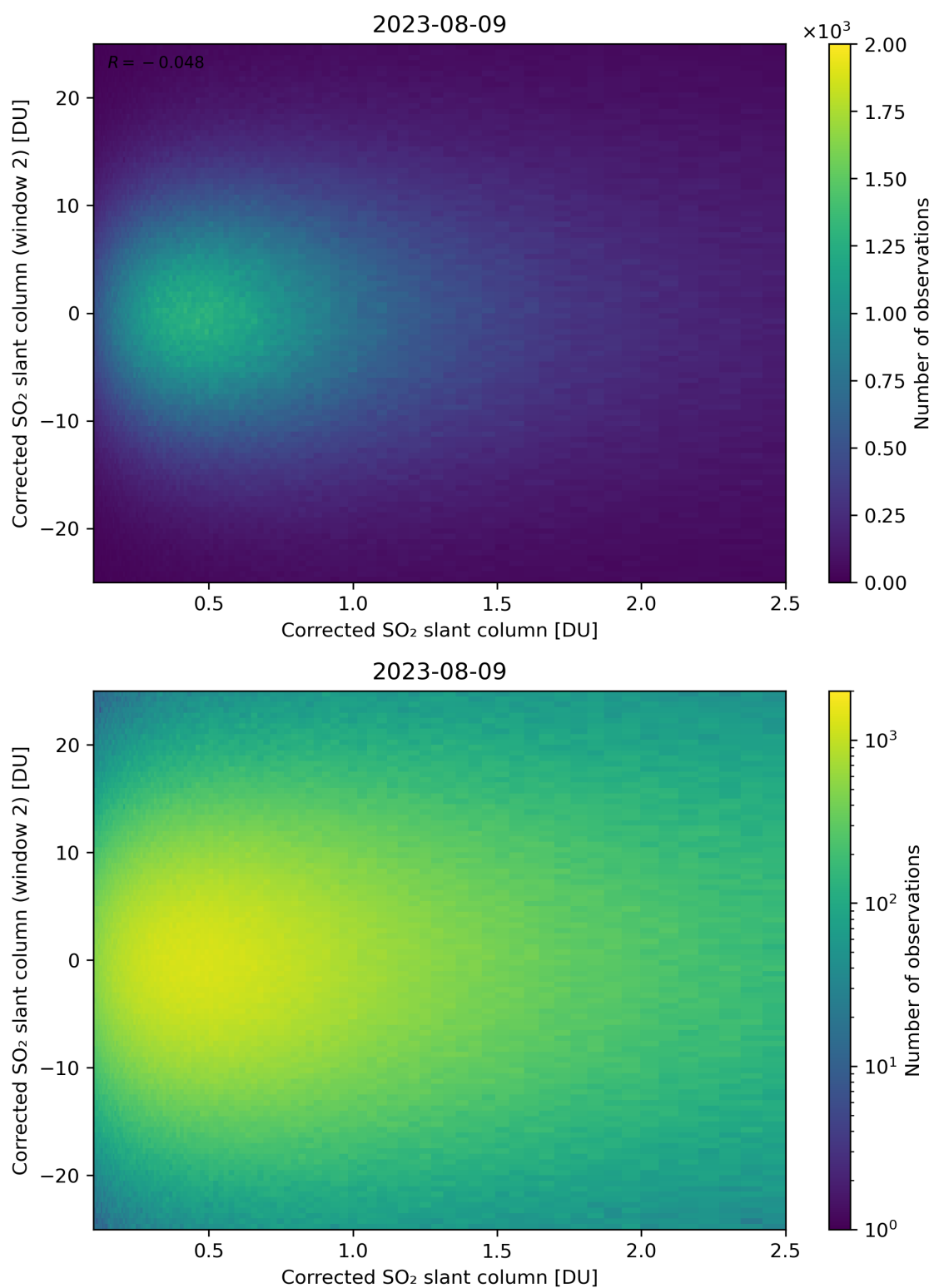


Figure 185: Scatter density plot of “Corrected SO₂ slant column” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

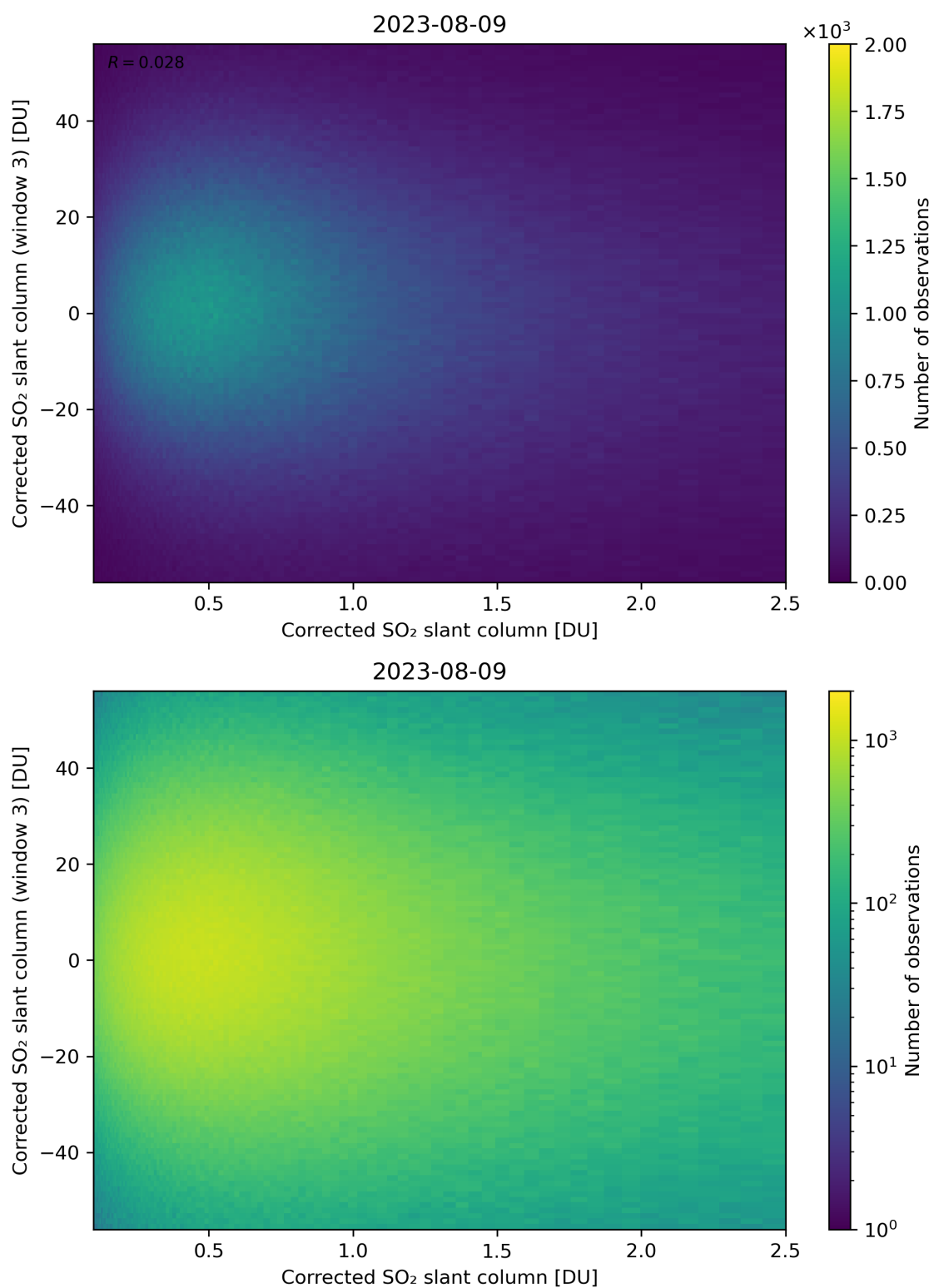


Figure 186: Scatter density plot of “Corrected SO₂ slant column” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

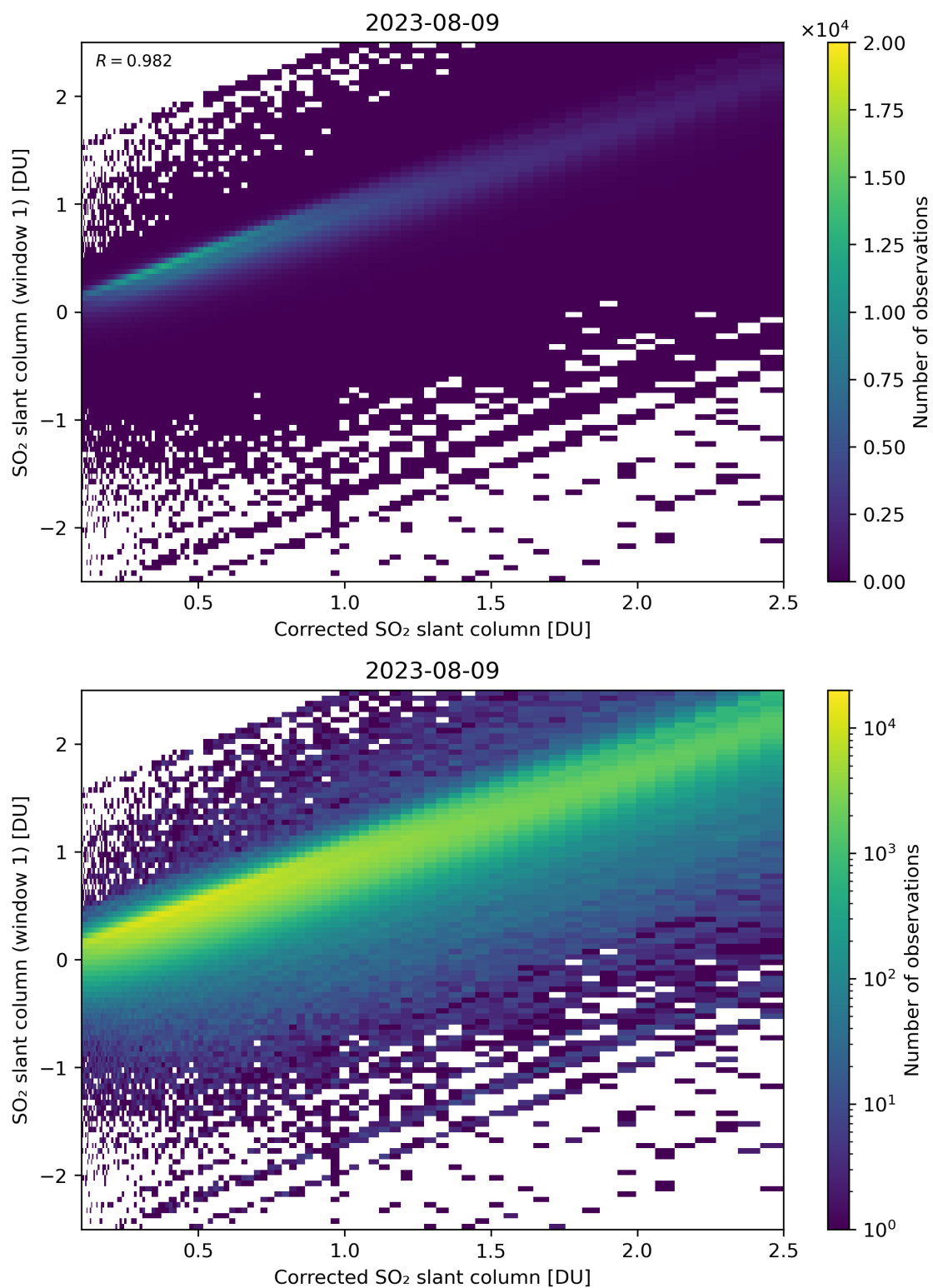


Figure 187: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

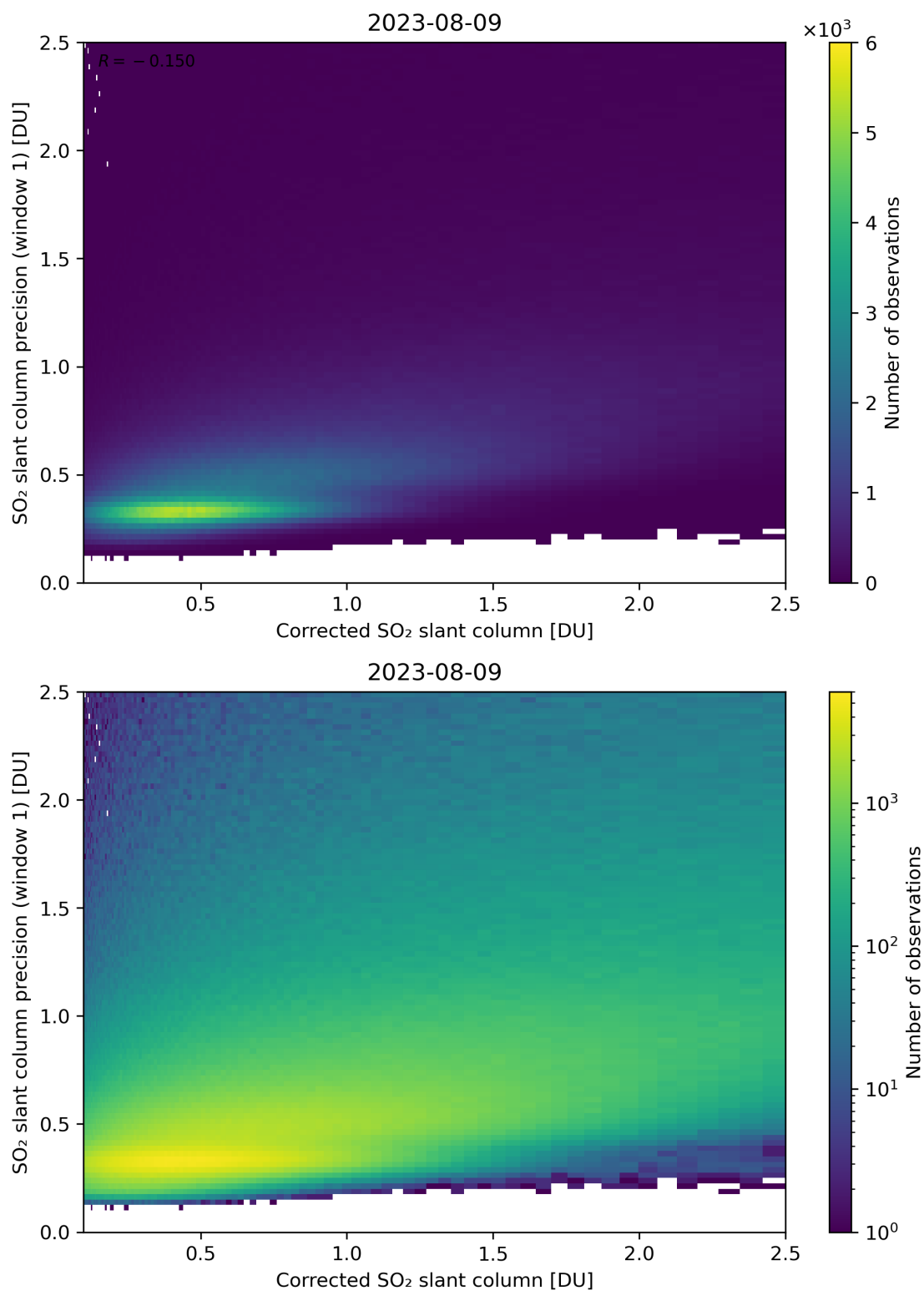


Figure 188: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

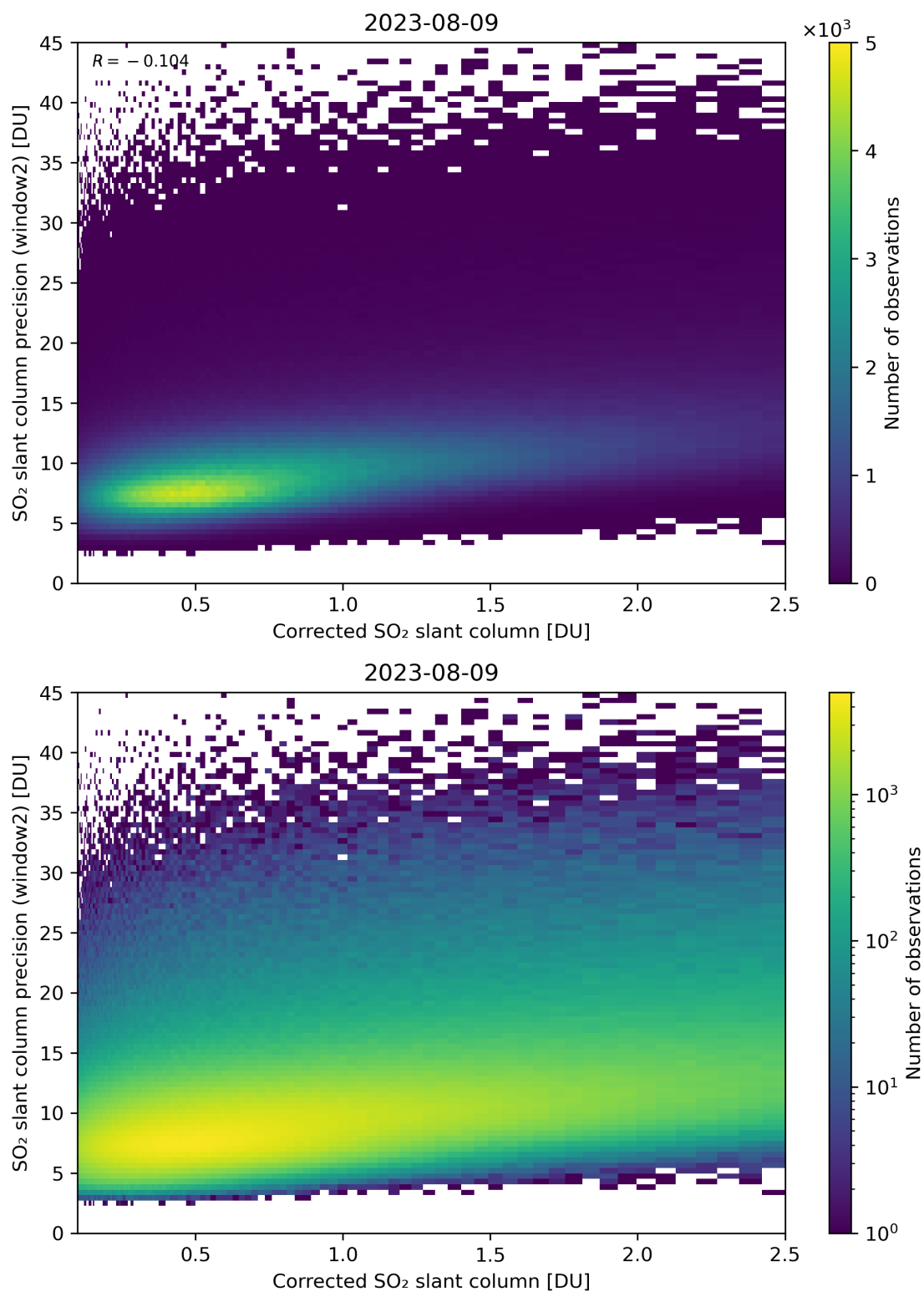


Figure 189: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

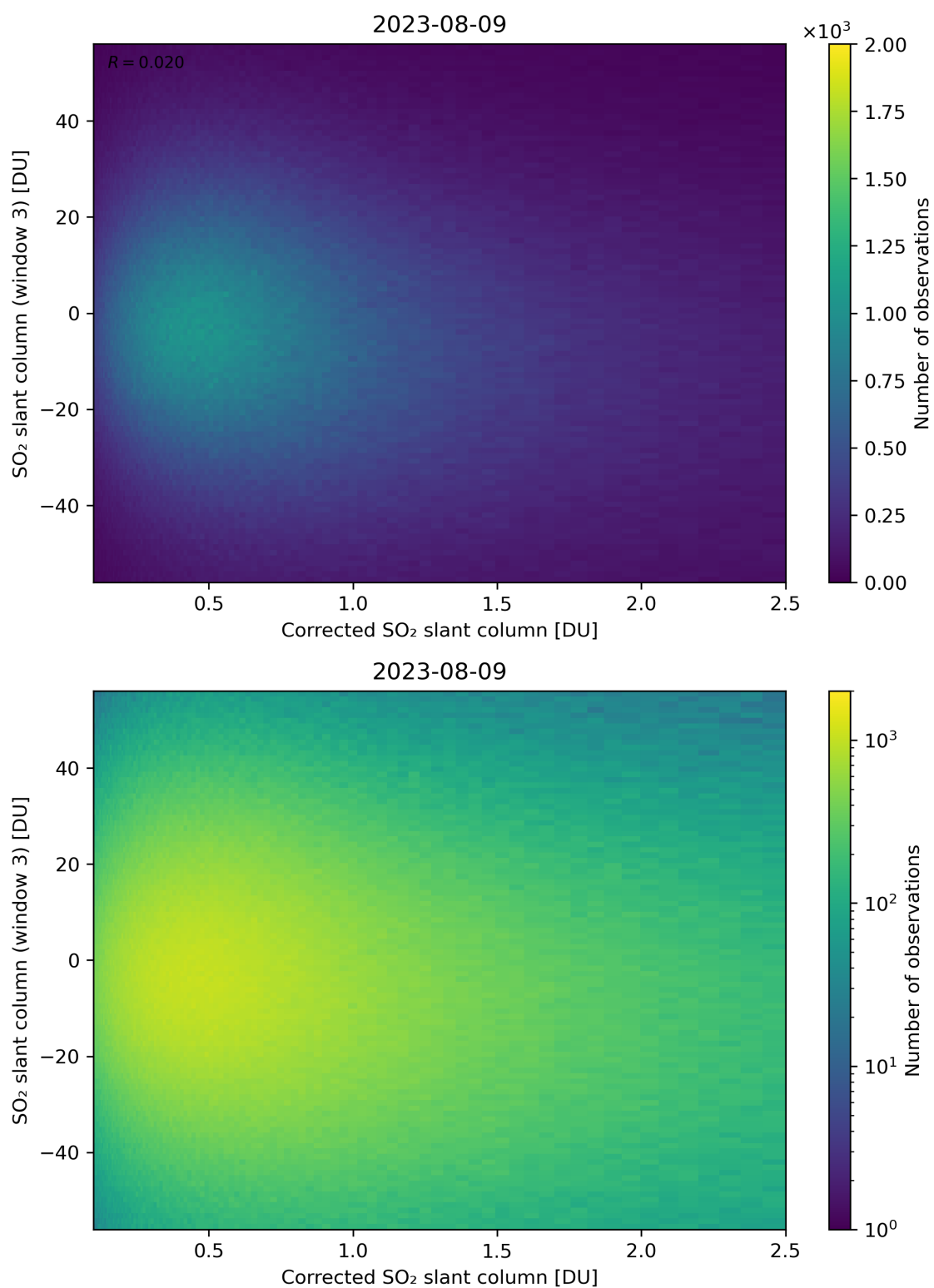


Figure 190: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

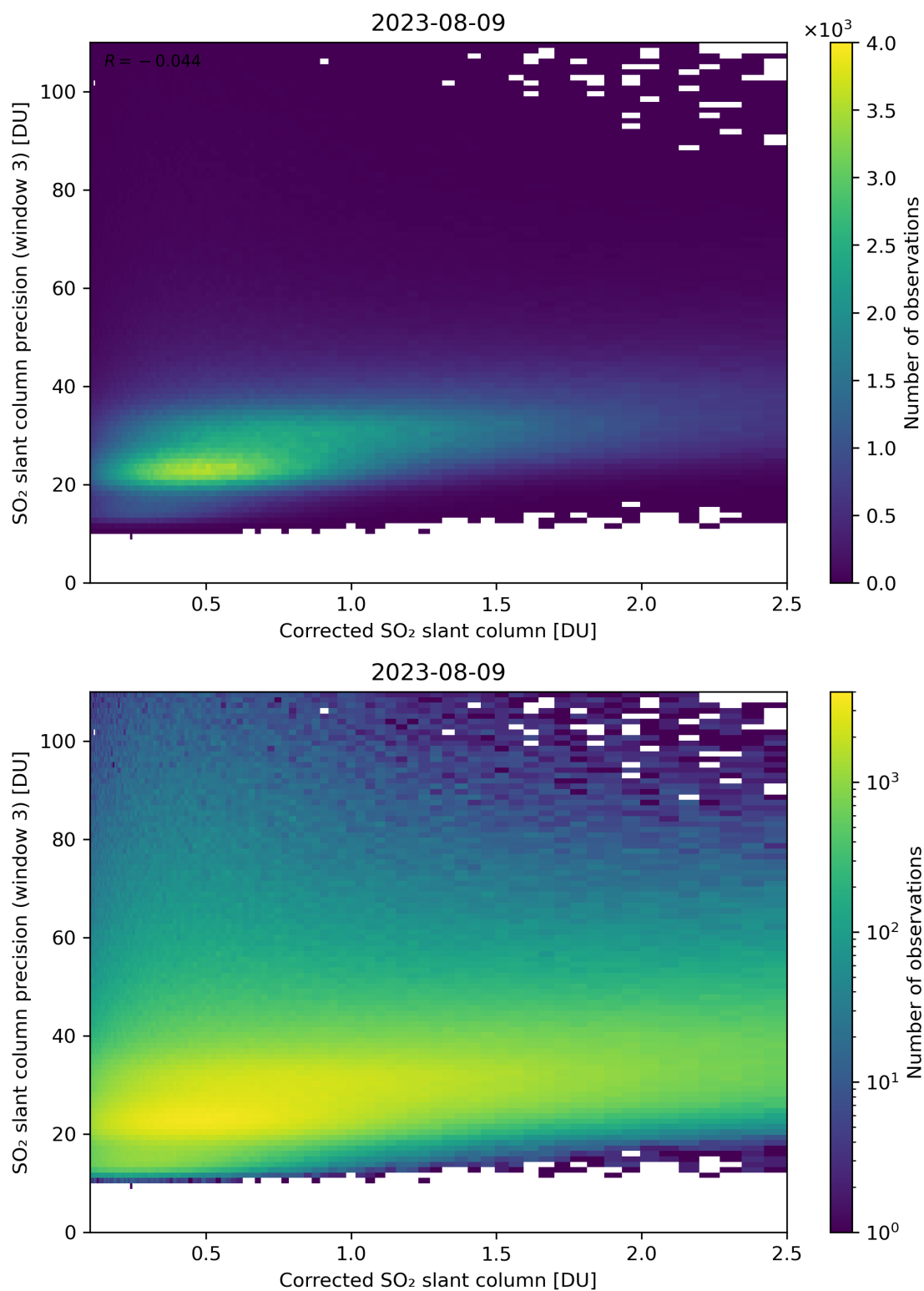


Figure 191: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

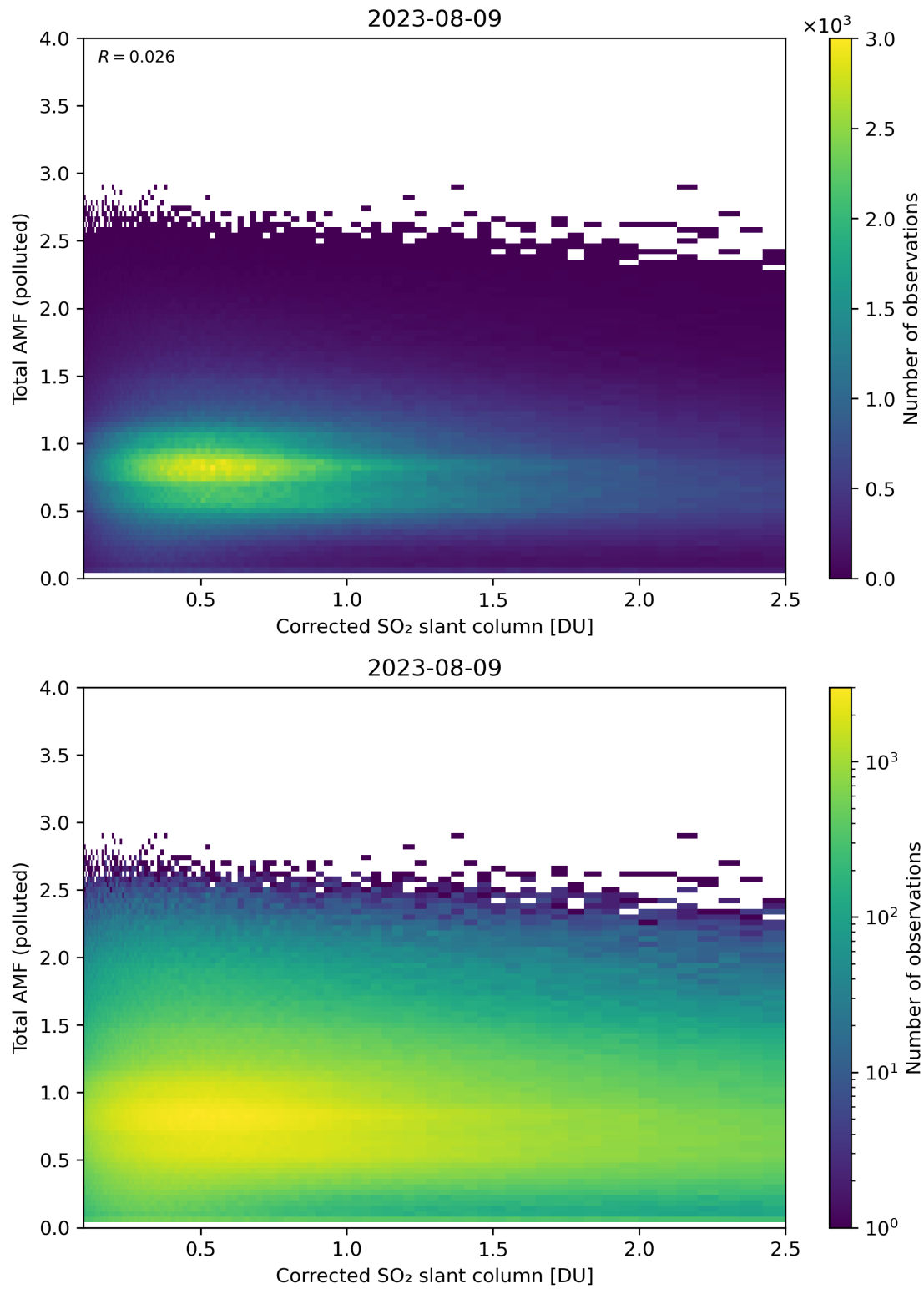


Figure 192: Scatter density plot of “Corrected SO₂ slant column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

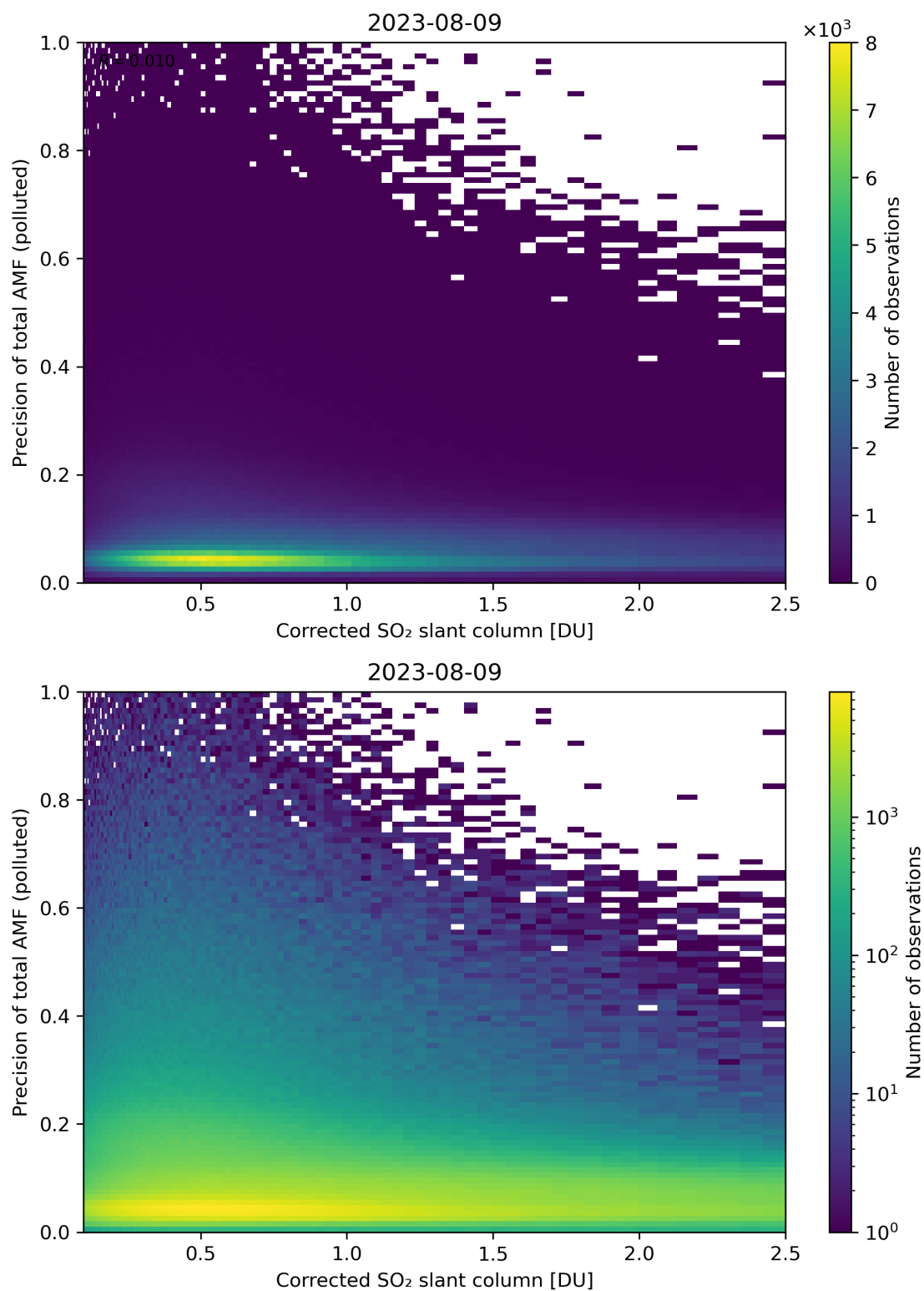


Figure 193: Scatter density plot of “Corrected SO₂ slant column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

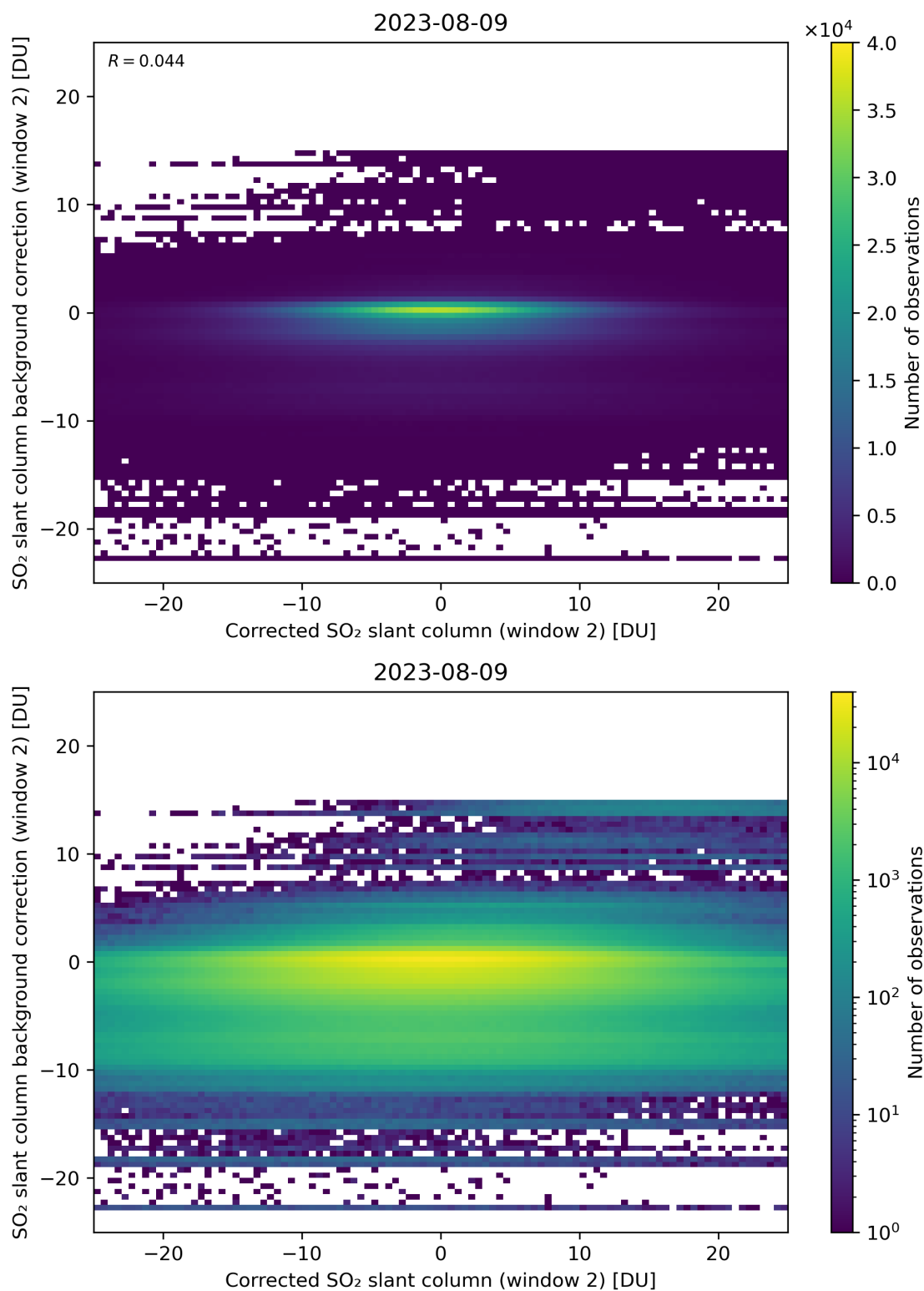


Figure 194: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

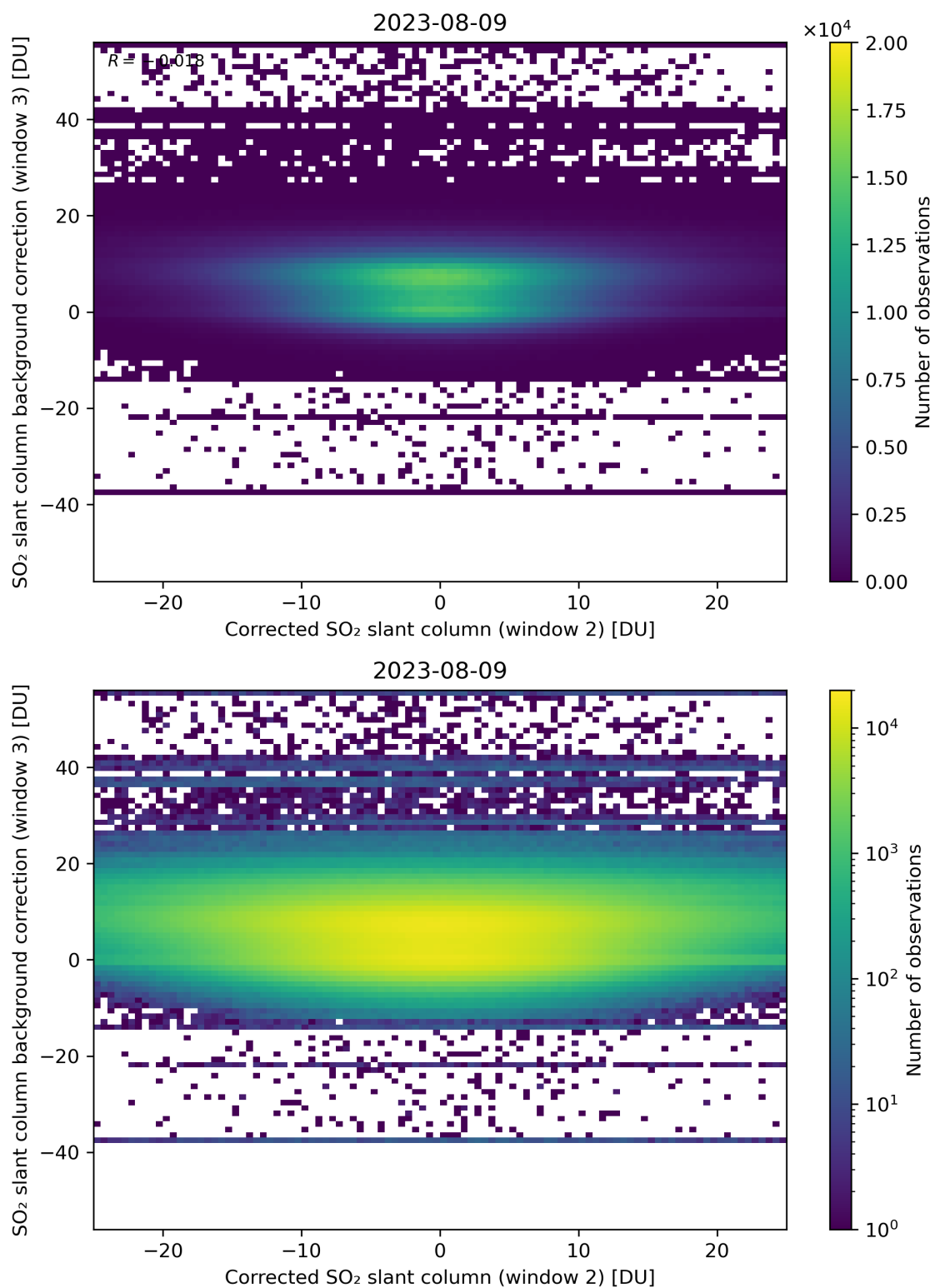


Figure 195: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

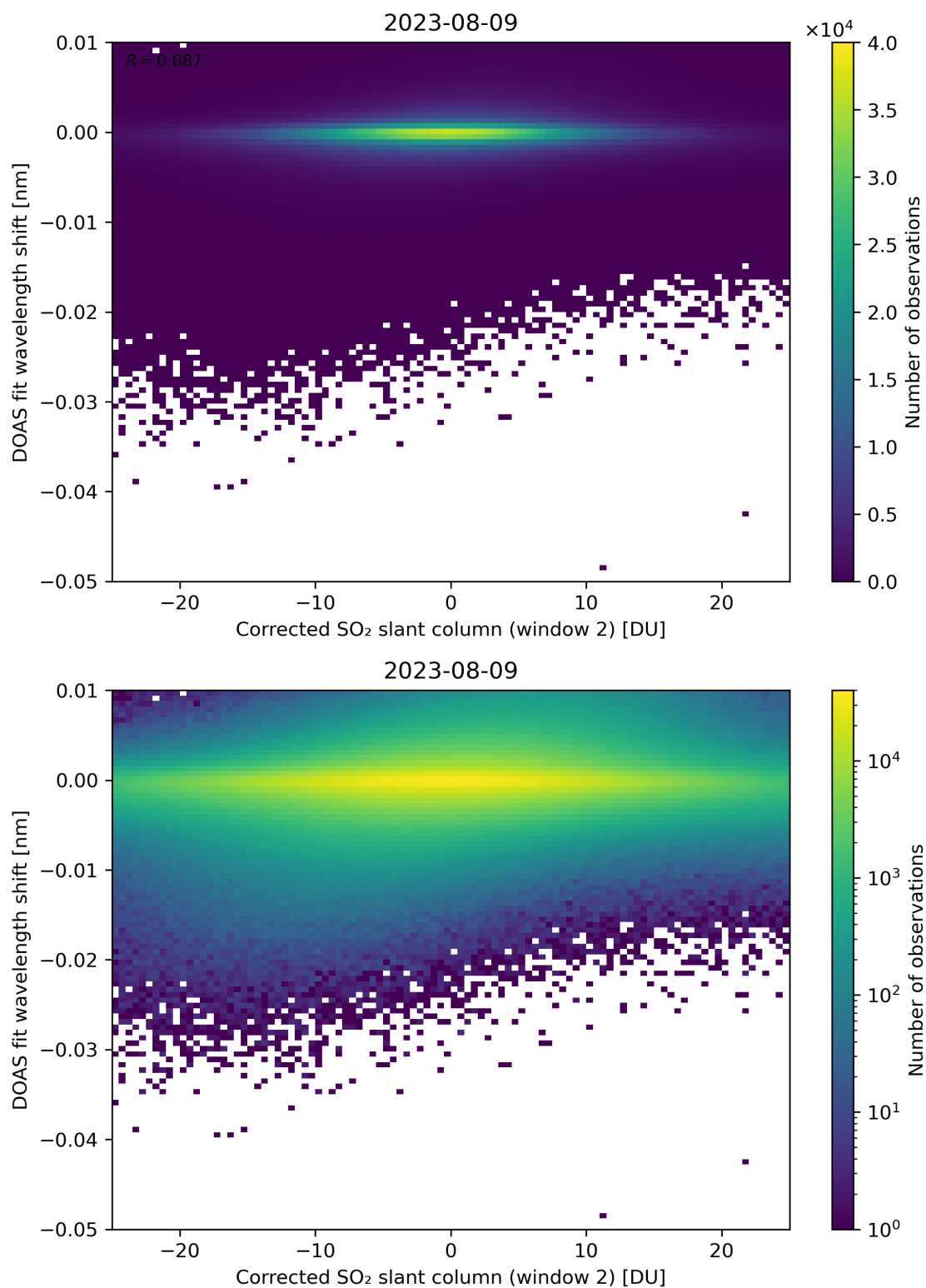


Figure 196: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

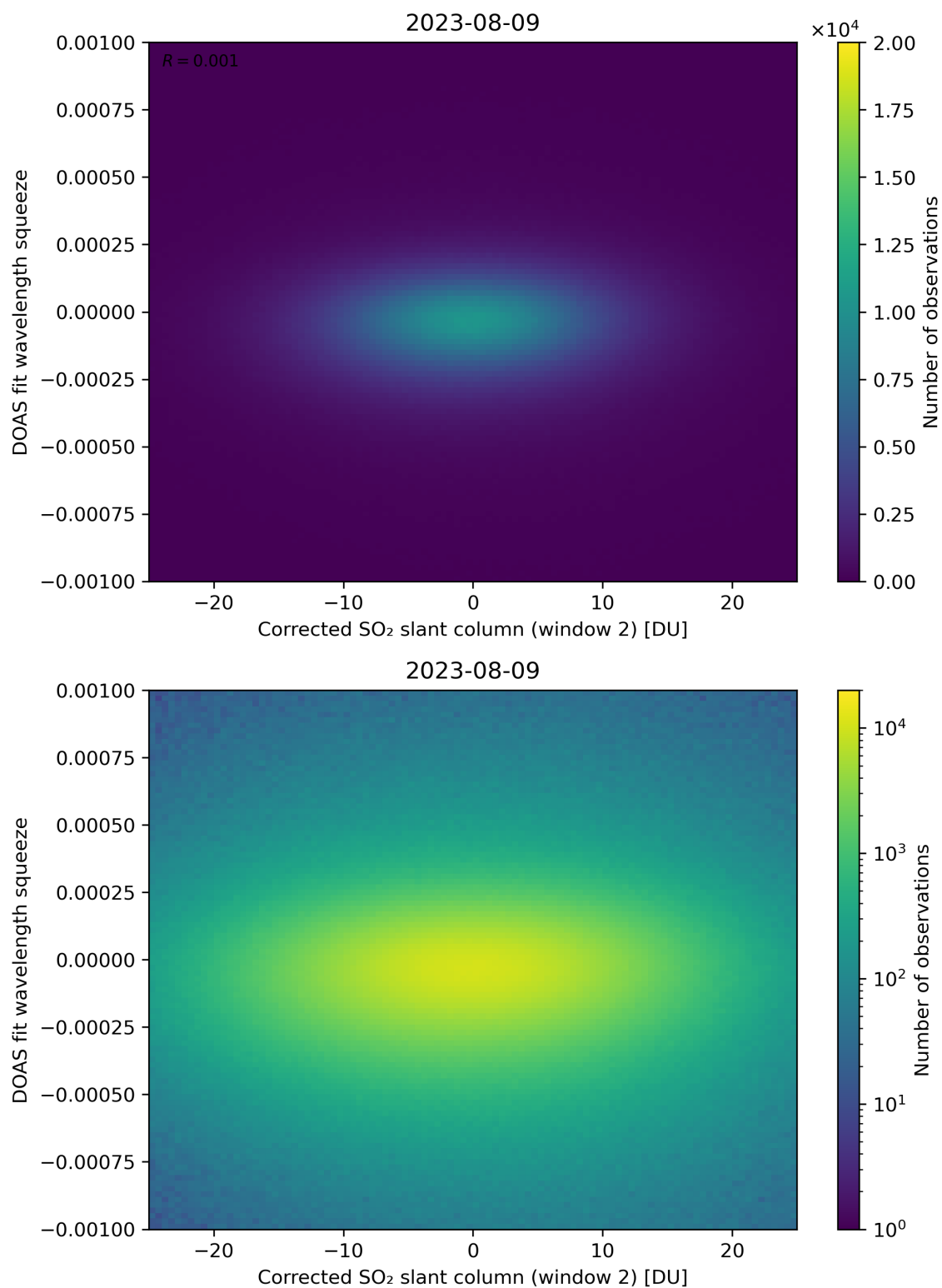


Figure 197: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

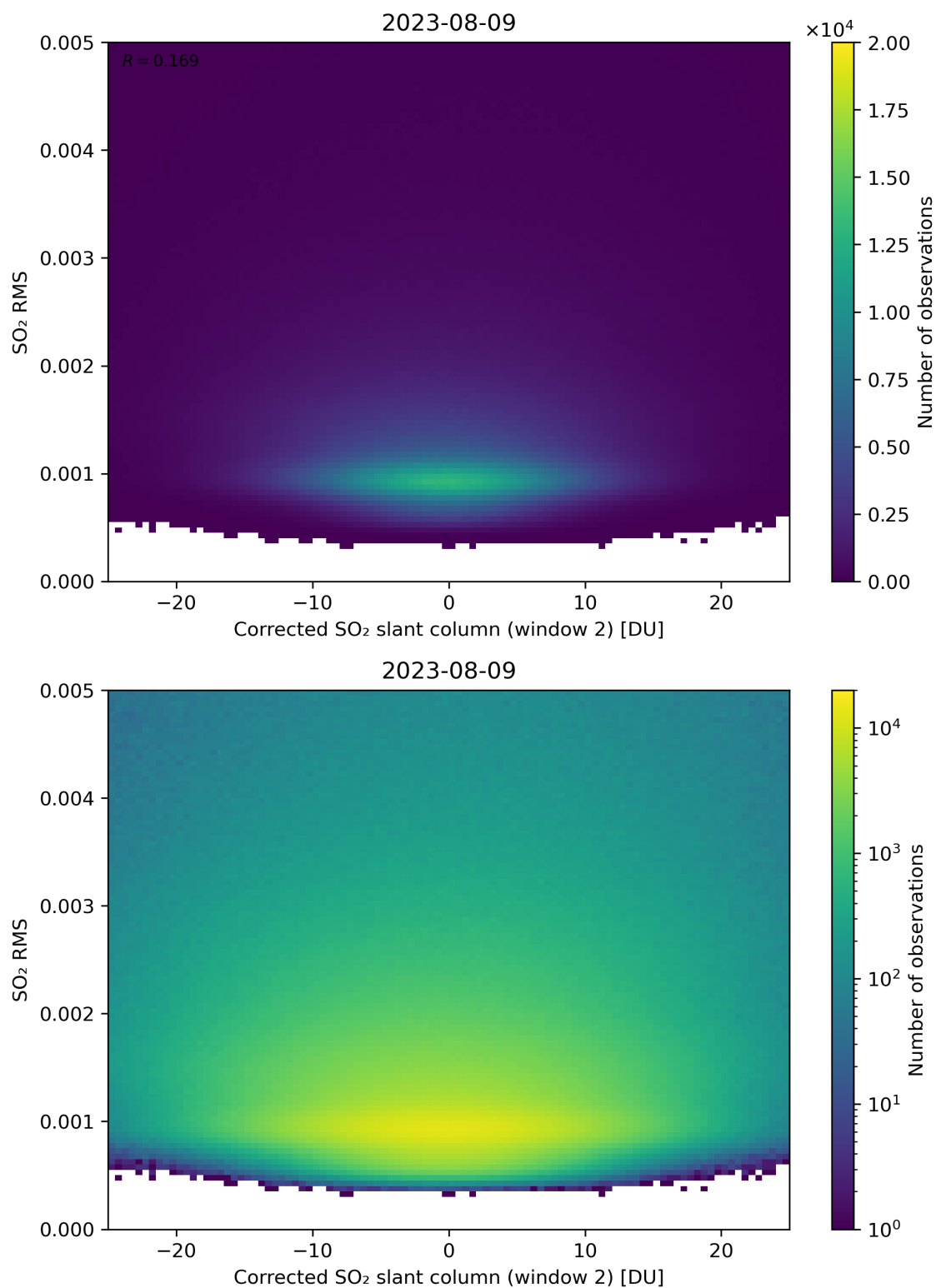


Figure 198: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

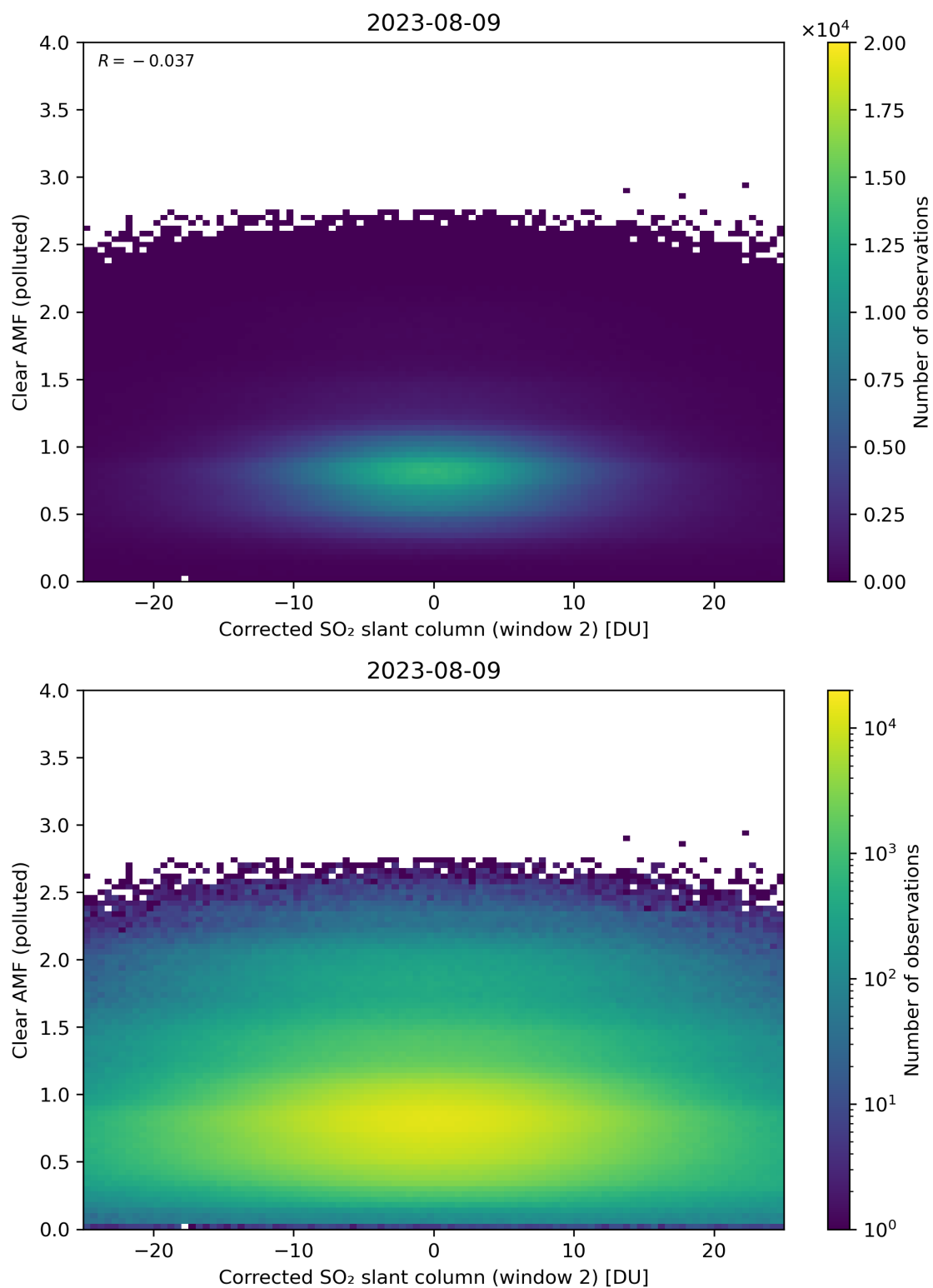


Figure 199: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

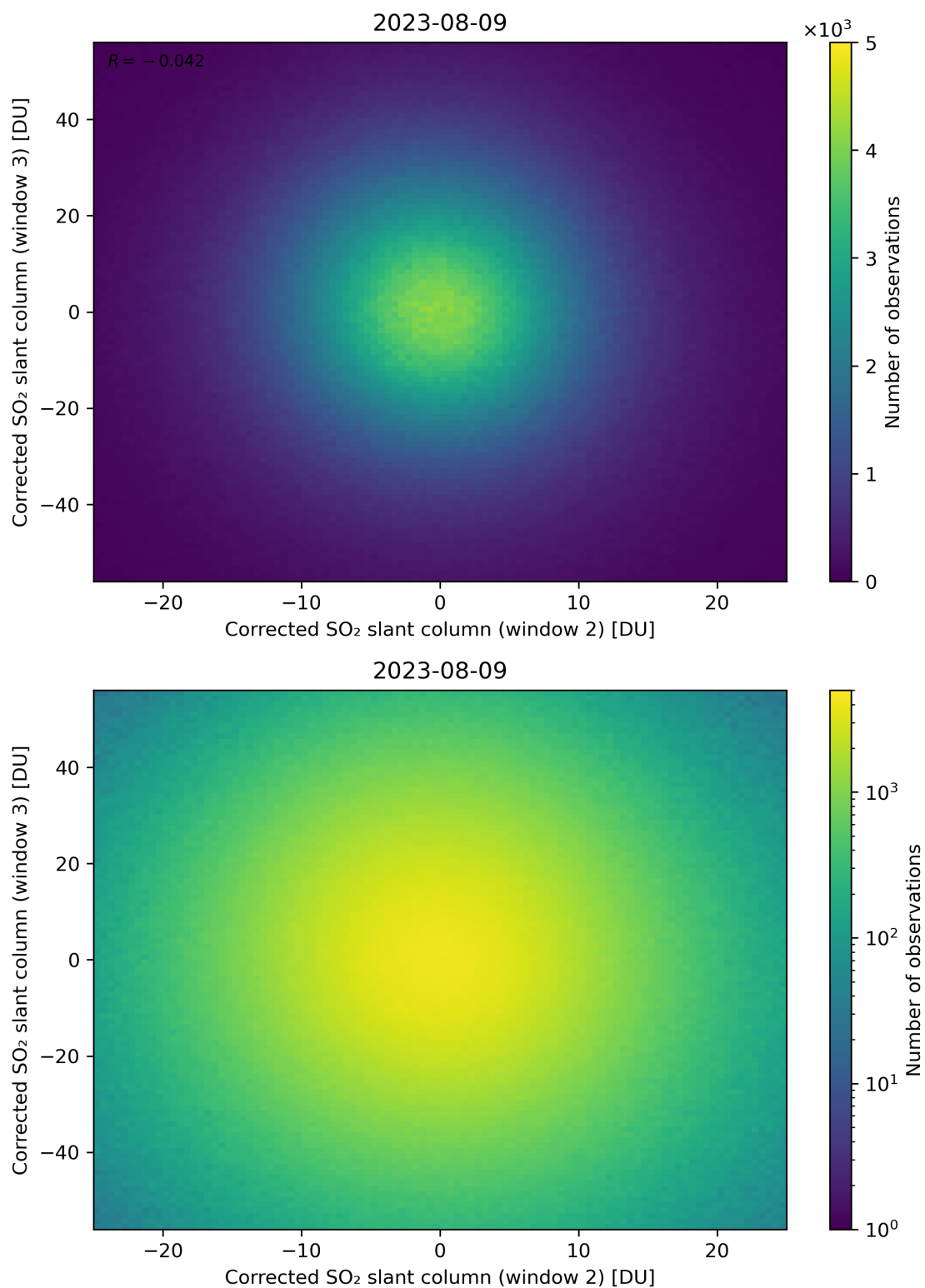


Figure 200: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

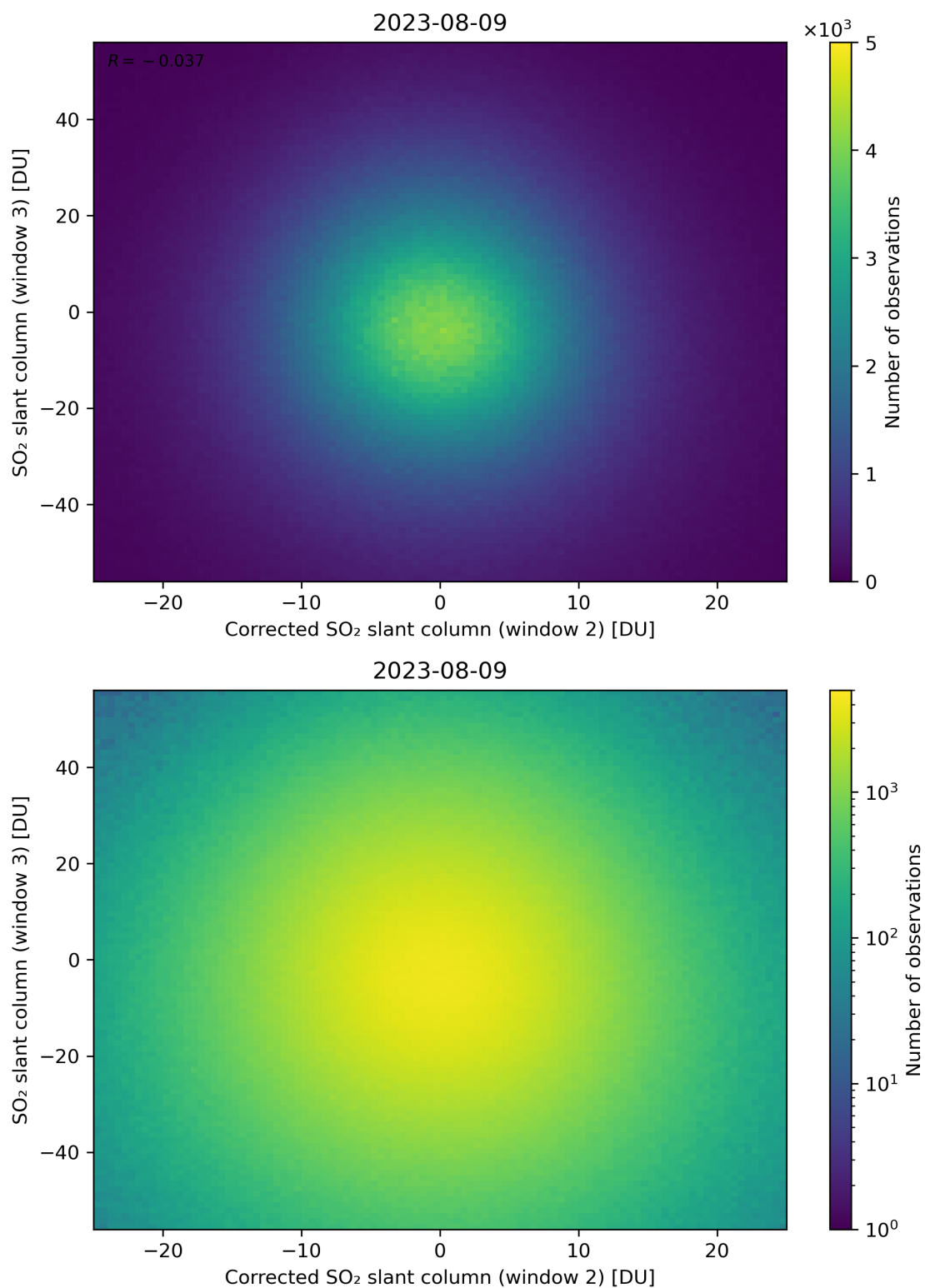


Figure 201: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

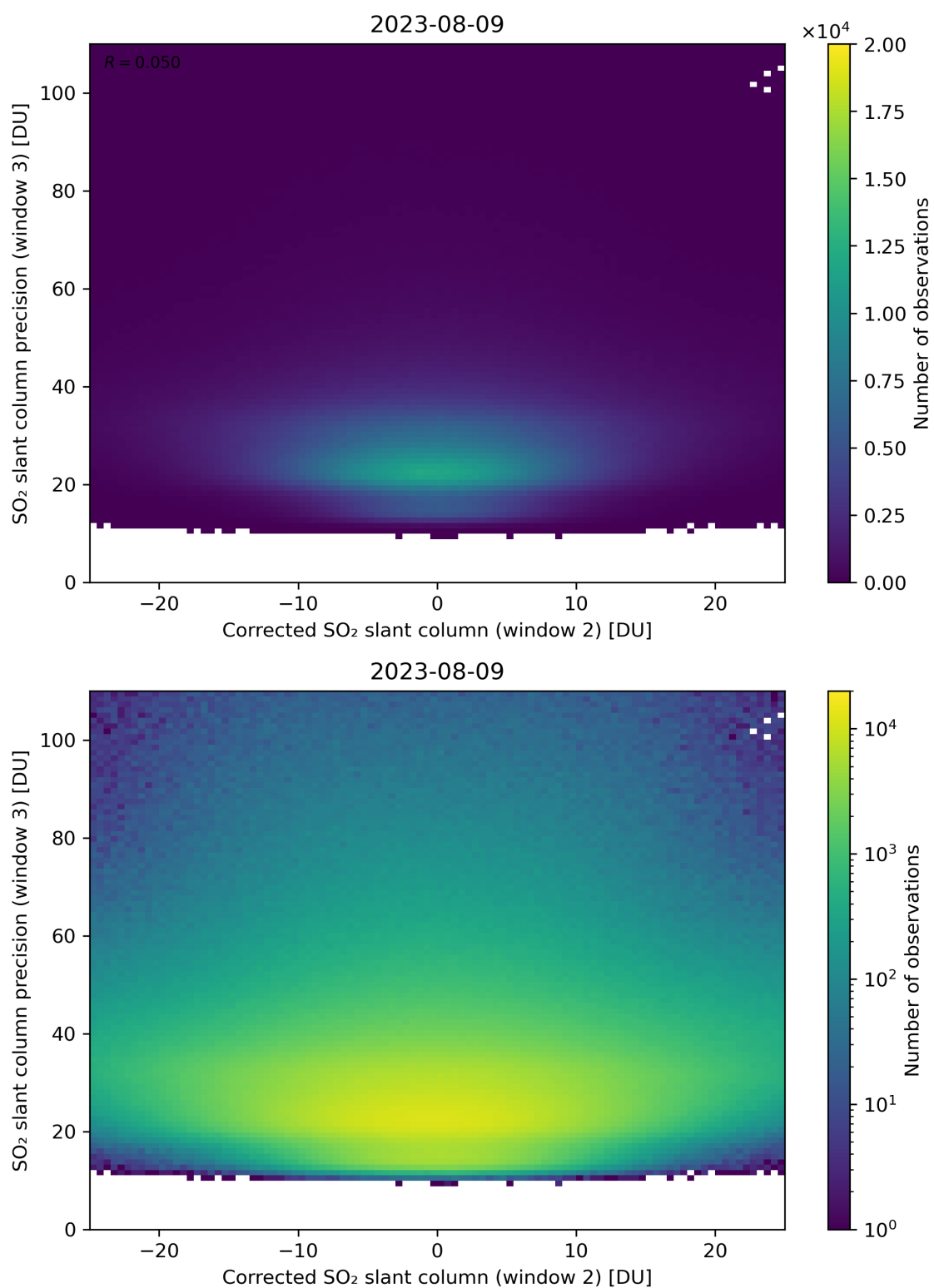


Figure 202: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

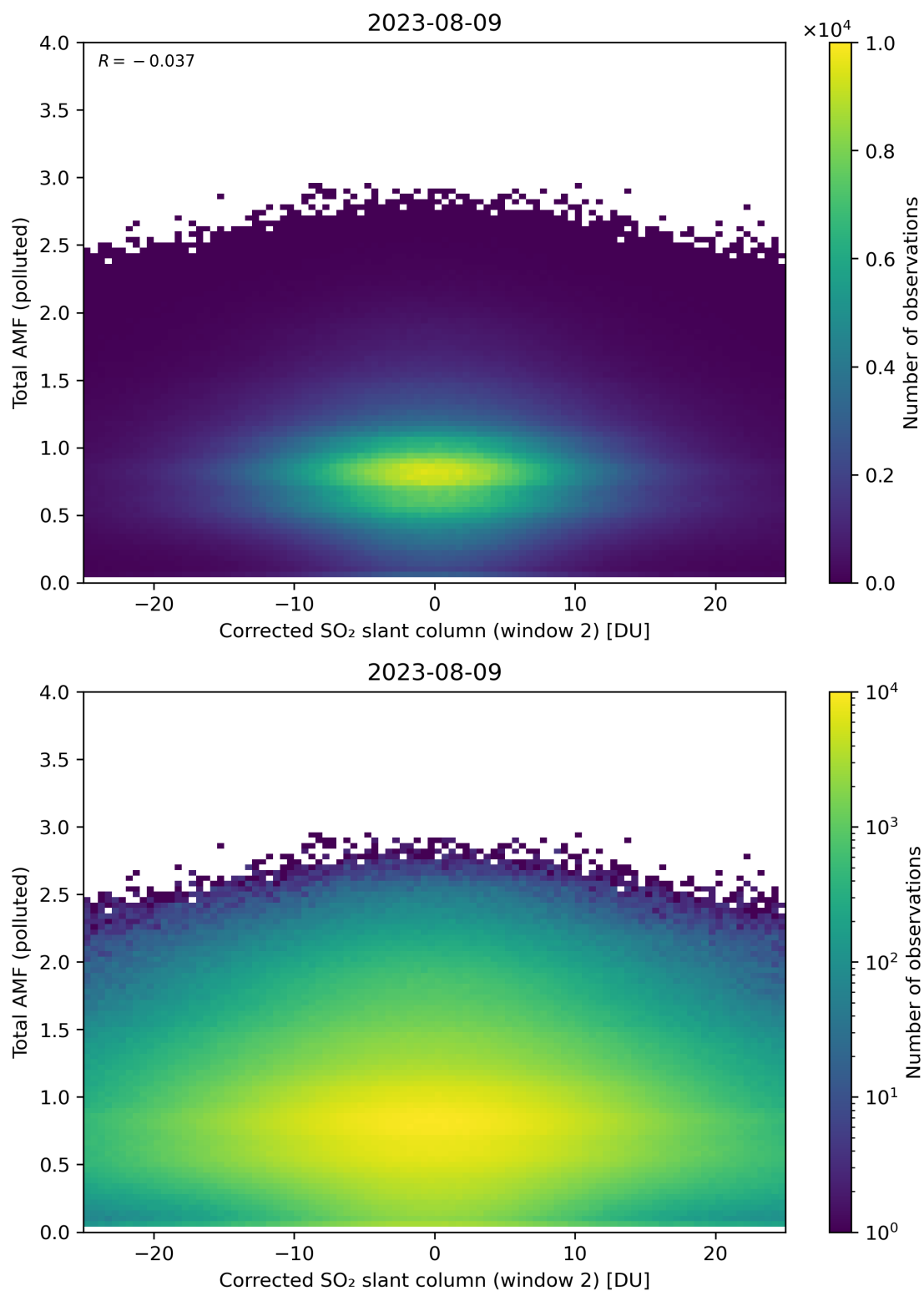


Figure 203: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

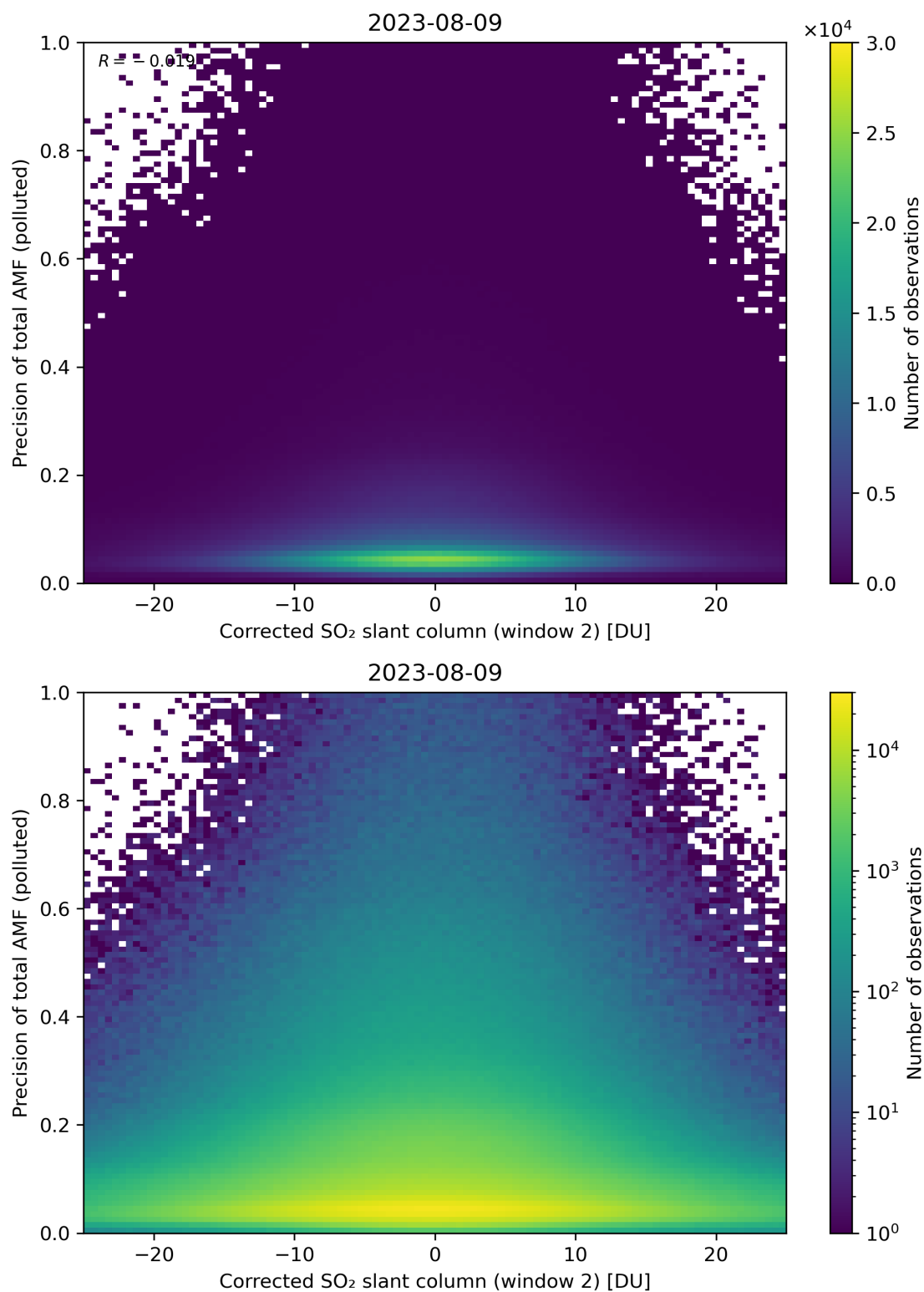


Figure 204: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

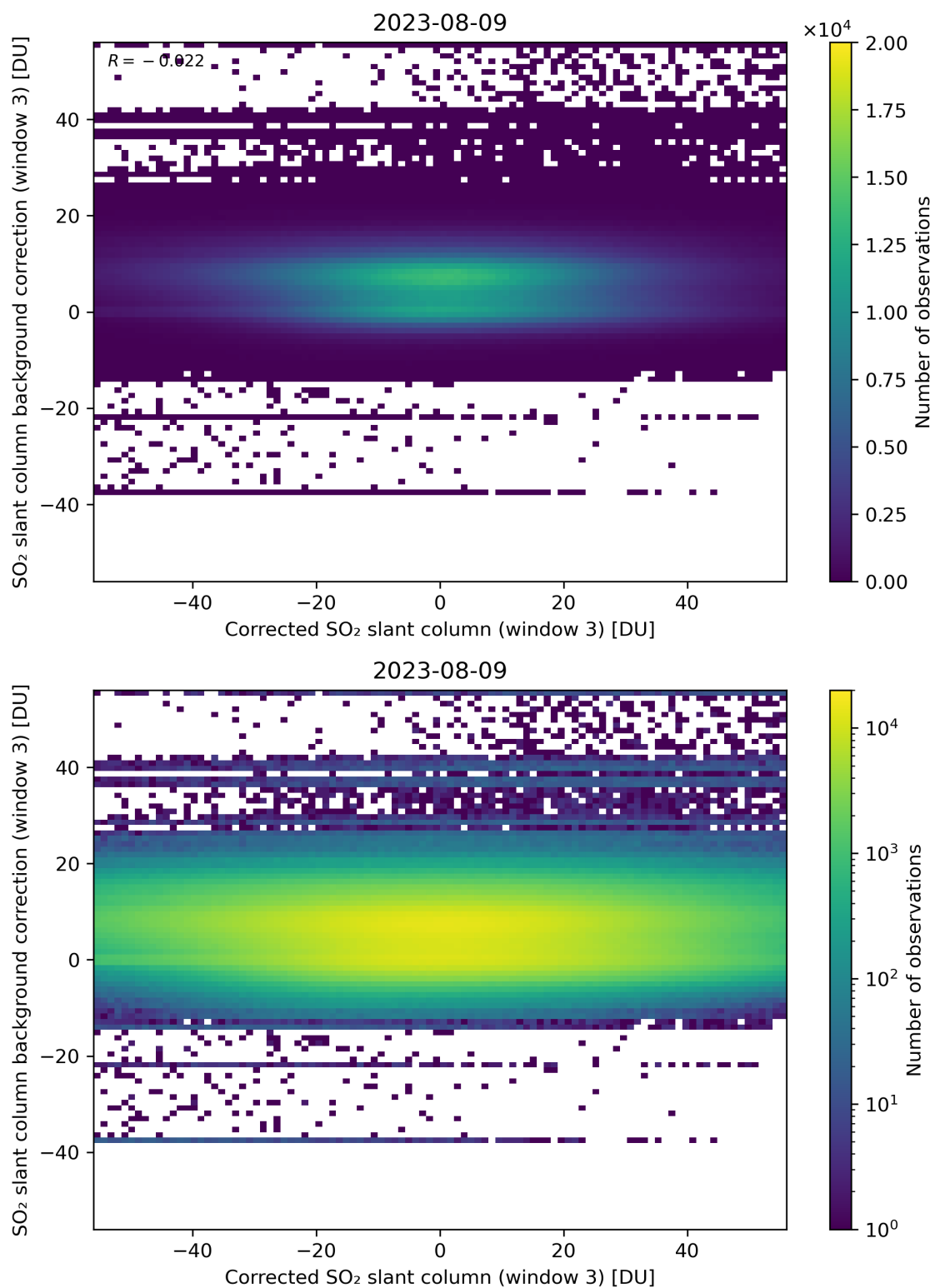


Figure 205: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

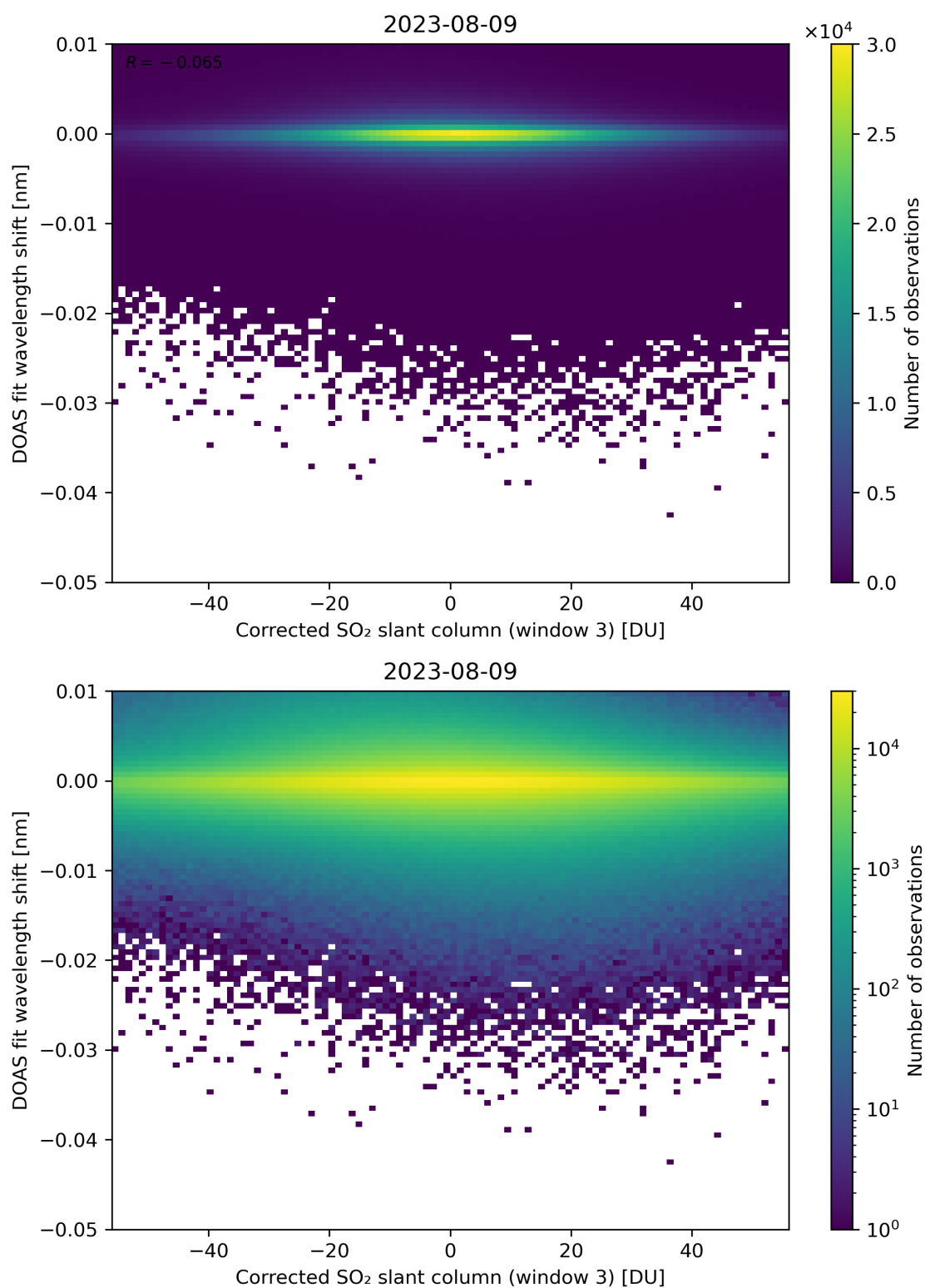


Figure 206: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

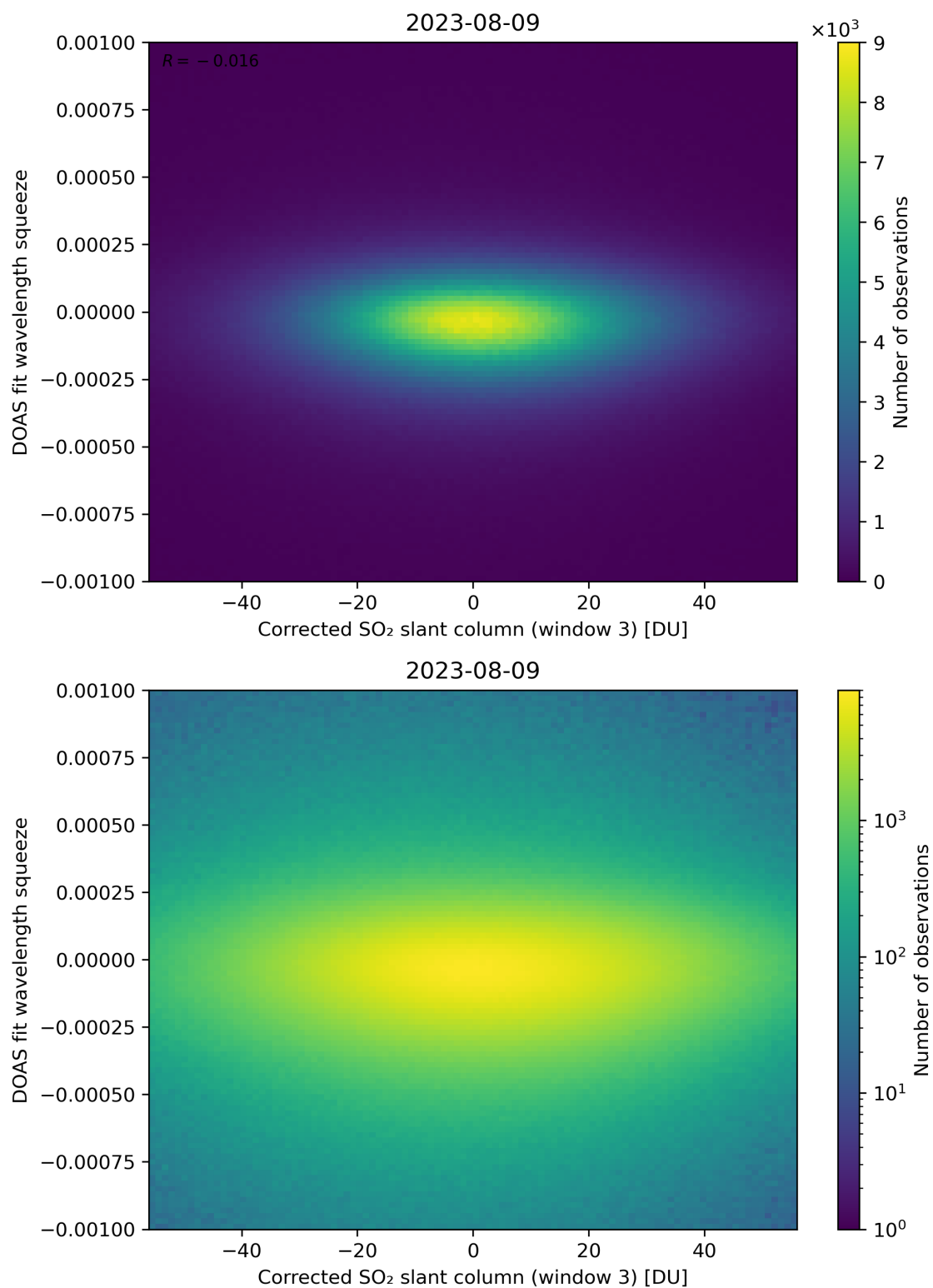


Figure 207: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

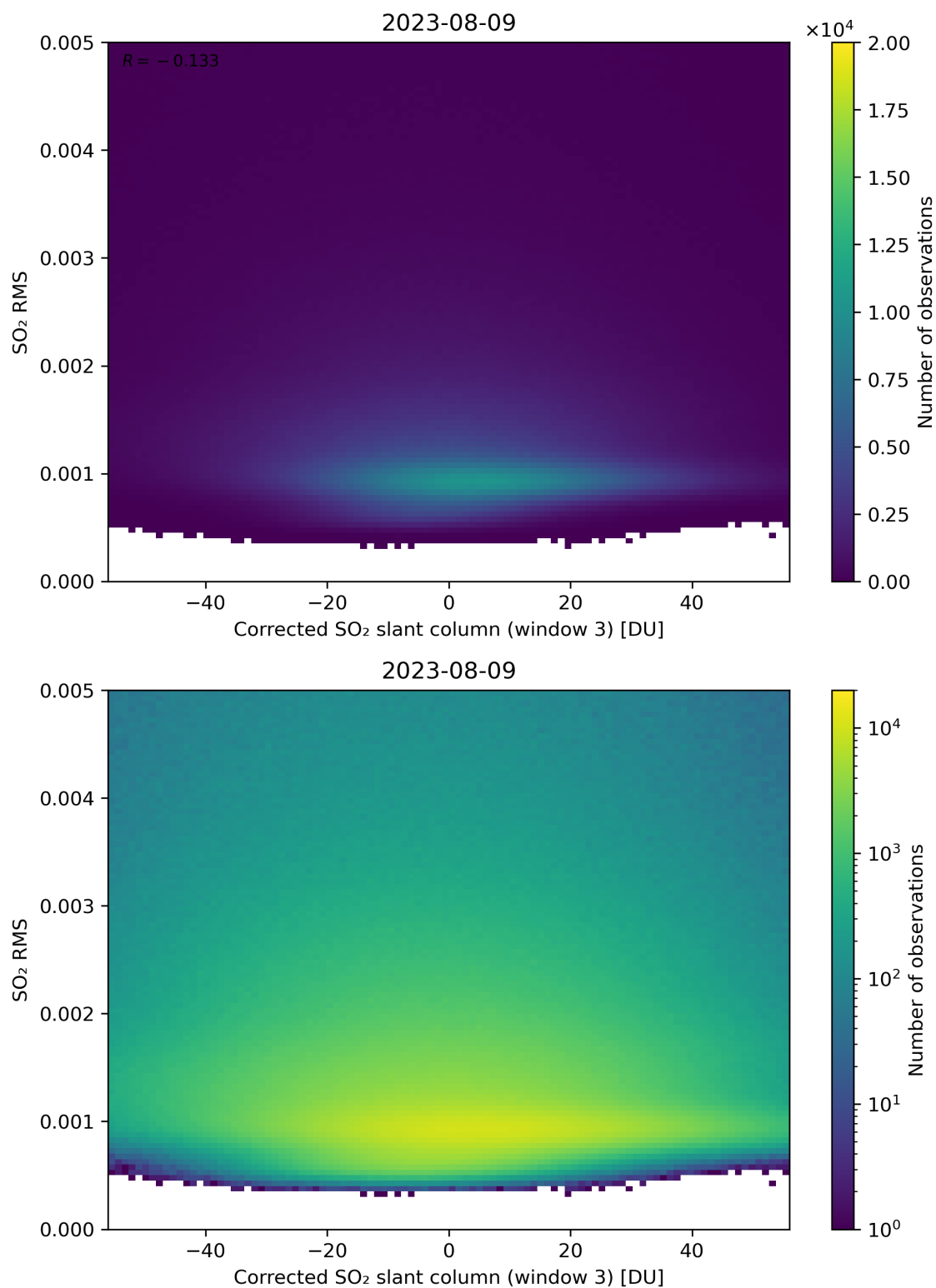


Figure 208: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

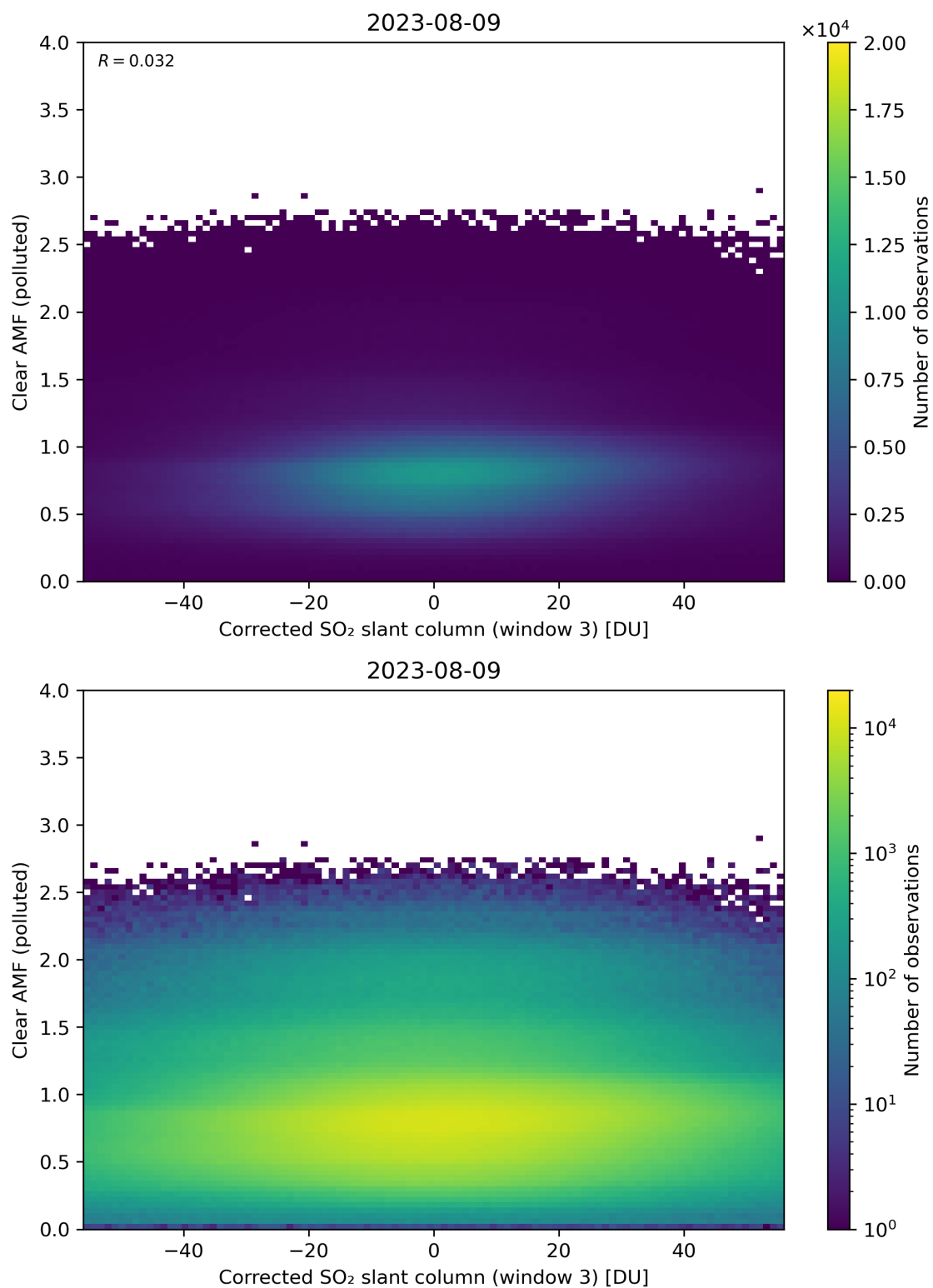


Figure 209: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

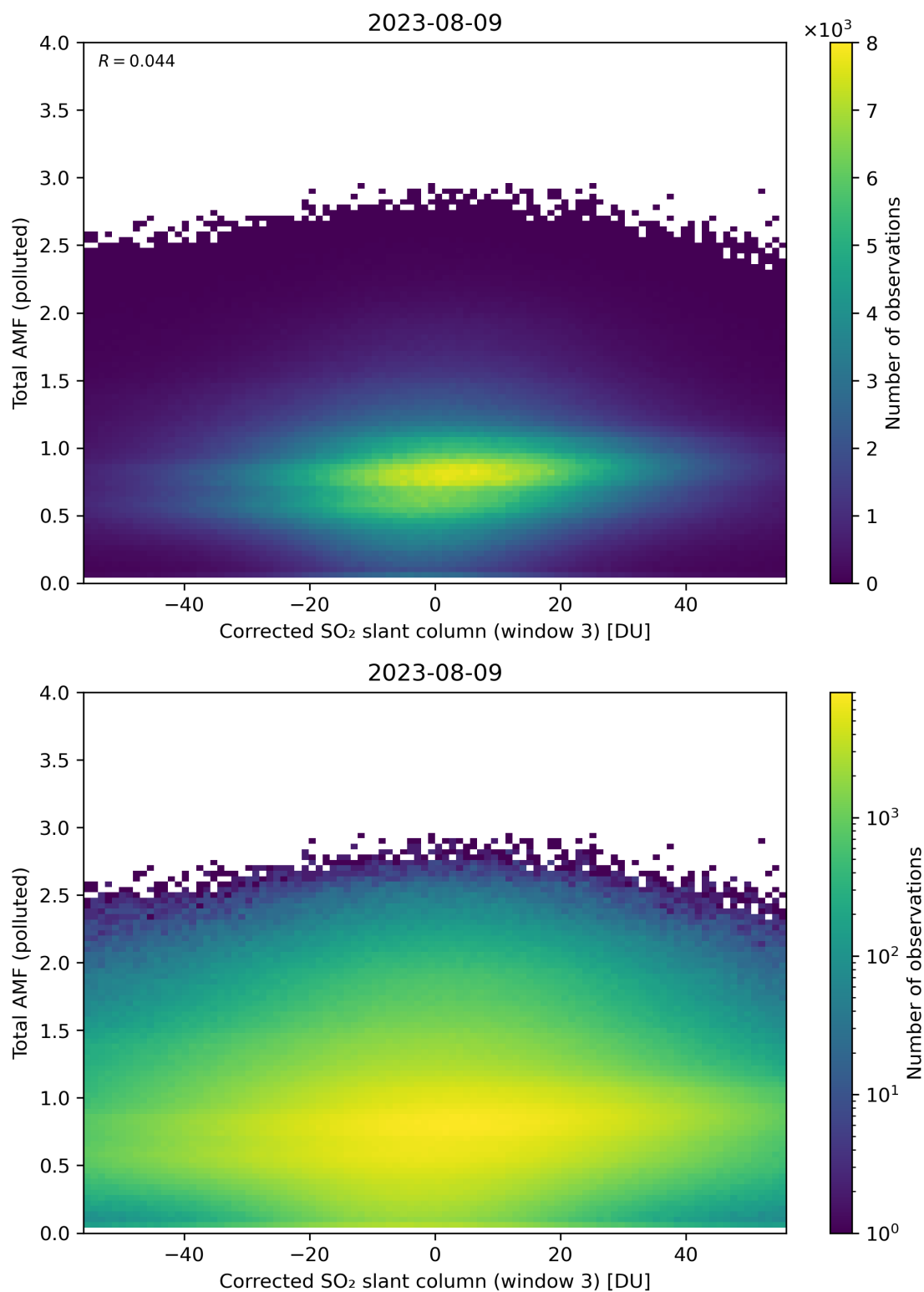


Figure 210: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

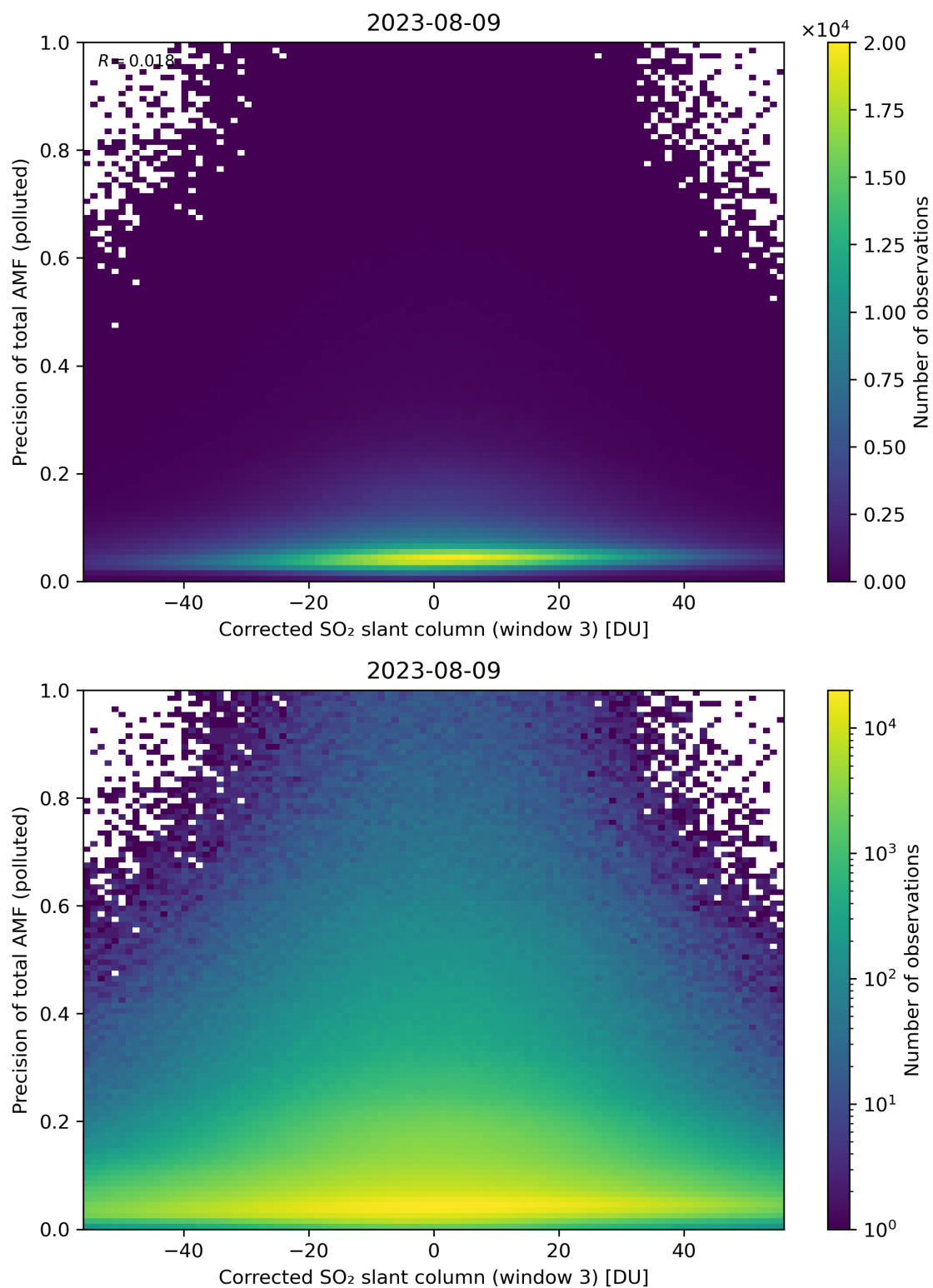


Figure 211: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

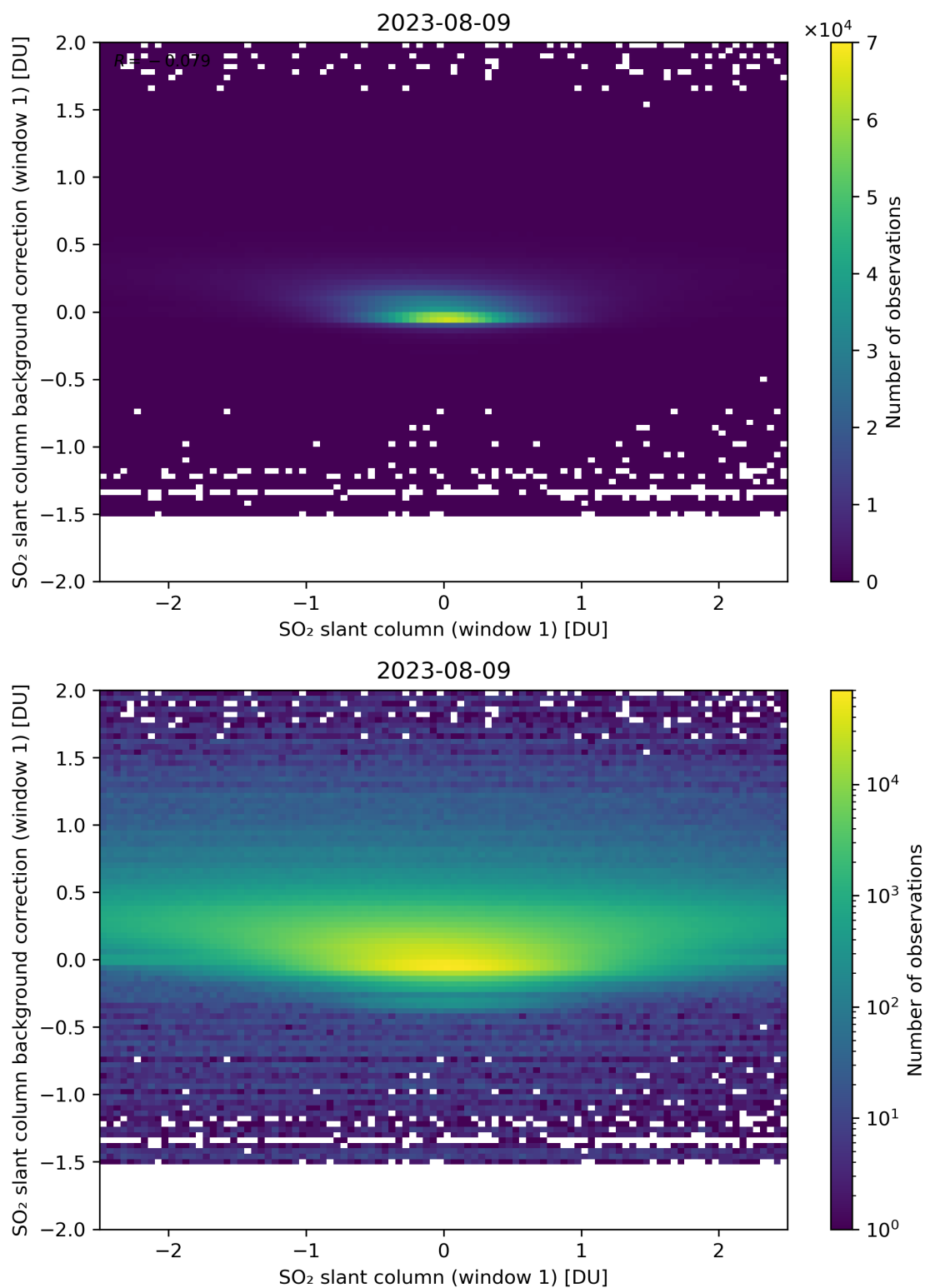


Figure 212: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

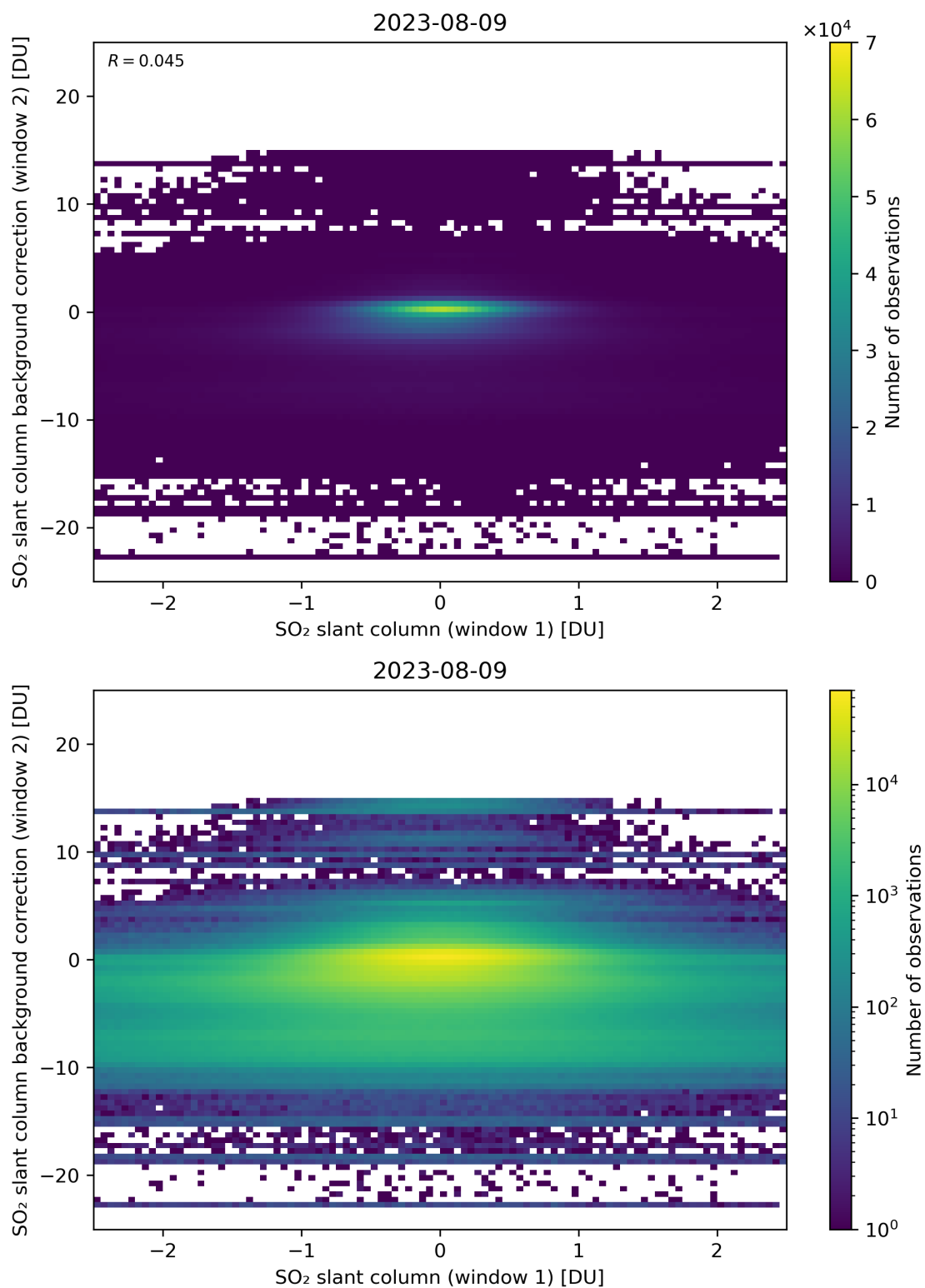


Figure 213: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

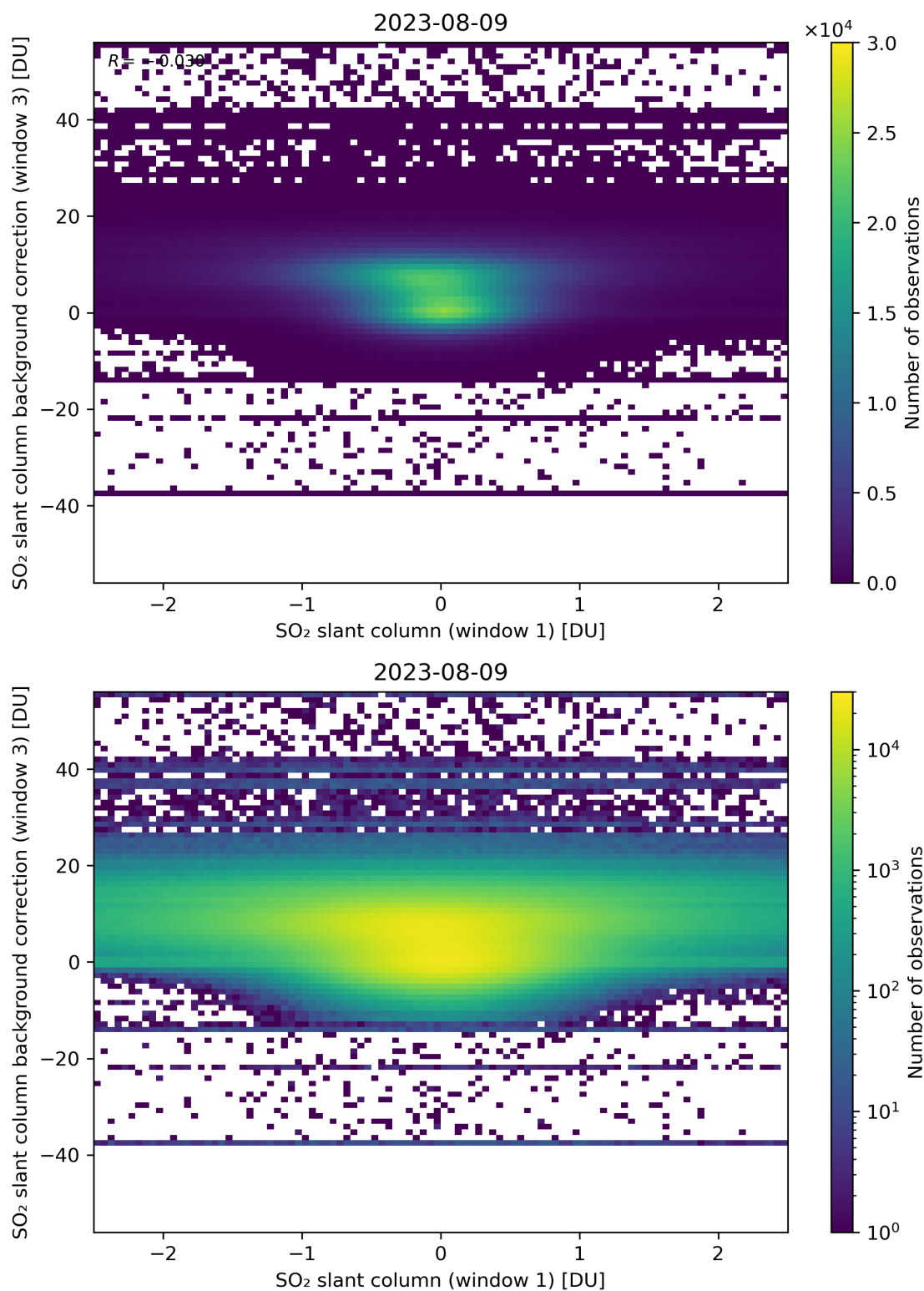


Figure 214: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

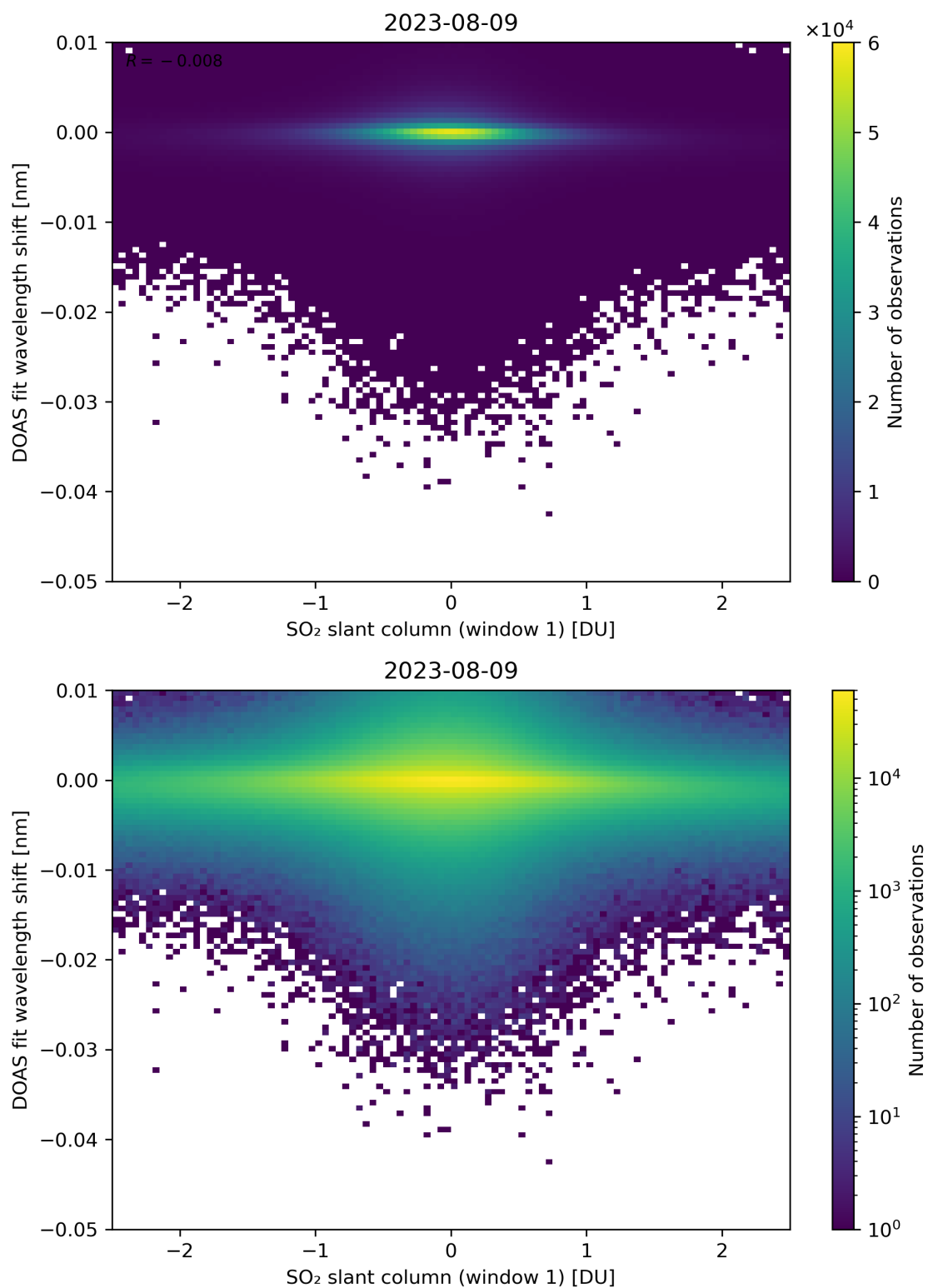


Figure 215: Scatter density plot of “SO₂ slant column (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

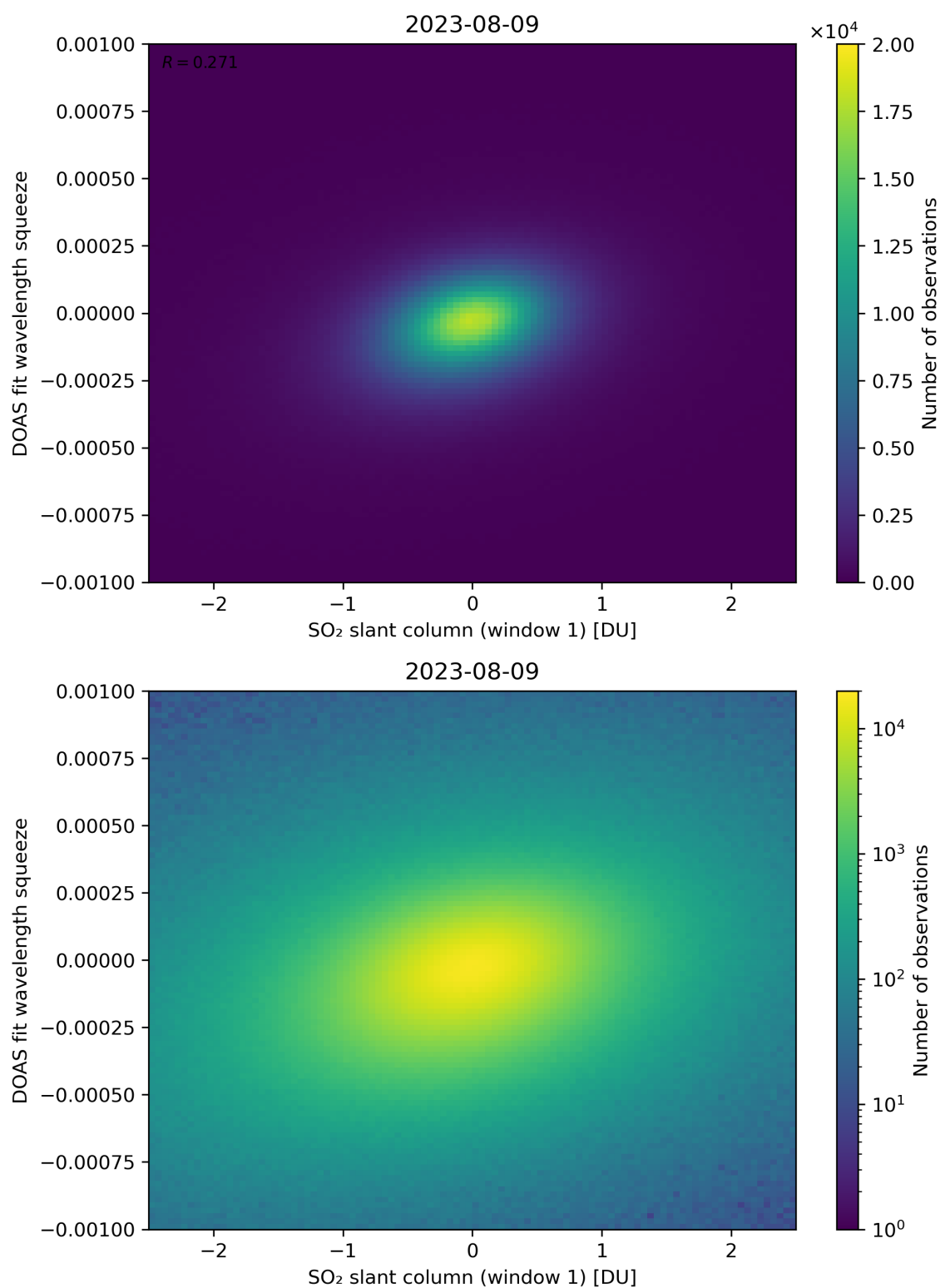


Figure 216: Scatter density plot of “SO₂ slant column (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

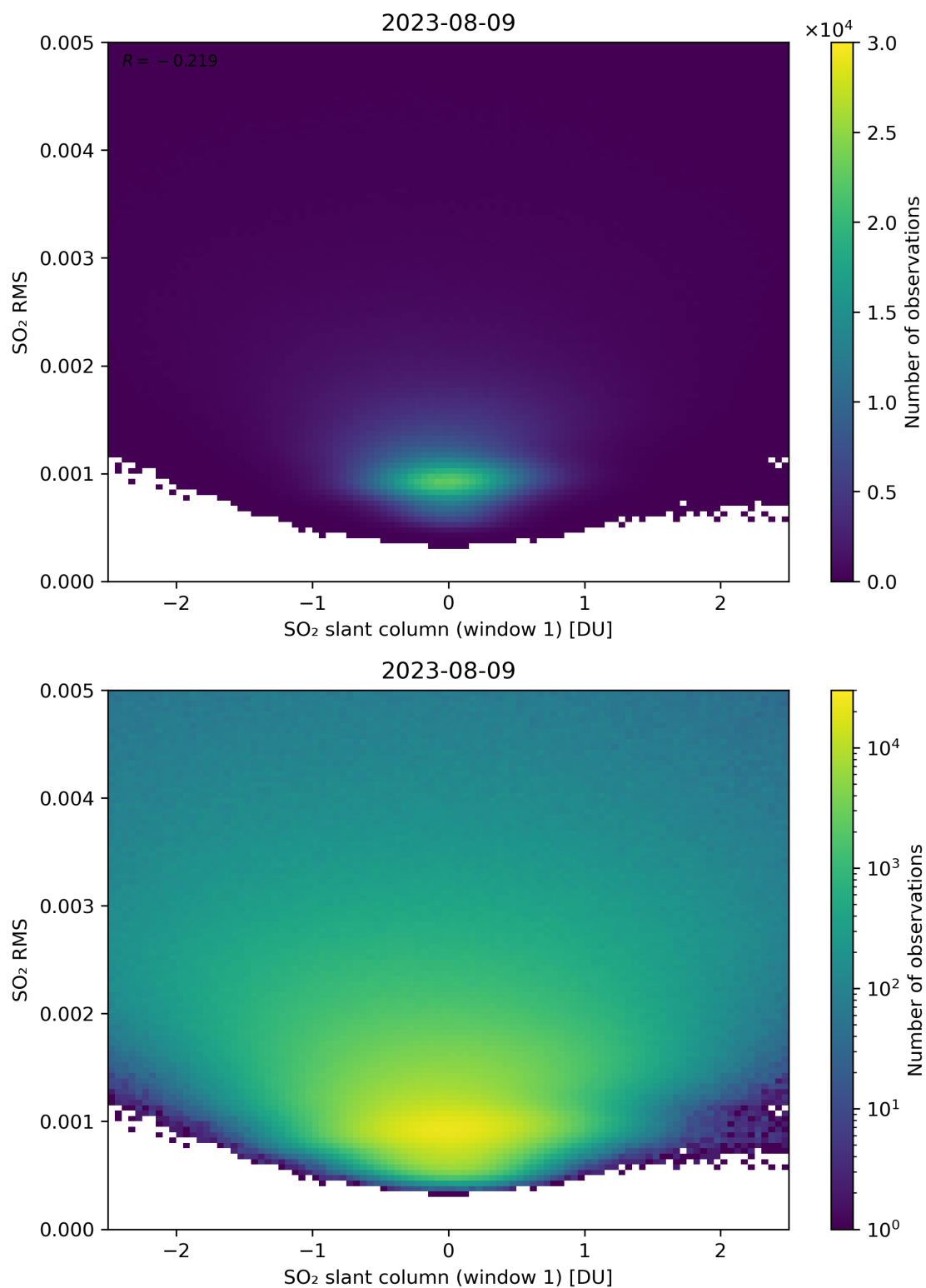


Figure 217: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

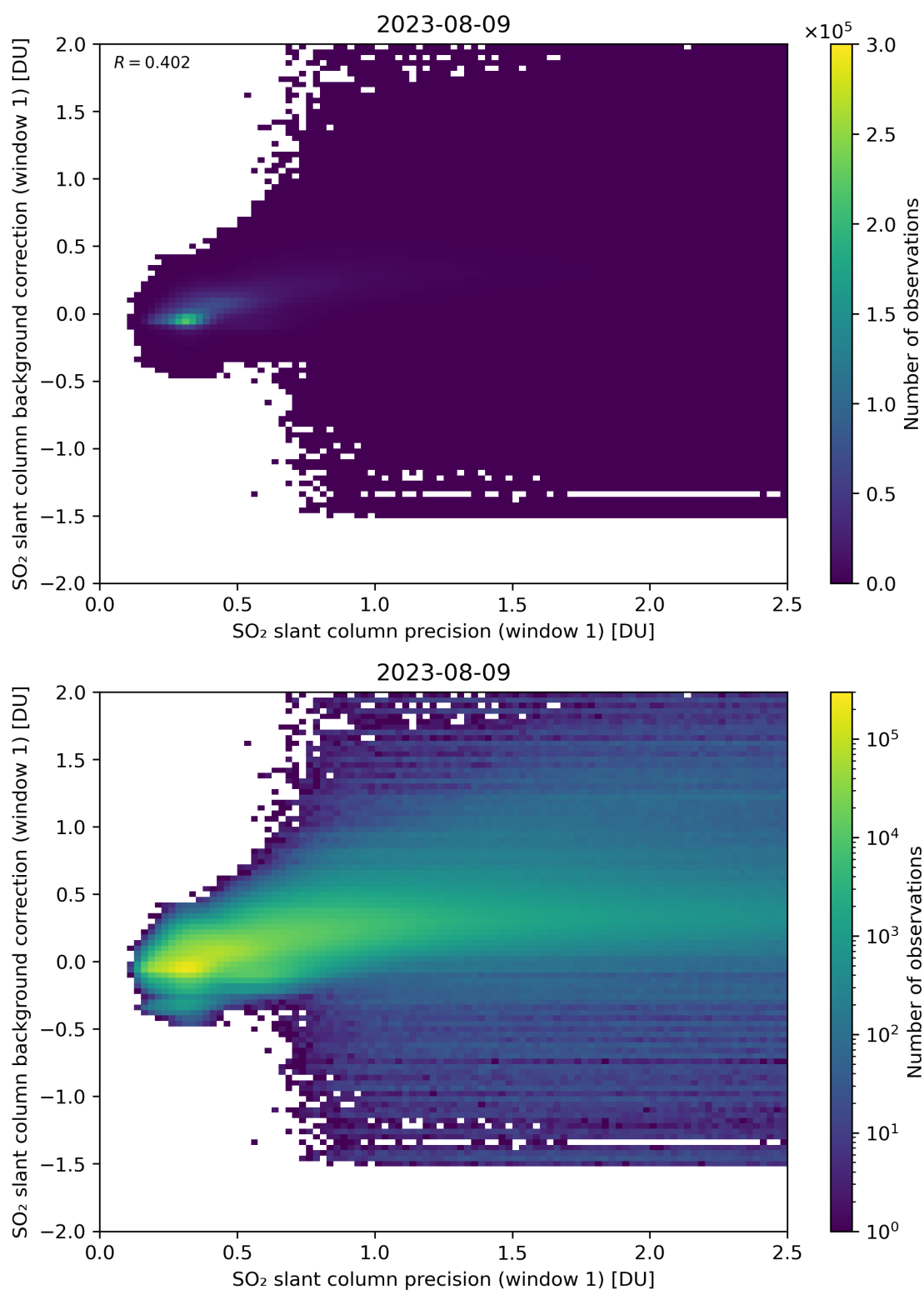


Figure 218: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

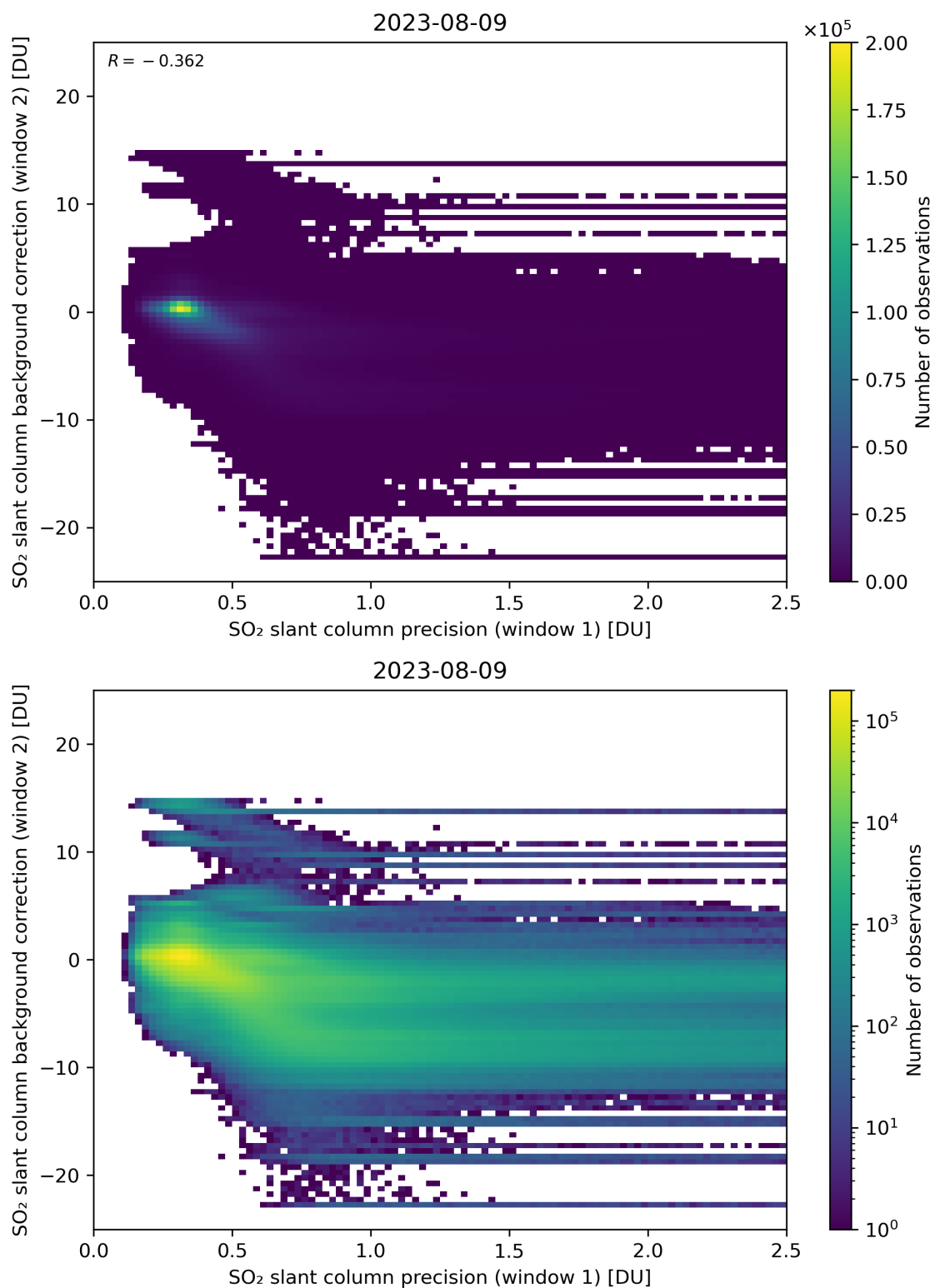


Figure 219: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

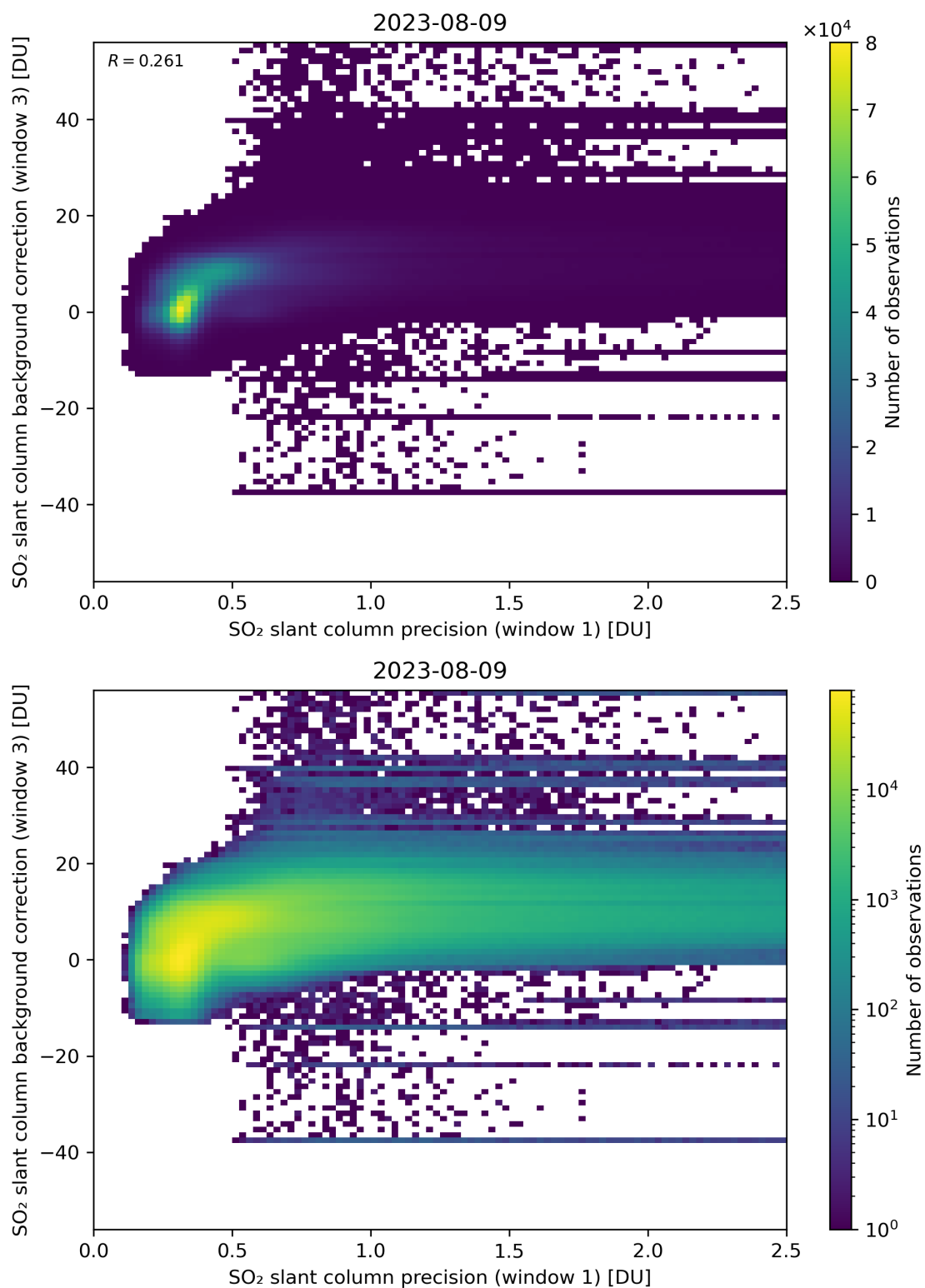


Figure 220: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

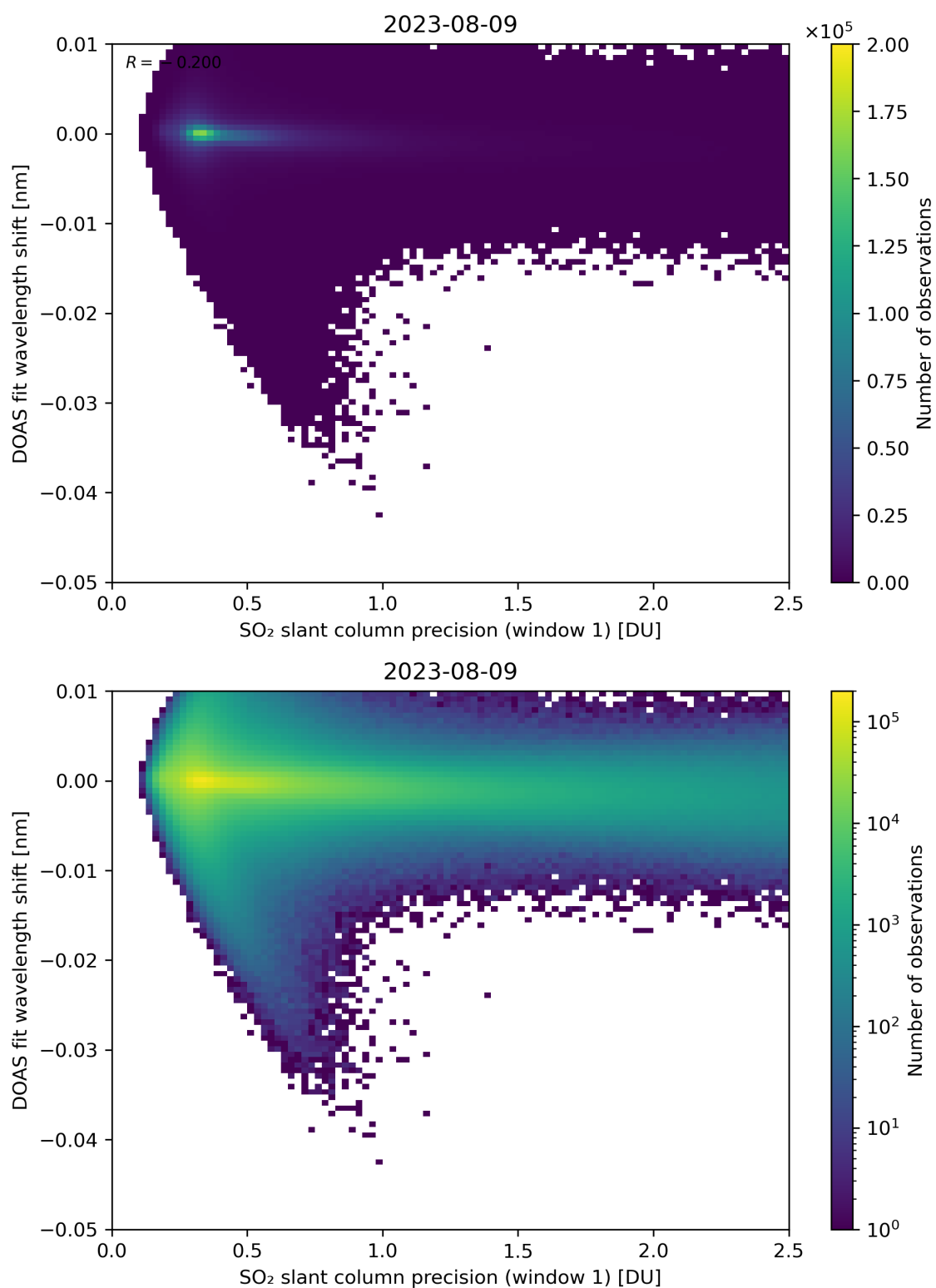


Figure 221: Scatter density plot of “SO₂ slant column precision (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

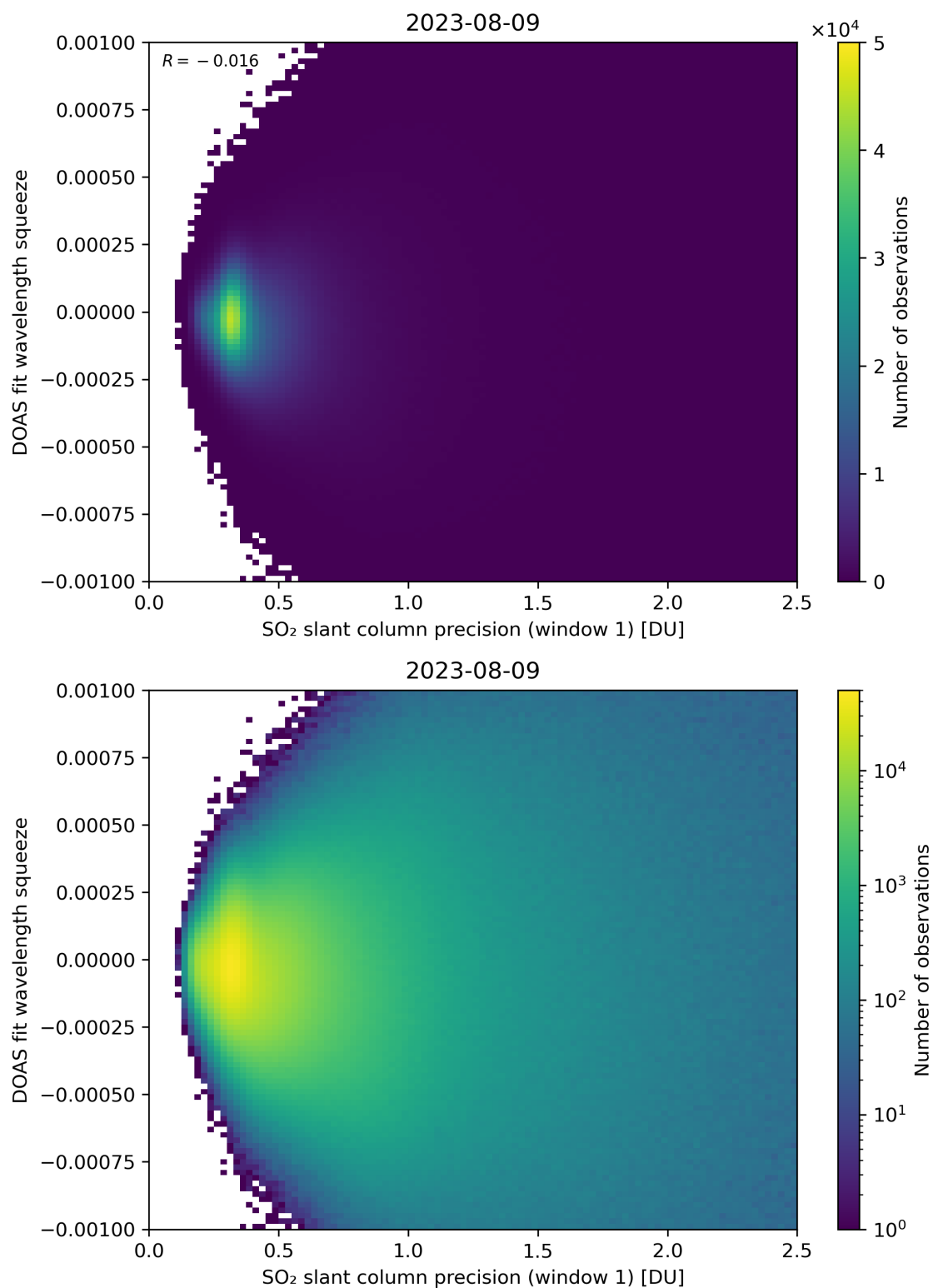


Figure 222: Scatter density plot of “SO₂ slant column precision (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

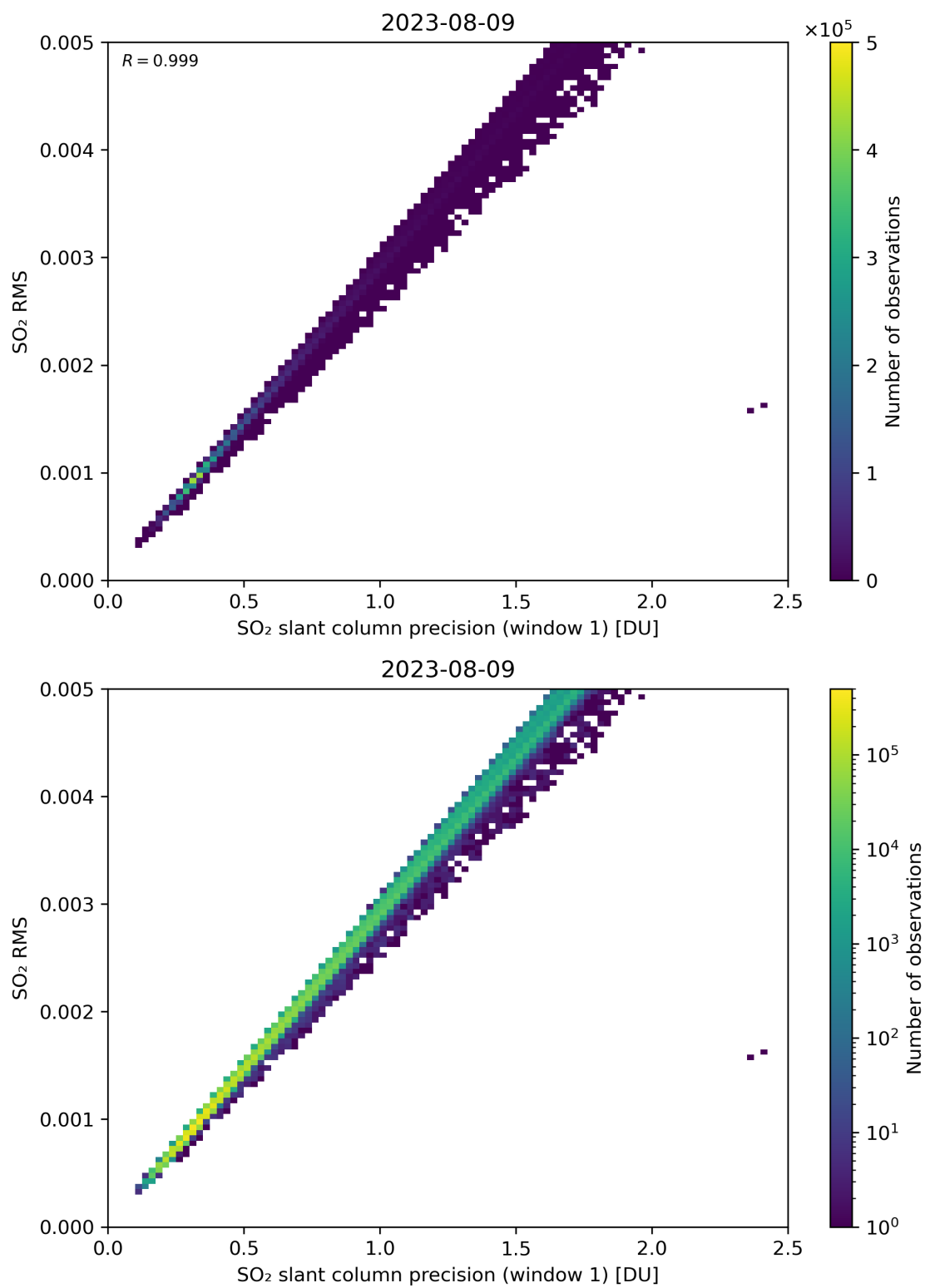


Figure 223: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

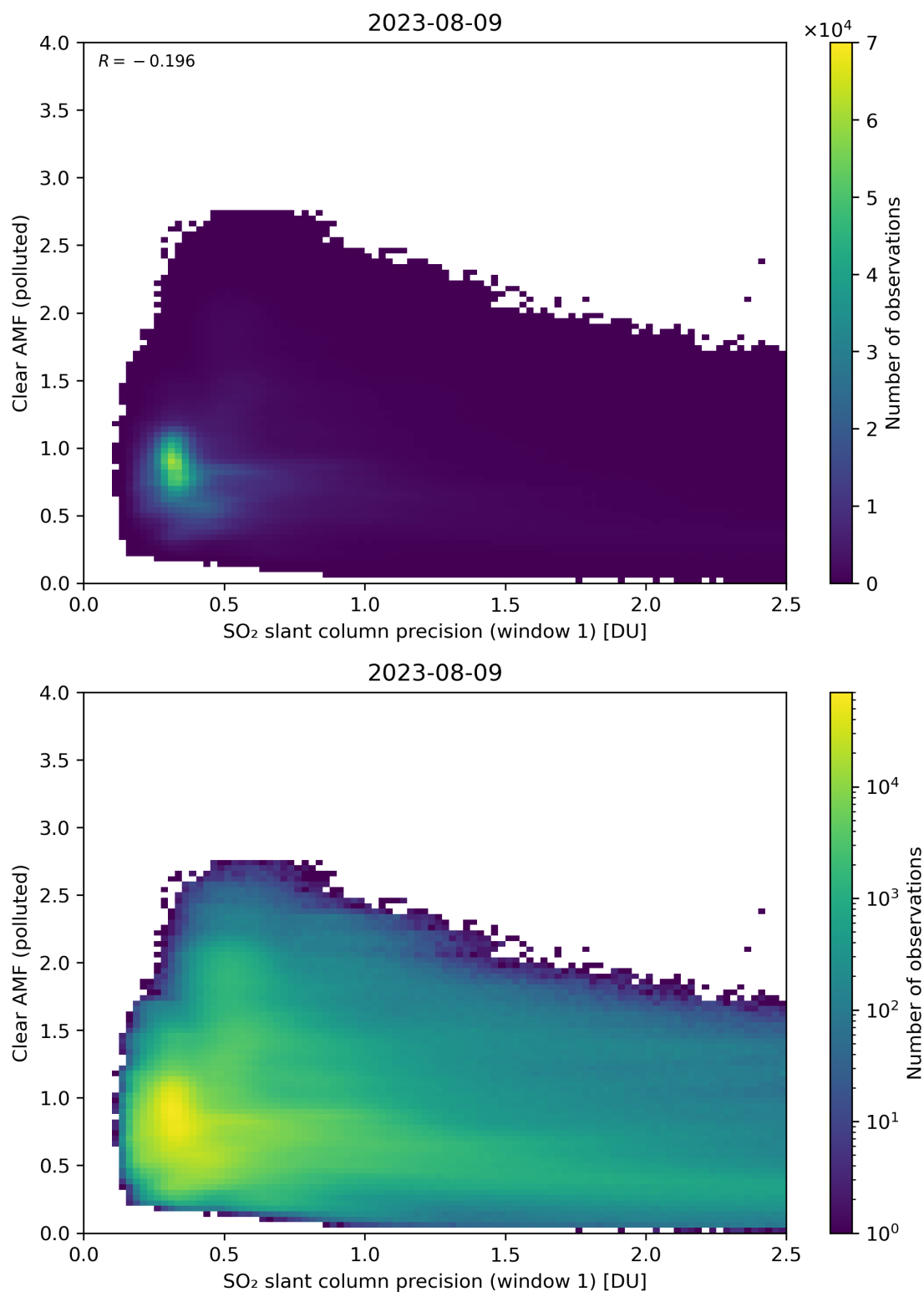


Figure 224: Scatter density plot of “SO₂ slant column precision (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

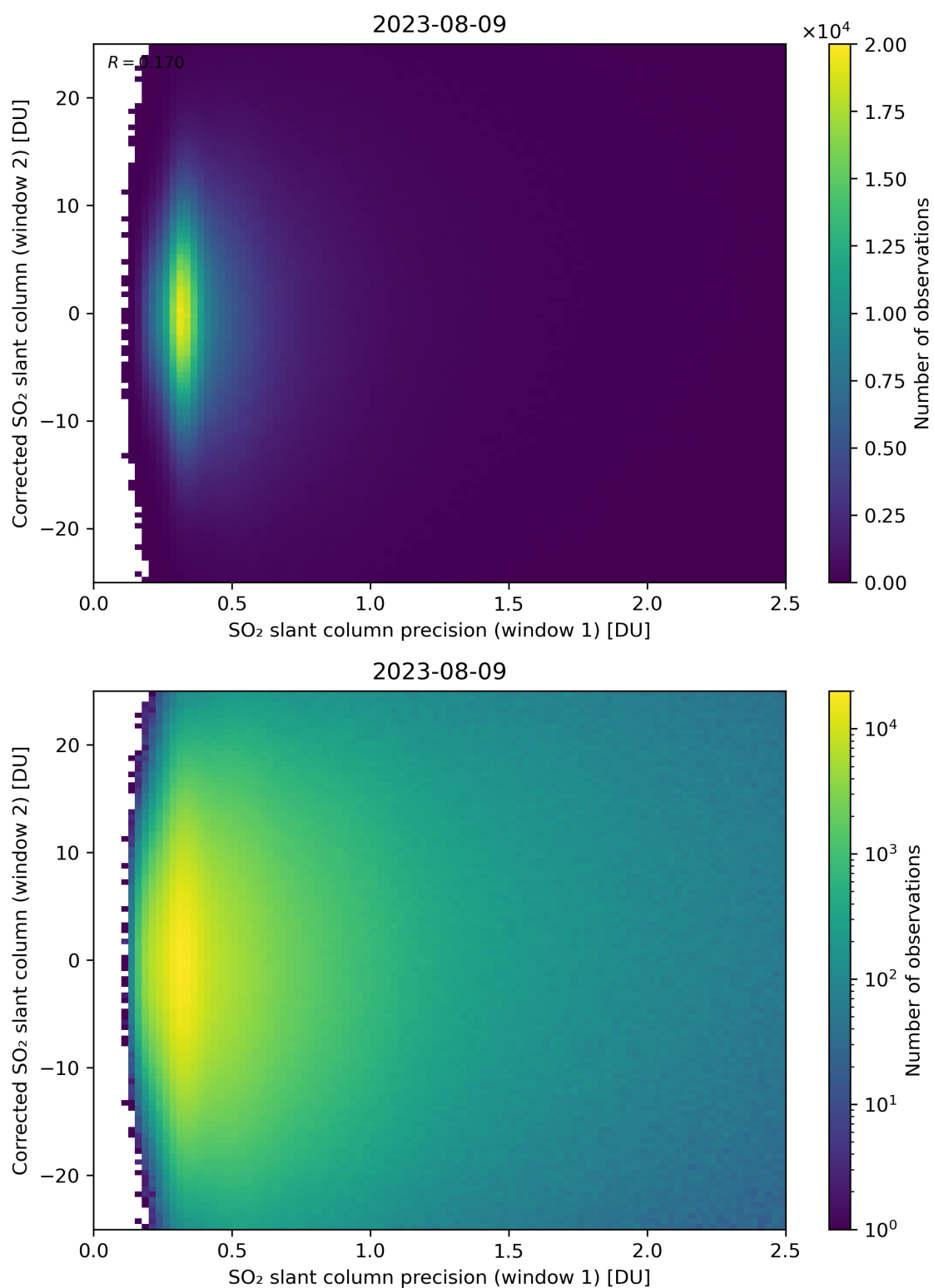


Figure 225: Scatter density plot of “SO₂ slant column precision (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

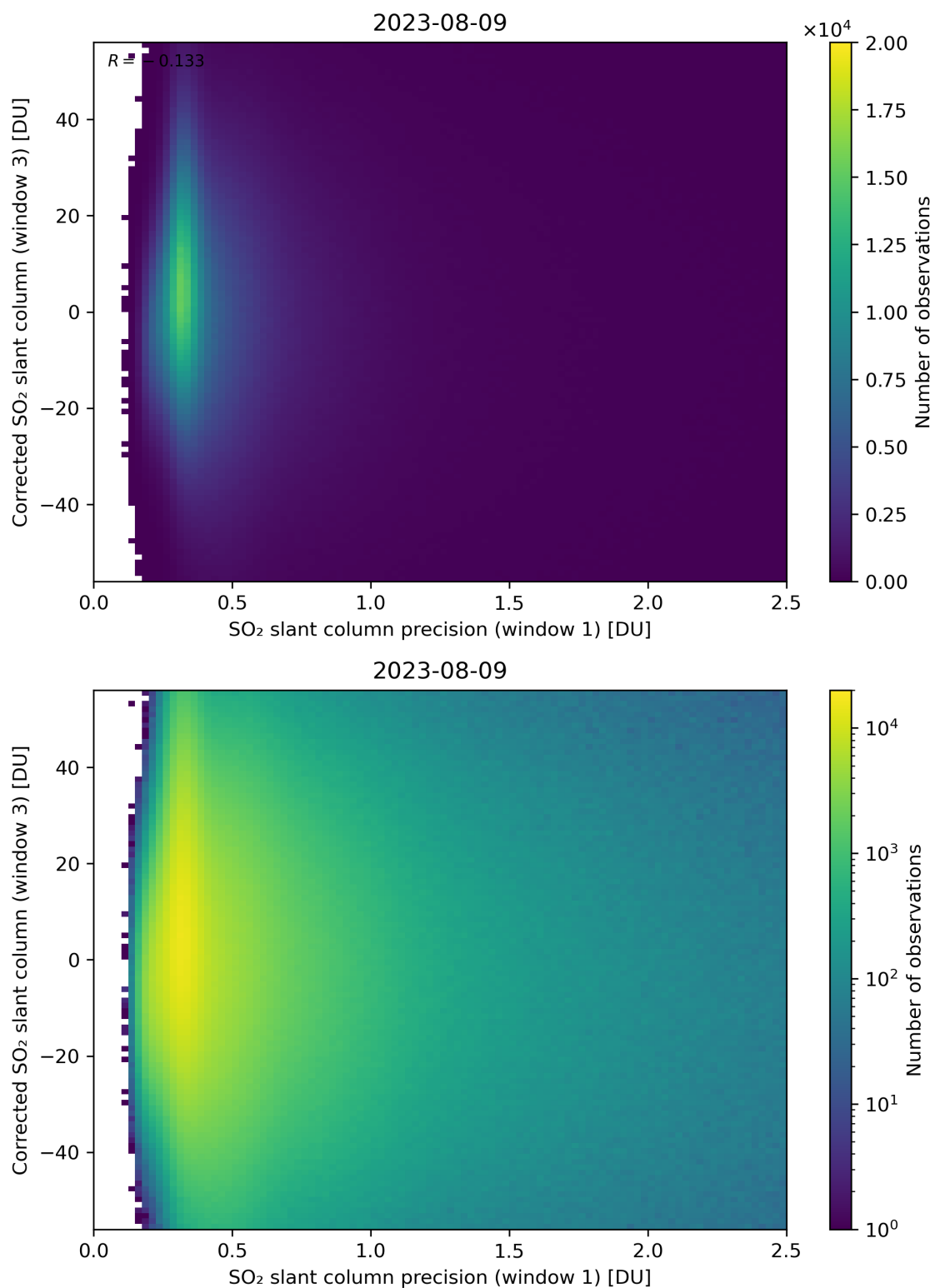


Figure 226: Scatter density plot of “SO₂ slant column precision (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

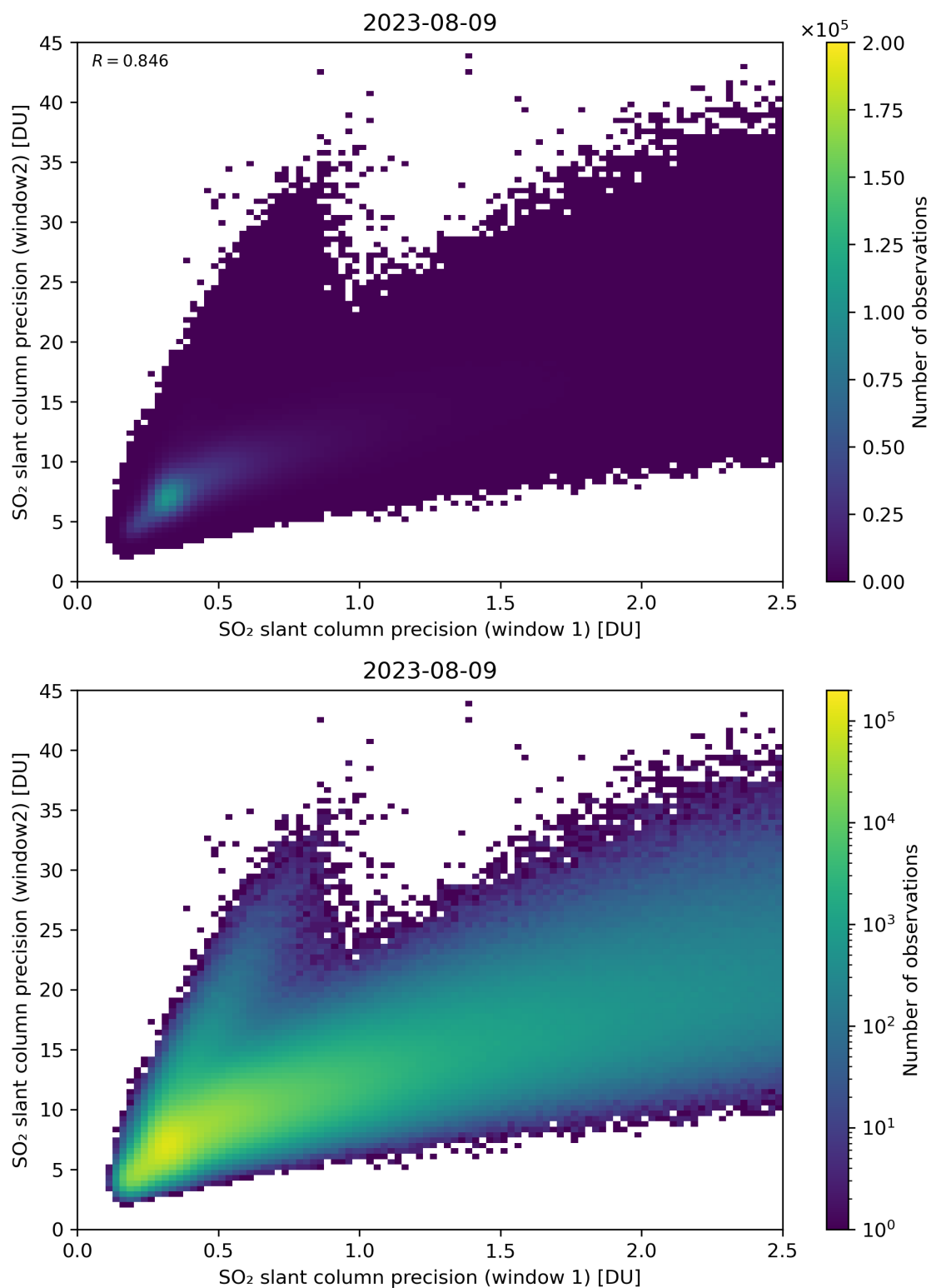


Figure 227: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

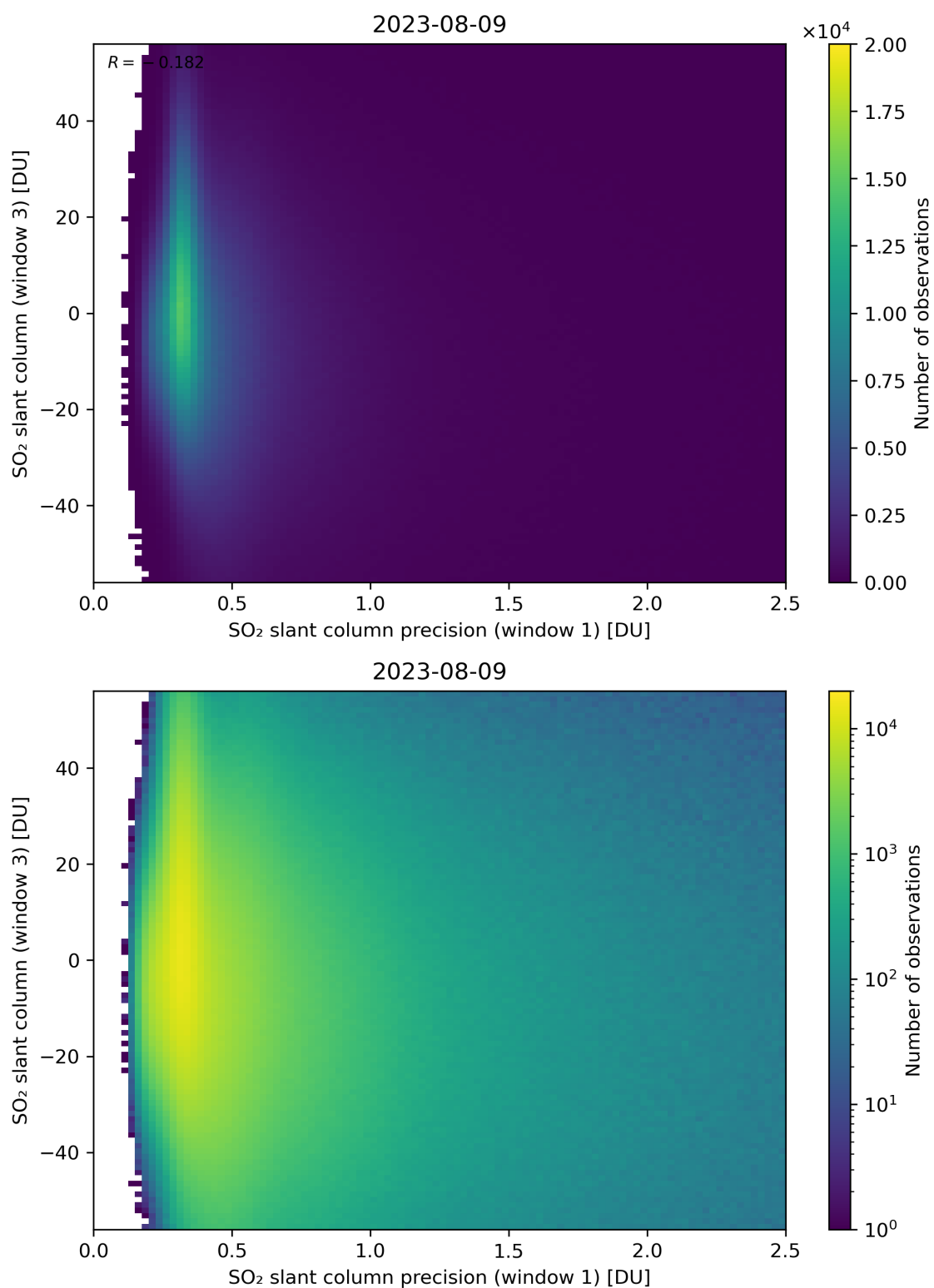


Figure 228: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

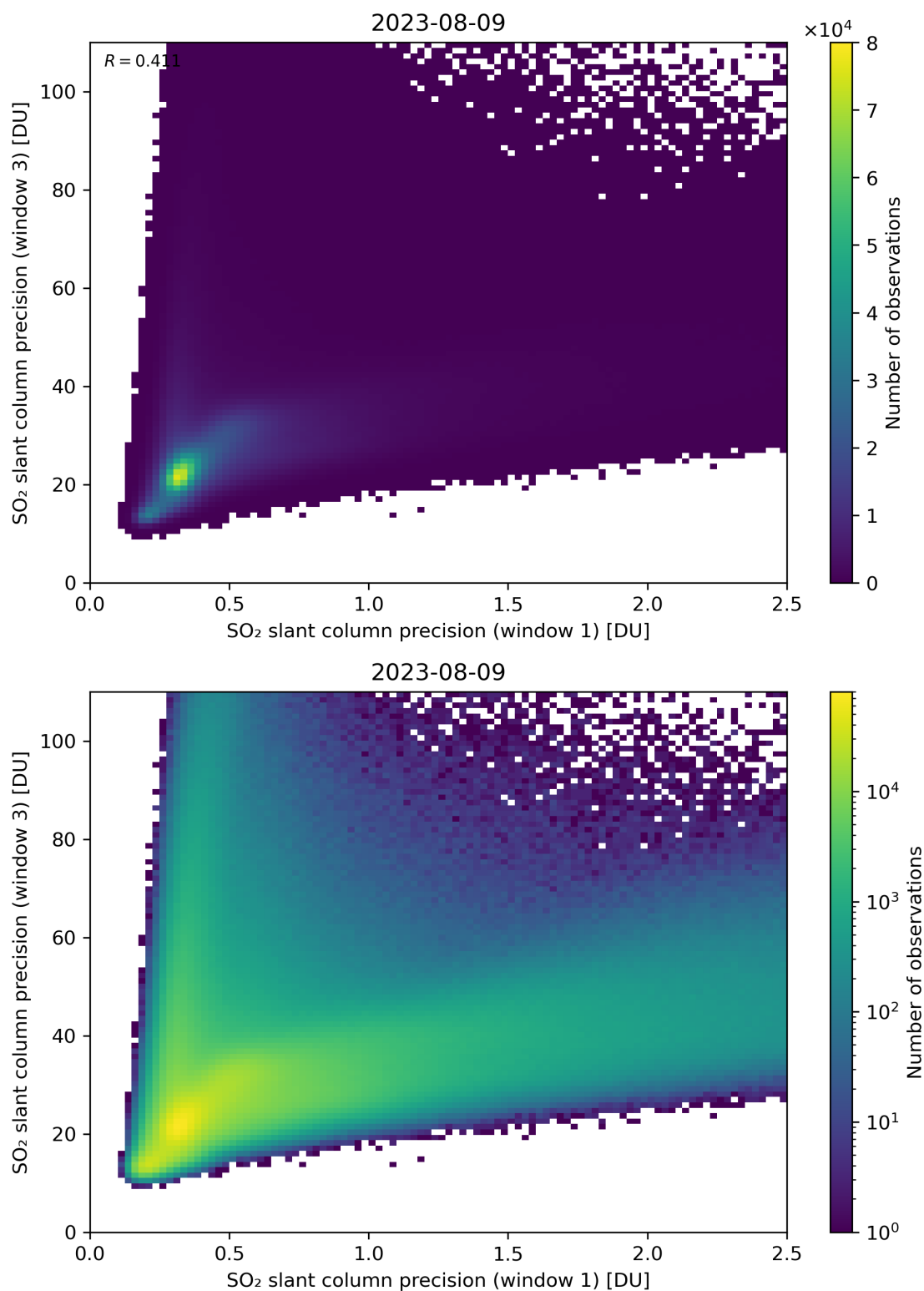


Figure 229: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

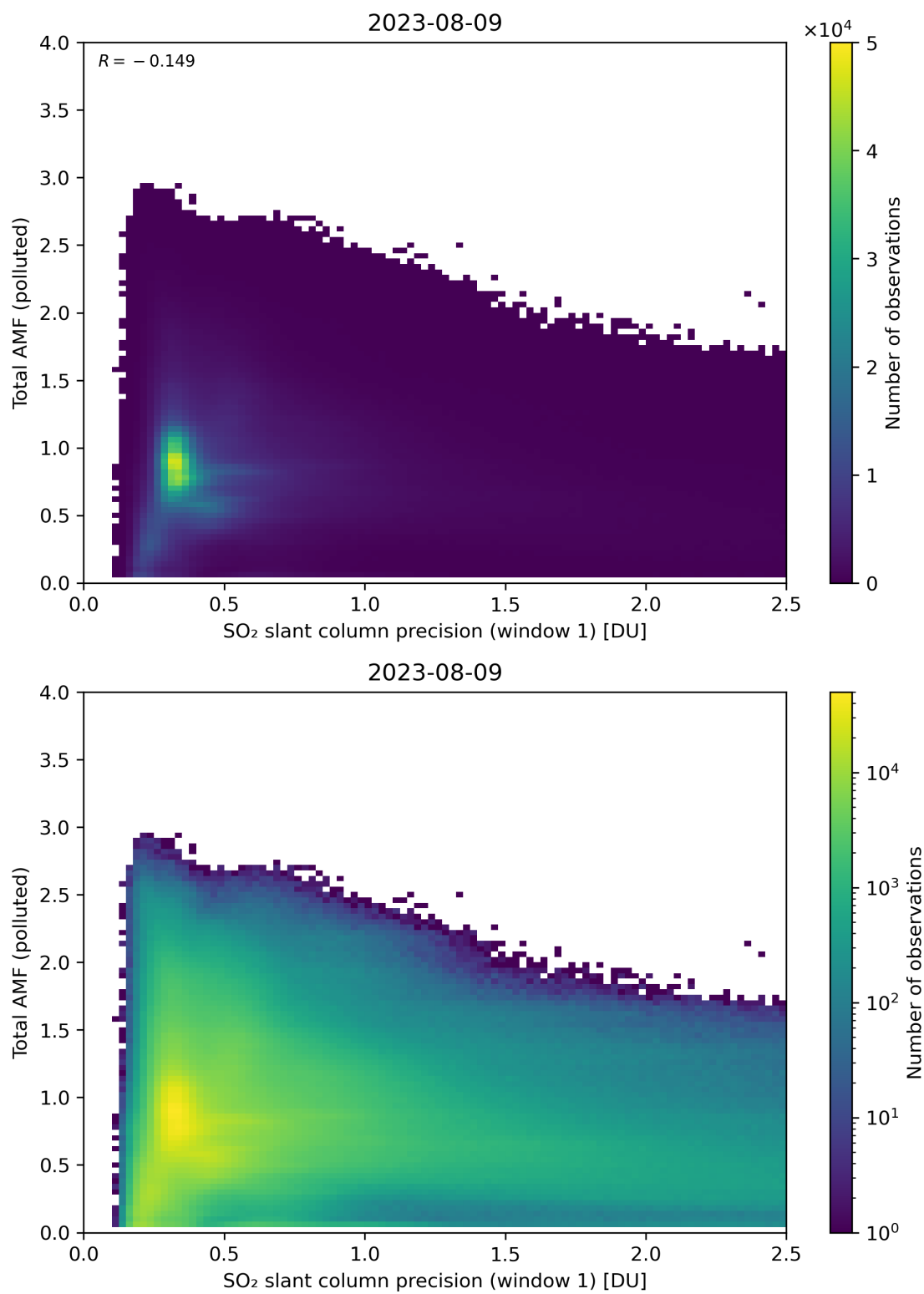


Figure 230: Scatter density plot of “SO₂ slant column precision (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

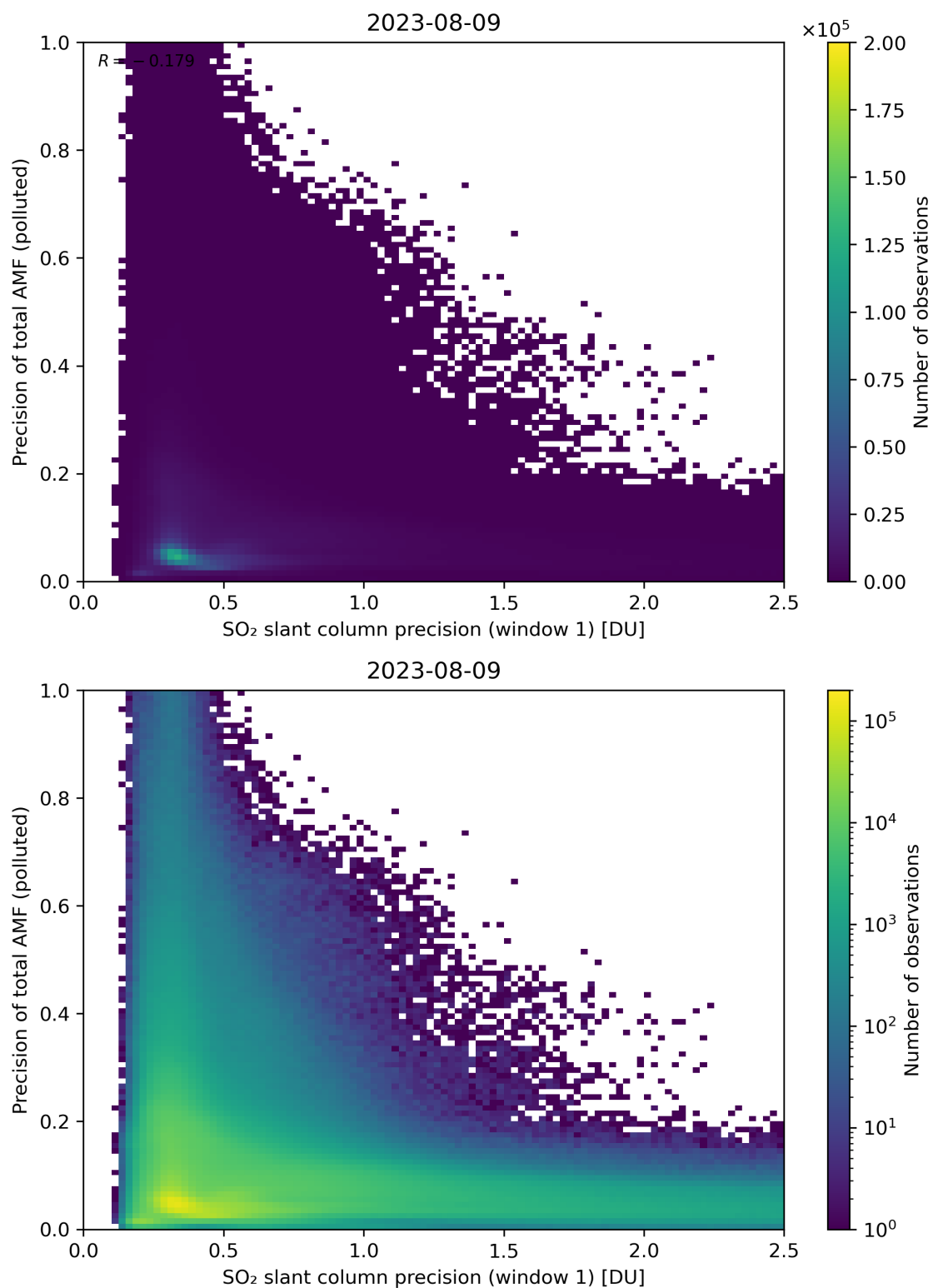


Figure 231: Scatter density plot of “SO₂ slant column precision (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

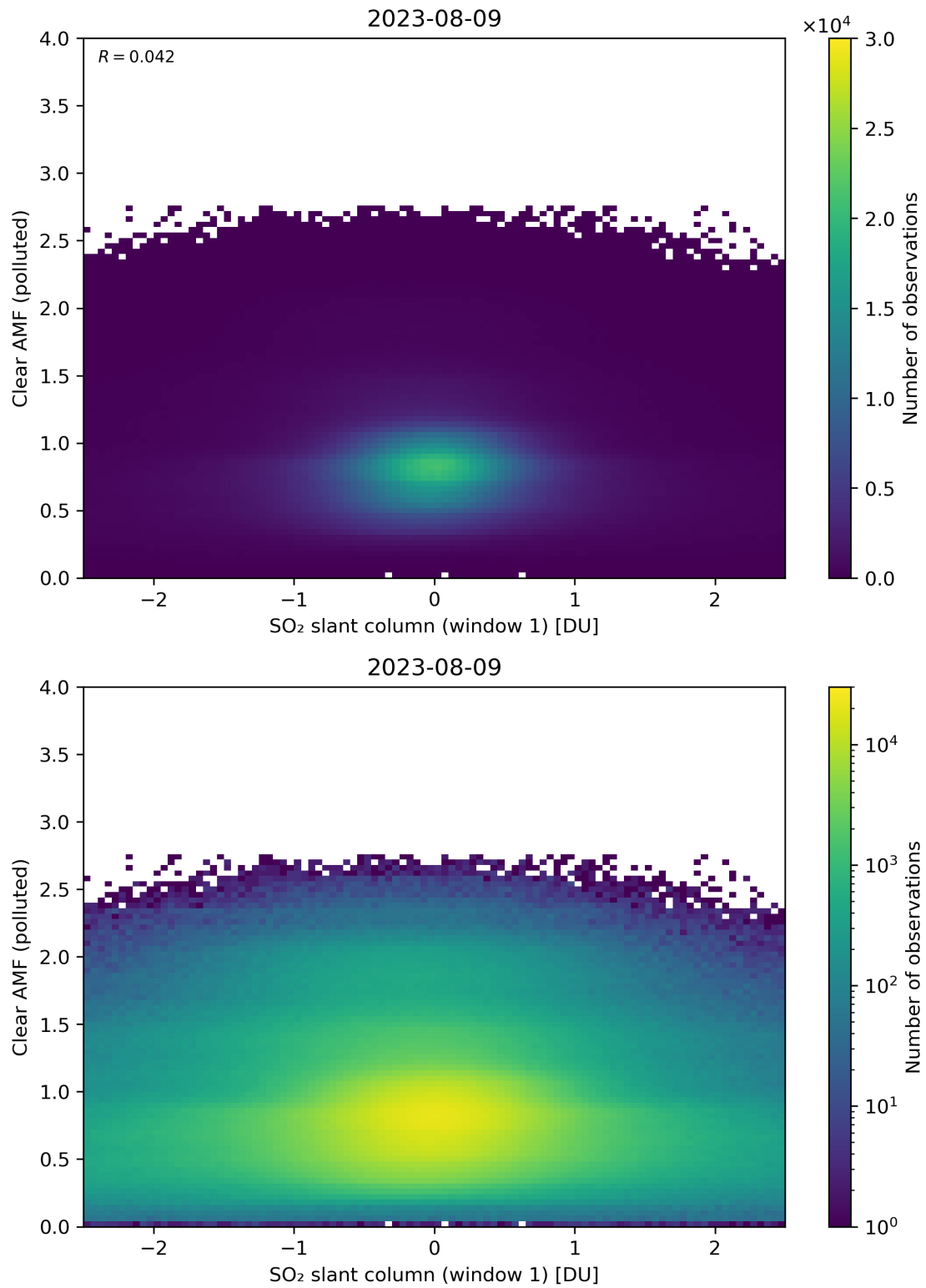


Figure 232: Scatter density plot of “SO₂ slant column (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

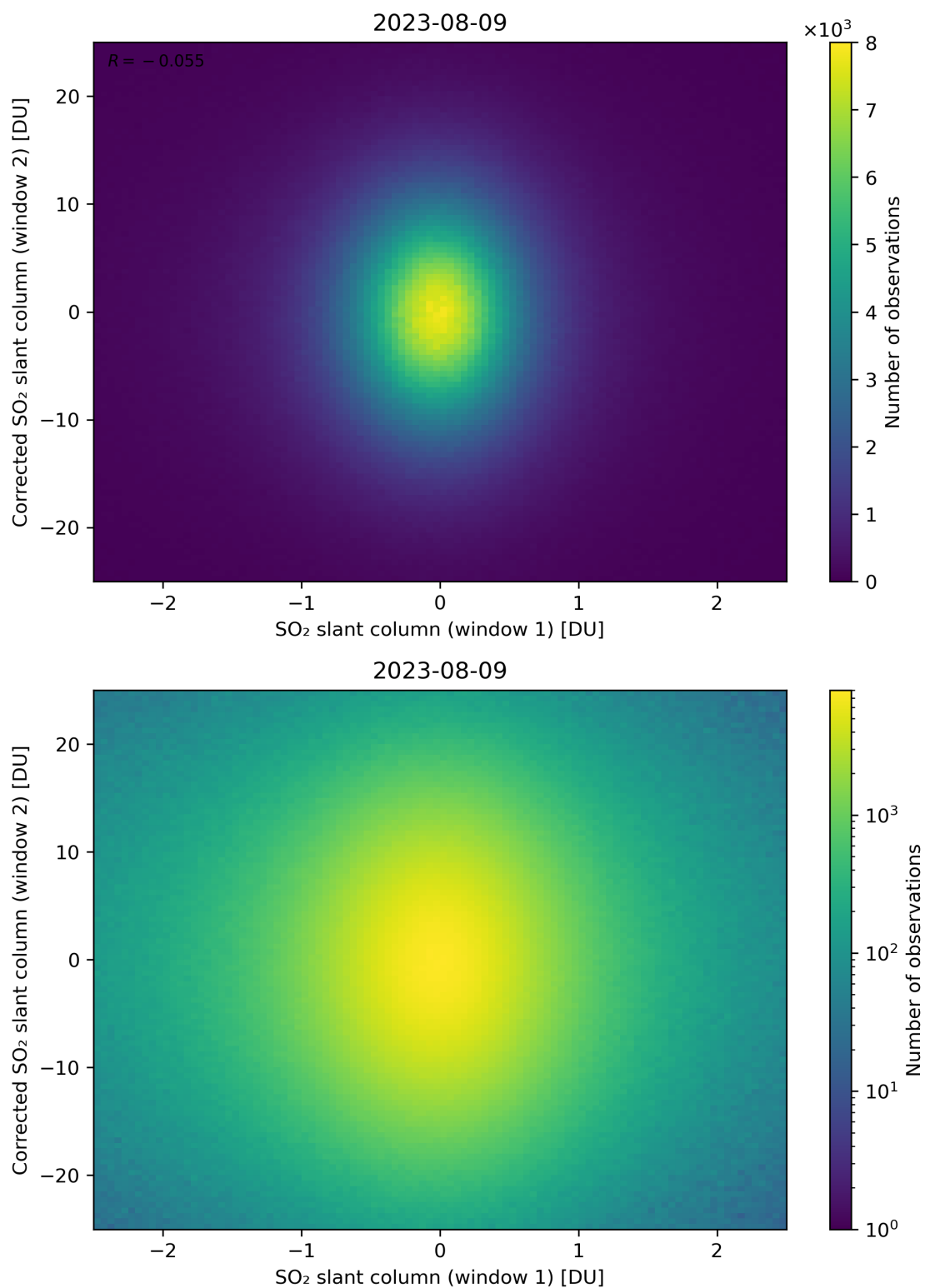


Figure 233: Scatter density plot of “SO₂ slant column (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

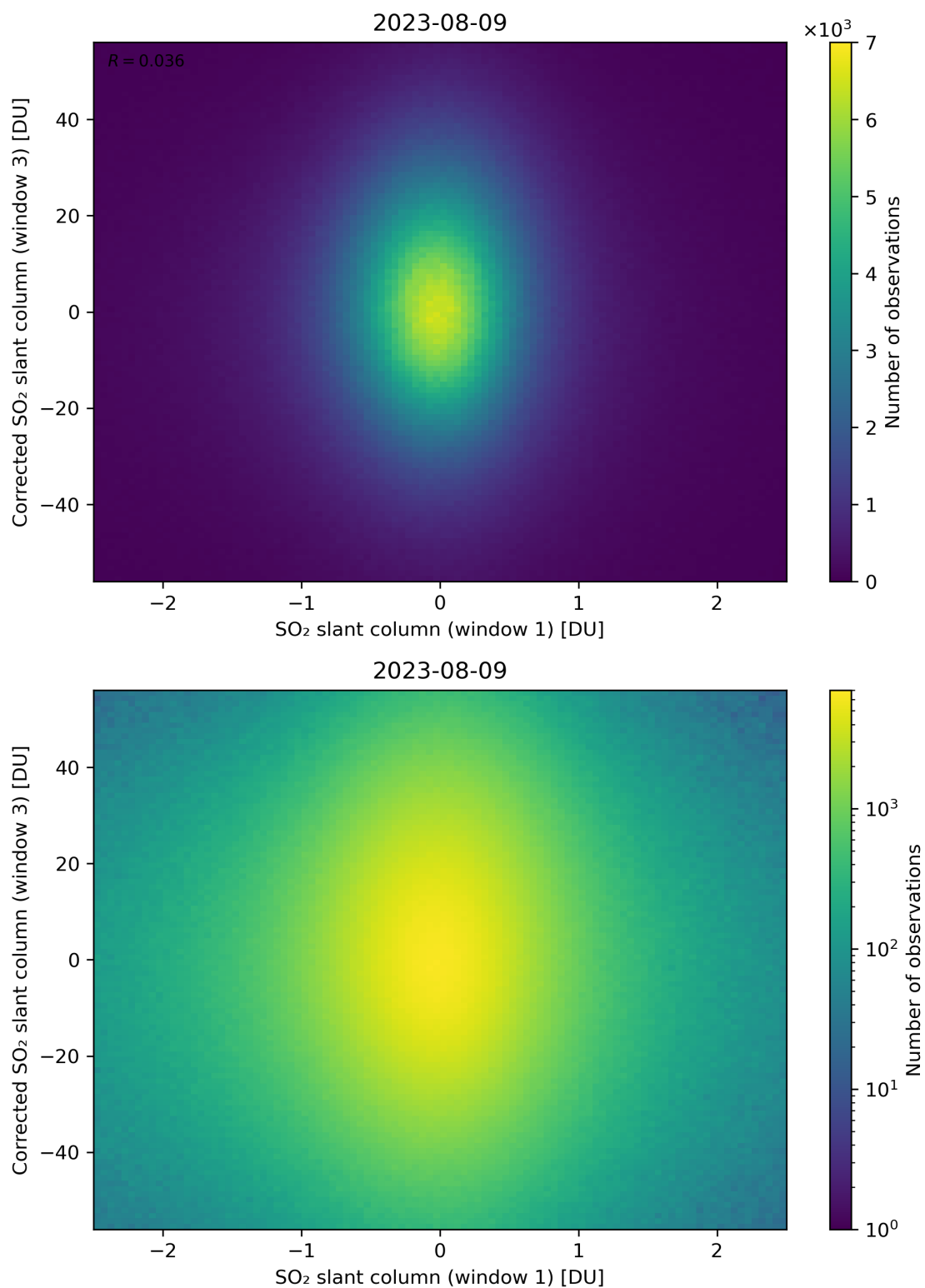


Figure 234: Scatter density plot of “SO₂ slant column (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

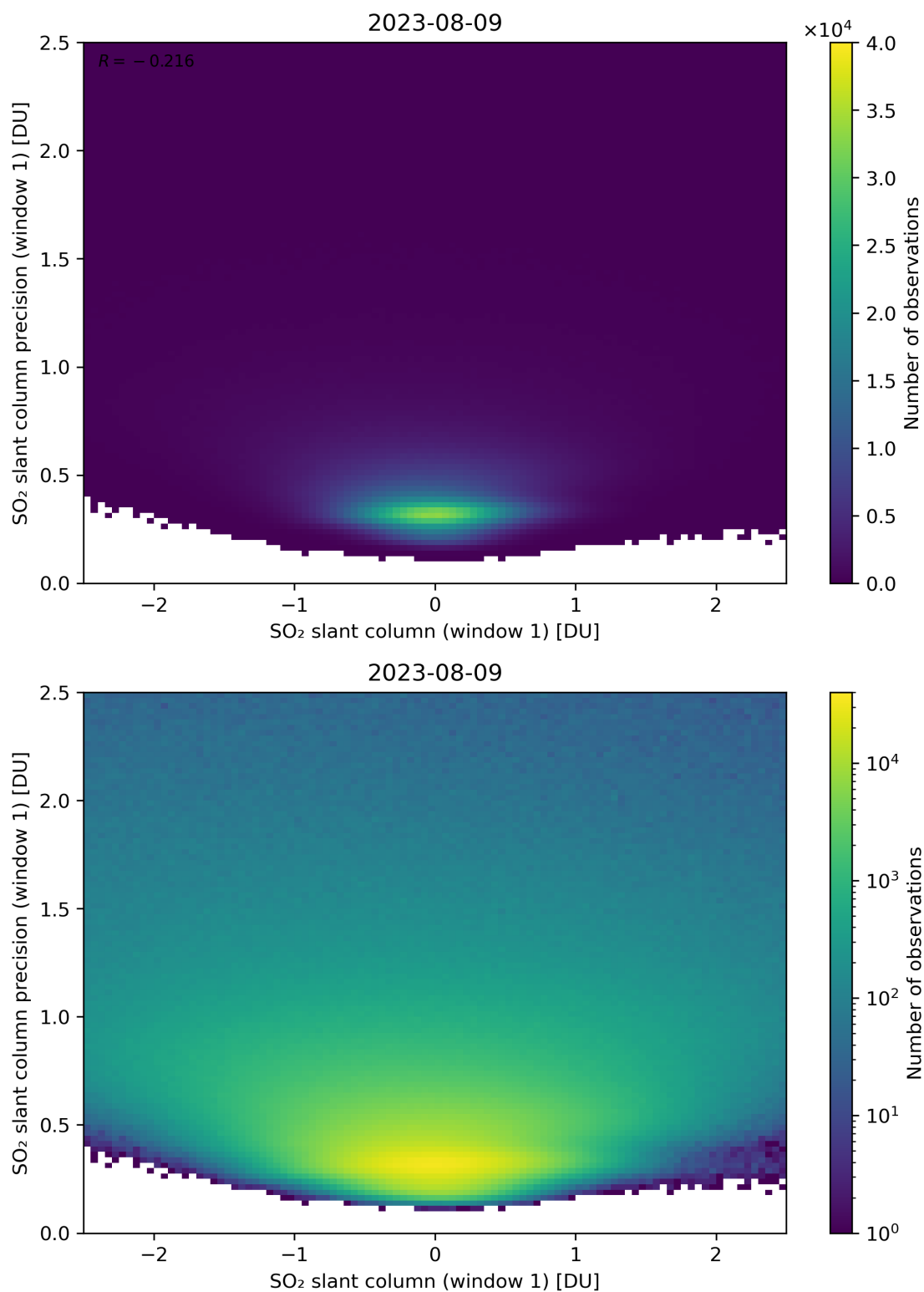


Figure 235: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

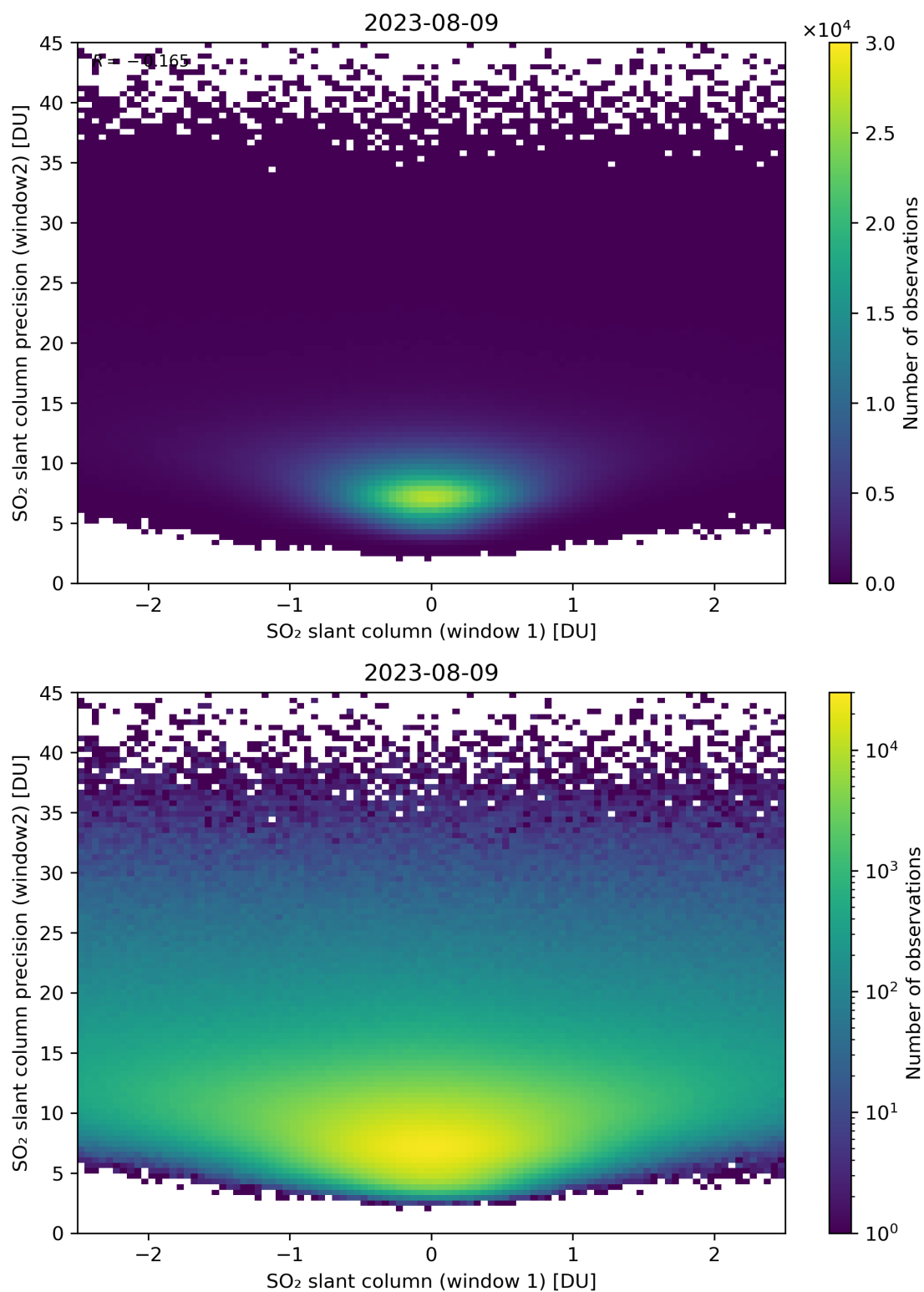


Figure 236: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

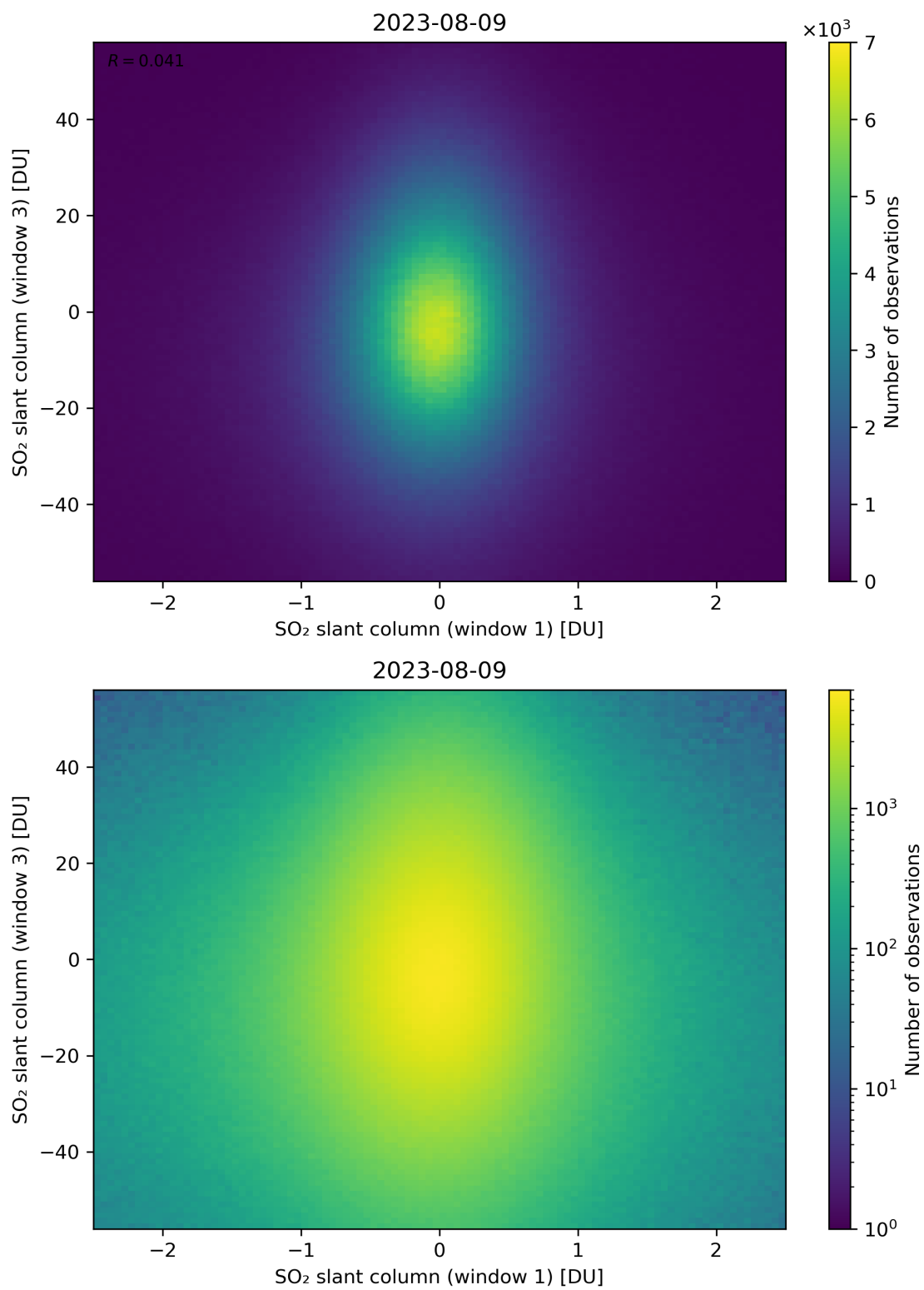


Figure 237: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

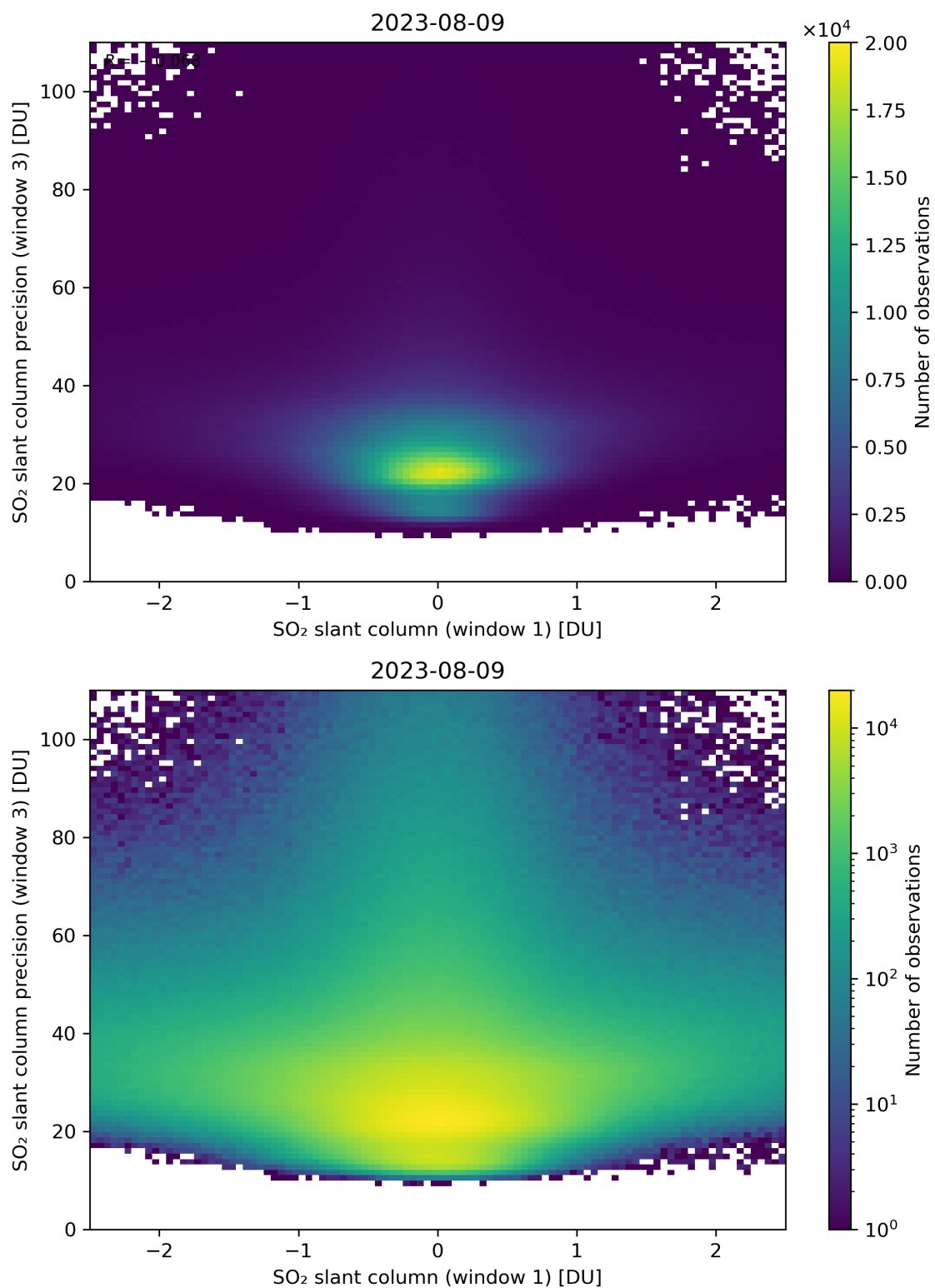


Figure 238: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

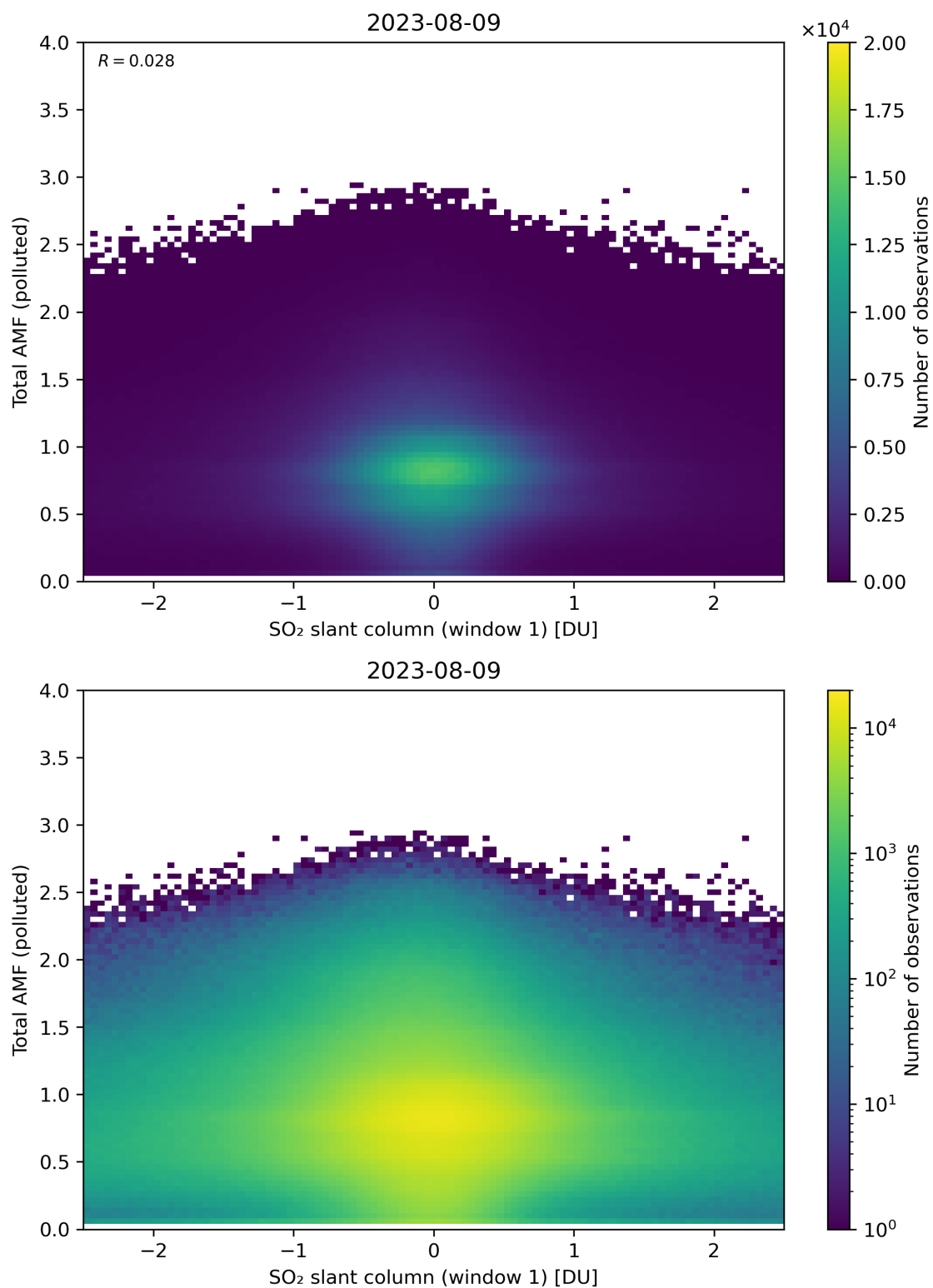


Figure 239: Scatter density plot of “SO₂ slant column (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

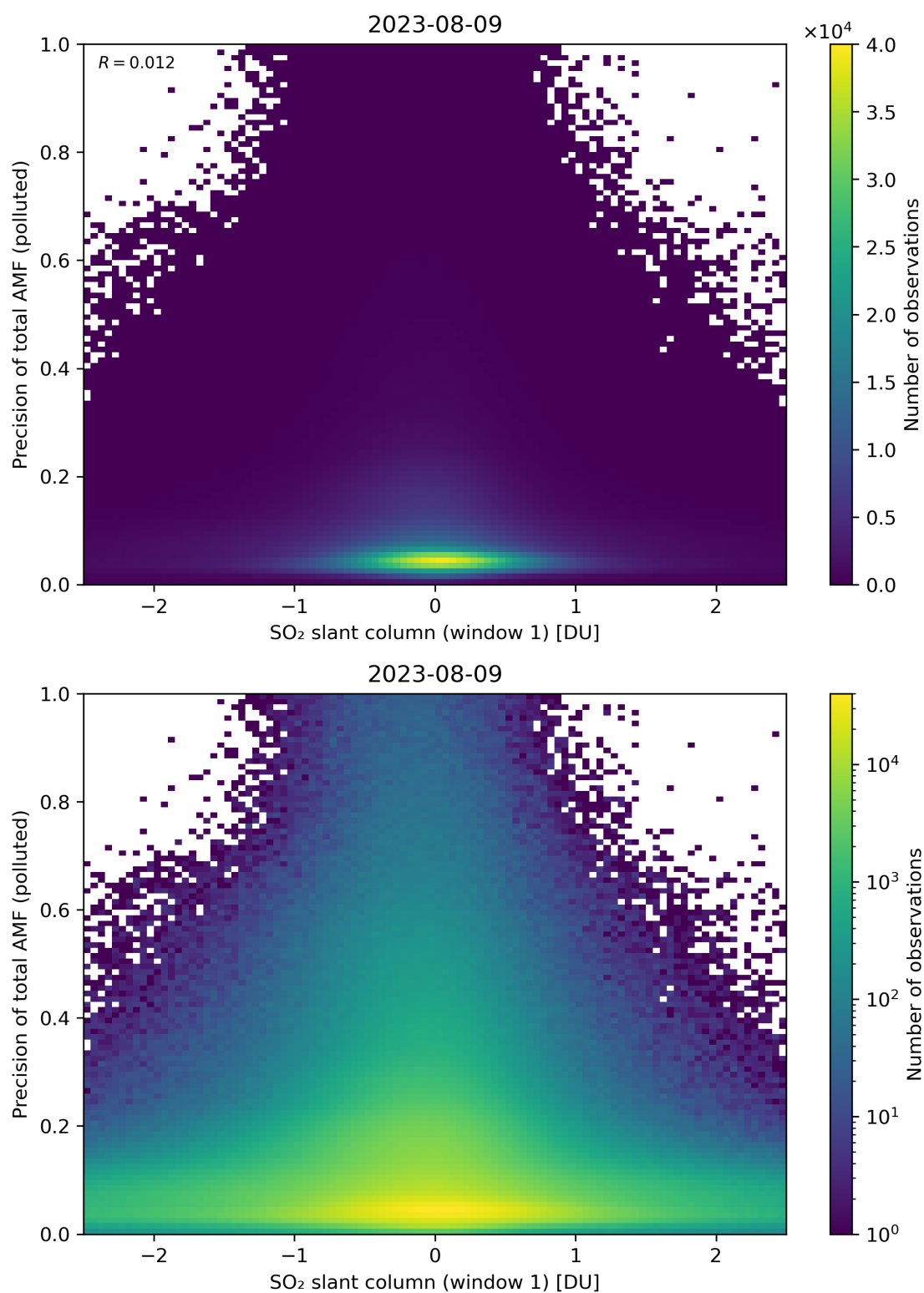


Figure 240: Scatter density plot of “SO₂ slant column (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

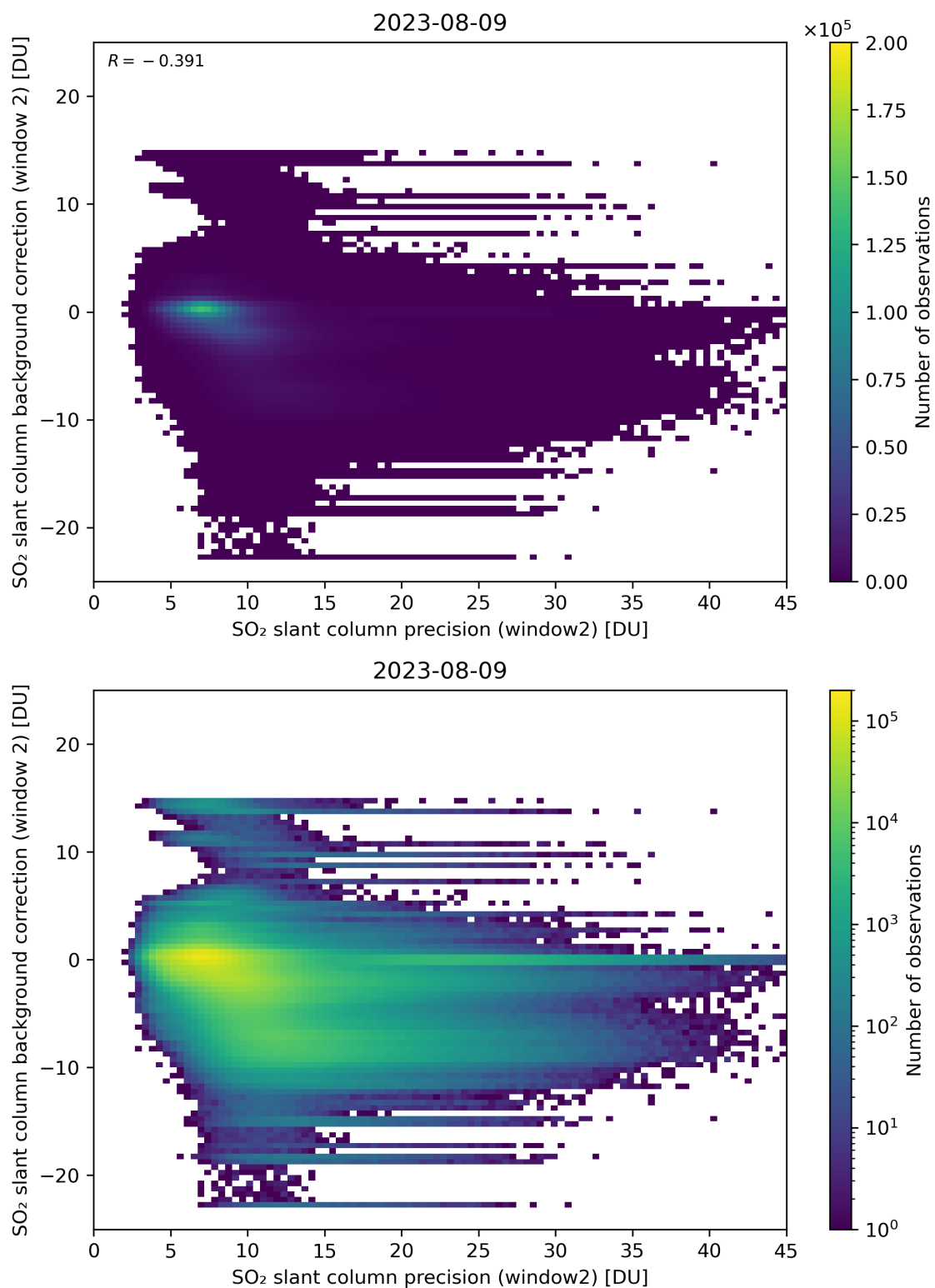


Figure 241: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

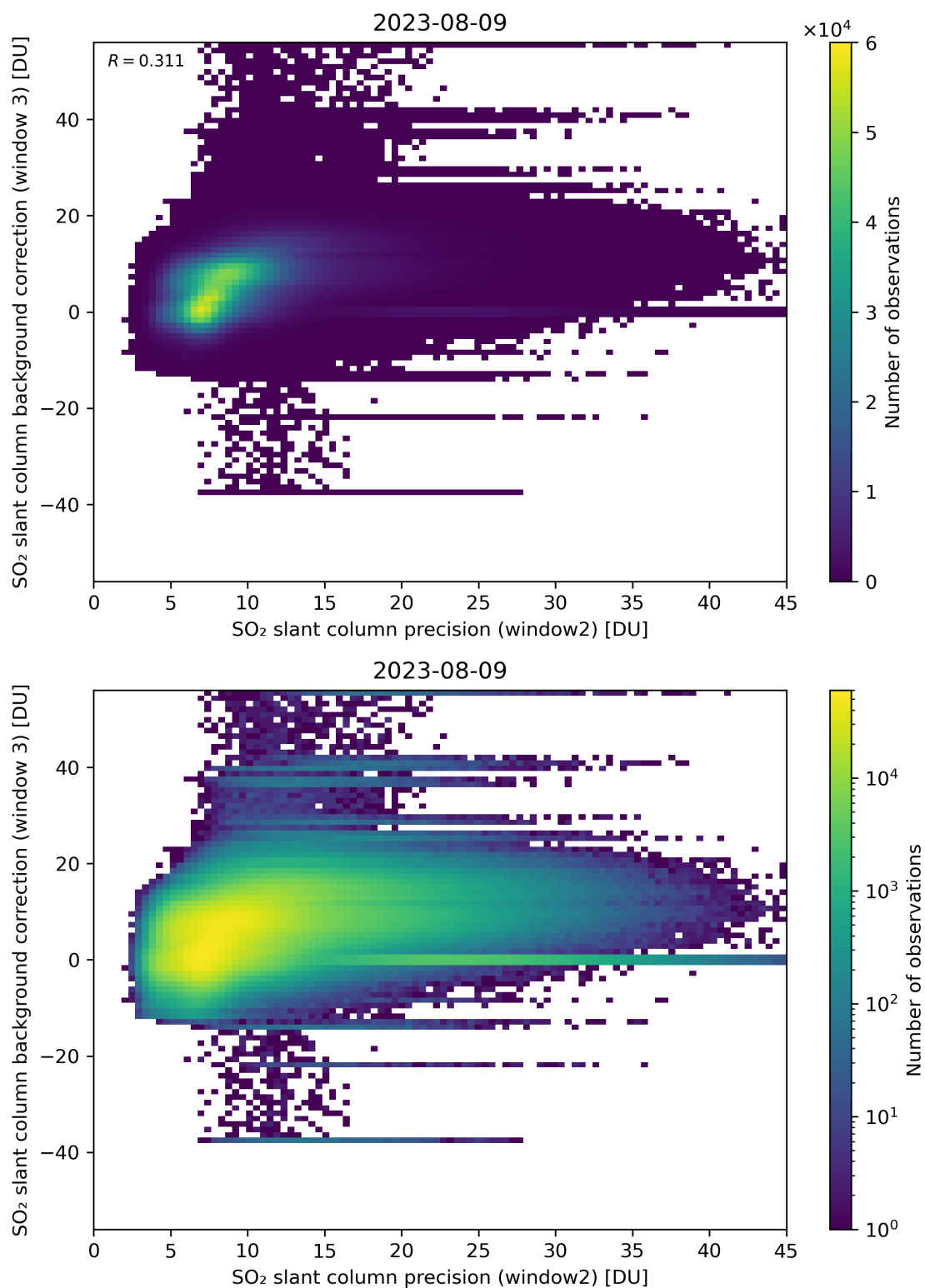


Figure 242: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

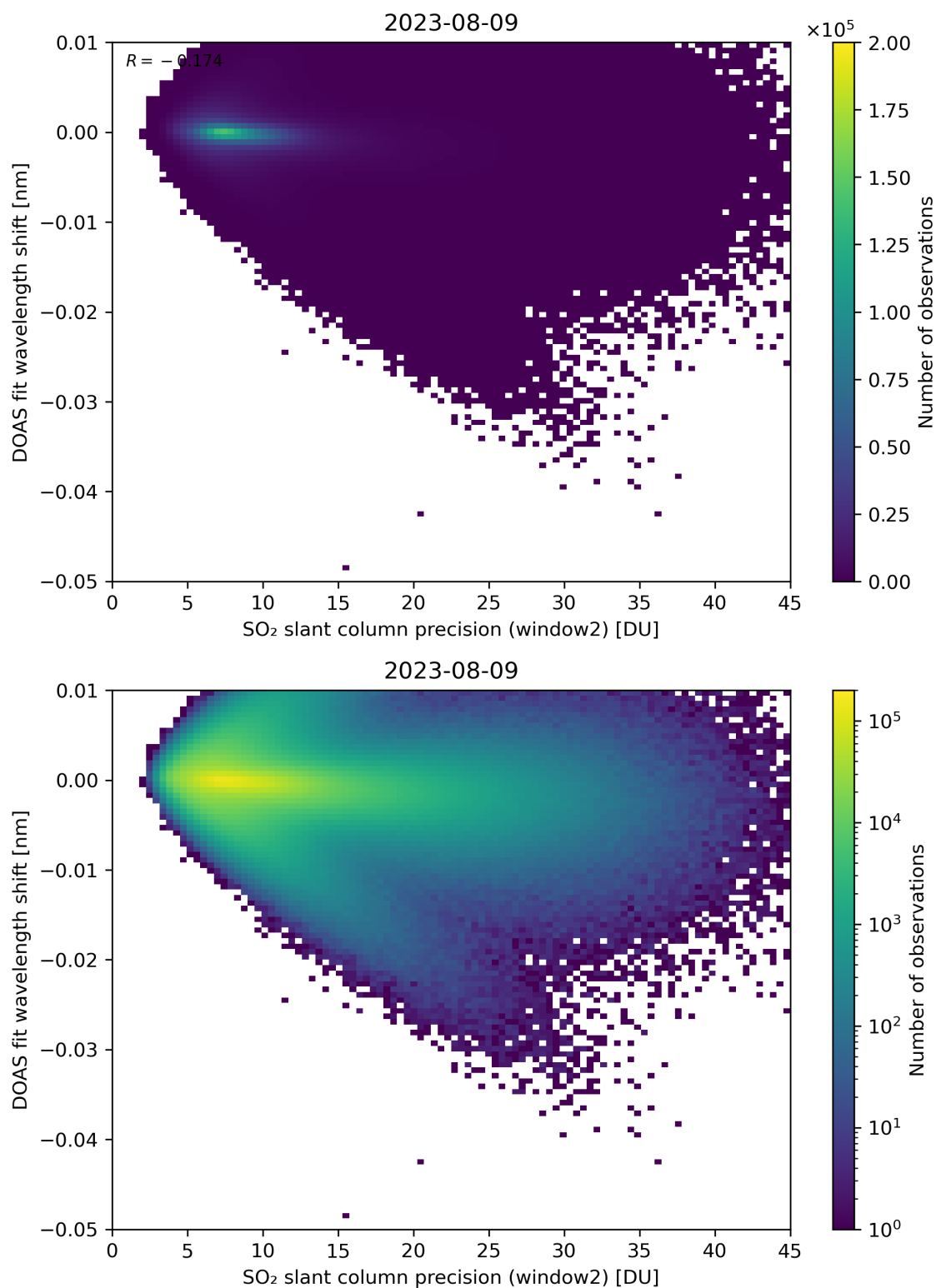


Figure 243: Scatter density plot of “SO₂ slant column precision (window2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

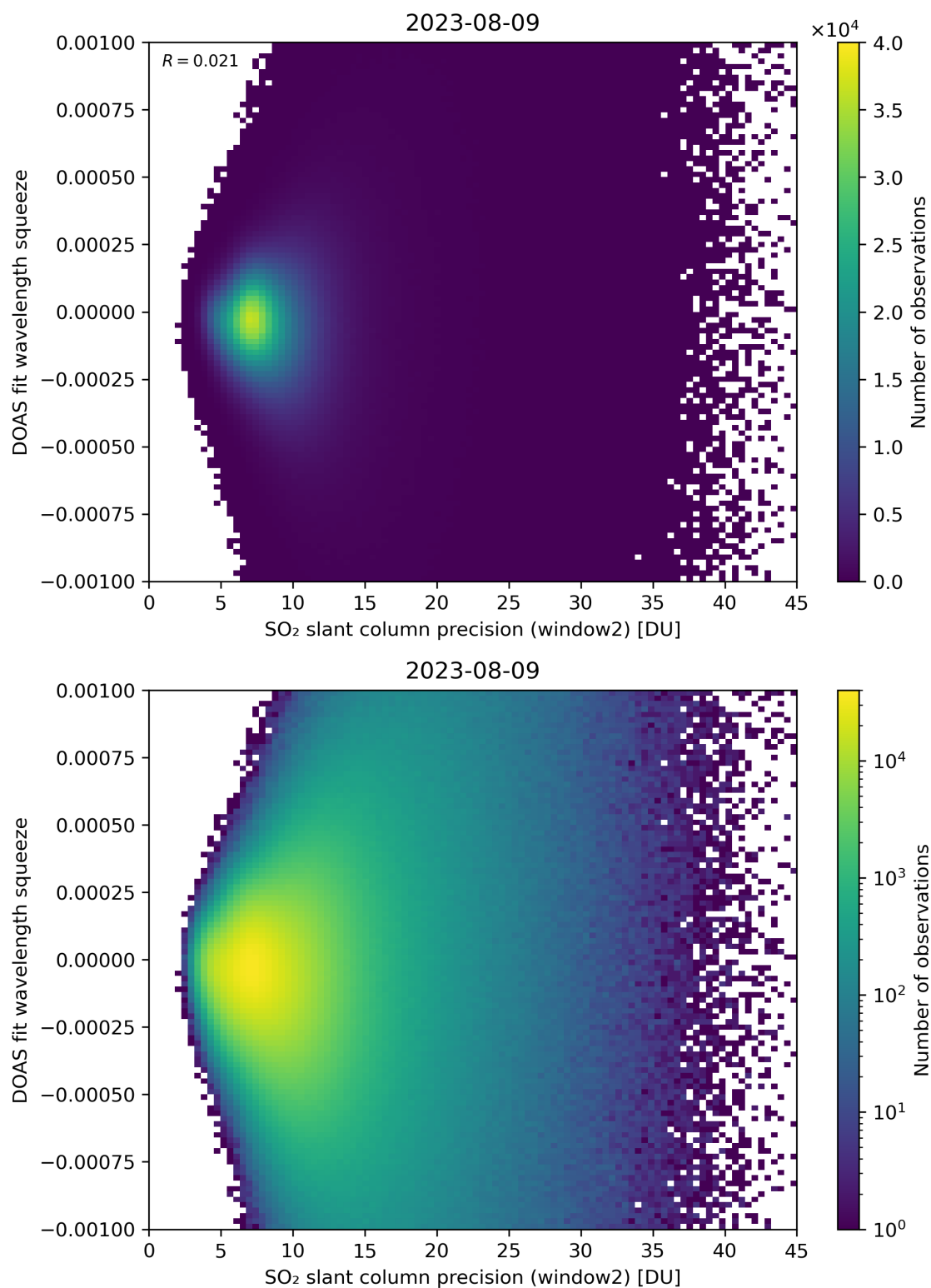


Figure 244: Scatter density plot of “SO₂ slant column precision (window2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

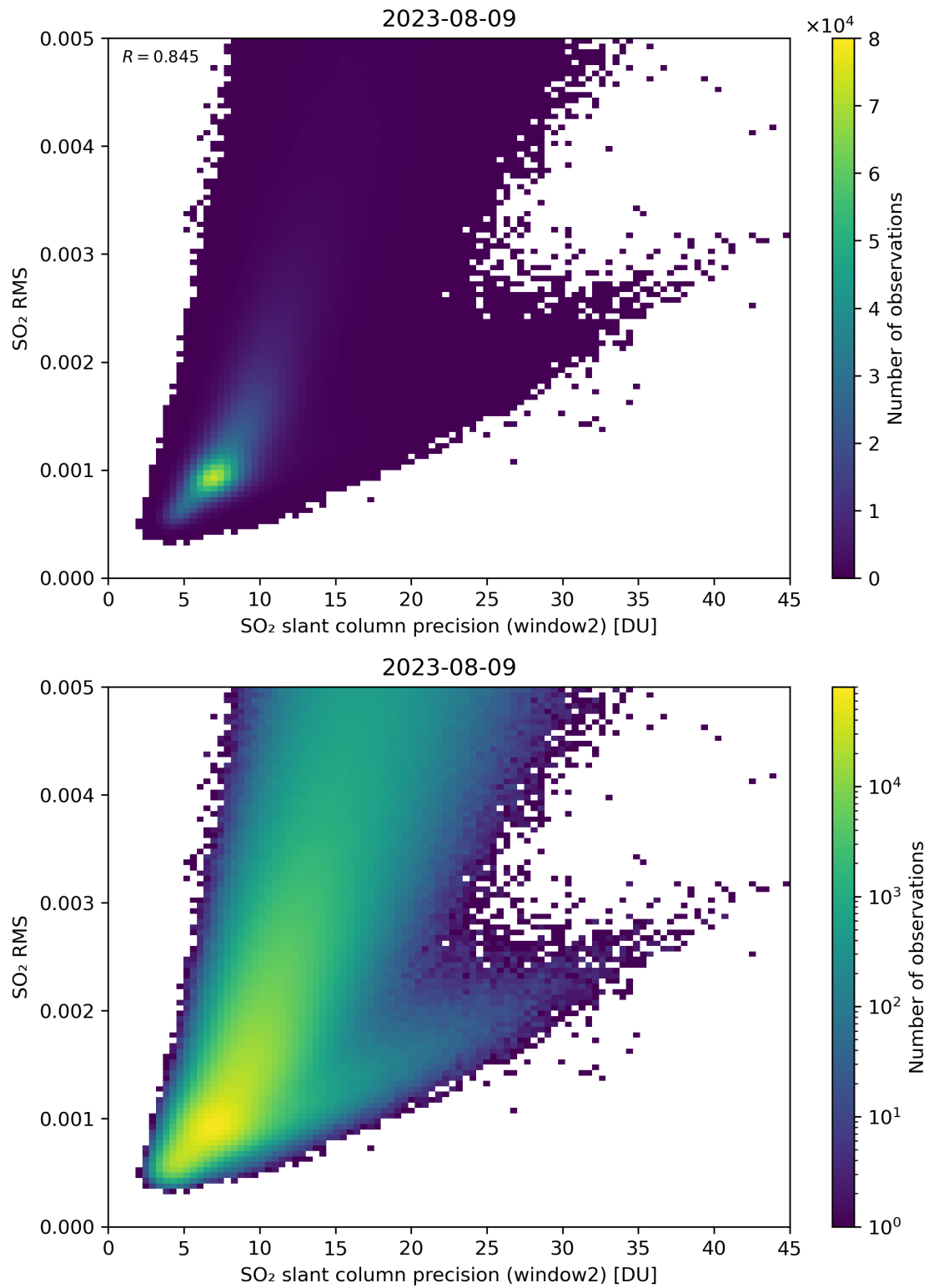


Figure 245: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

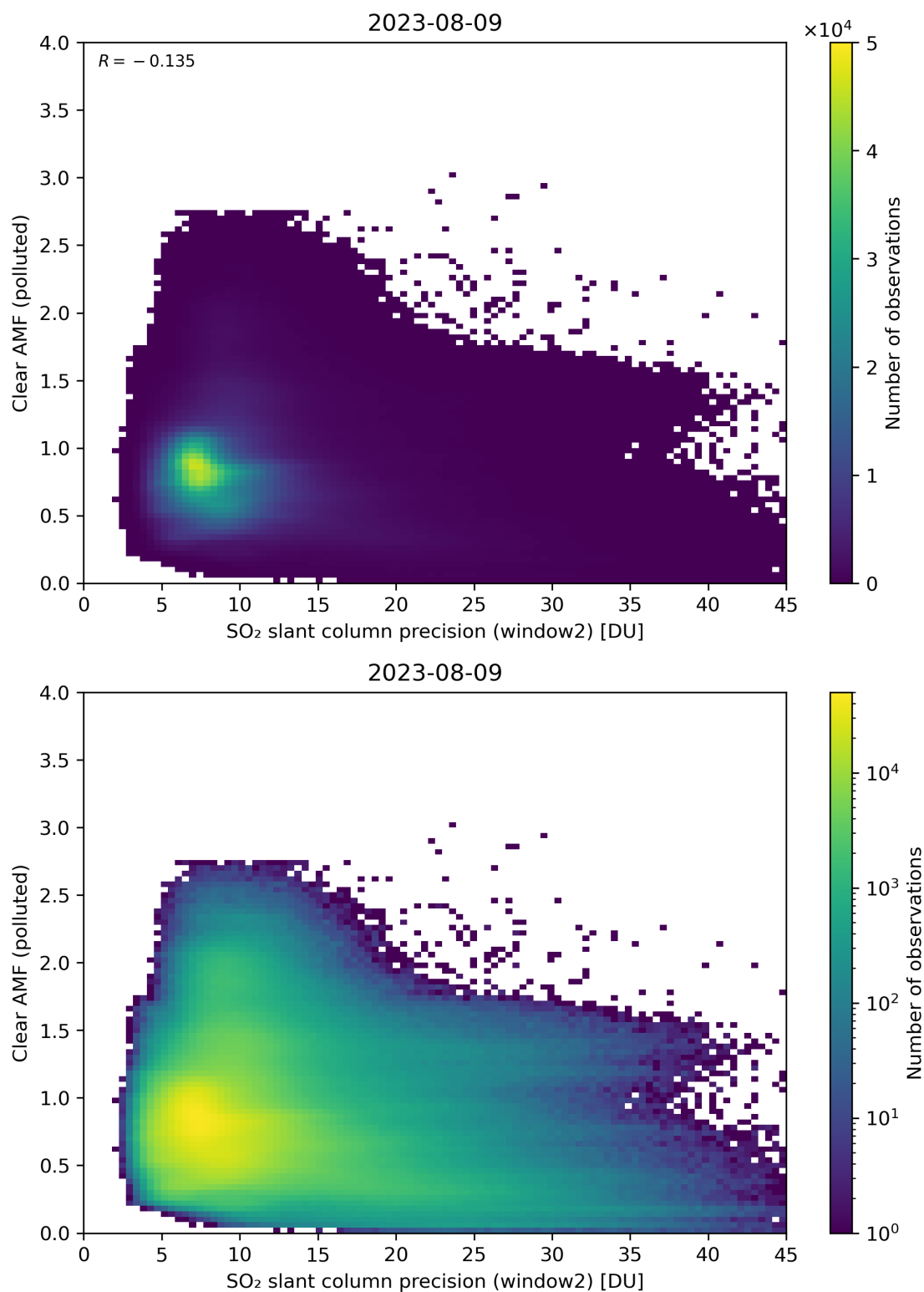


Figure 246: Scatter density plot of “SO₂ slant column precision (window2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

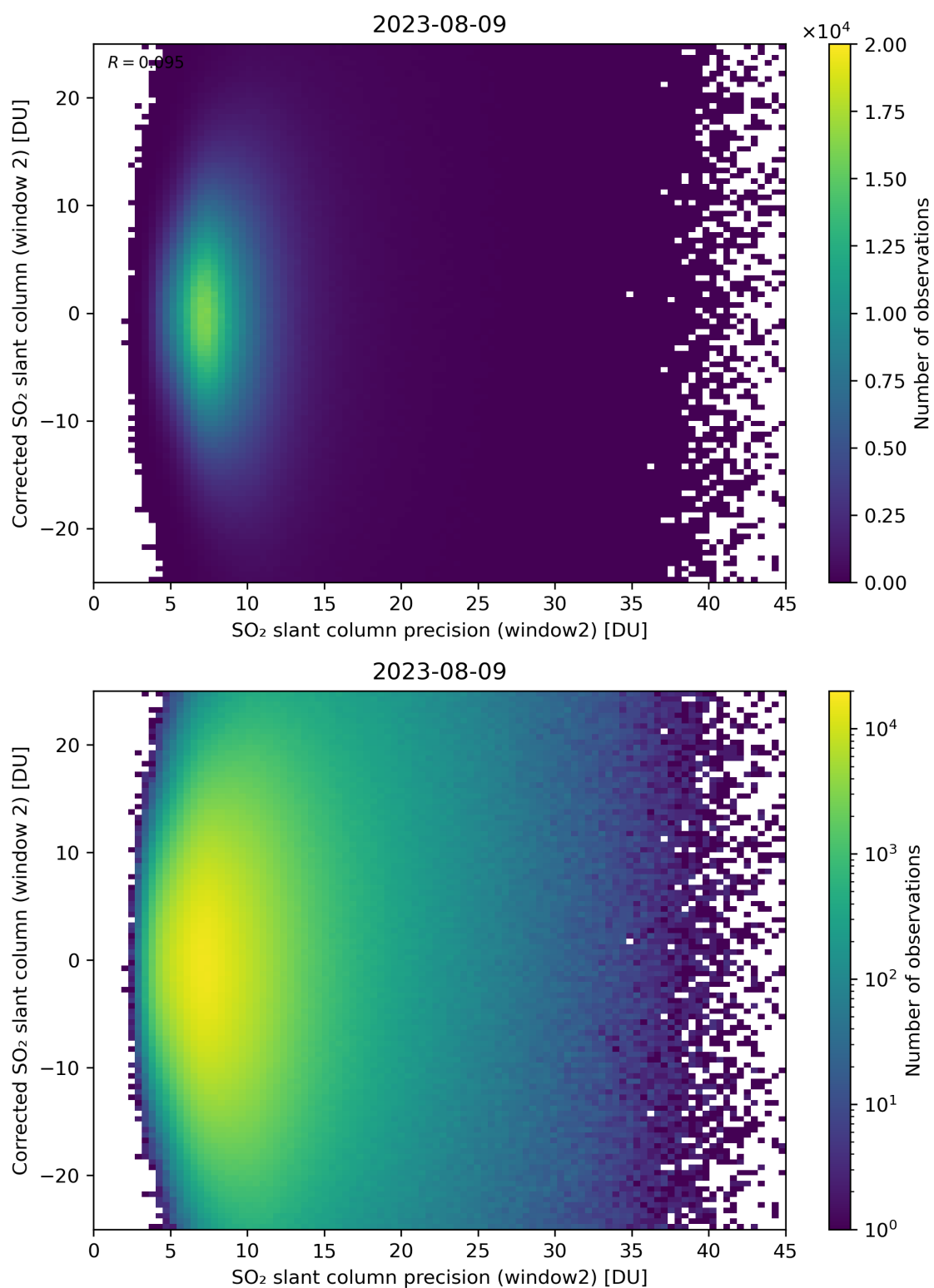


Figure 247: Scatter density plot of “SO₂ slant column precision (window2)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

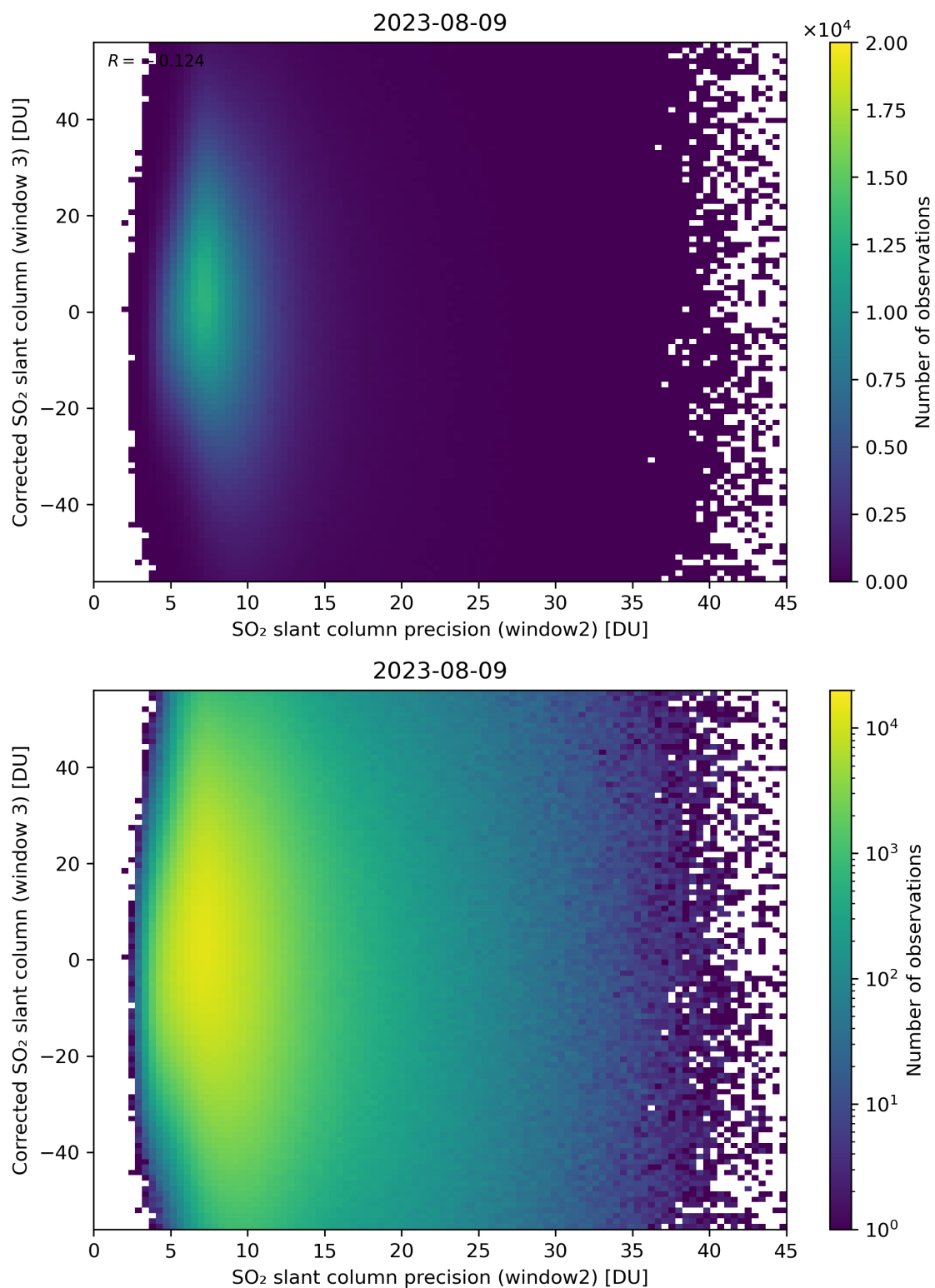


Figure 248: Scatter density plot of “SO₂ slant column precision (window2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

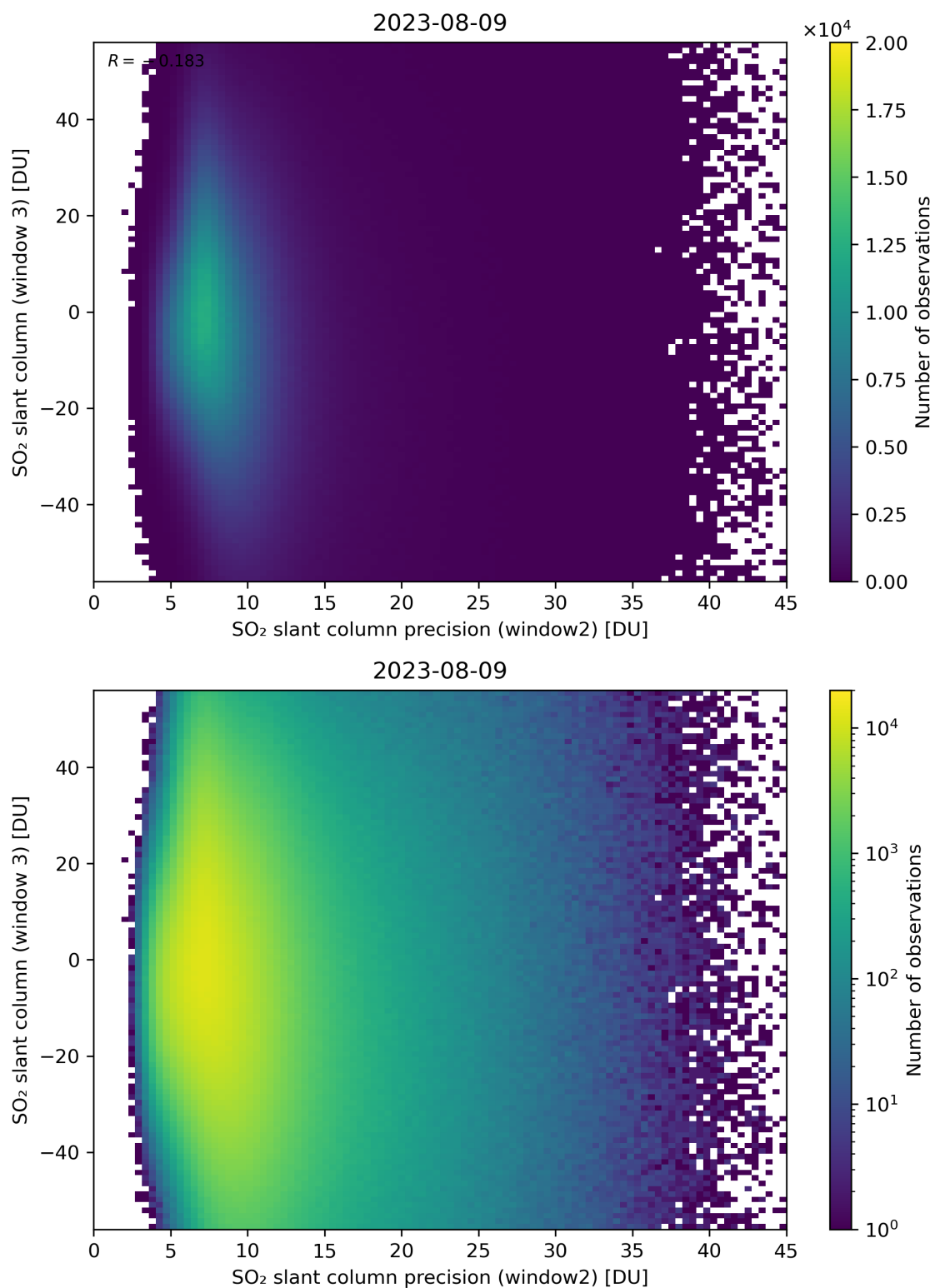


Figure 249: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

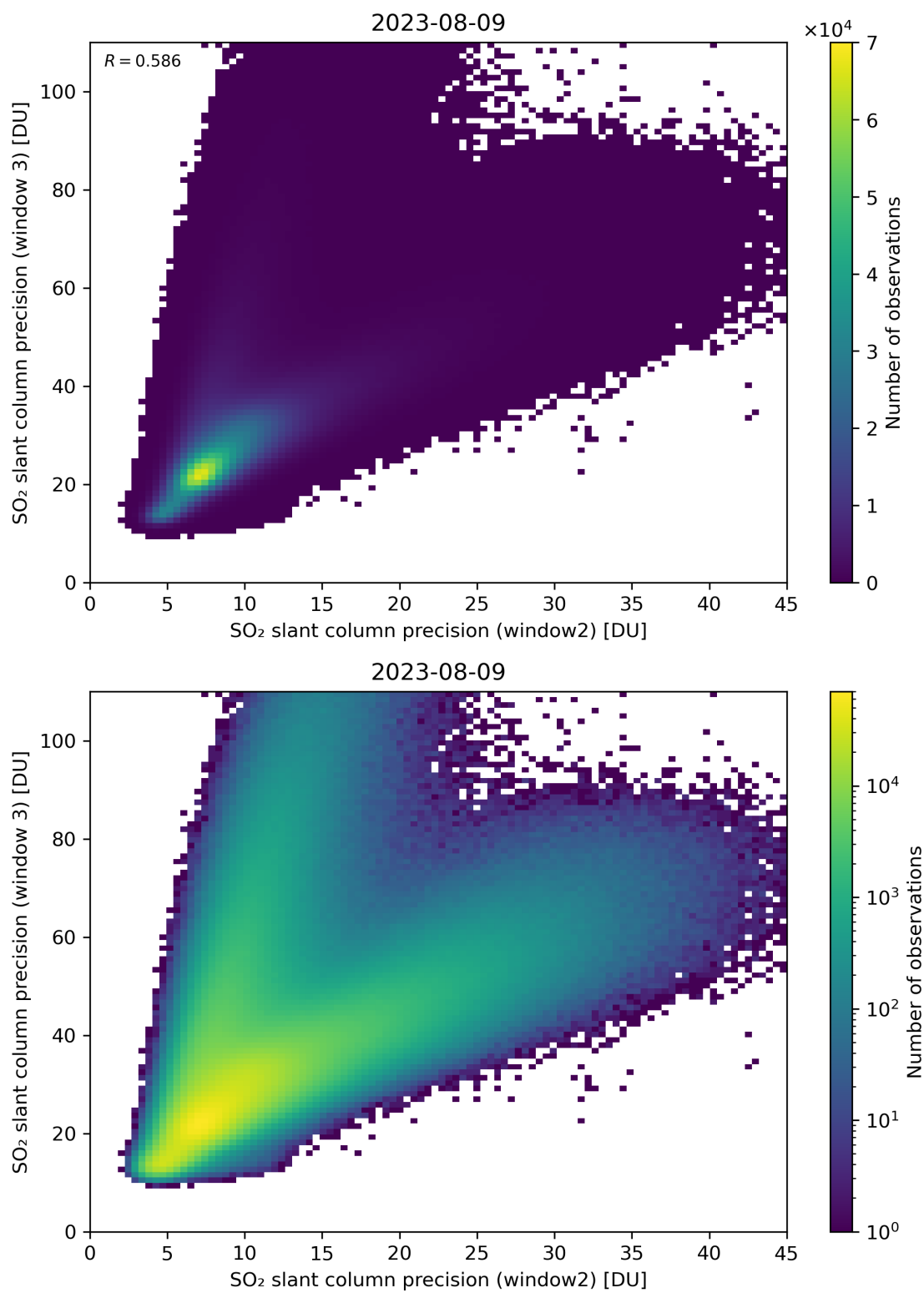


Figure 250: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

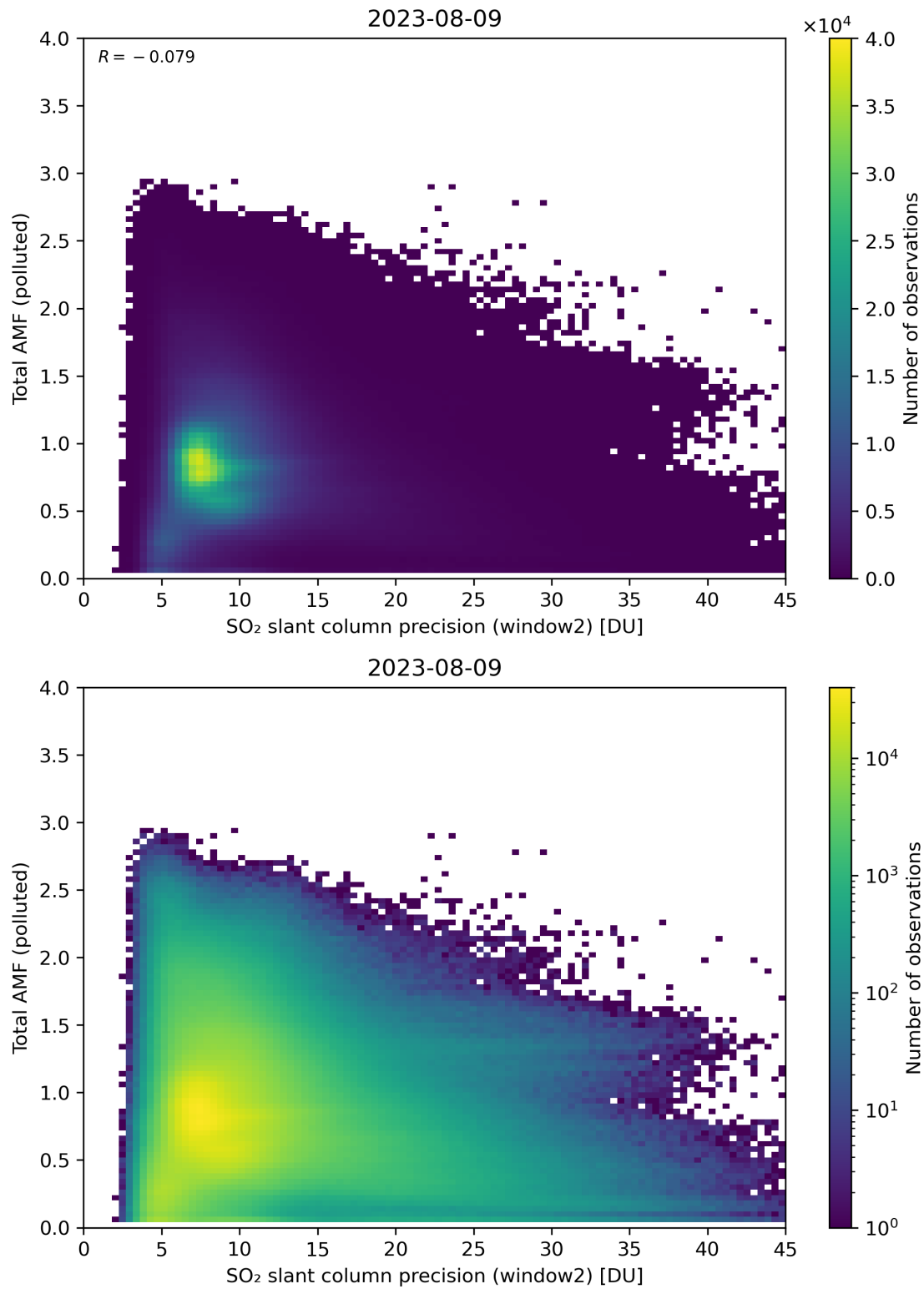


Figure 251: Scatter density plot of “SO₂ slant column precision (window2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

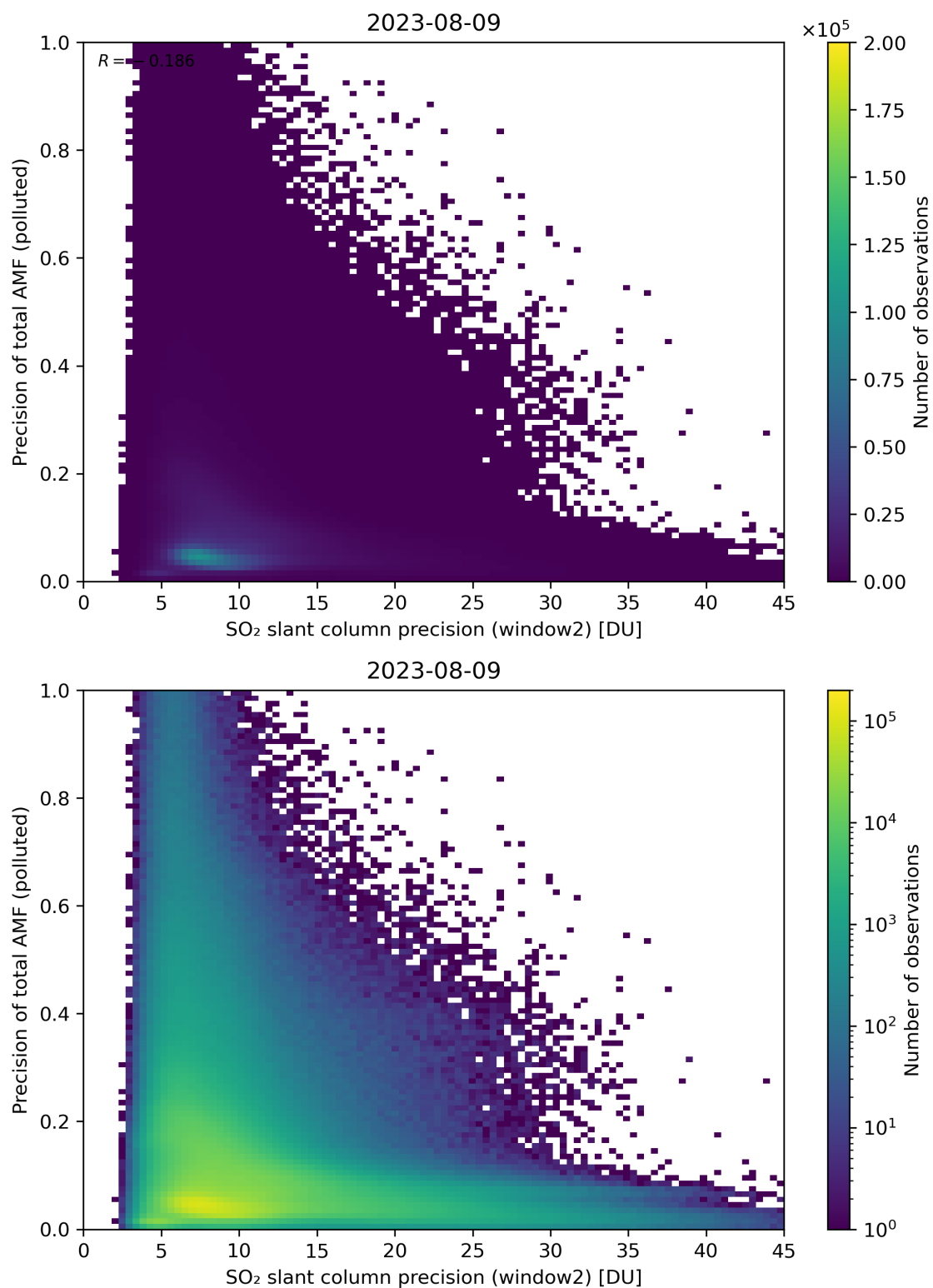


Figure 252: Scatter density plot of “SO₂ slant column precision (window2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

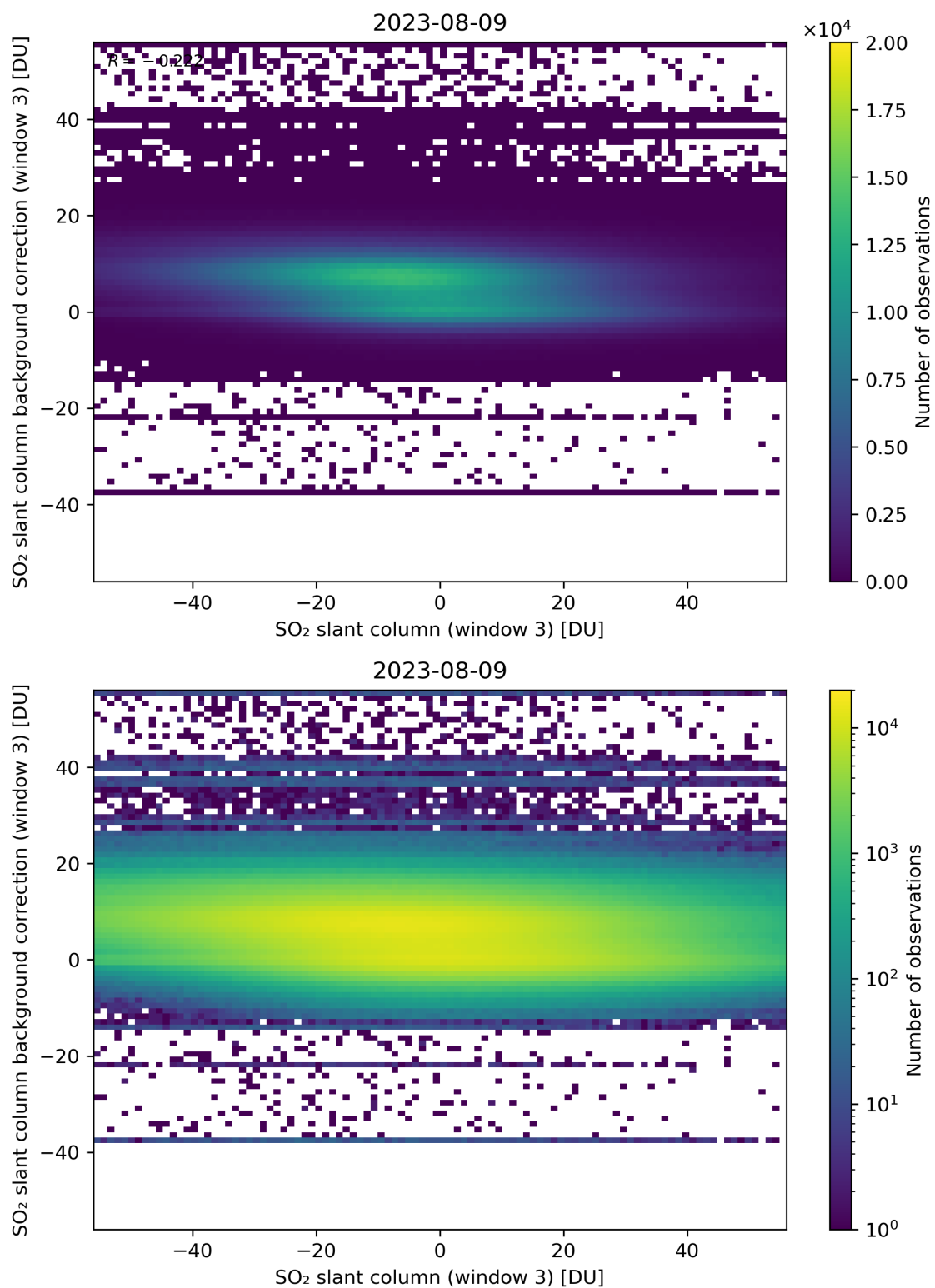


Figure 253: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

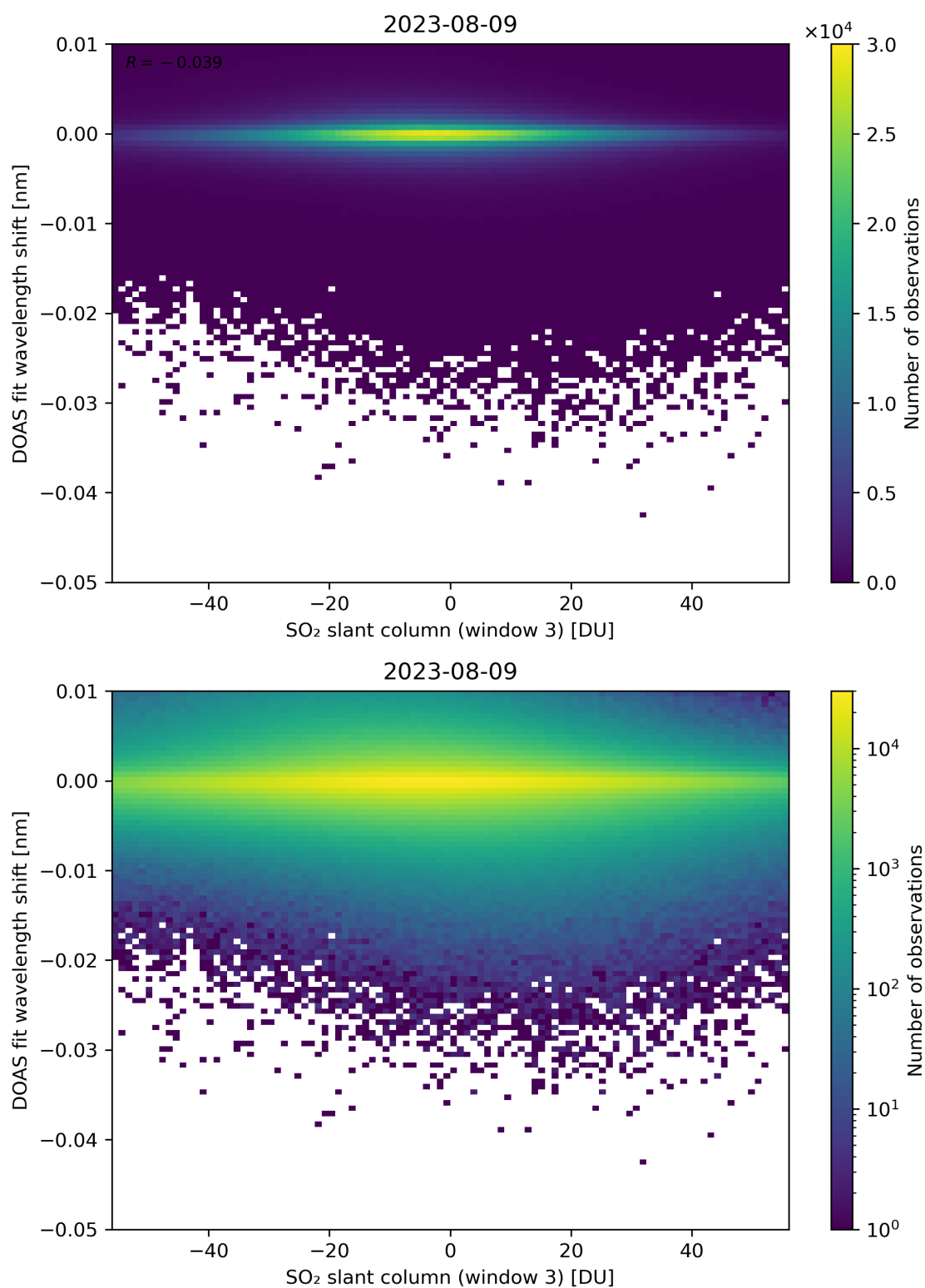


Figure 254: Scatter density plot of “SO₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

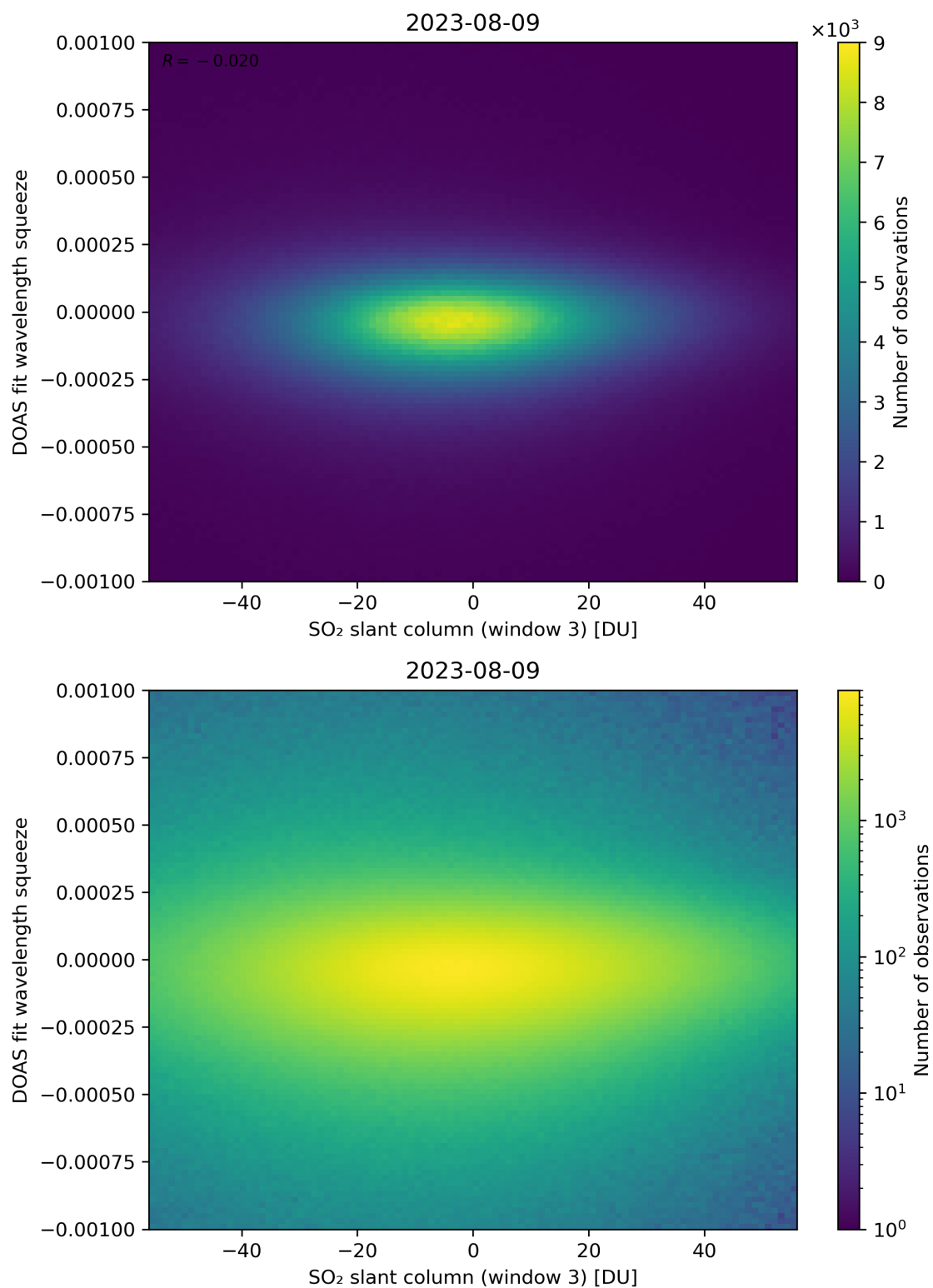


Figure 255: Scatter density plot of “SO₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

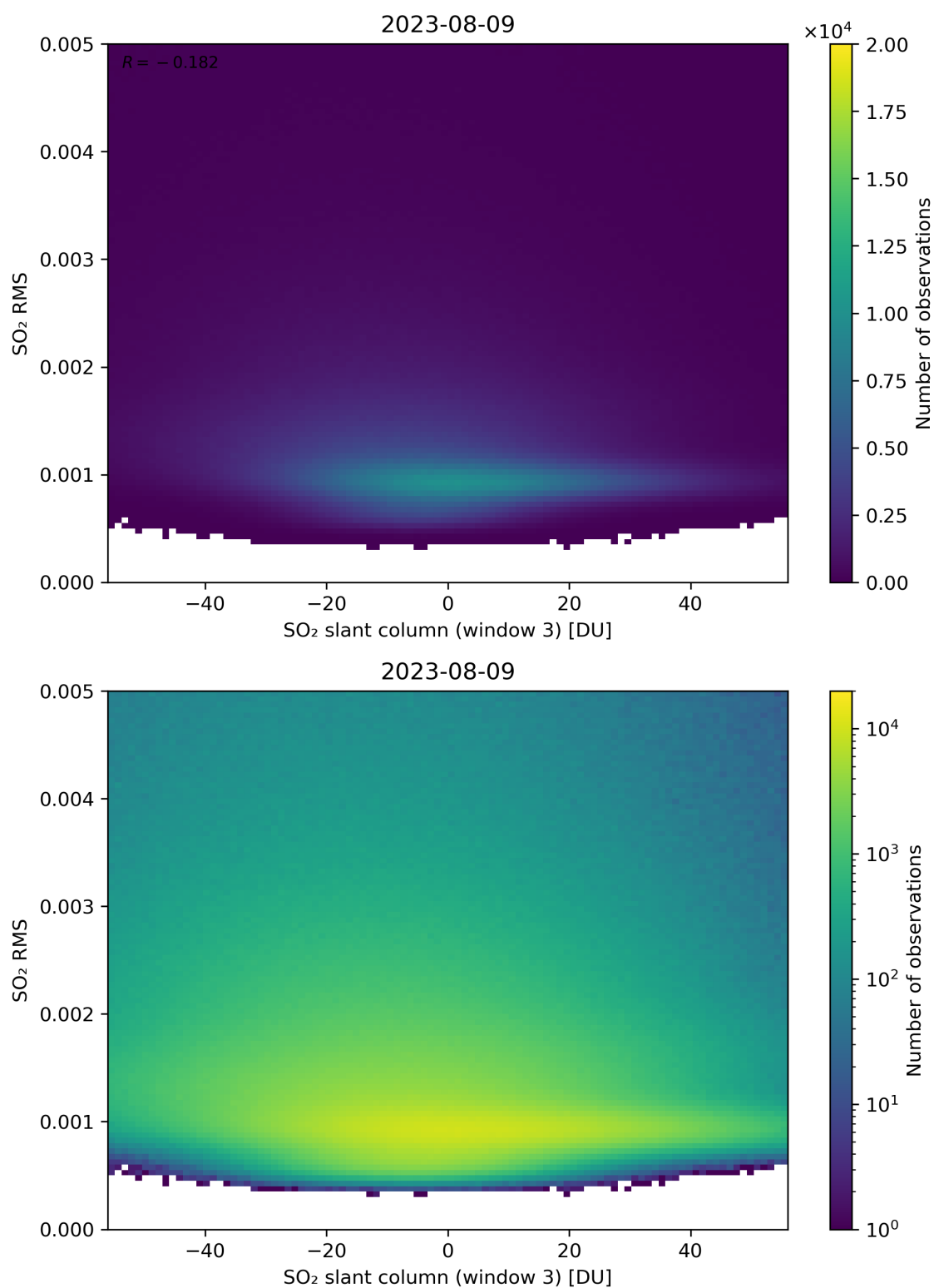


Figure 256: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

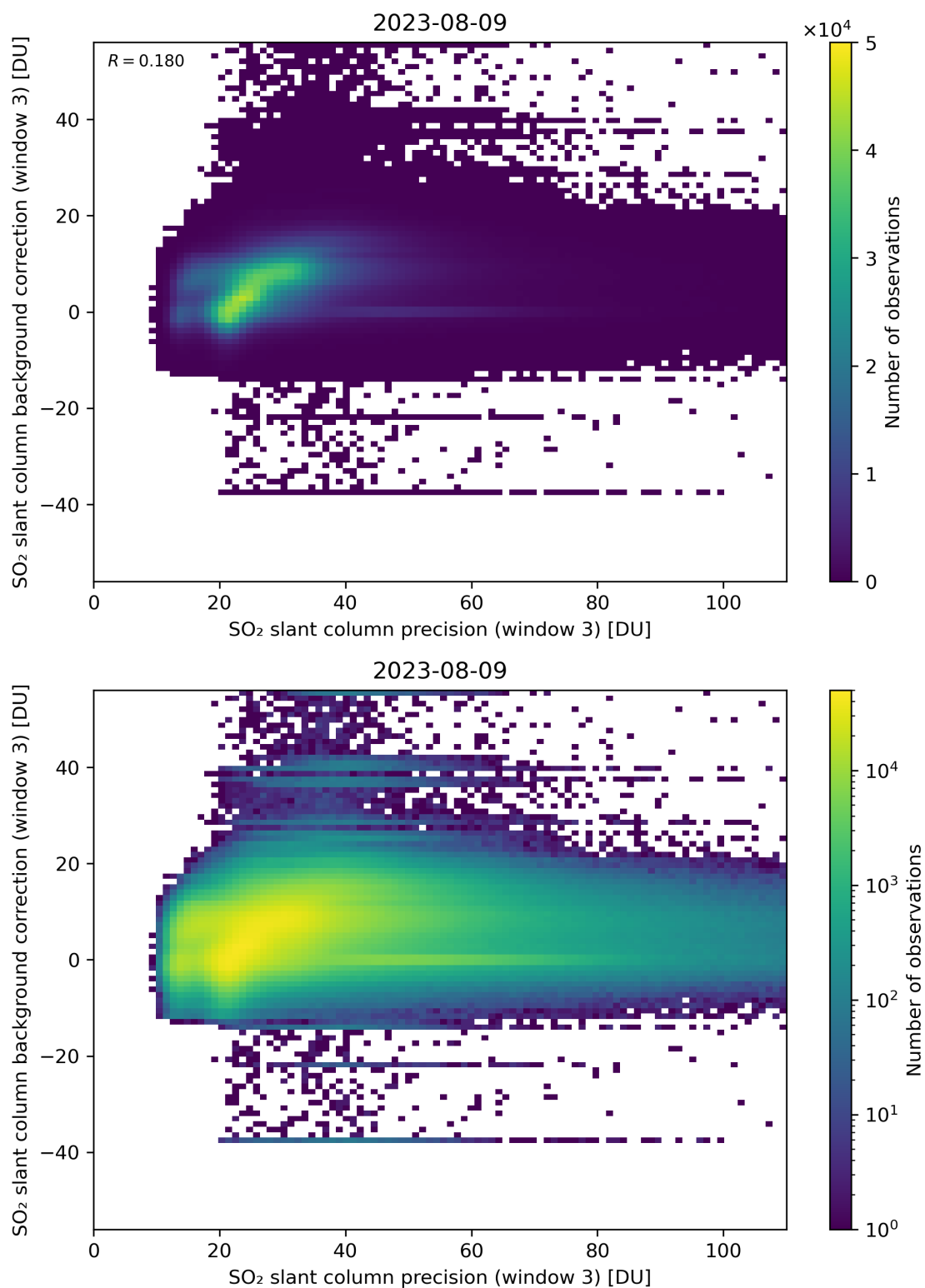


Figure 257: Scatter density plot of “SO₂ slant column precision (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

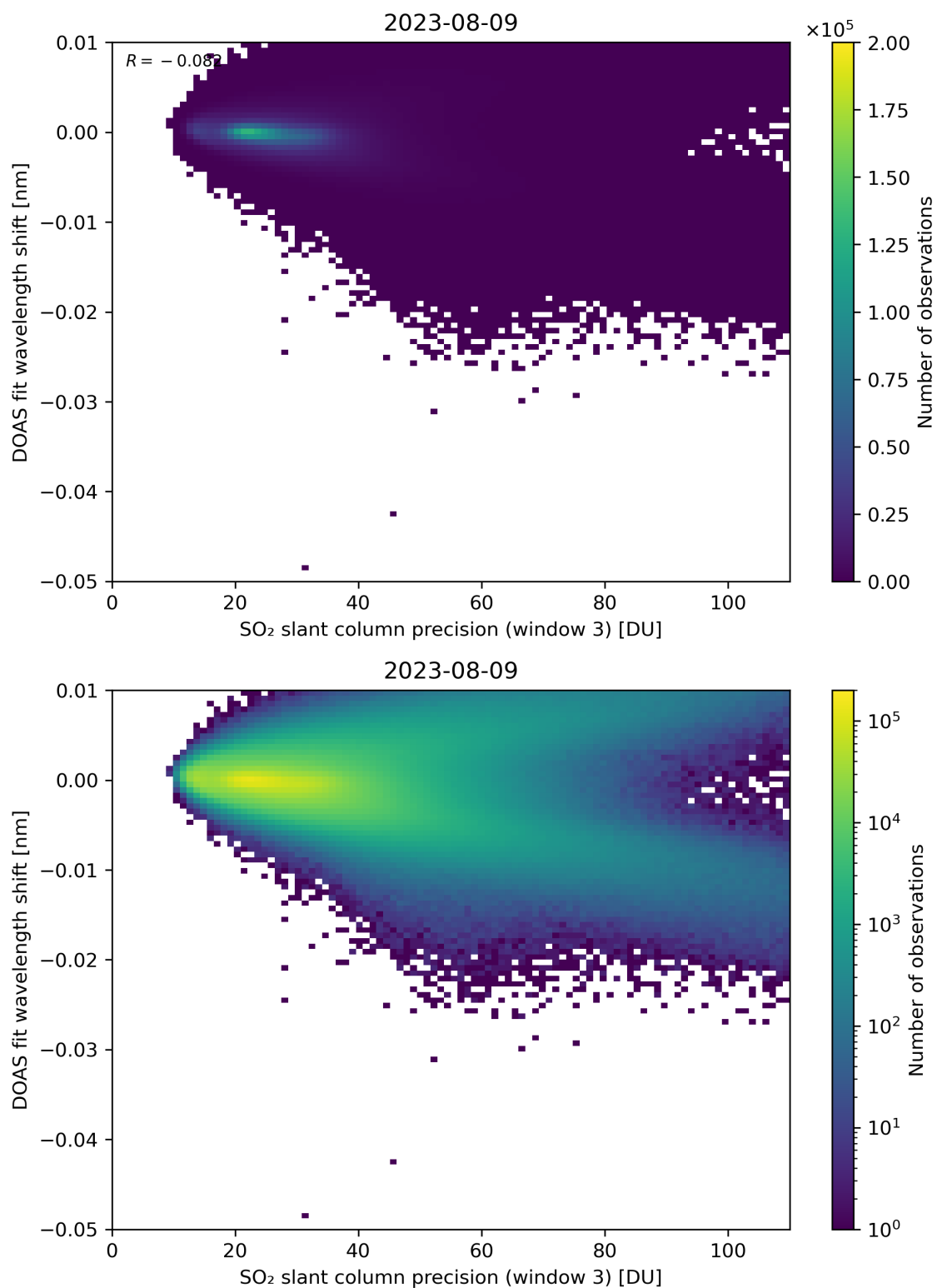


Figure 258: Scatter density plot of “SO₂ slant column precision (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

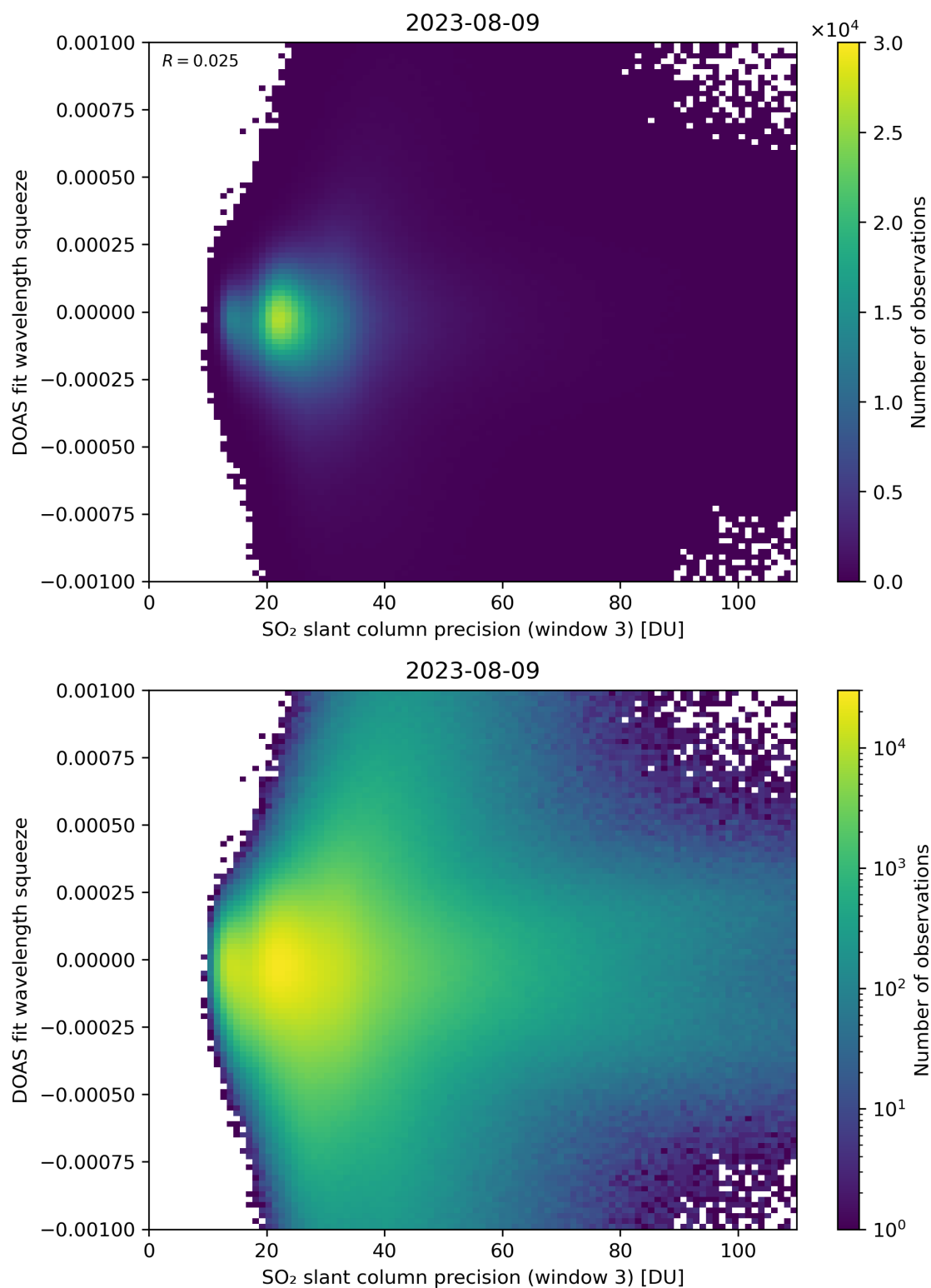


Figure 259: Scatter density plot of “SO₂ slant column precision (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

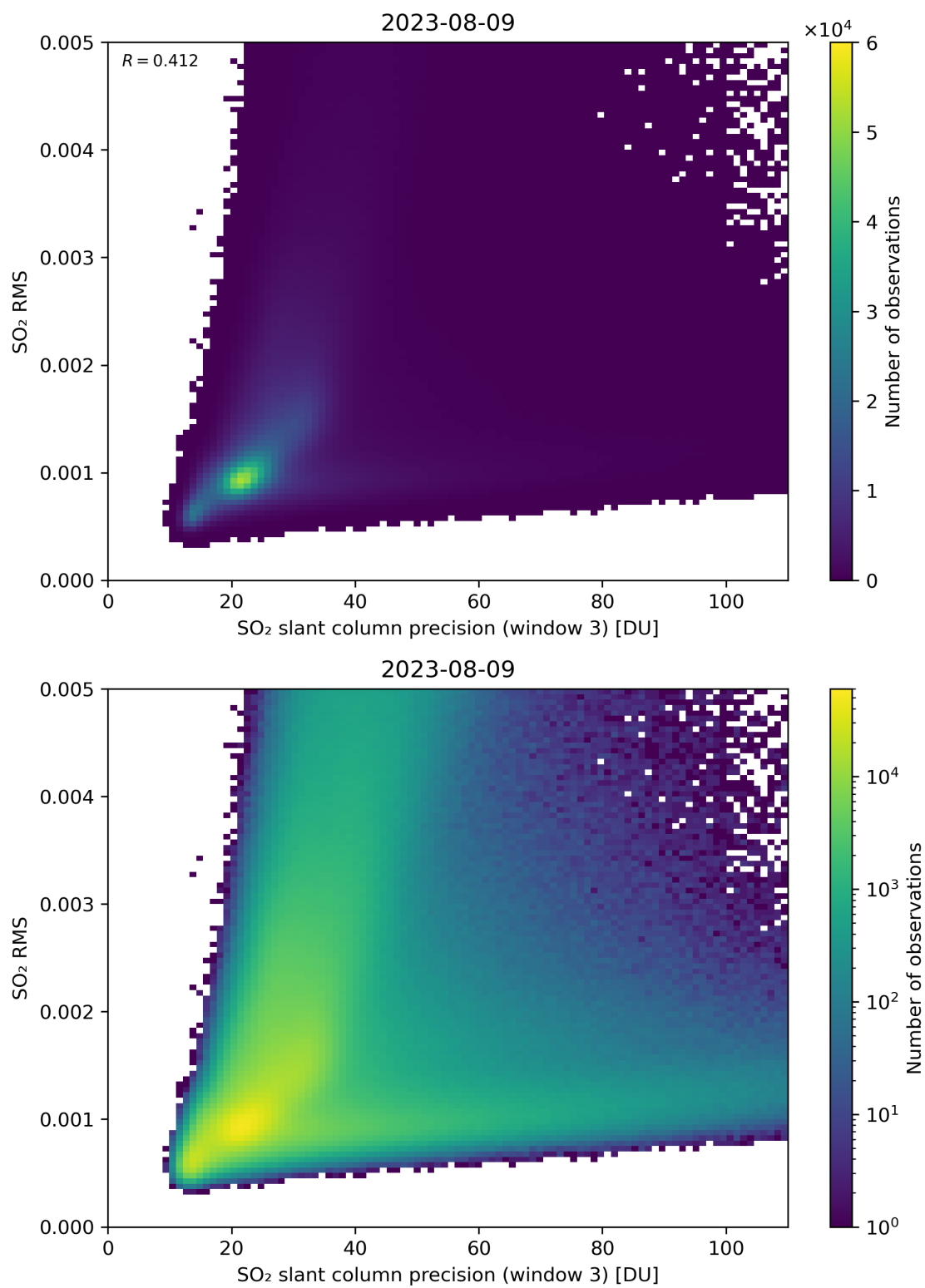


Figure 260: Scatter density plot of “SO₂ slant column precision (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

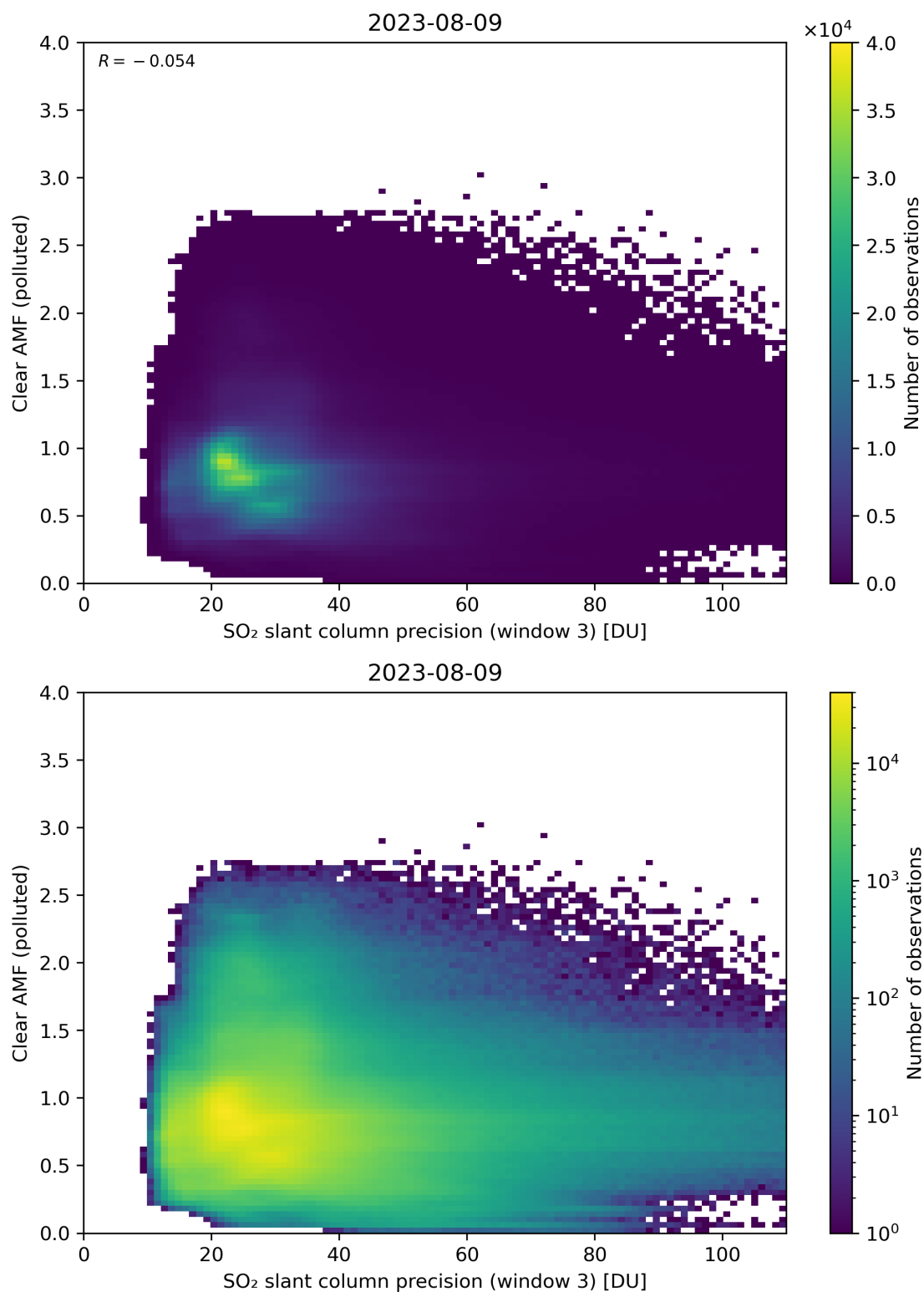


Figure 261: Scatter density plot of “SO₂ slant column precision (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

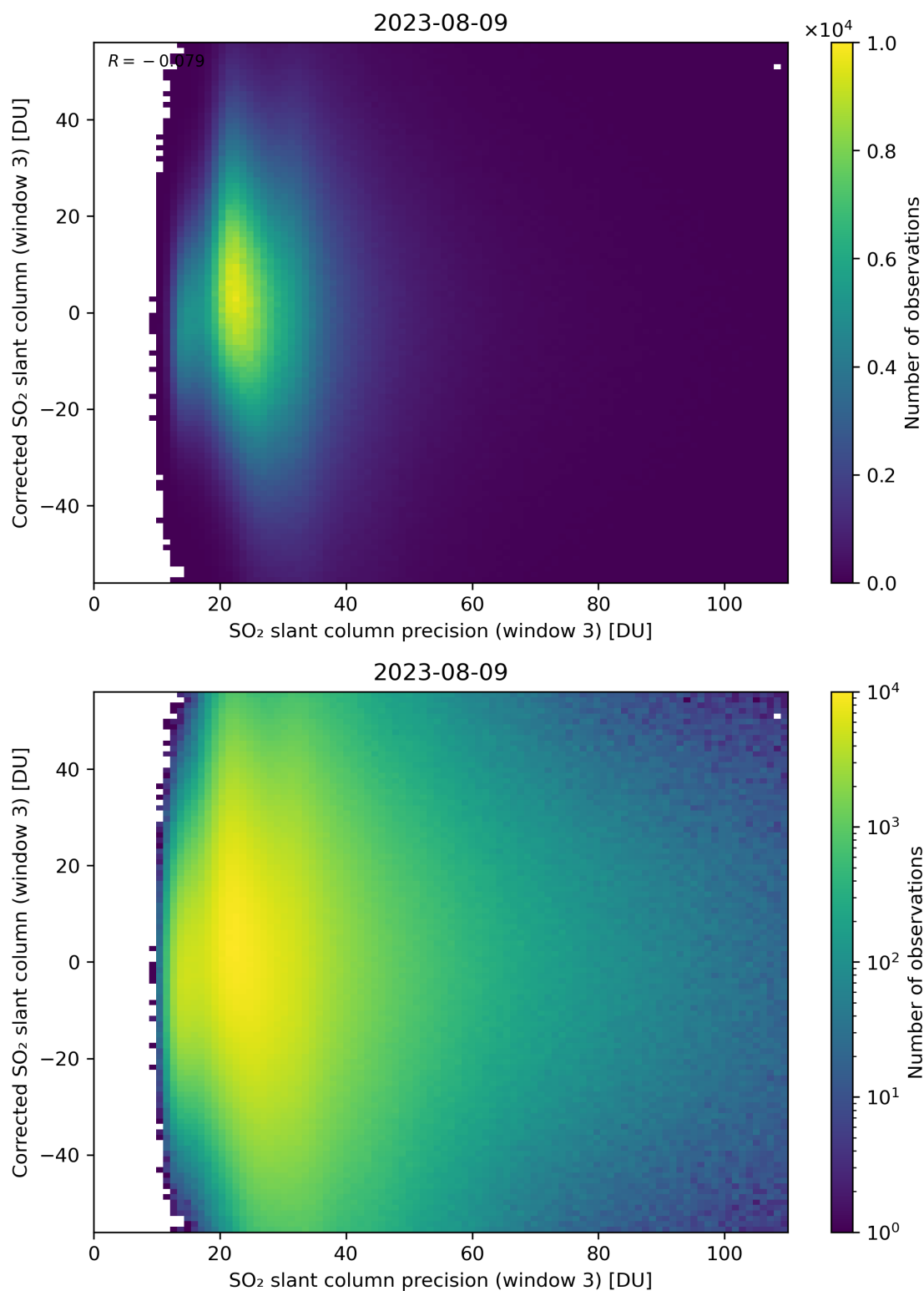


Figure 262: Scatter density plot of “SO₂ slant column precision (window 3)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

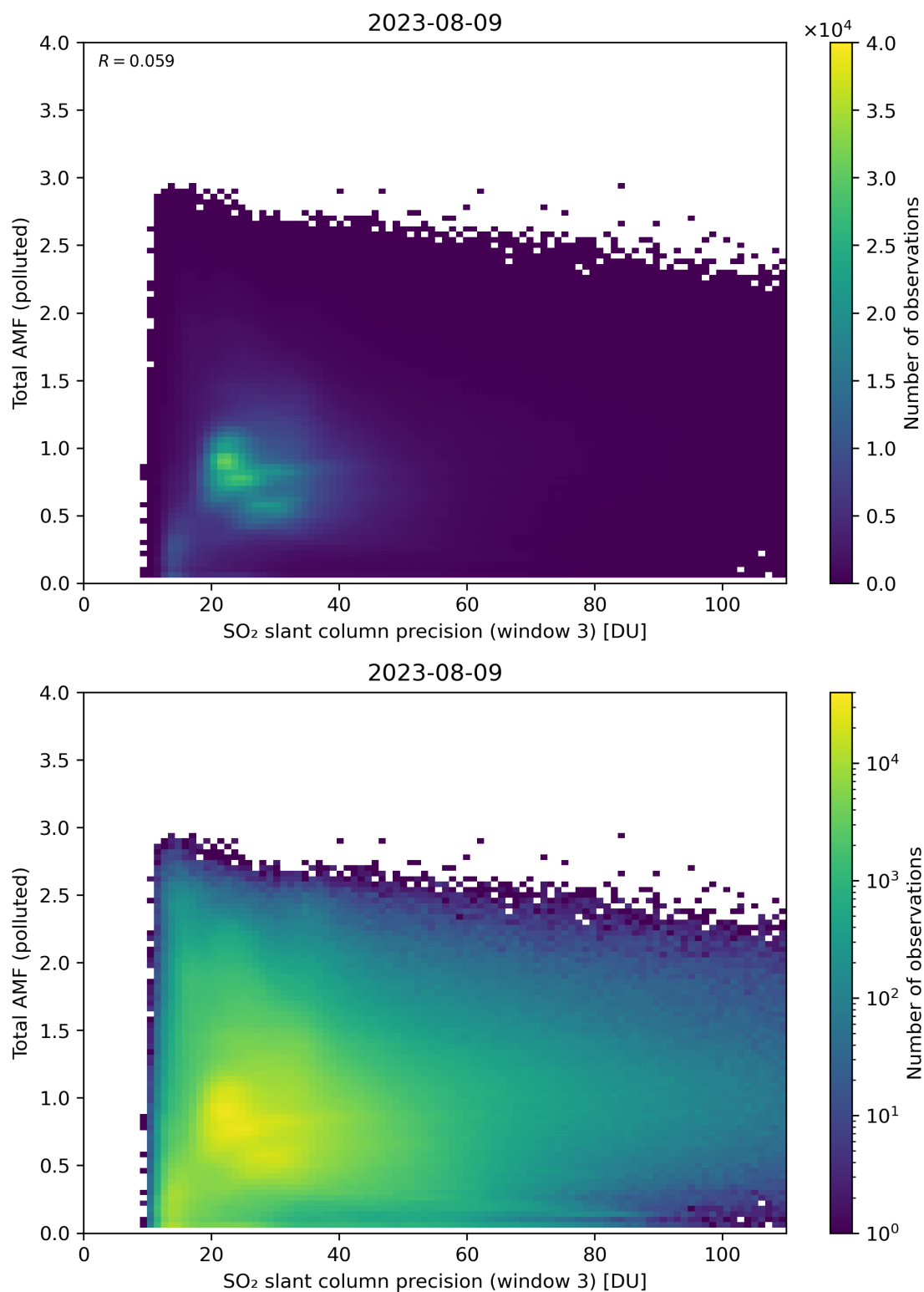


Figure 263: Scatter density plot of “SO₂ slant column precision (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

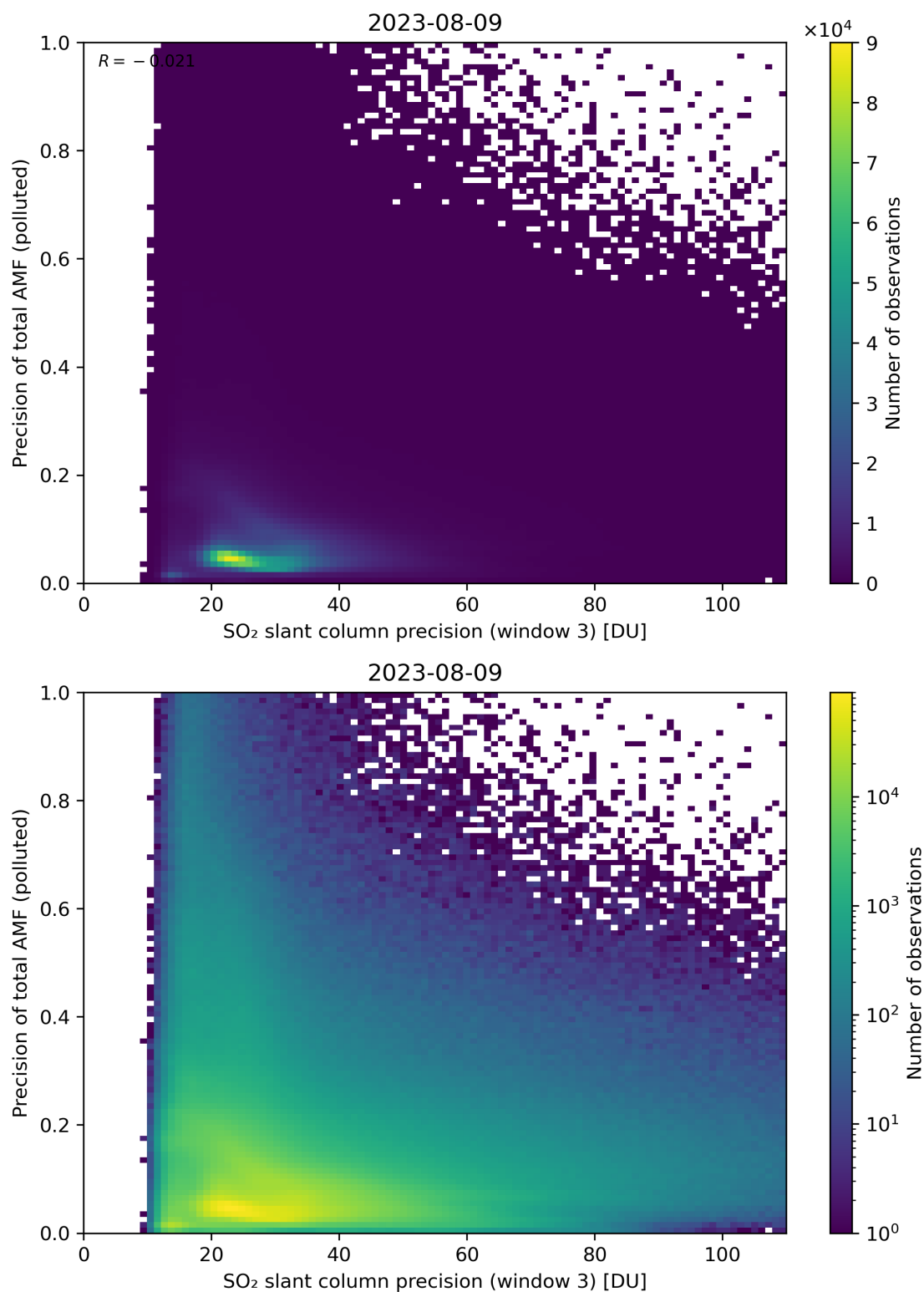


Figure 264: Scatter density plot of “SO₂ slant column precision (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

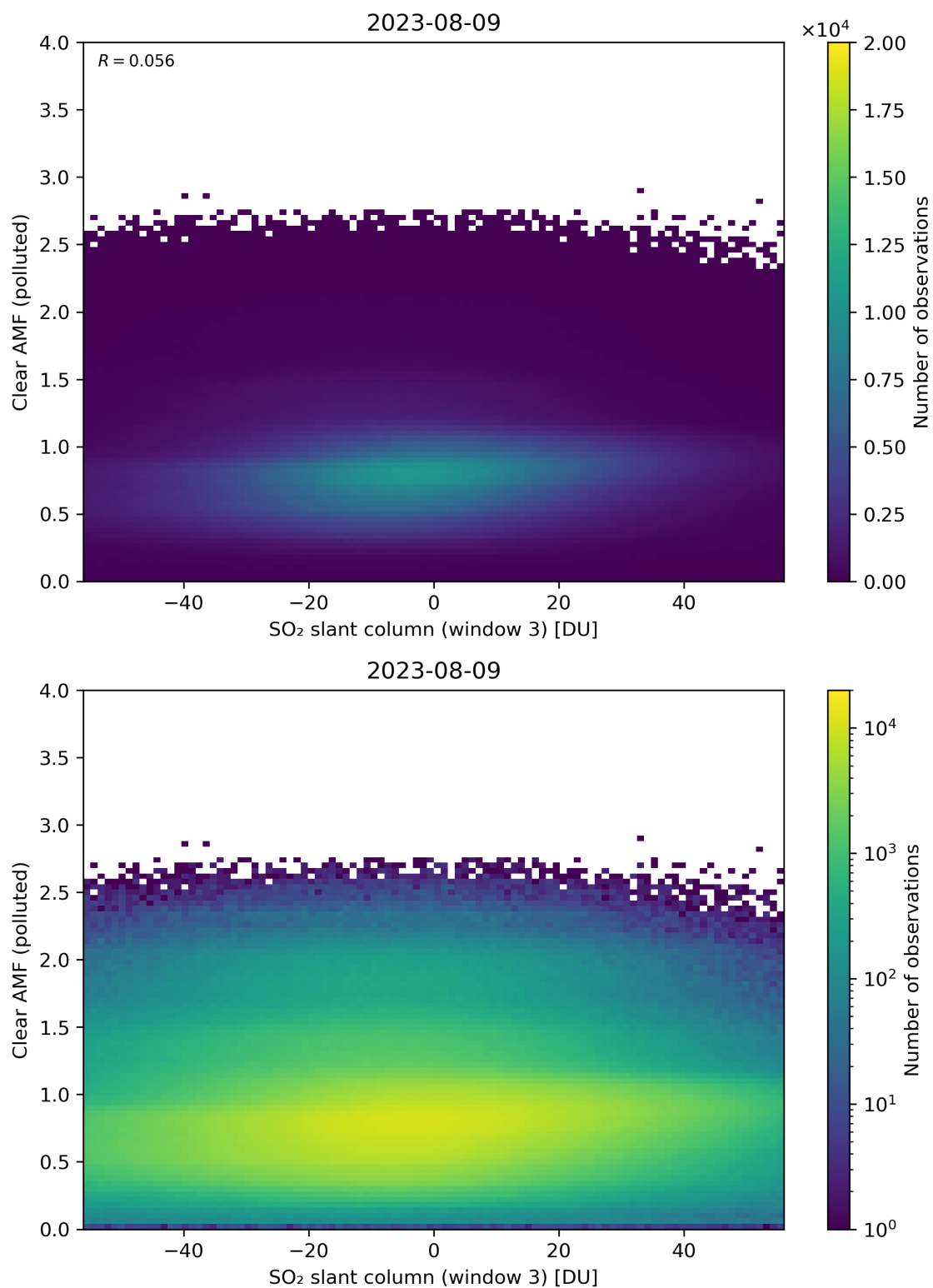


Figure 265: Scatter density plot of “SO₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

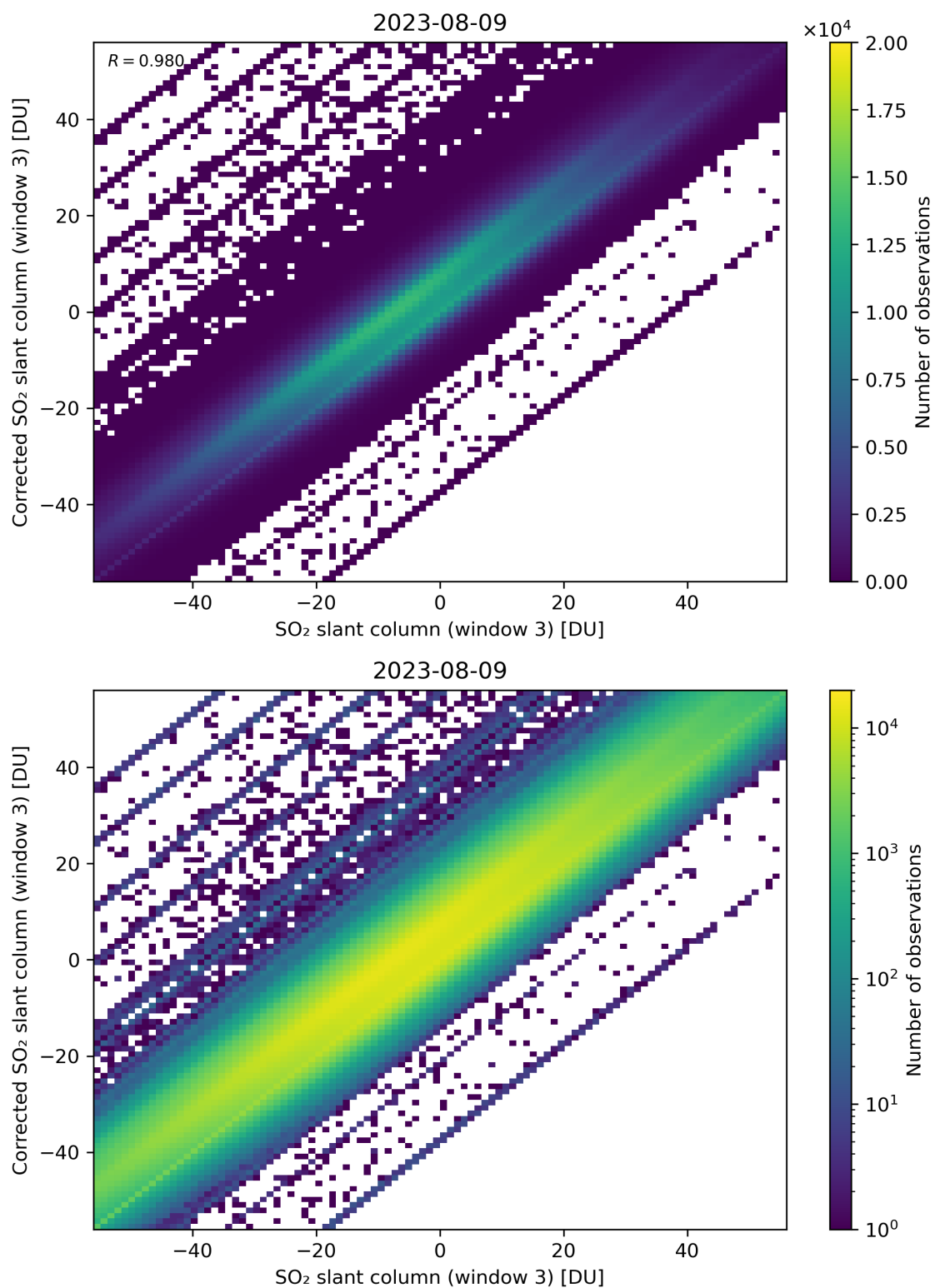


Figure 266: Scatter density plot of “SO₂ slant column (window 3)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

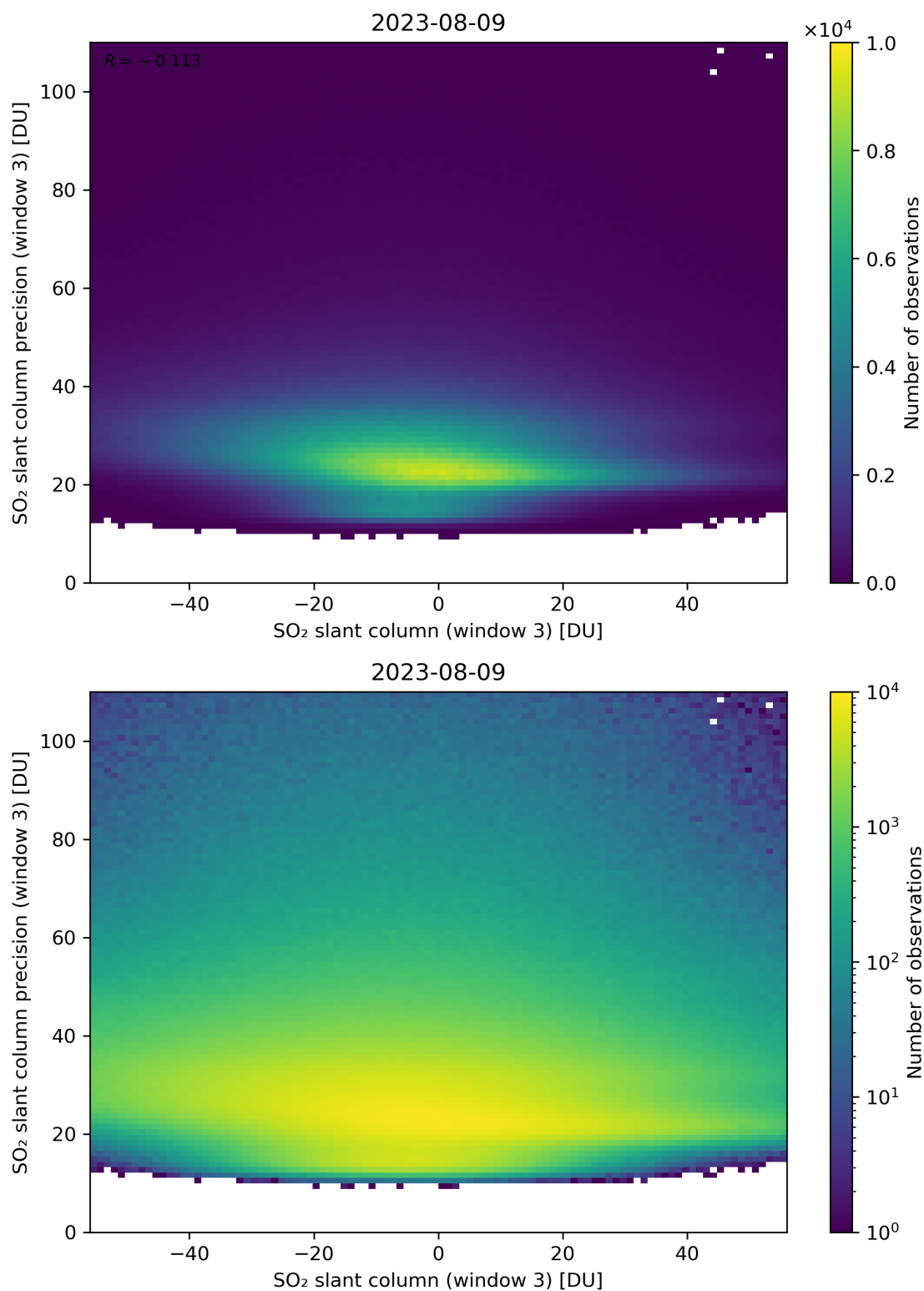


Figure 267: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

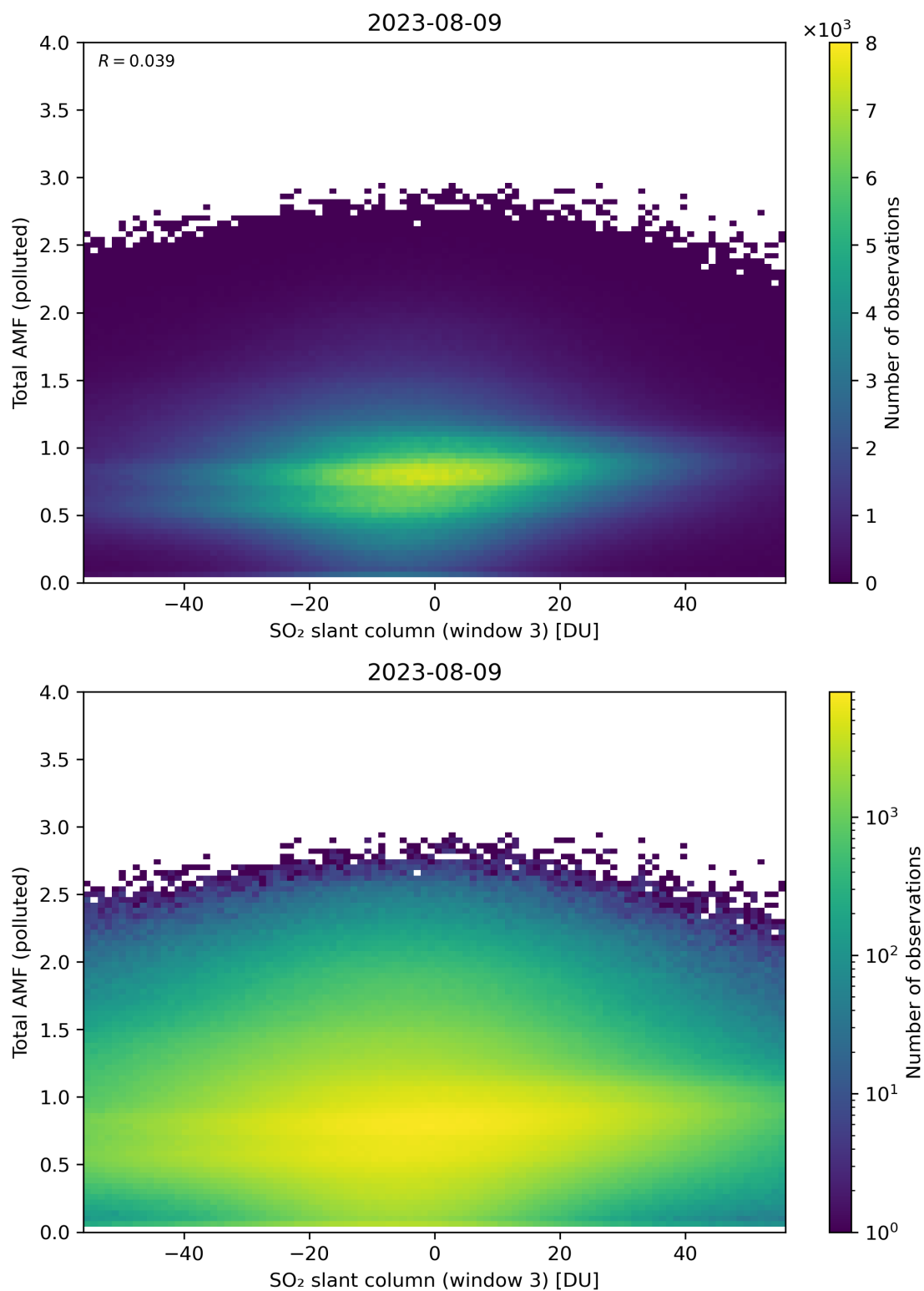


Figure 268: Scatter density plot of “SO₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

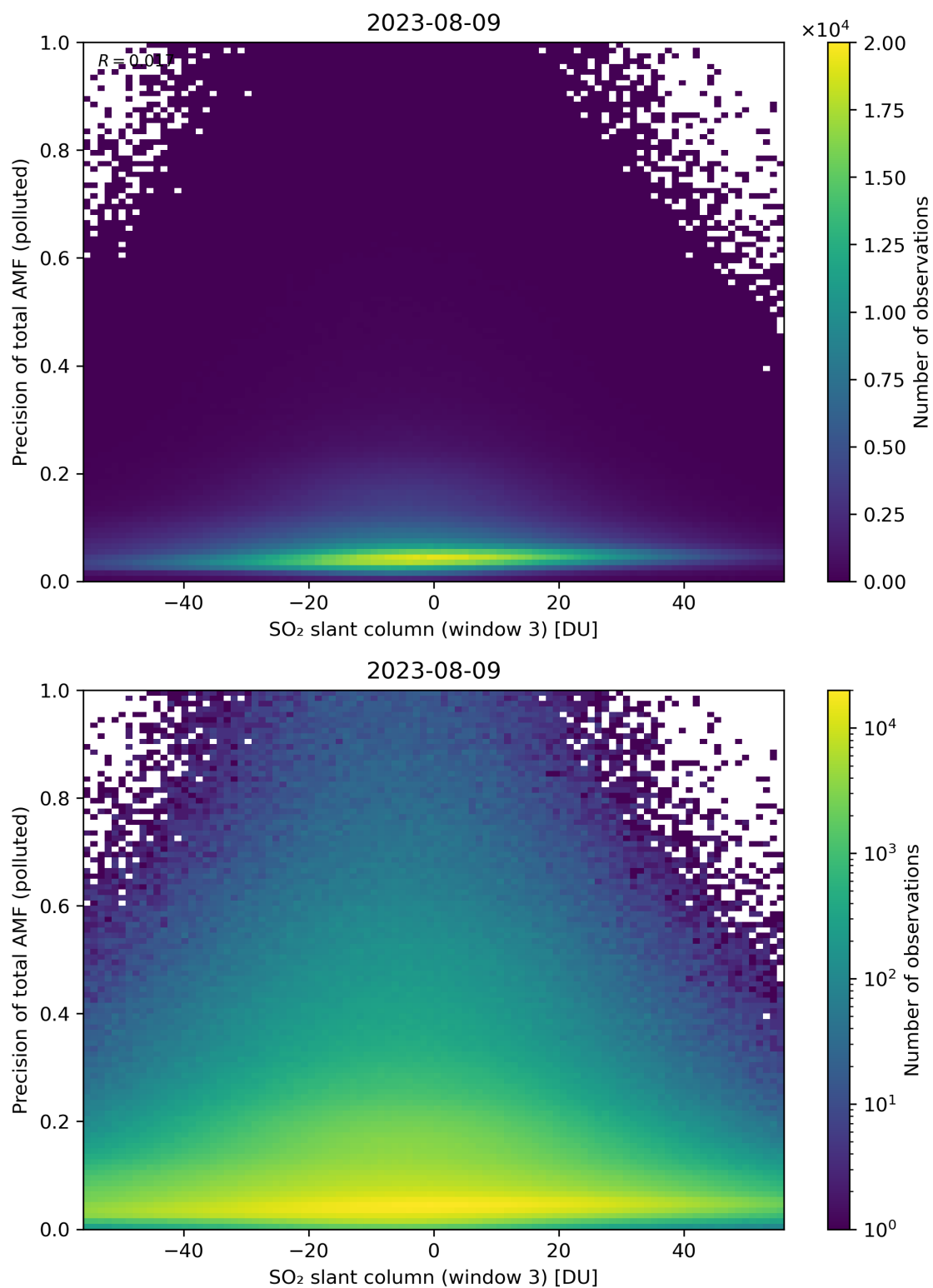


Figure 269: Scatter density plot of “SO₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

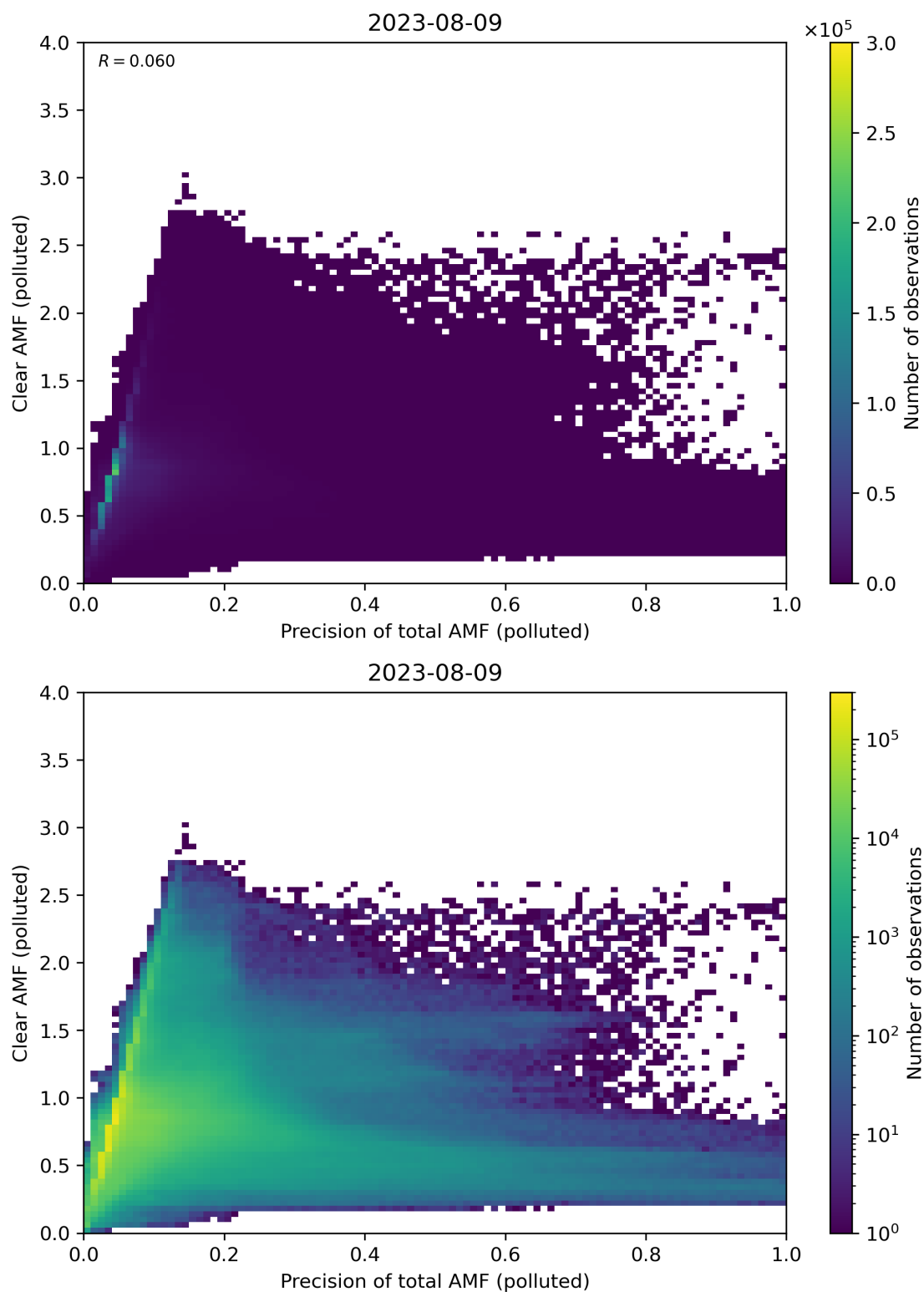


Figure 270: Scatter density plot of “Precision of total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

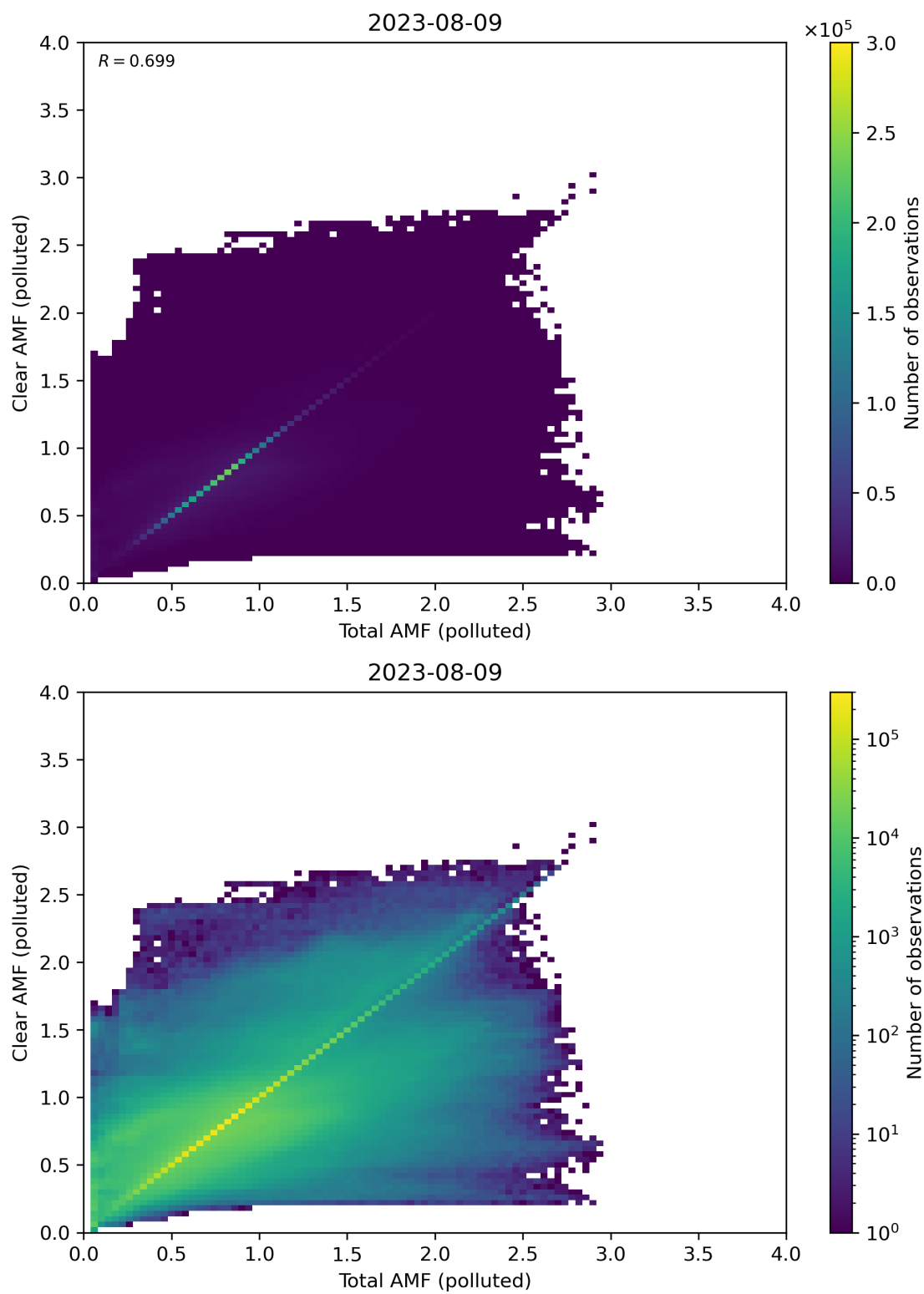


Figure 271: Scatter density plot of “Total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

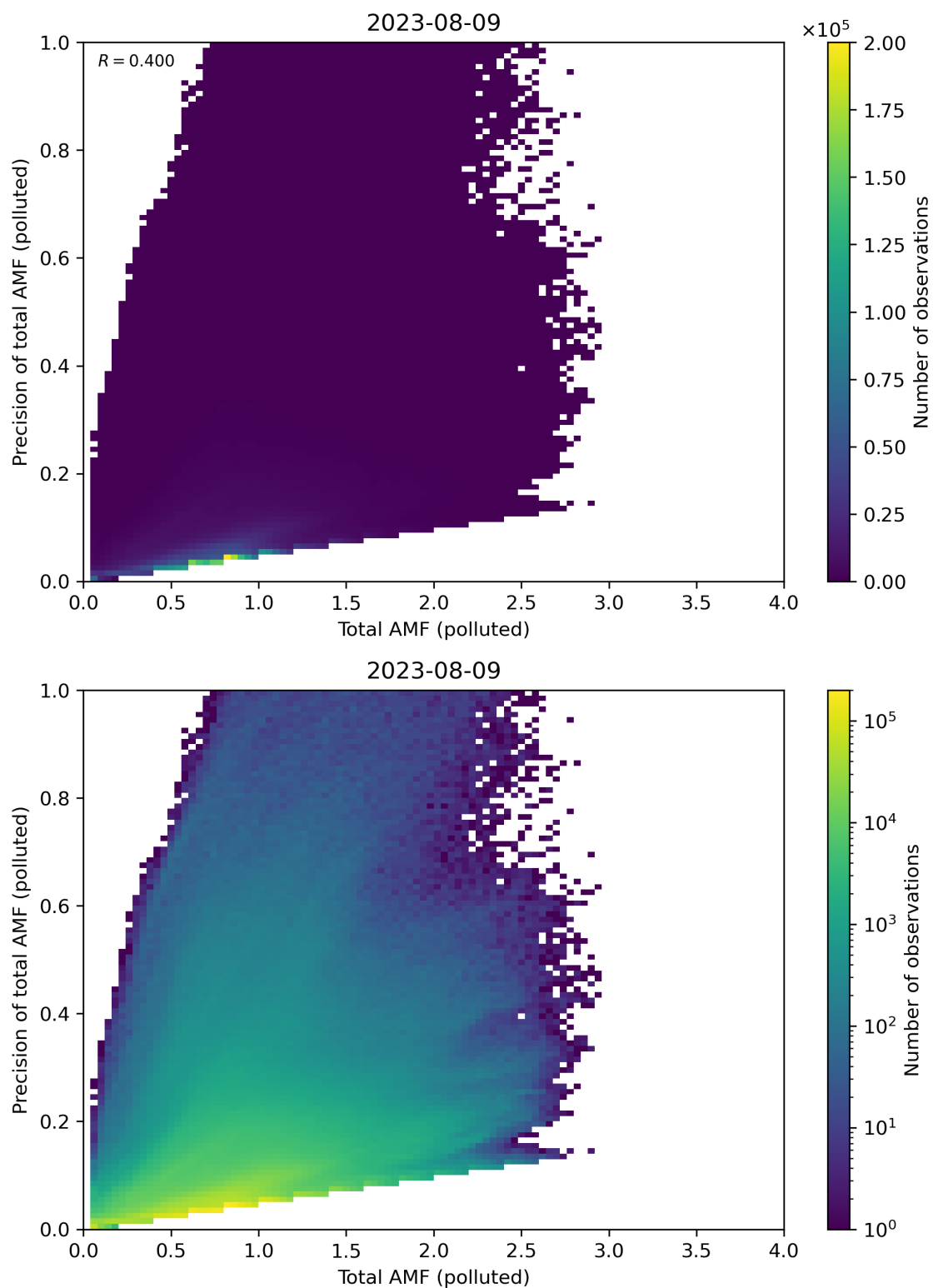


Figure 272: Scatter density plot of “Total AMF (polluted)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

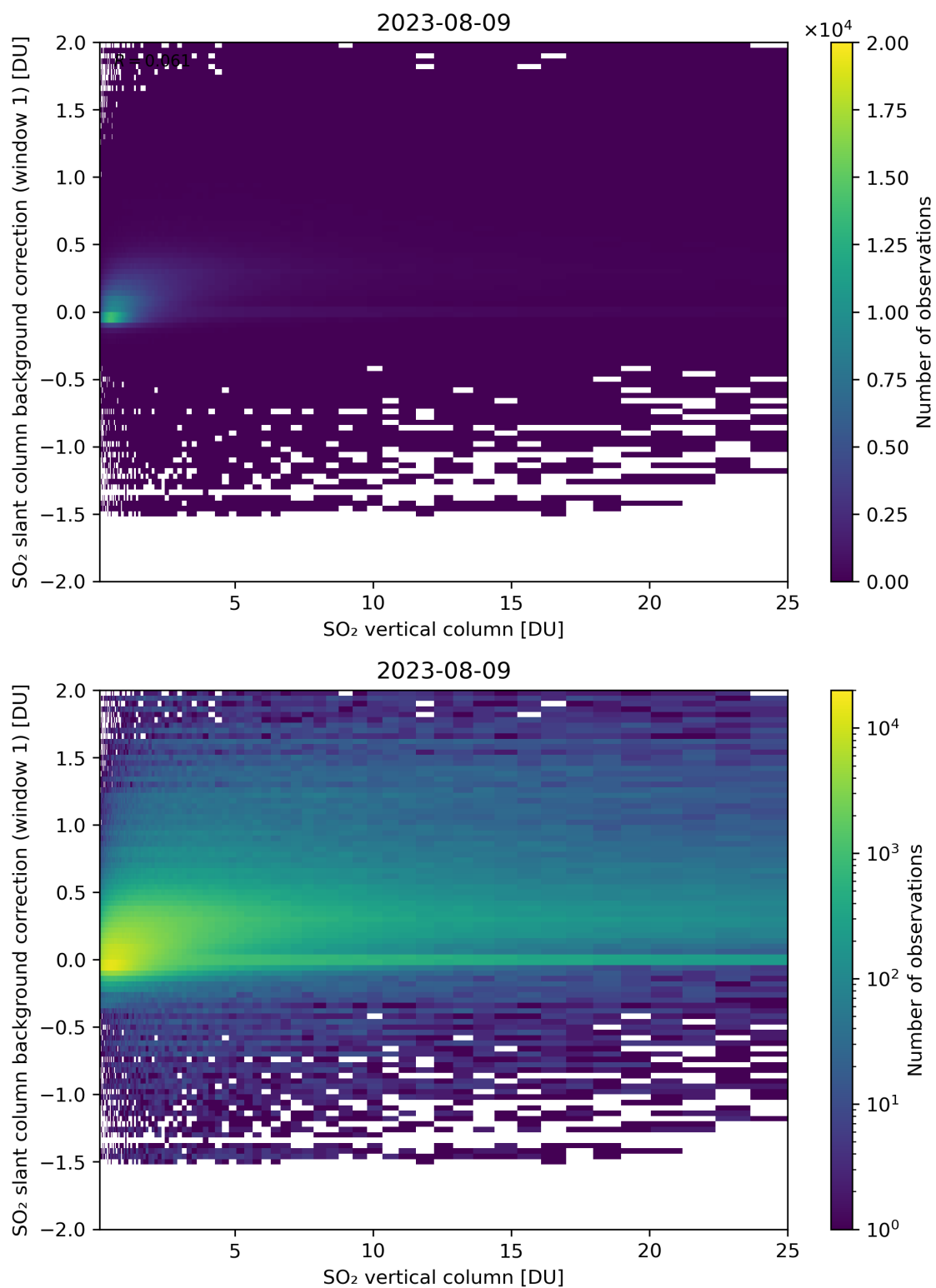


Figure 273: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

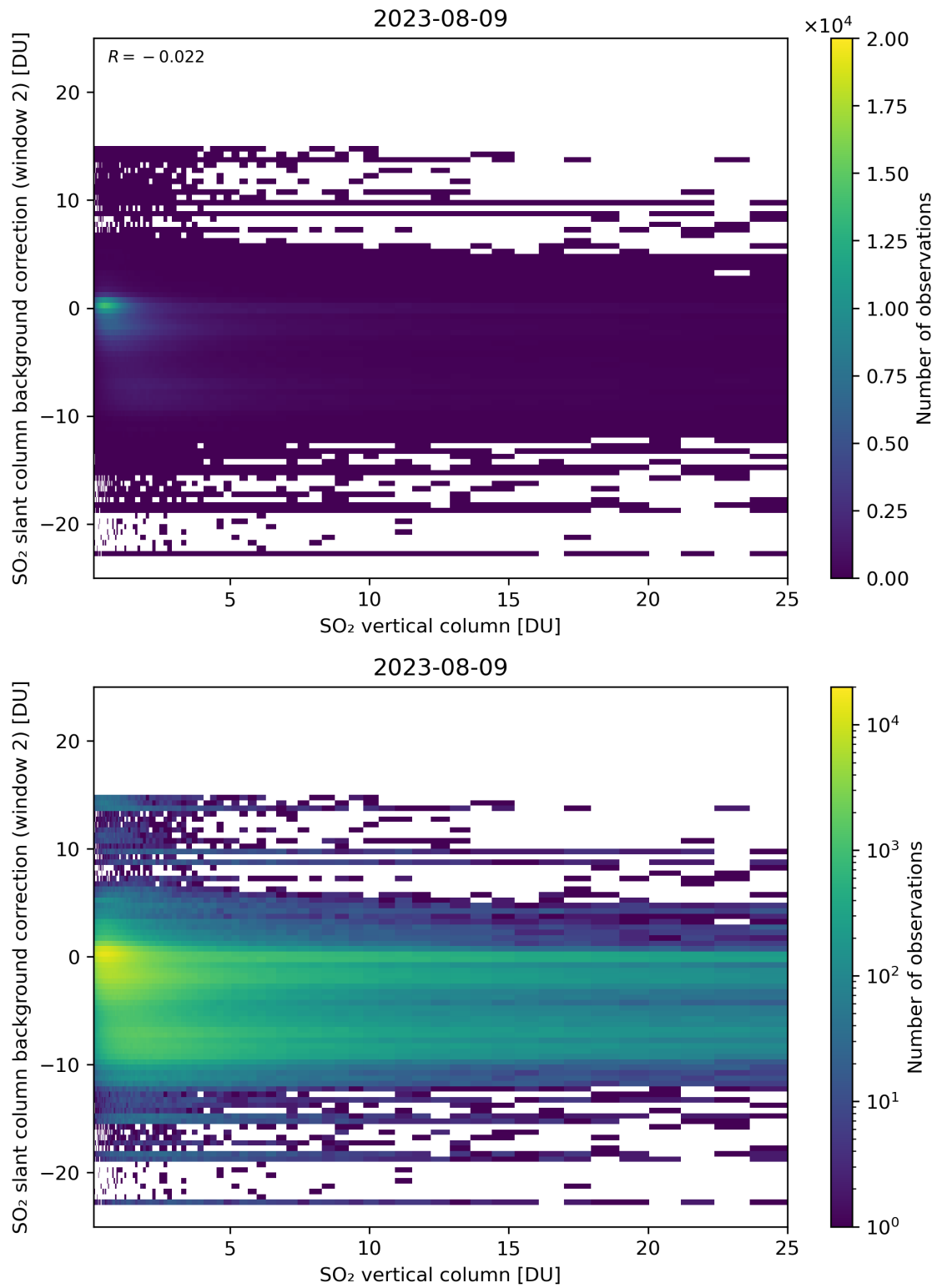


Figure 274: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

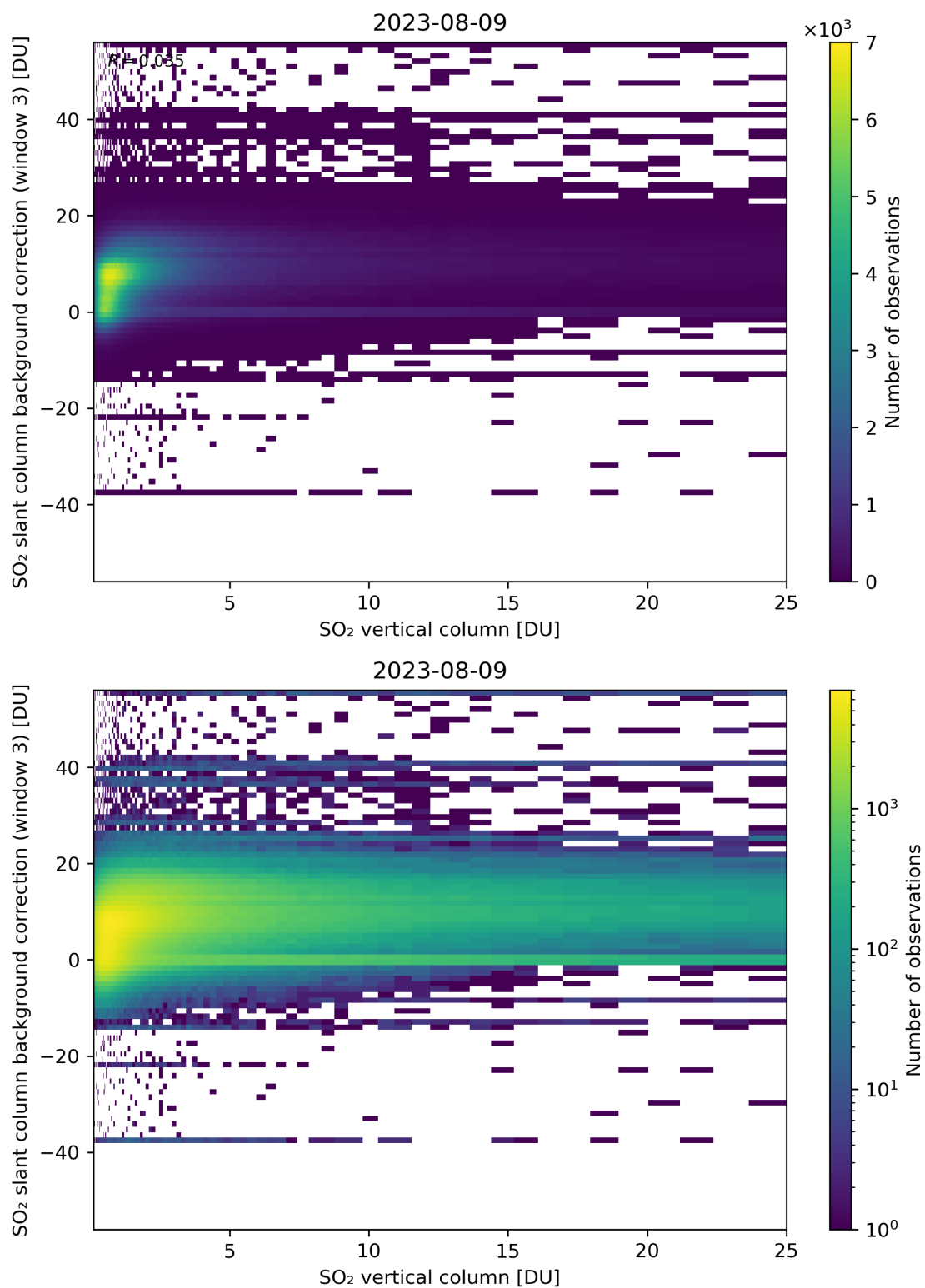


Figure 275: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

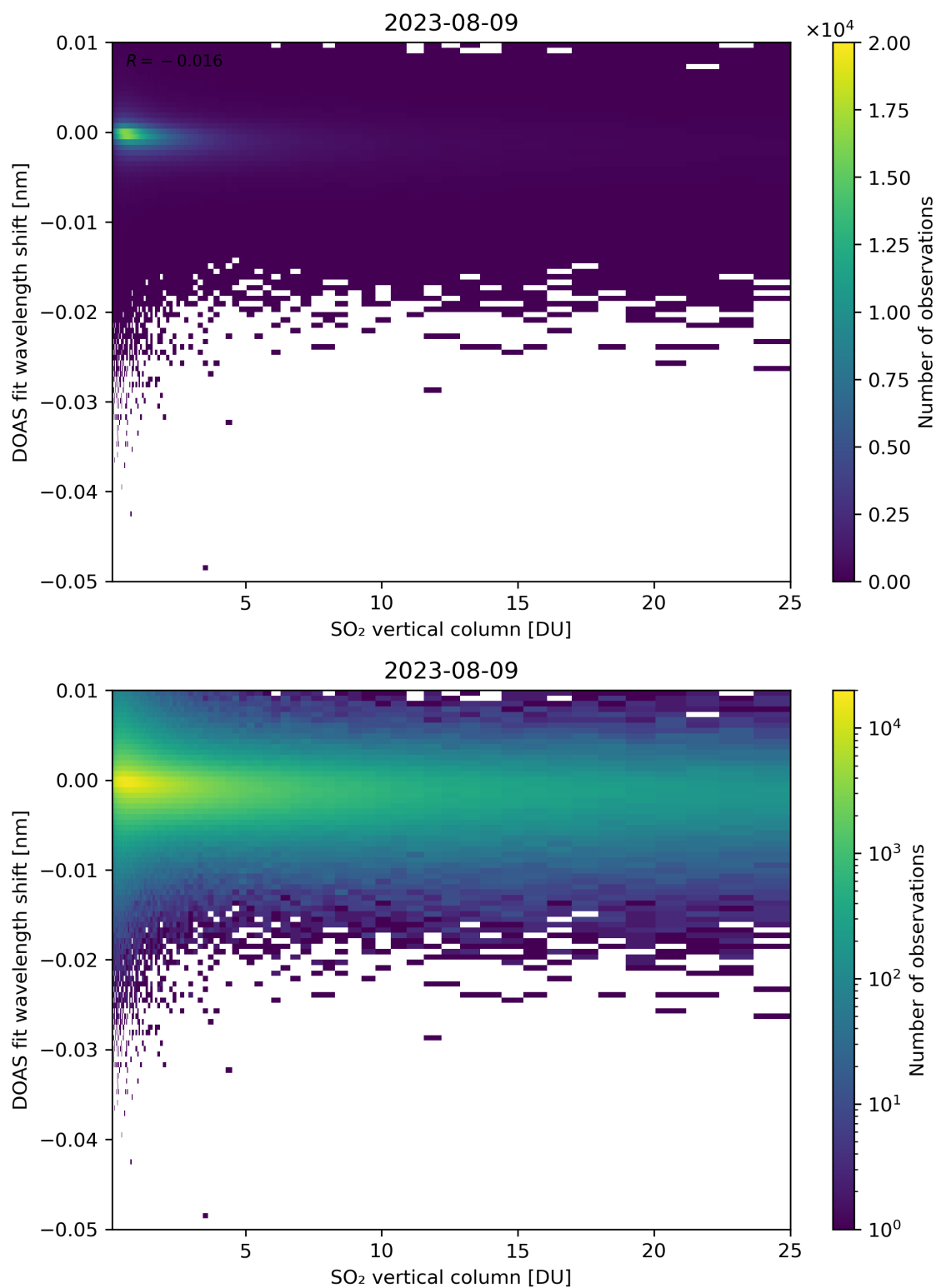


Figure 276: Scatter density plot of “SO₂ vertical column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

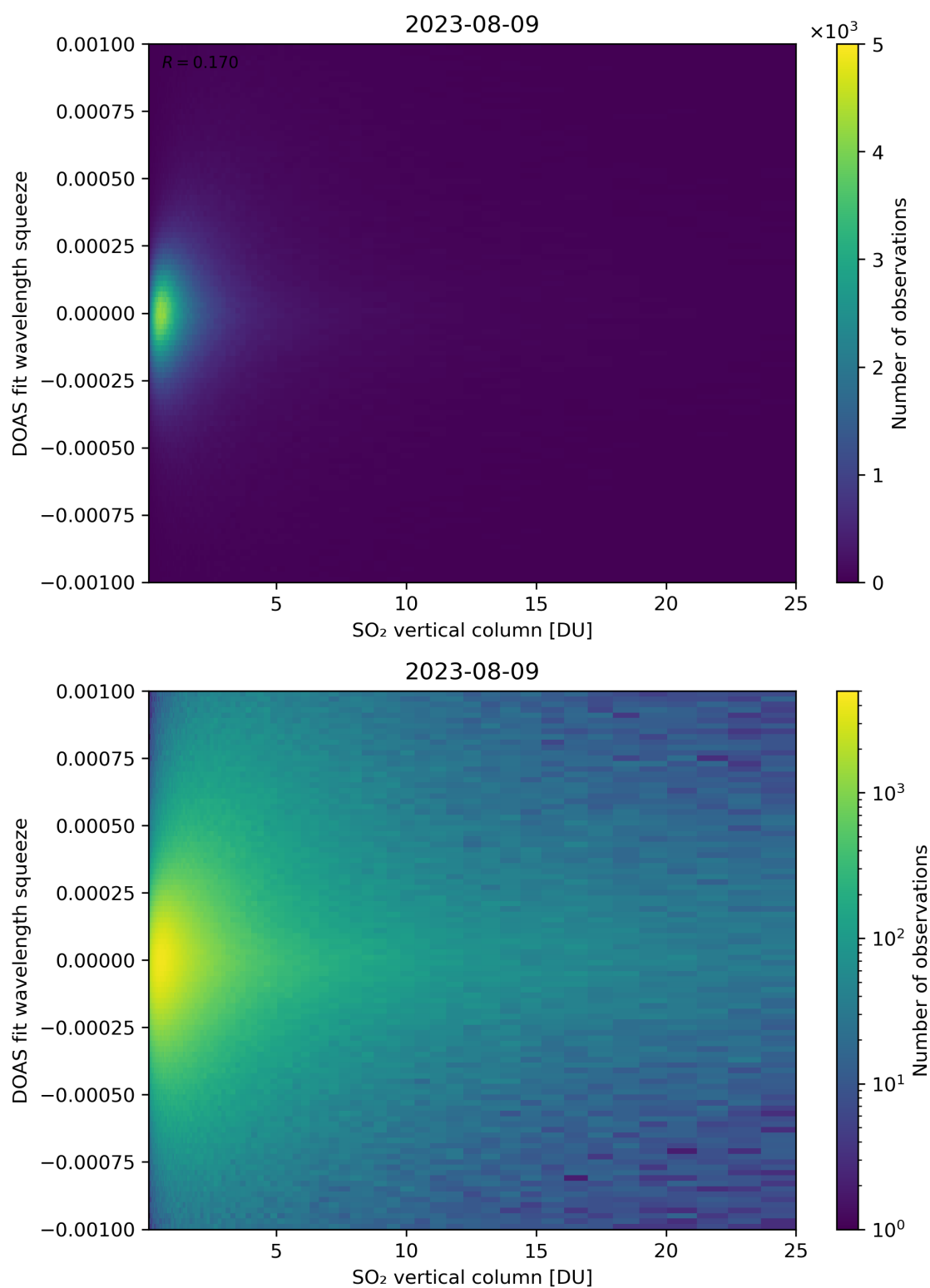


Figure 277: Scatter density plot of “SO₂ vertical column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

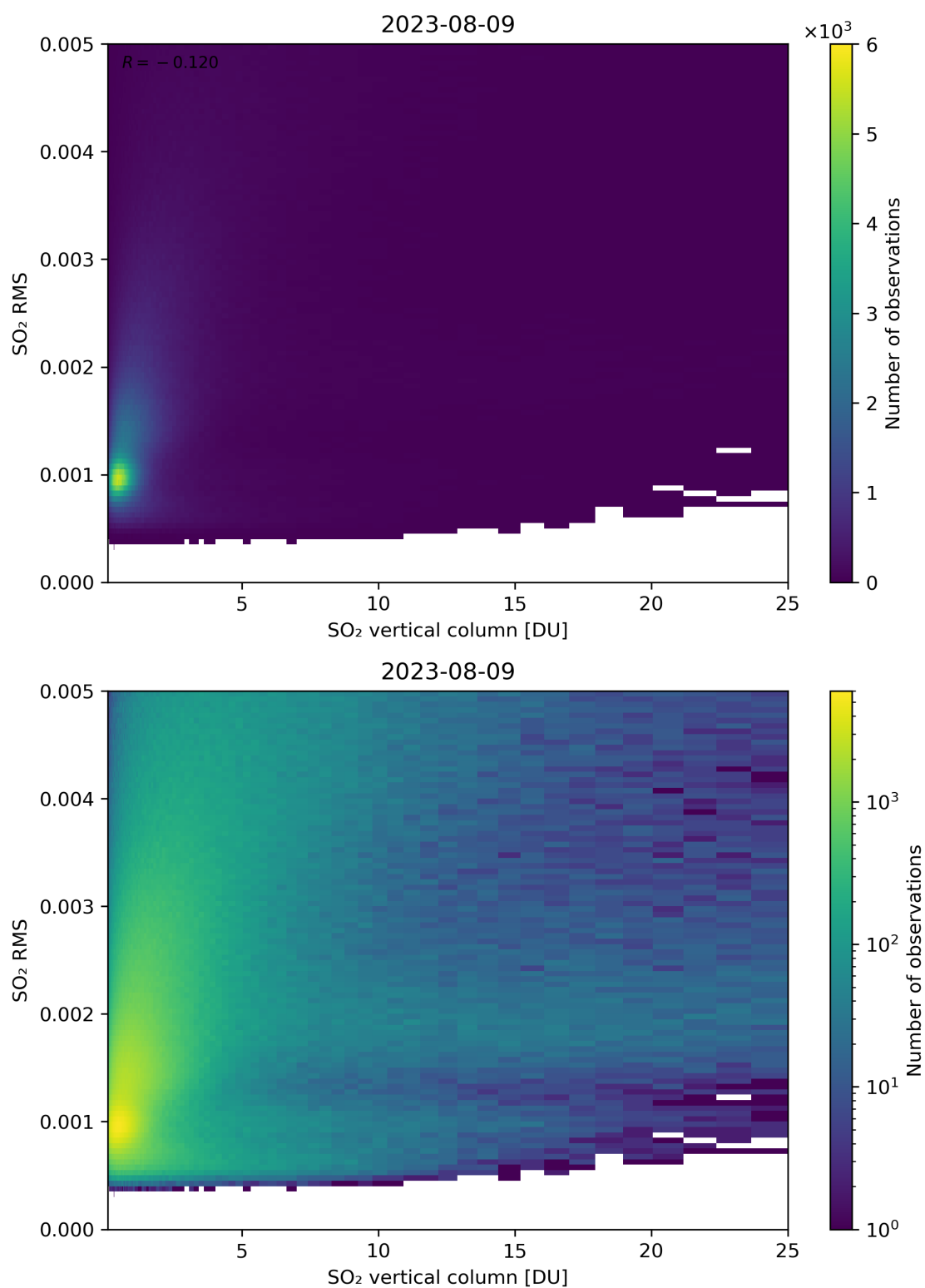


Figure 278: Scatter density plot of “SO₂ vertical column” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

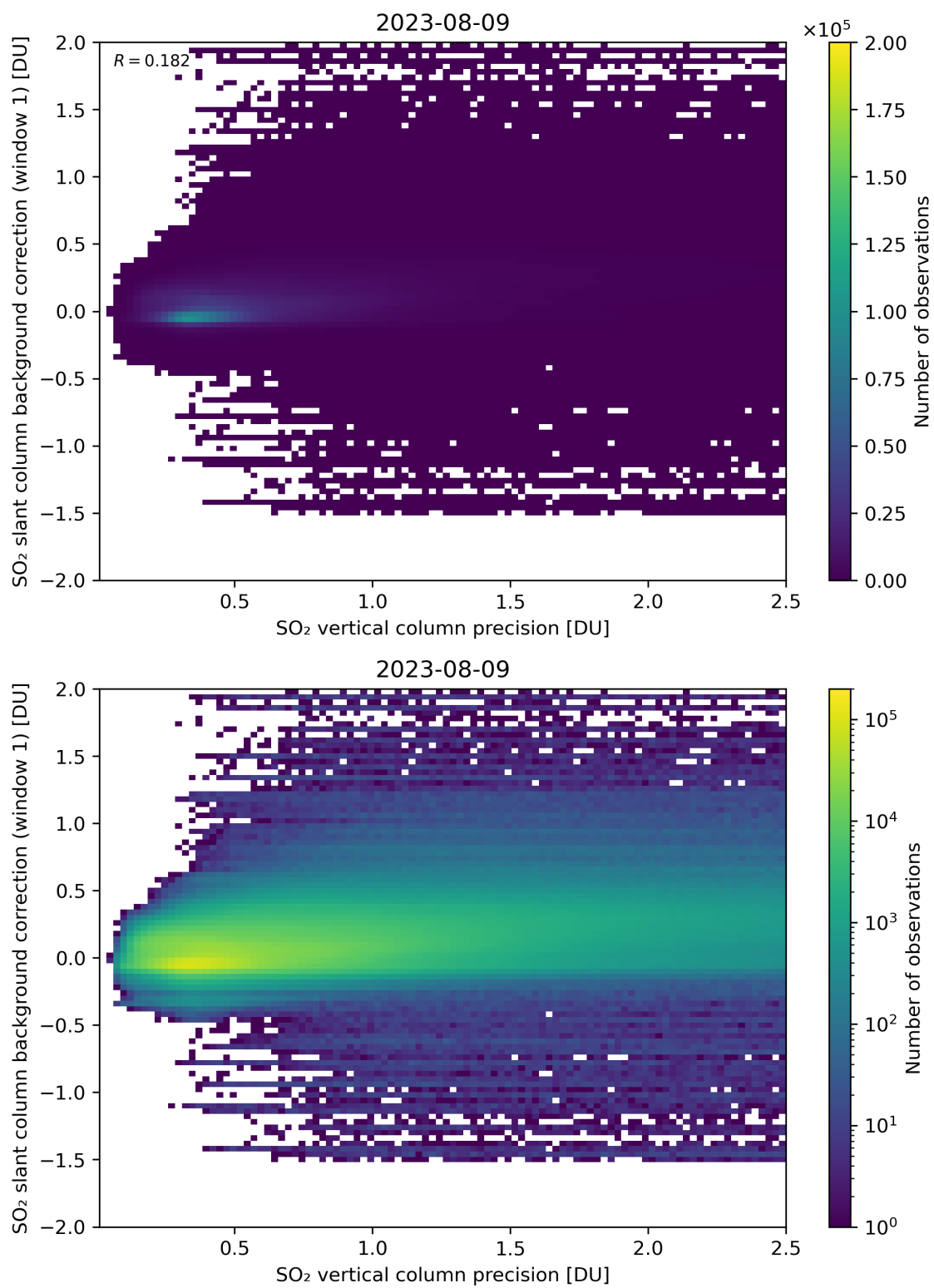


Figure 279: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

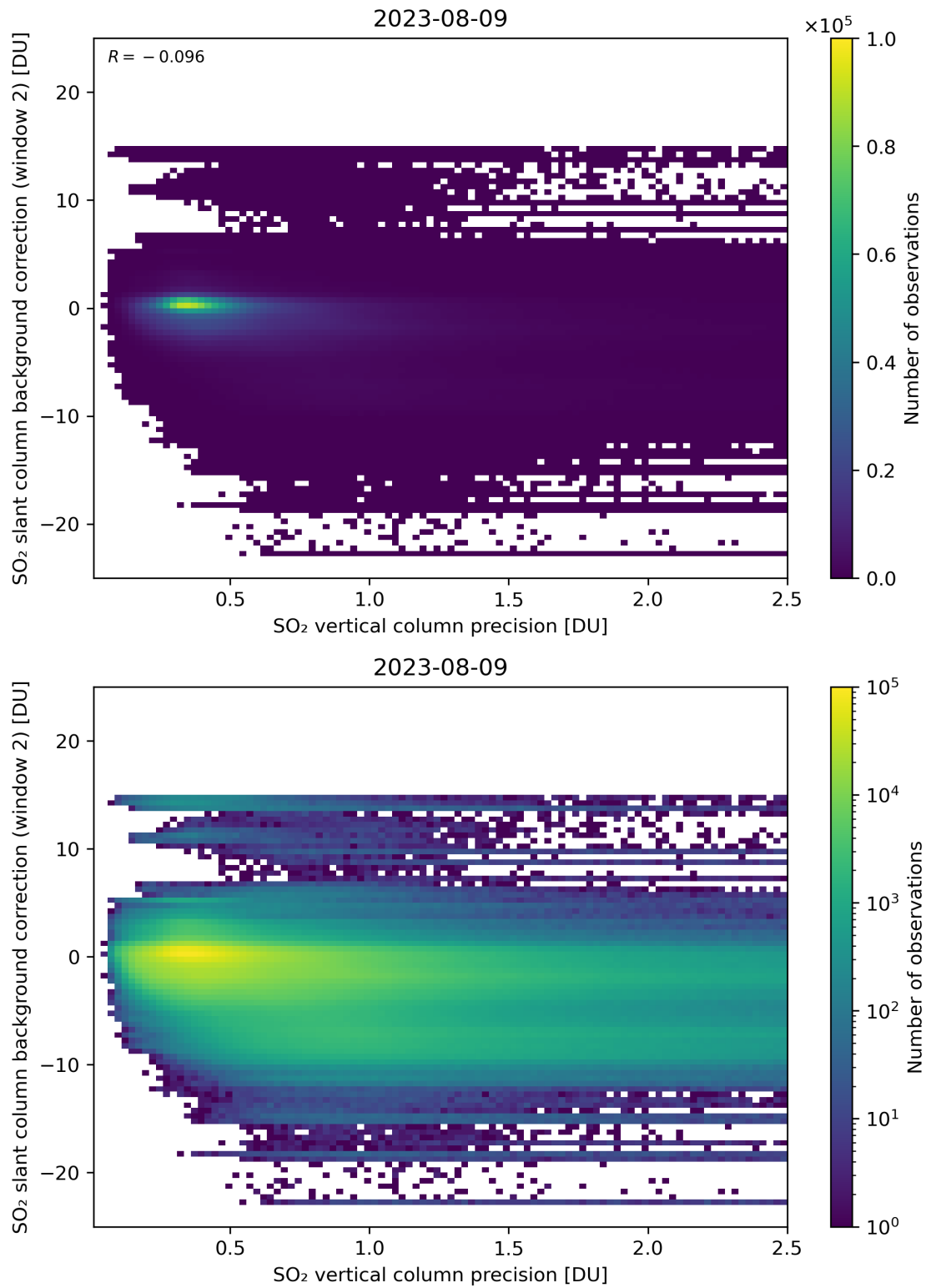


Figure 280: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

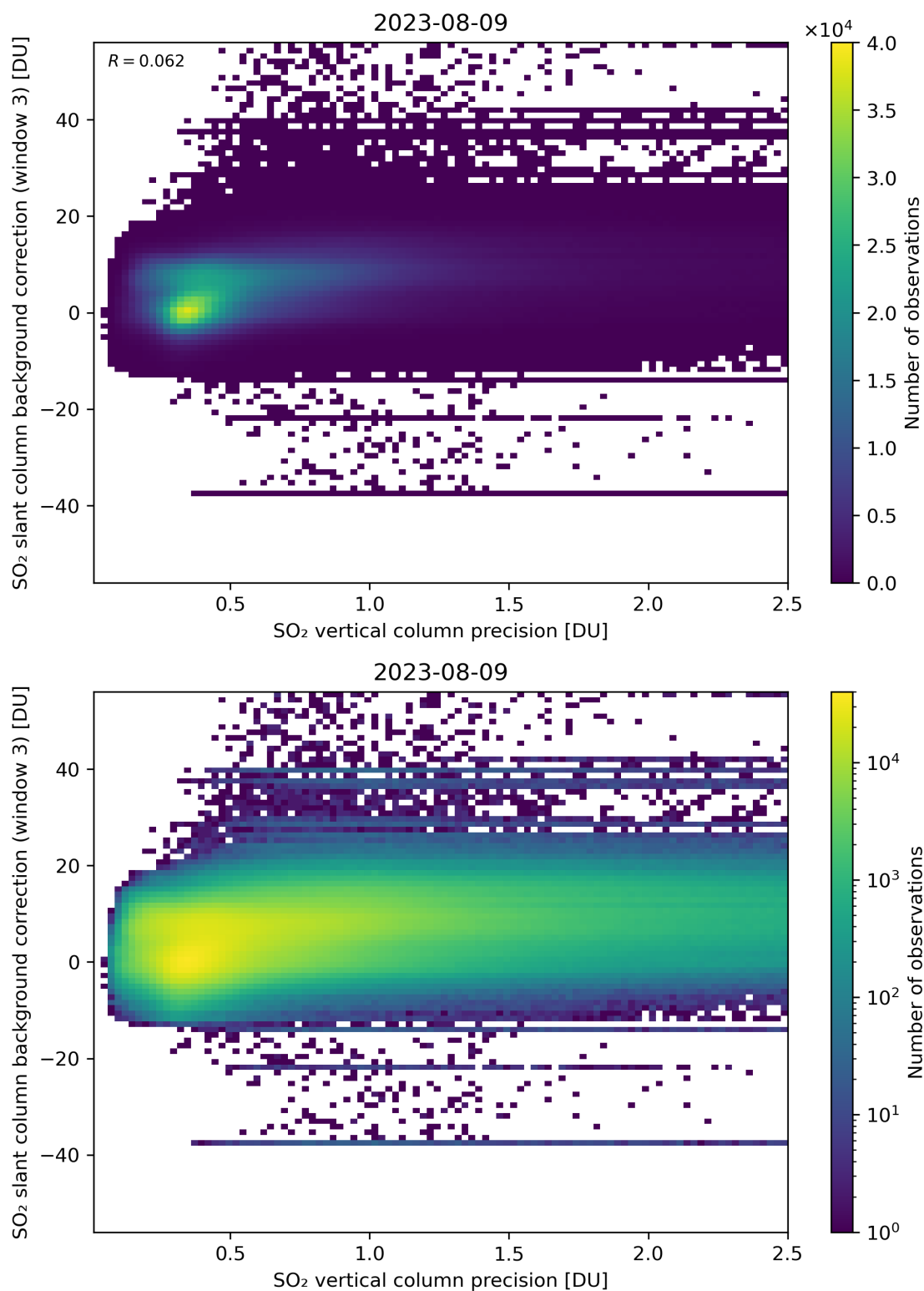


Figure 281: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

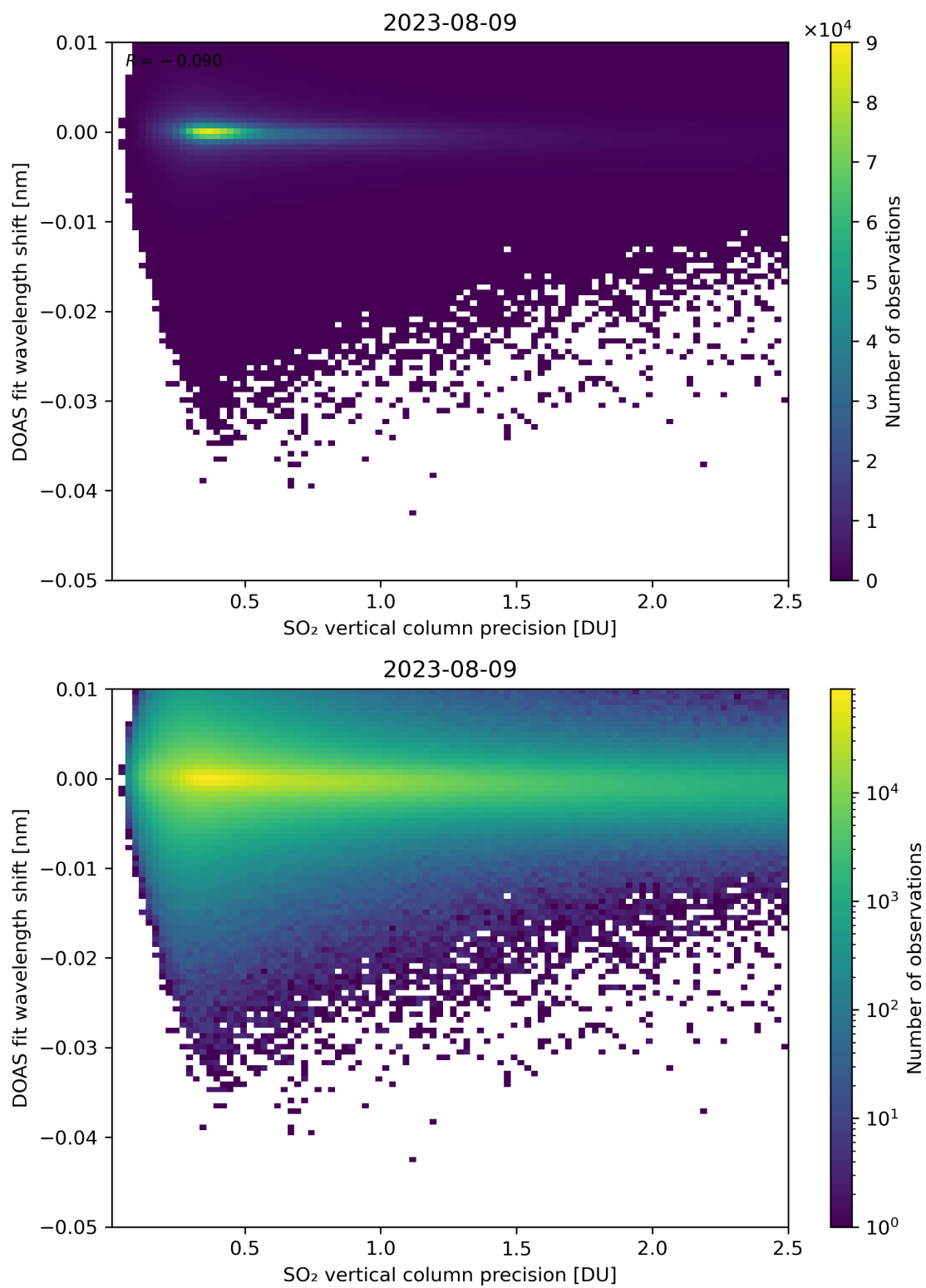


Figure 282: Scatter density plot of “SO₂ vertical column precision” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

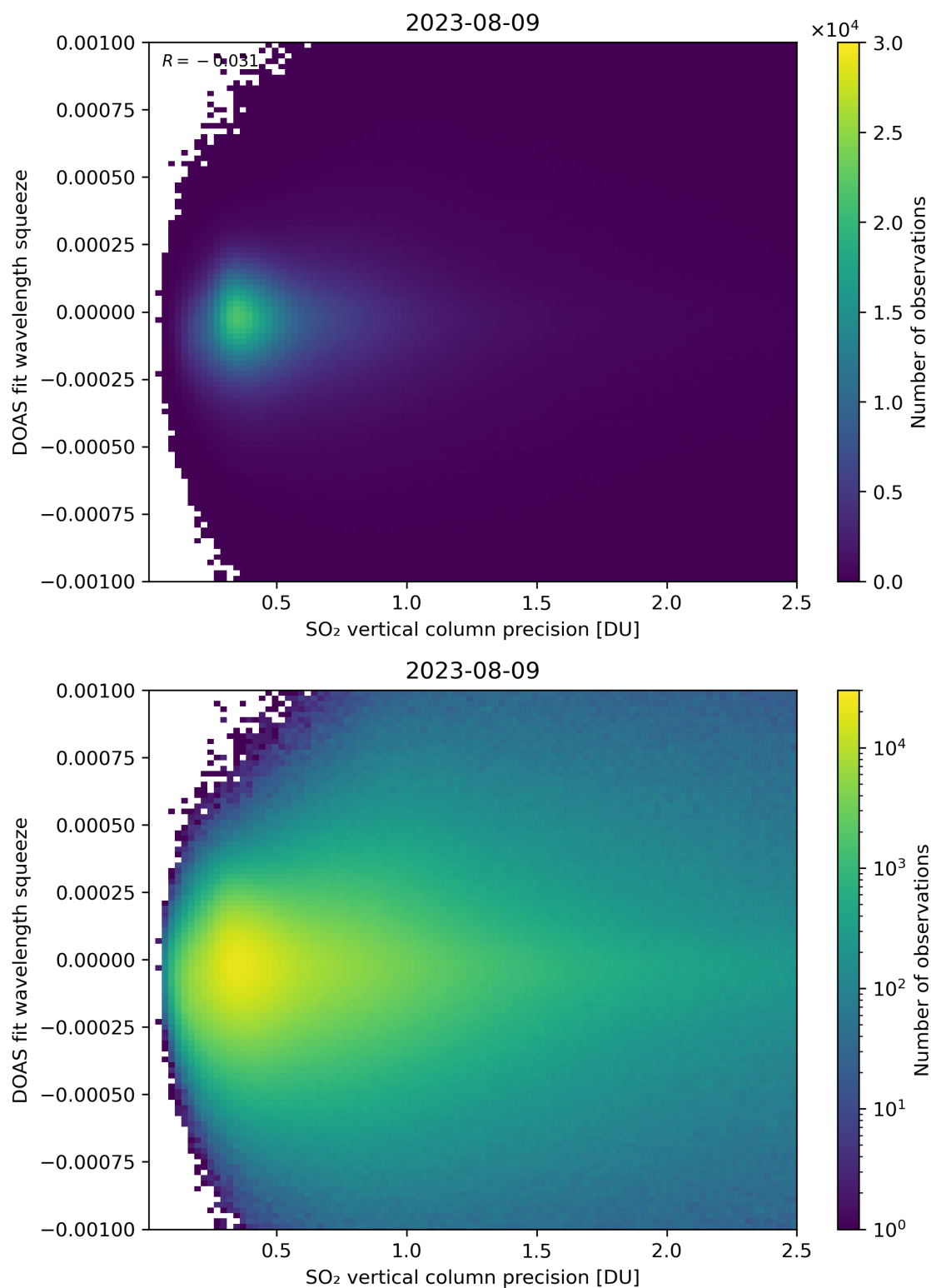


Figure 283: Scatter density plot of “SO₂ vertical column precision” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

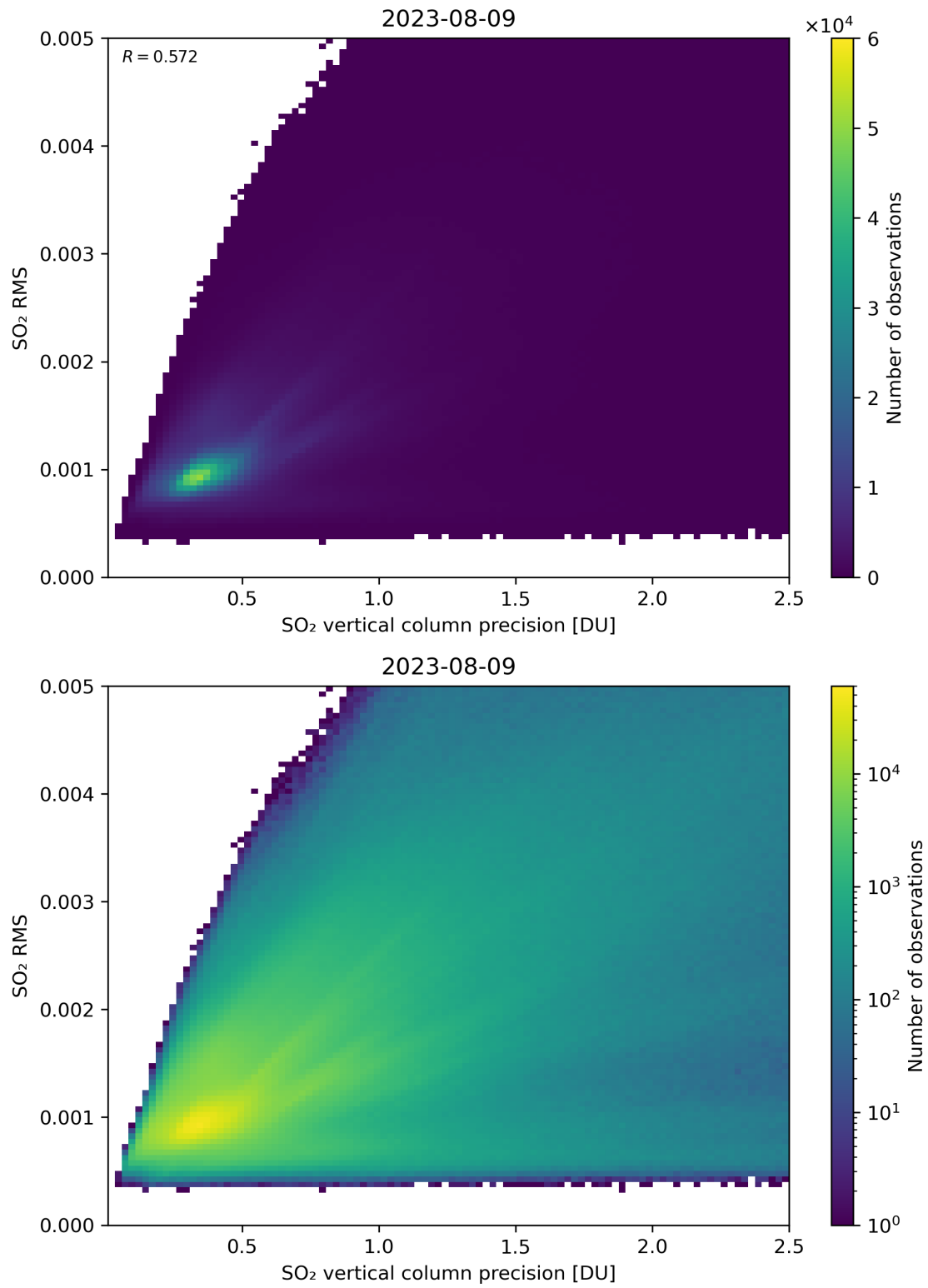


Figure 284: Scatter density plot of “SO₂ vertical column precision” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

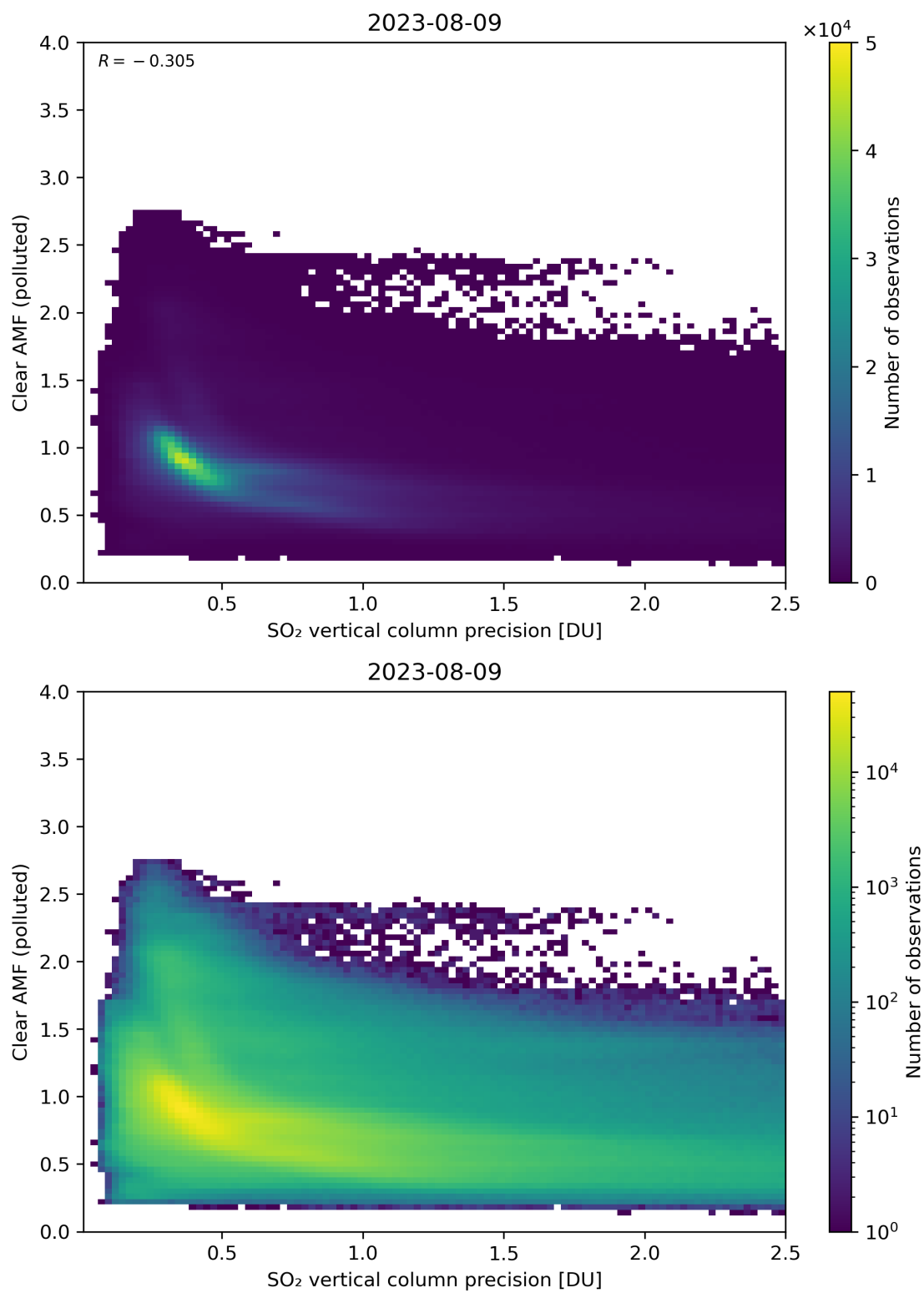


Figure 285: Scatter density plot of “SO₂ vertical column precision” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

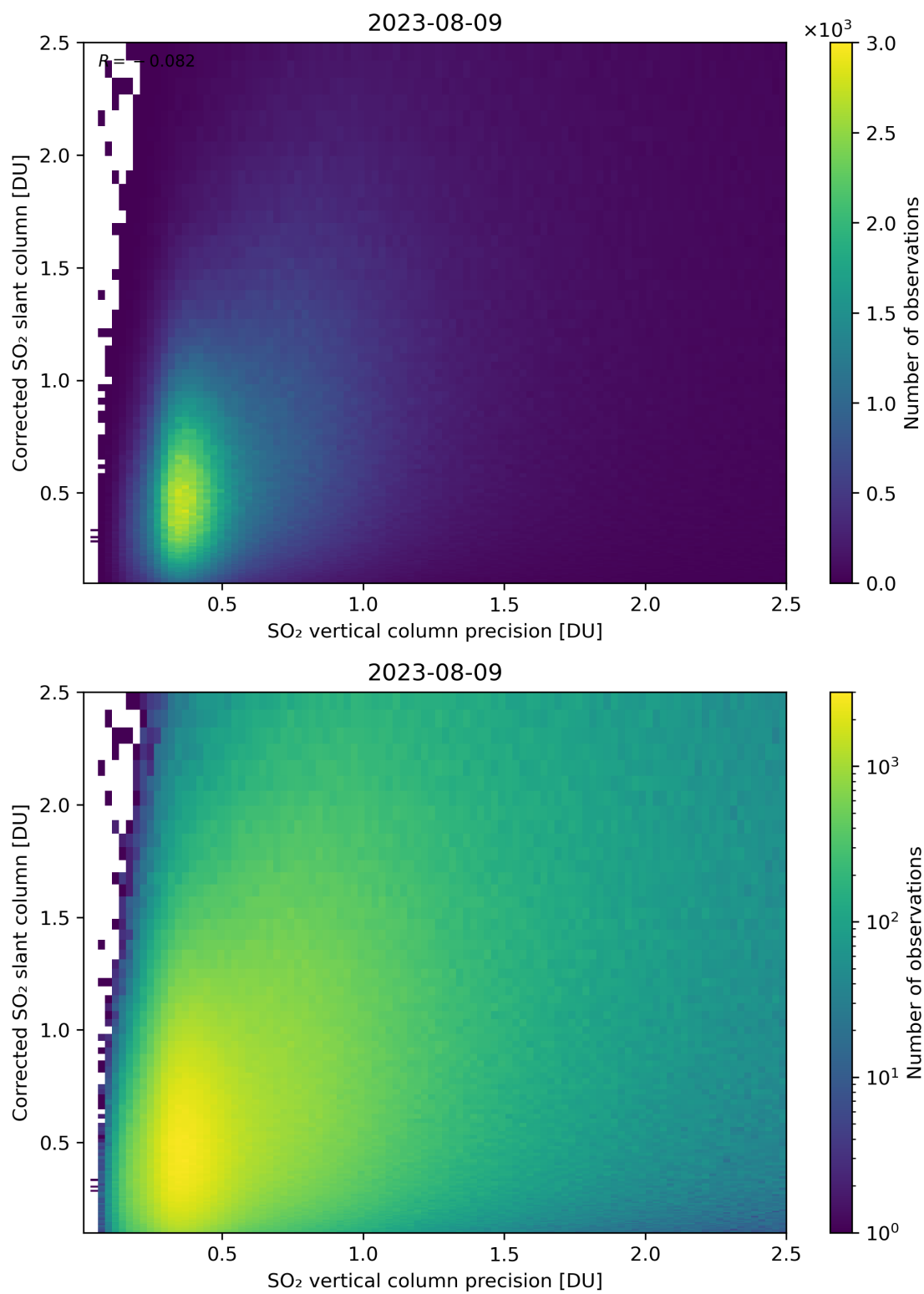


Figure 286: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10.

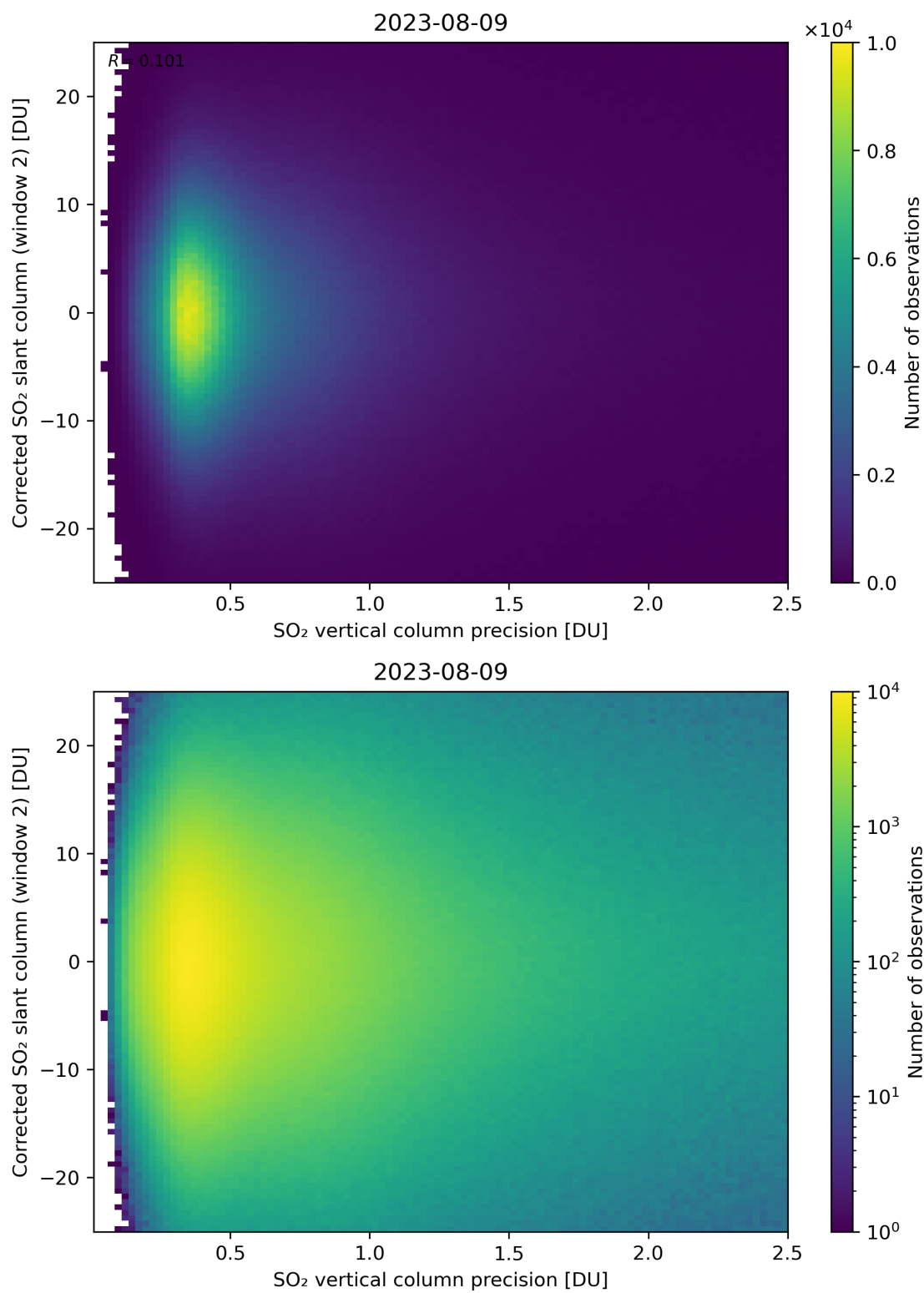


Figure 287: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

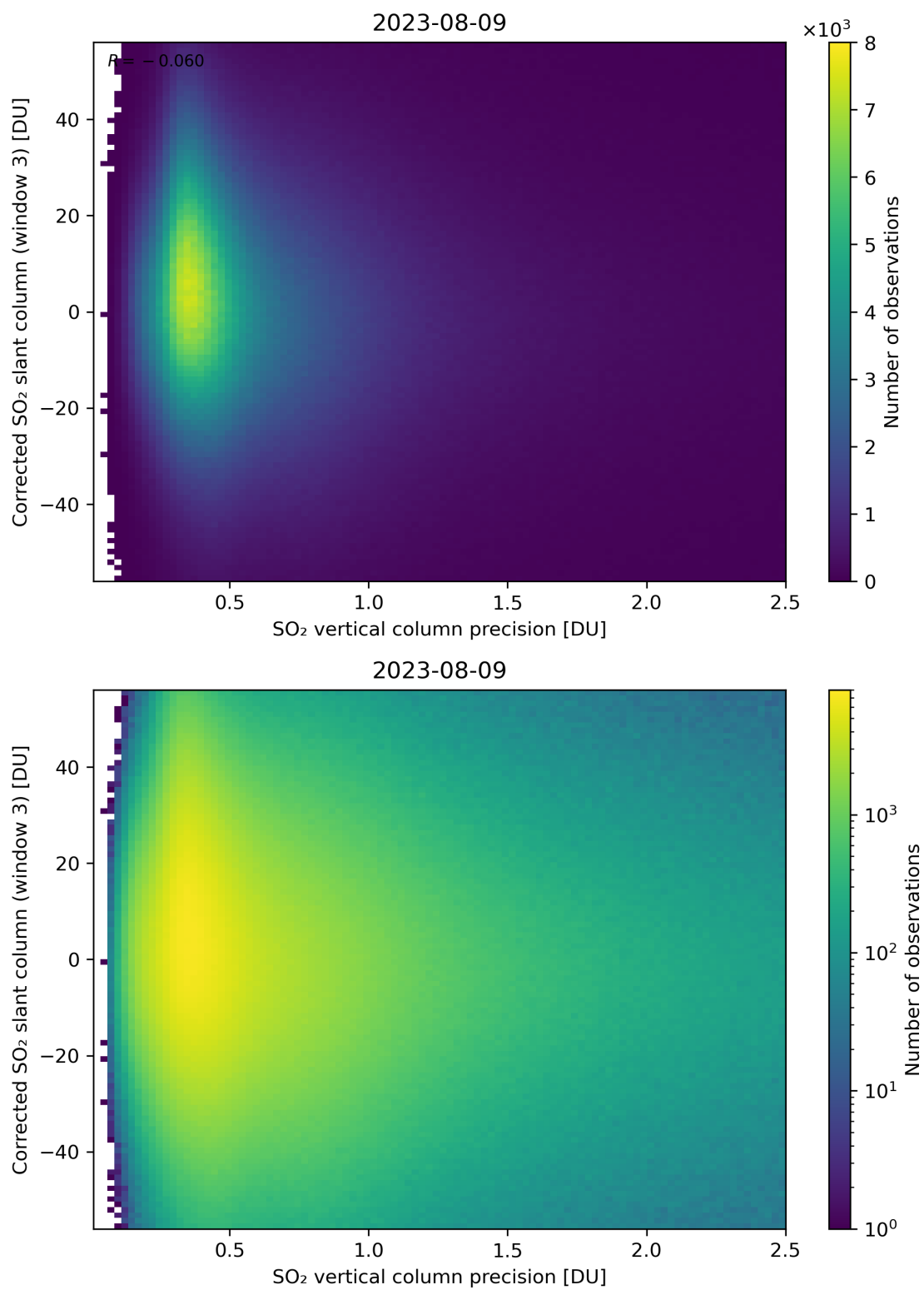


Figure 288: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

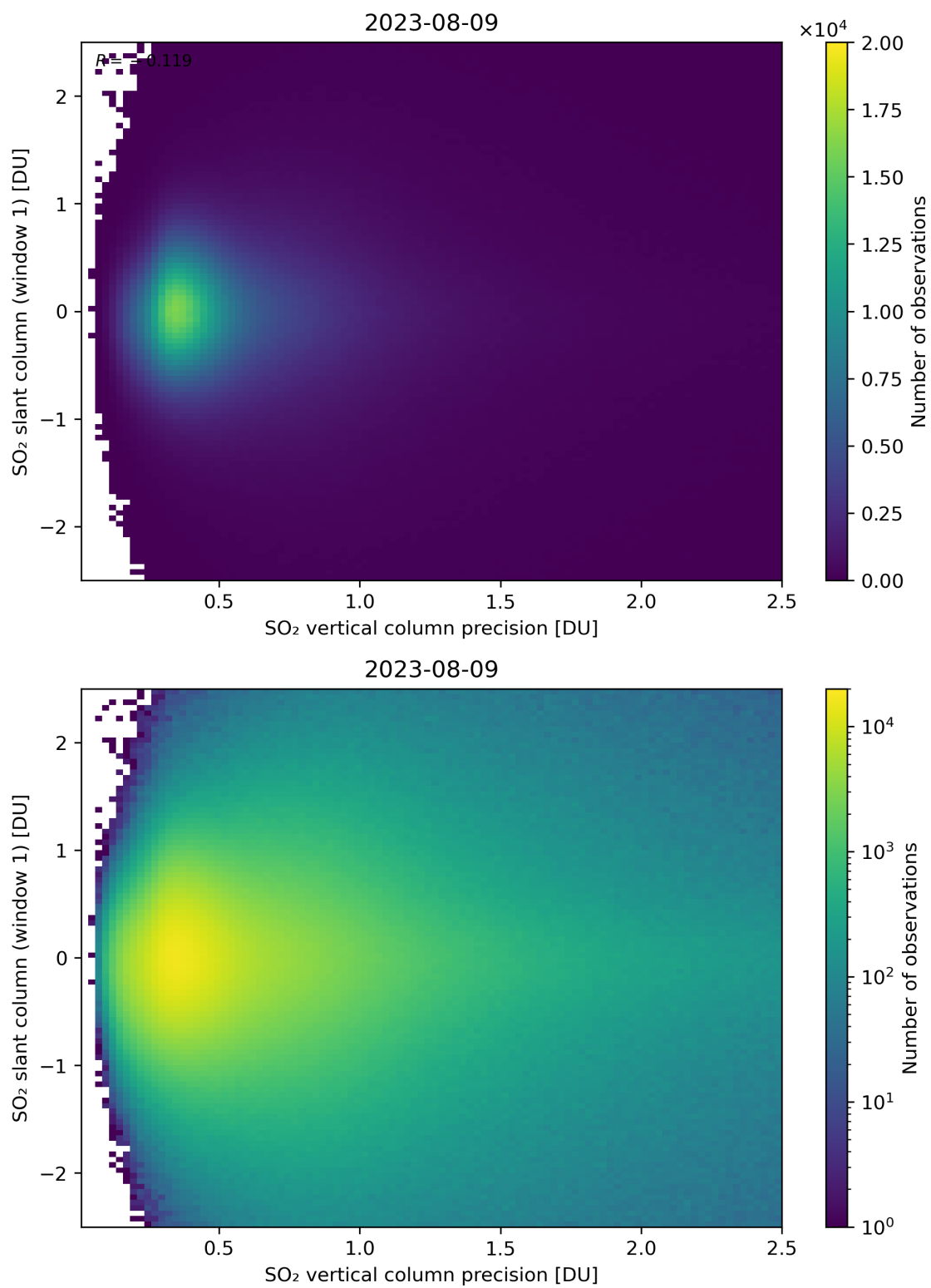


Figure 289: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

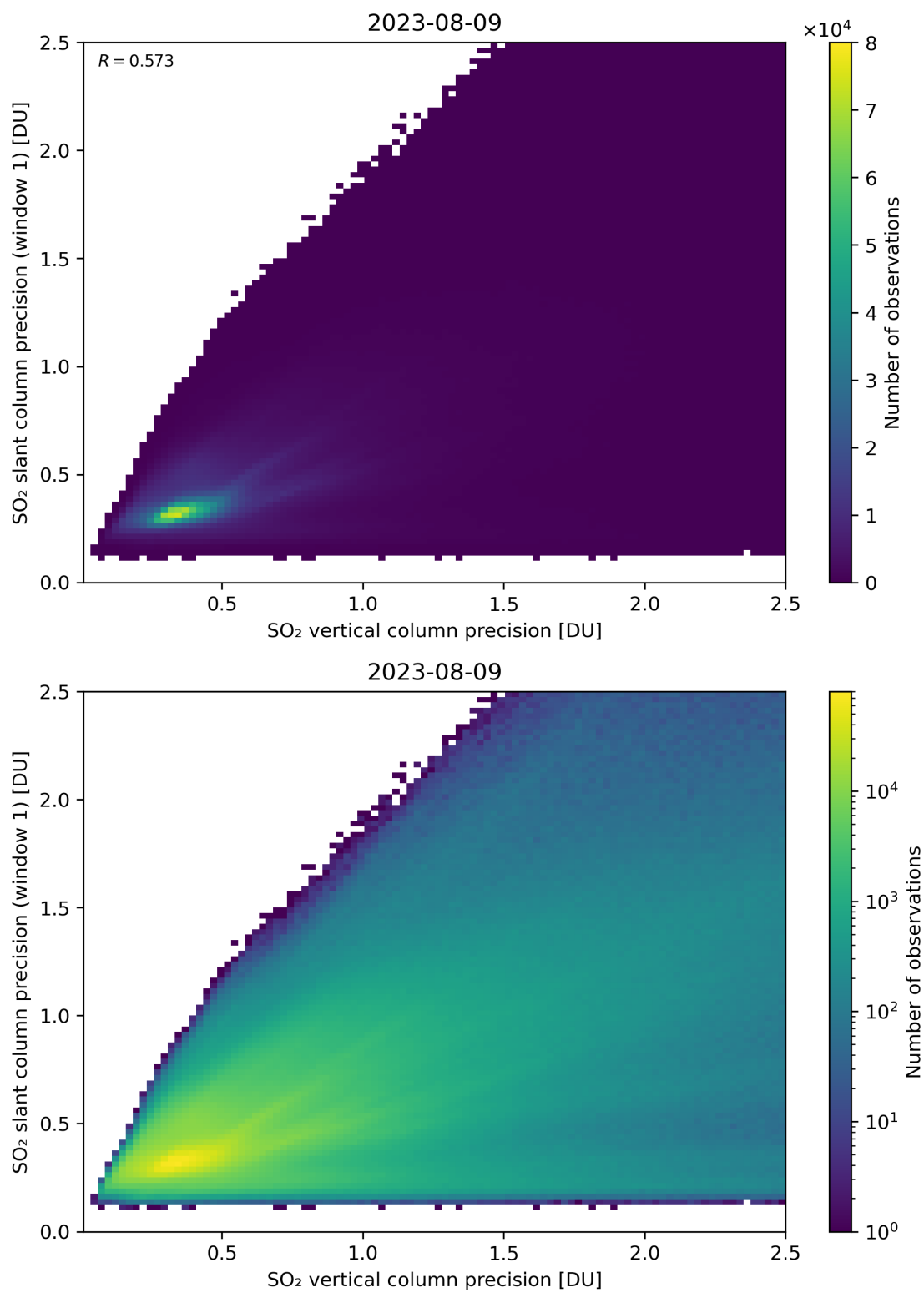


Figure 290: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

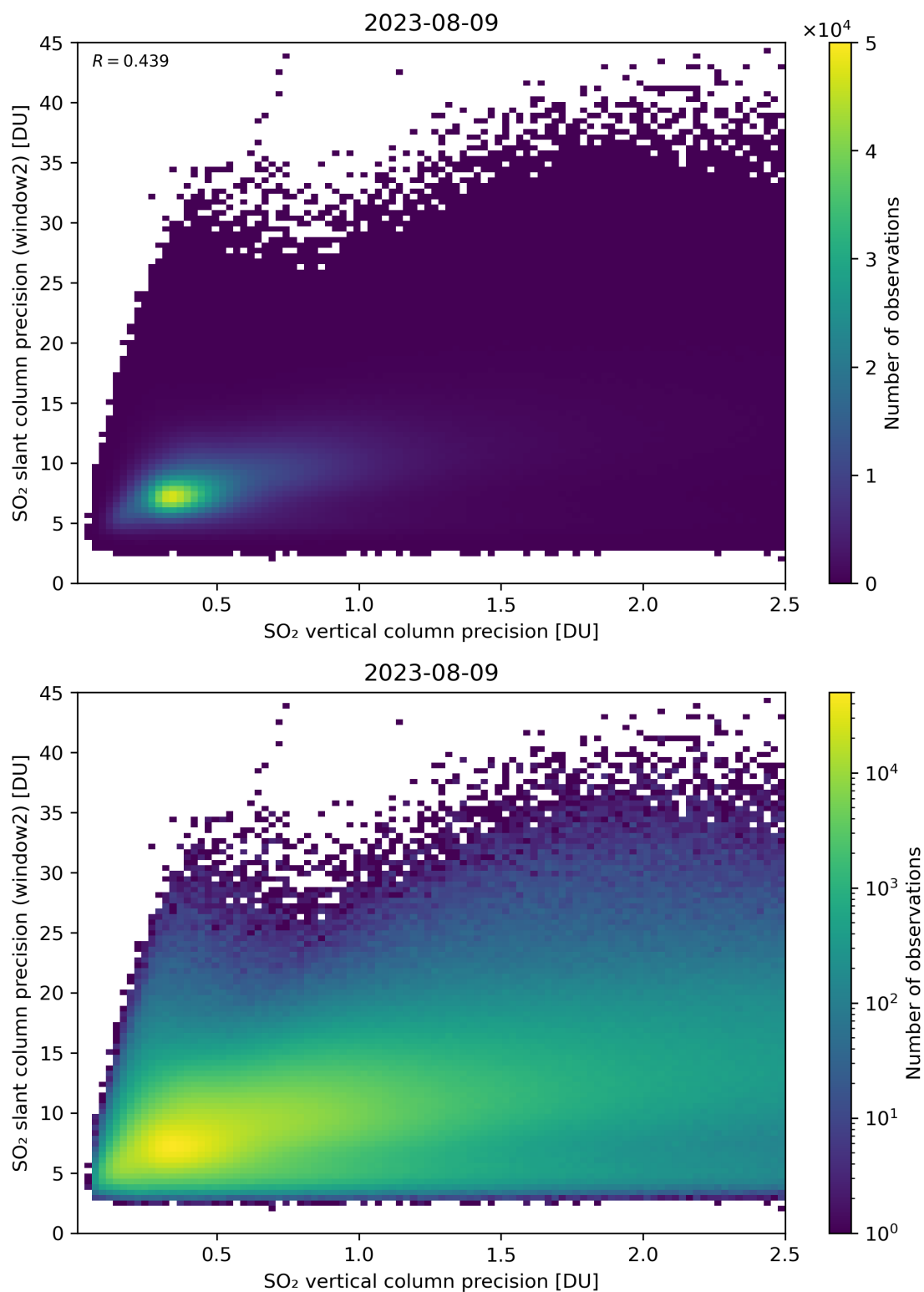


Figure 291: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

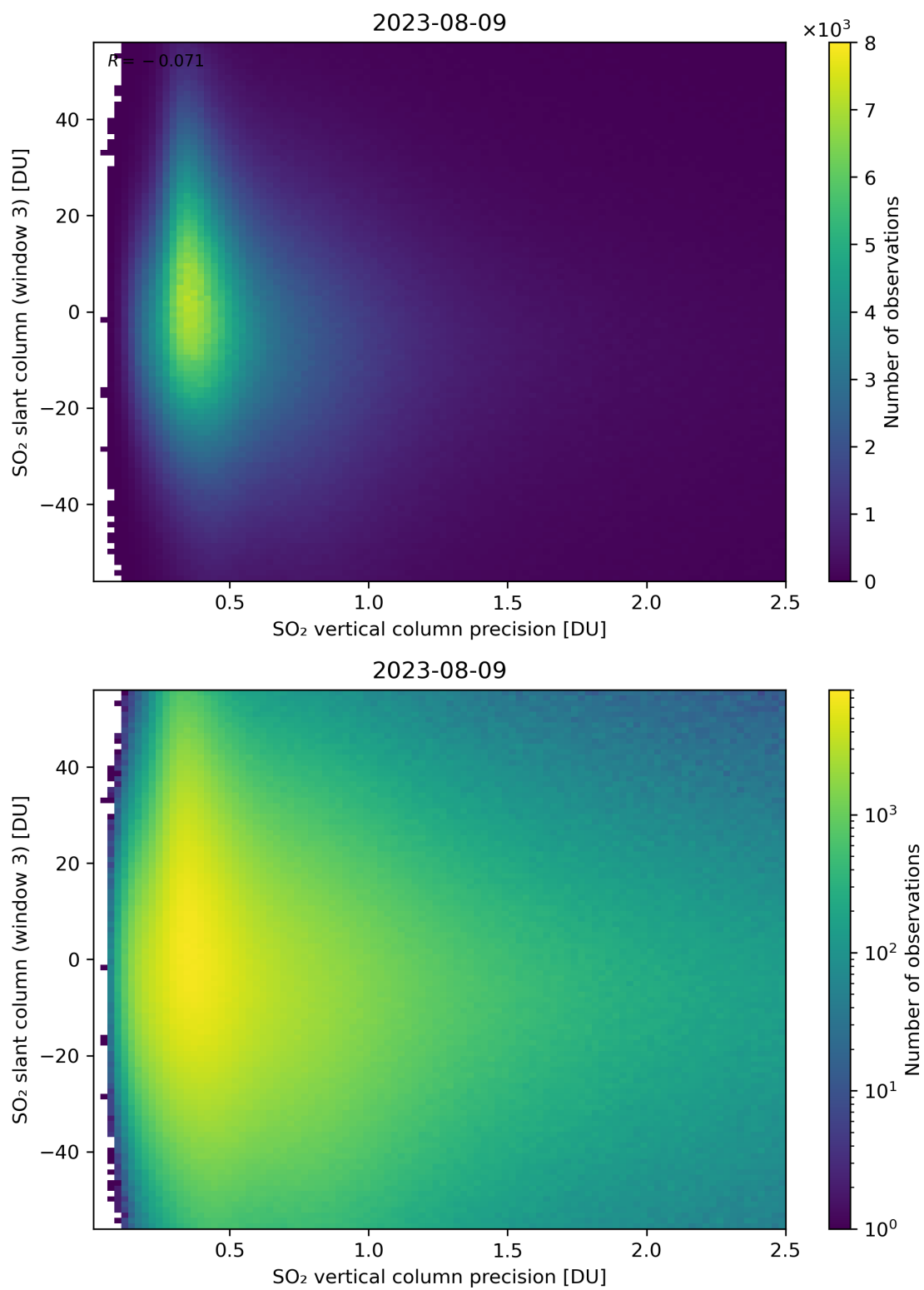


Figure 292: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

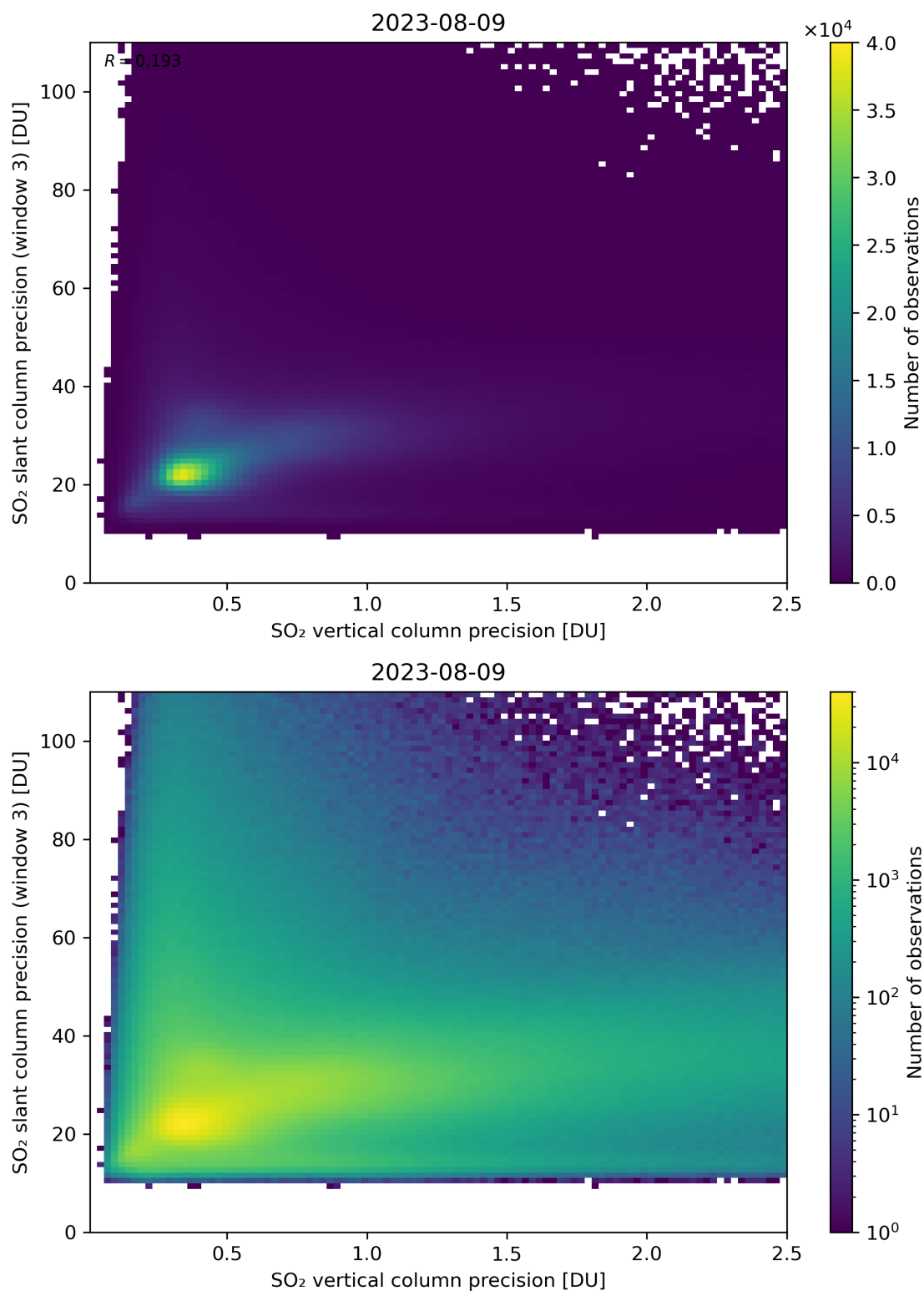


Figure 293: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

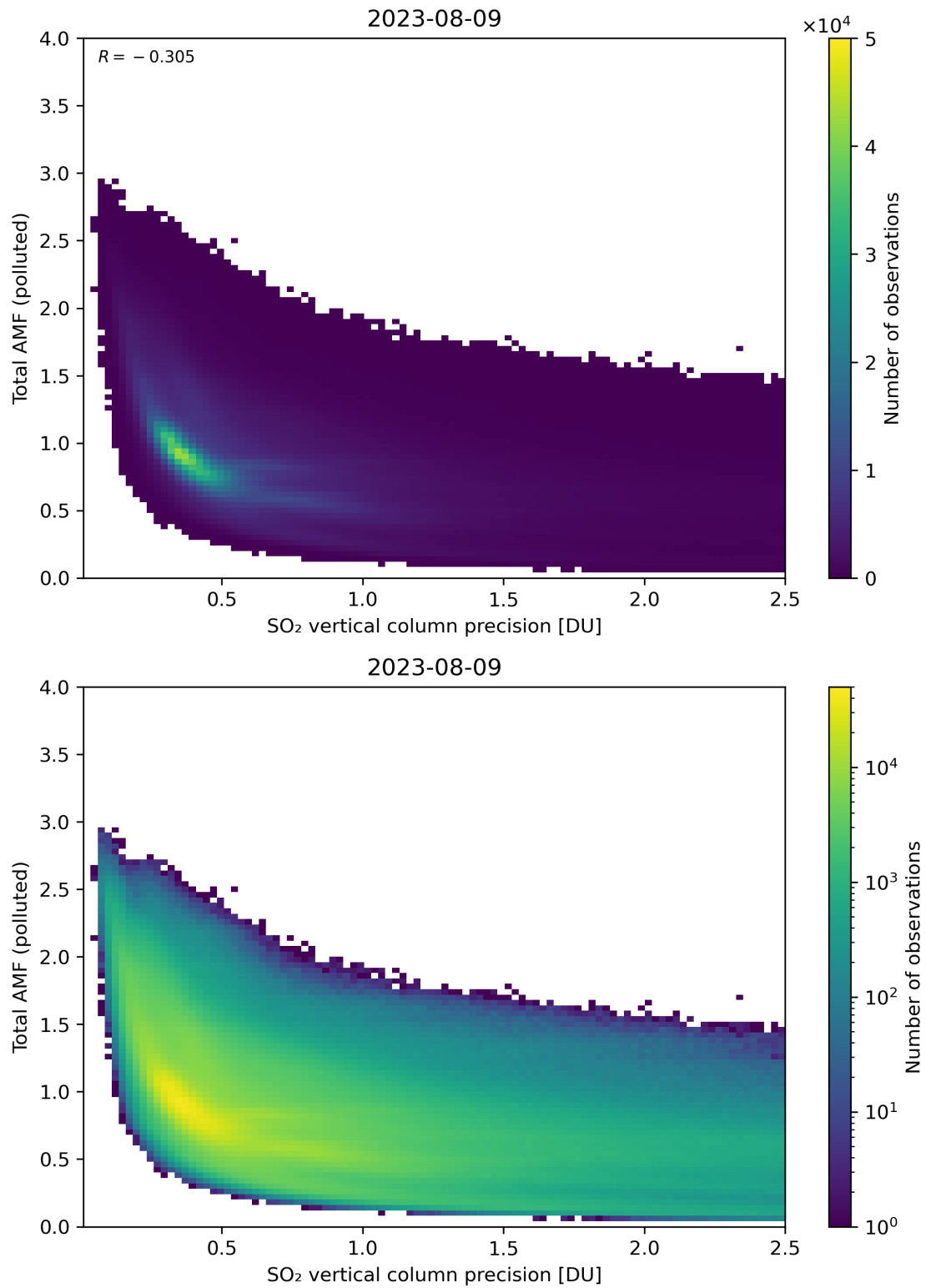


Figure 294: Scatter density plot of “SO₂ vertical column precision” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

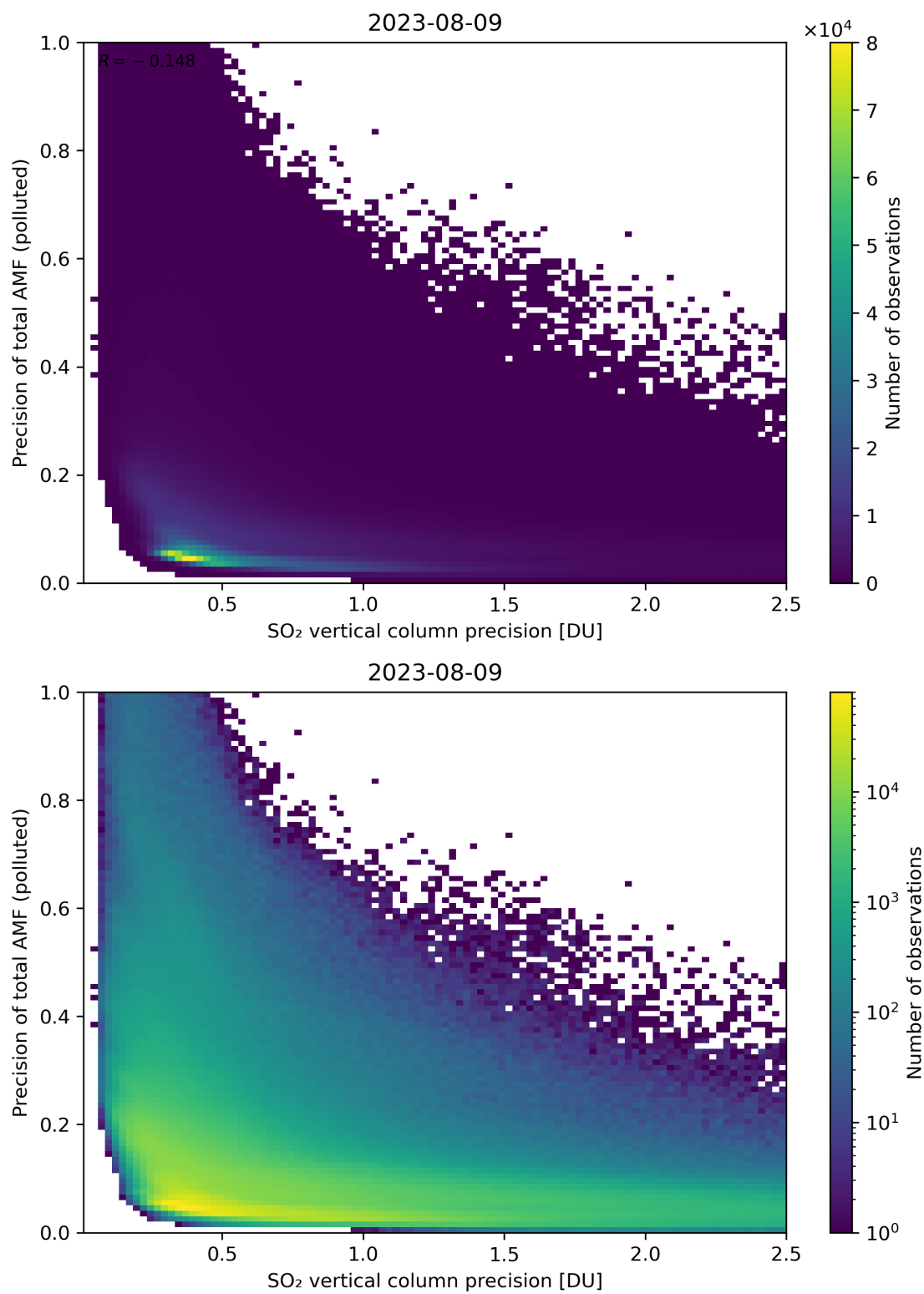


Figure 295: Scatter density plot of “SO₂ vertical column precision” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

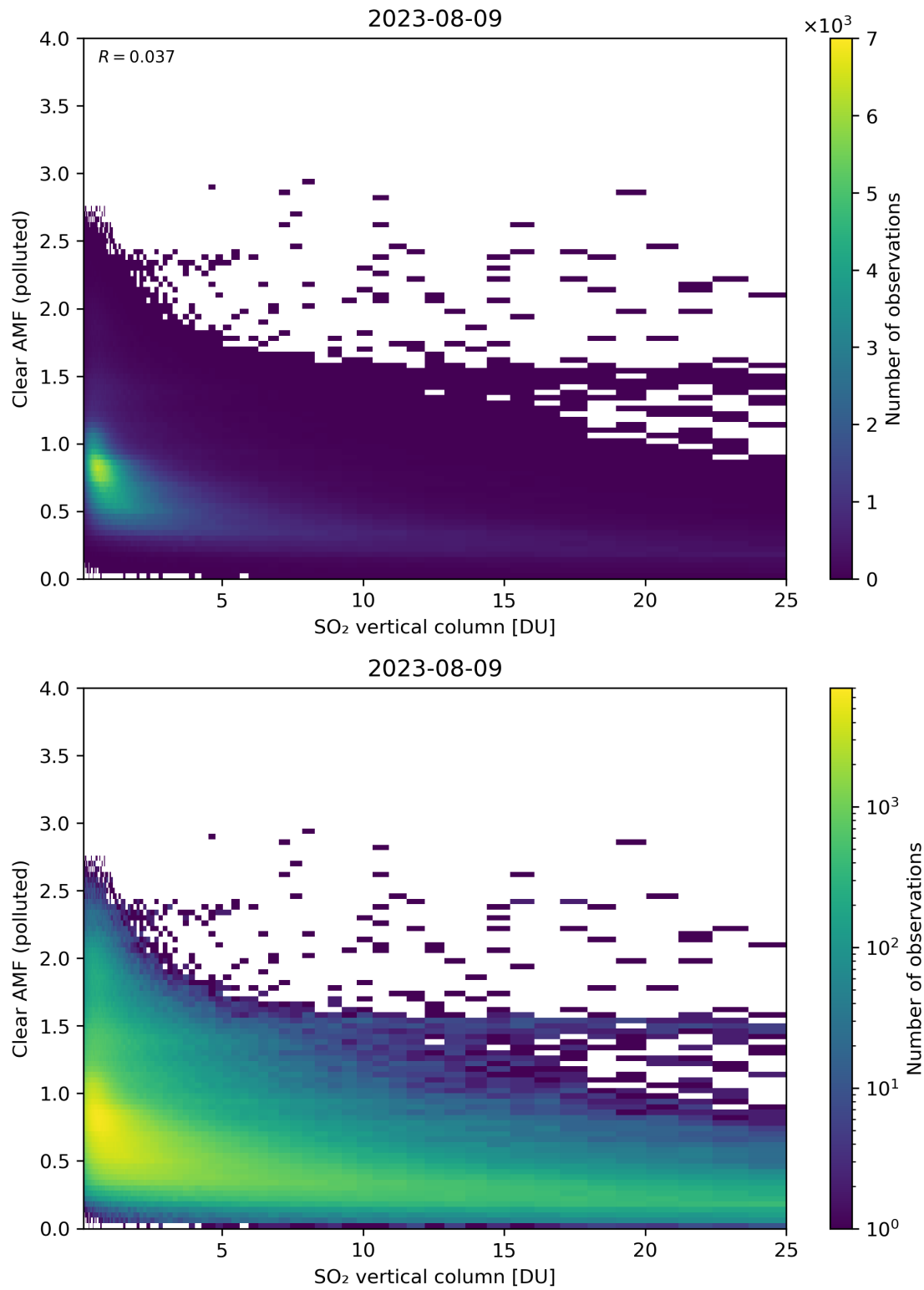


Figure 296: Scatter density plot of “SO₂ vertical column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

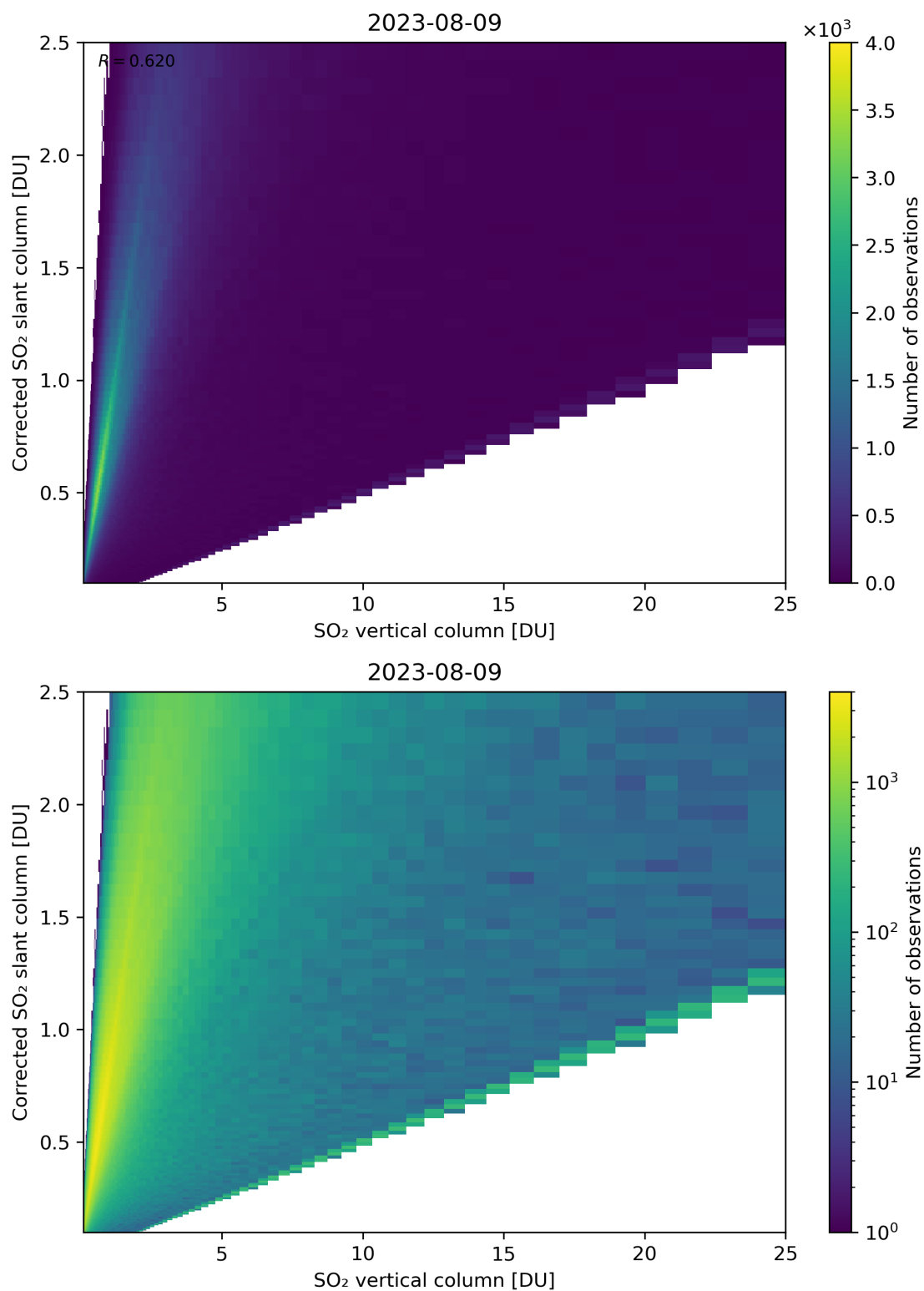


Figure 297: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10.

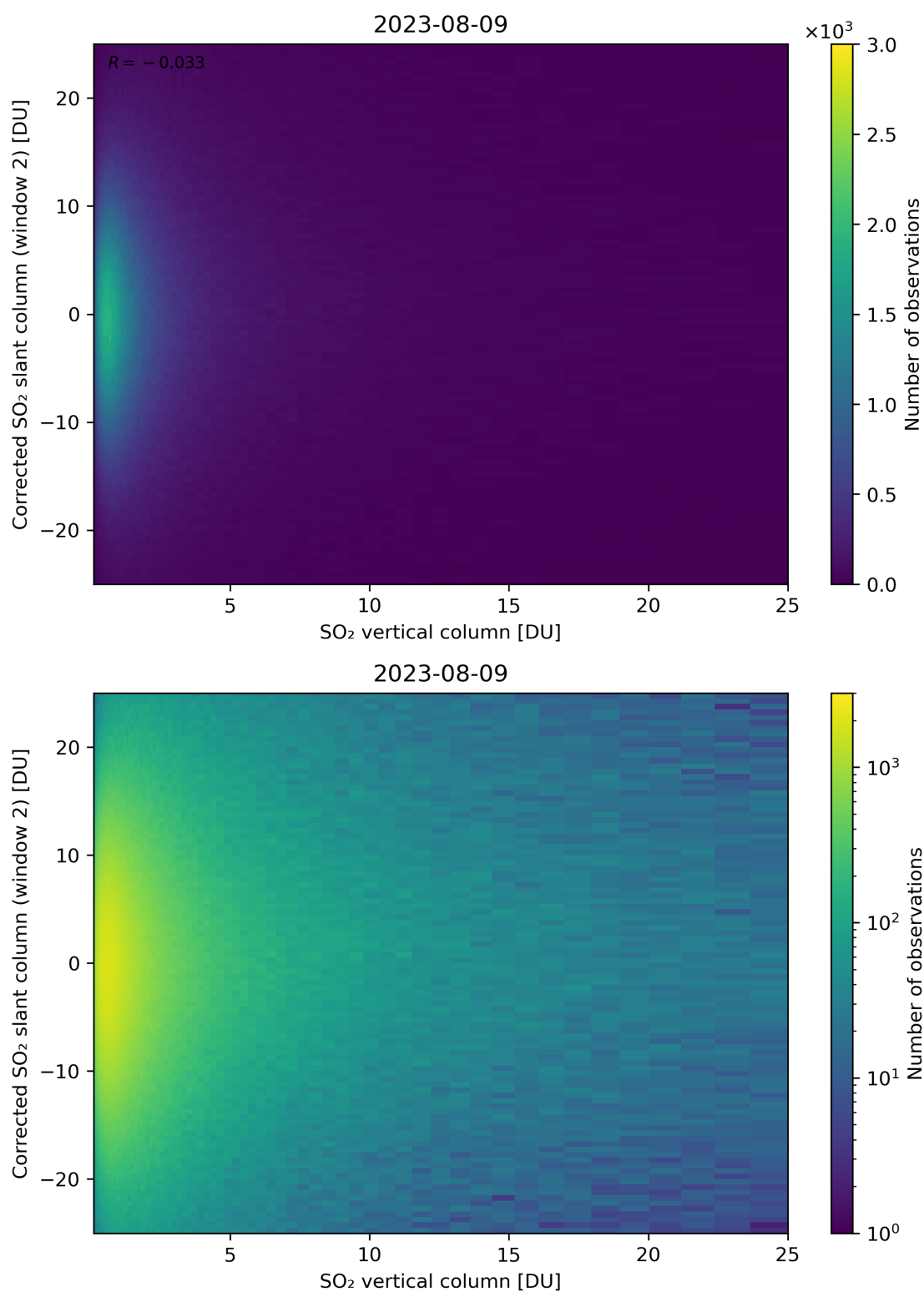


Figure 298: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

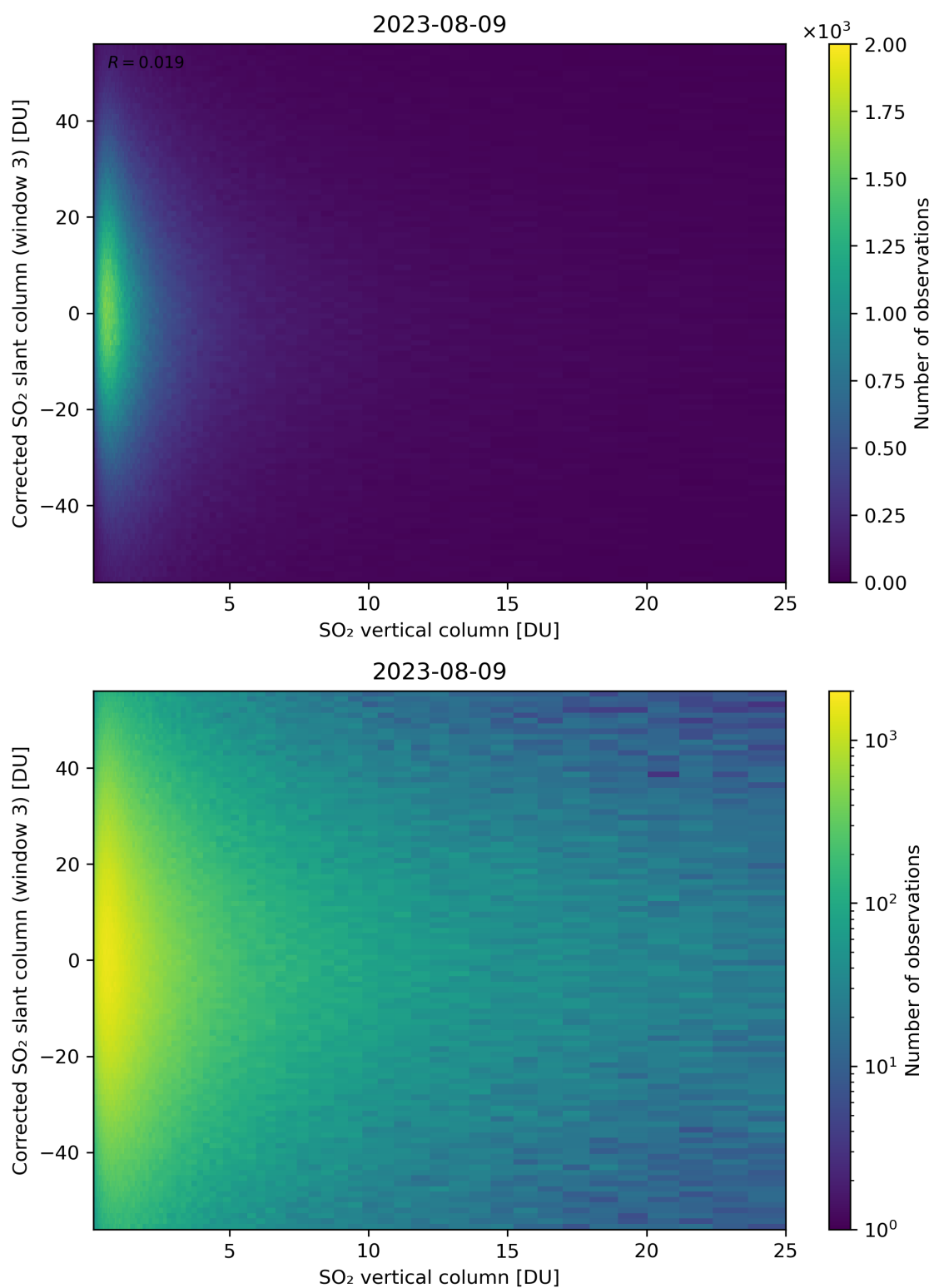


Figure 299: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

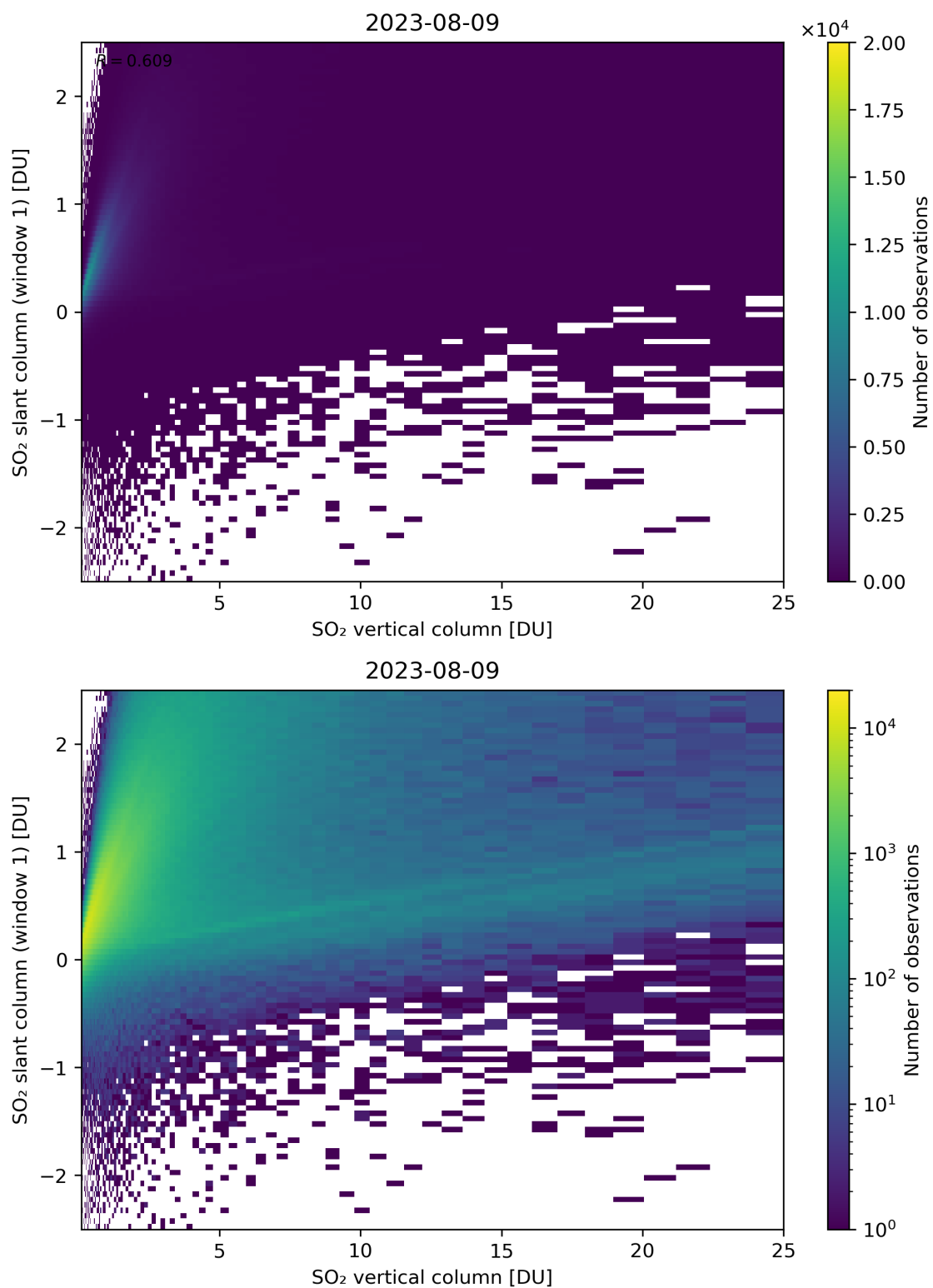


Figure 300: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

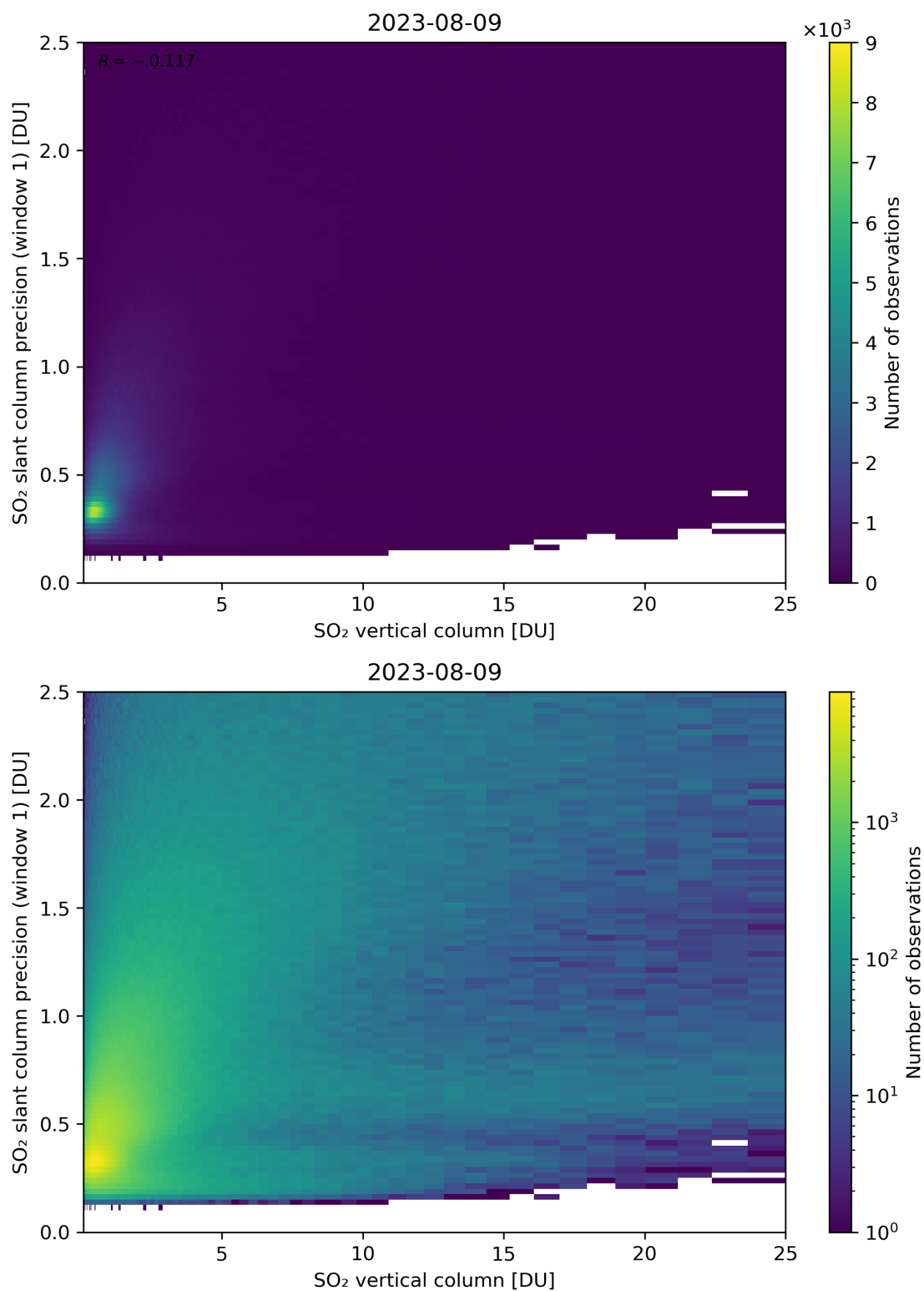


Figure 301: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

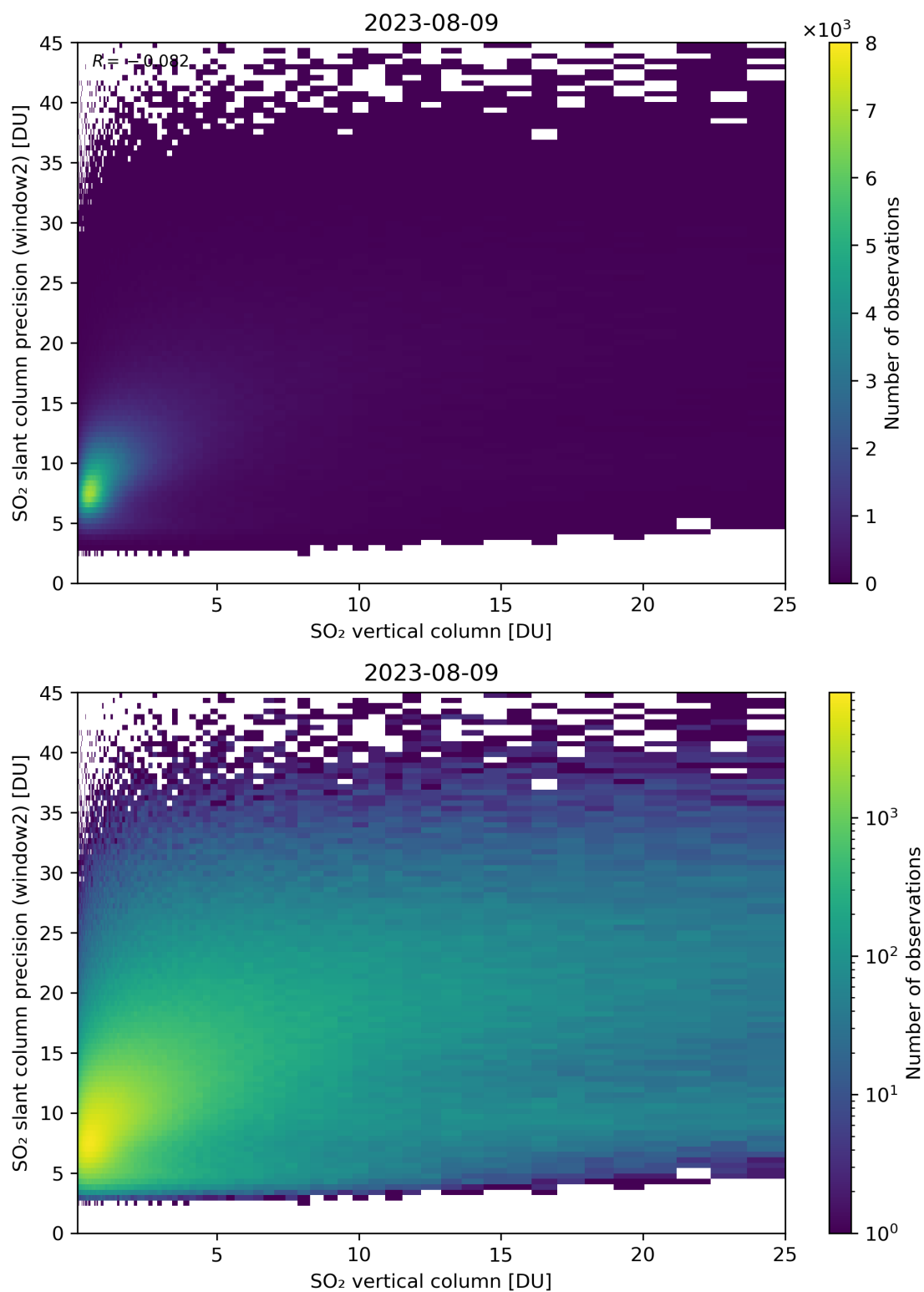


Figure 302: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

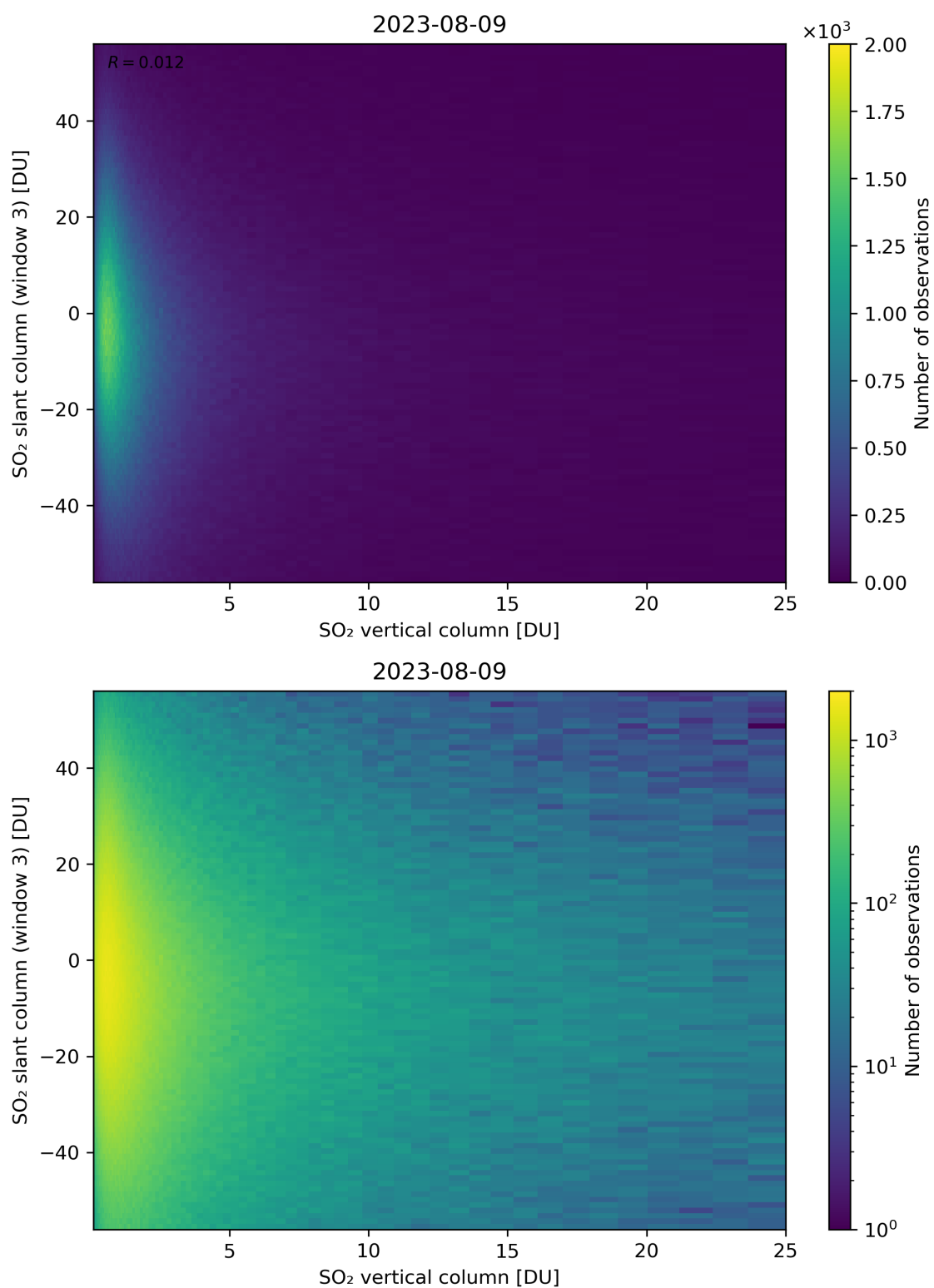


Figure 303: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

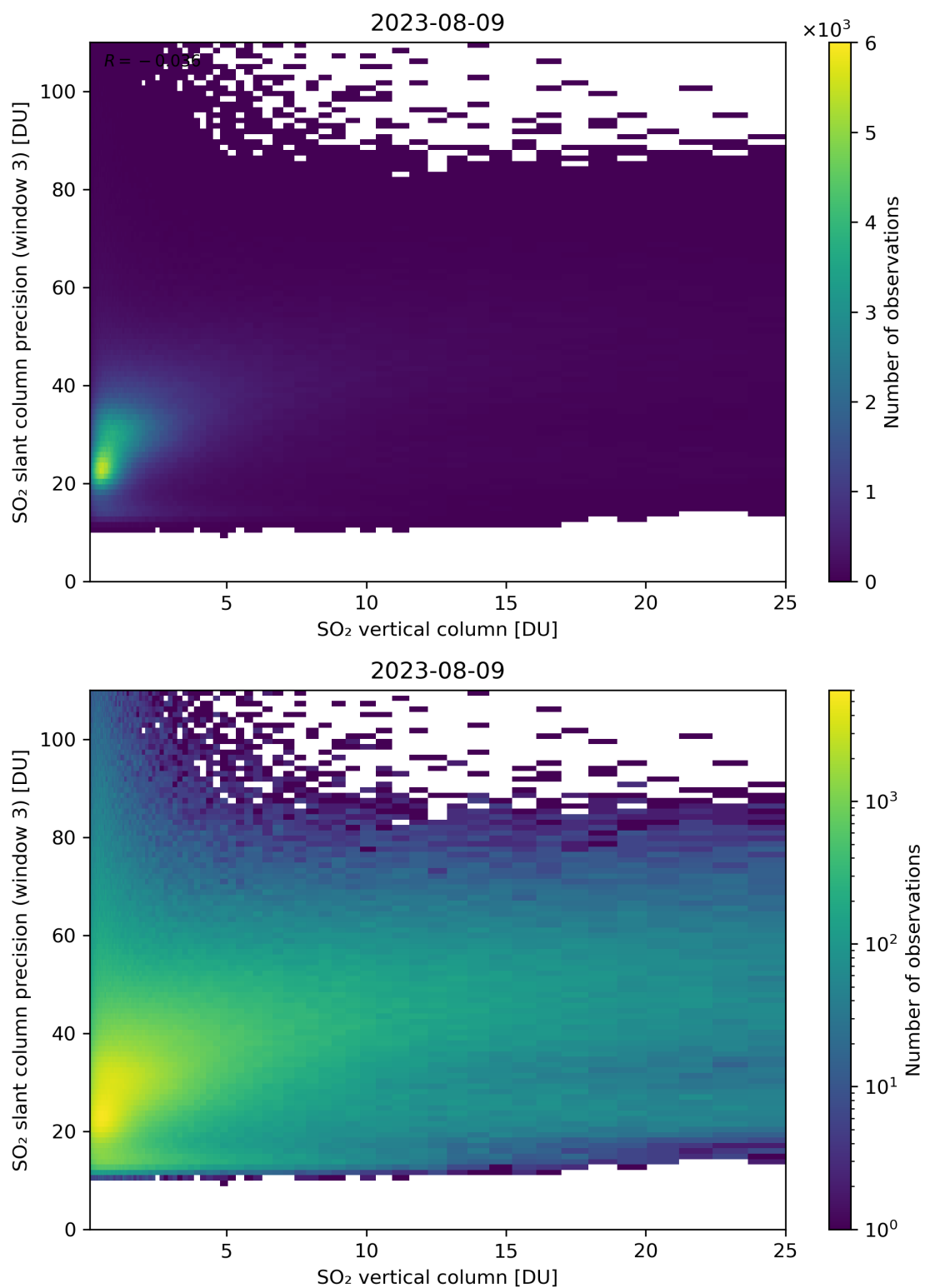


Figure 304: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

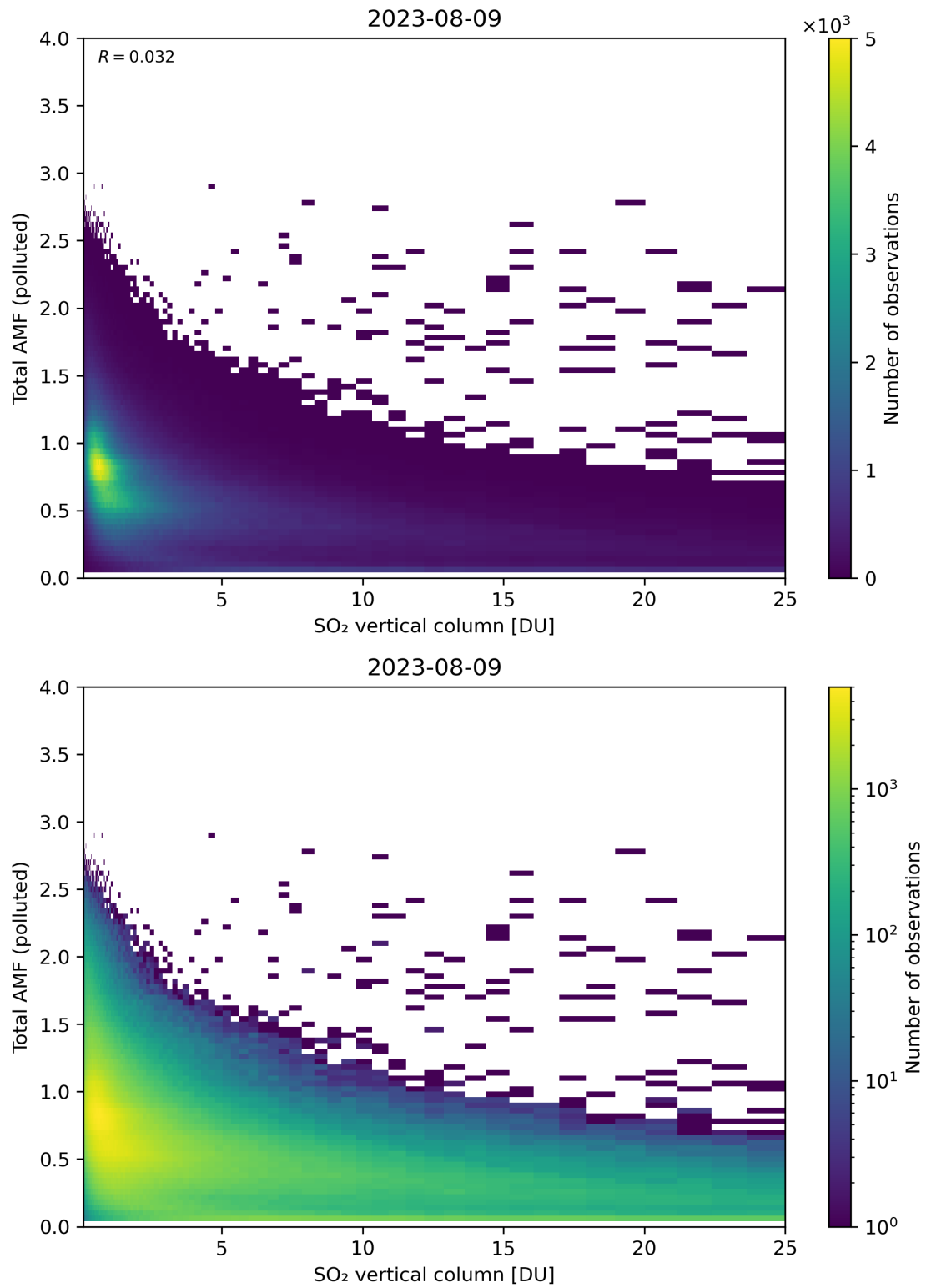


Figure 305: Scatter density plot of “SO₂ vertical column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

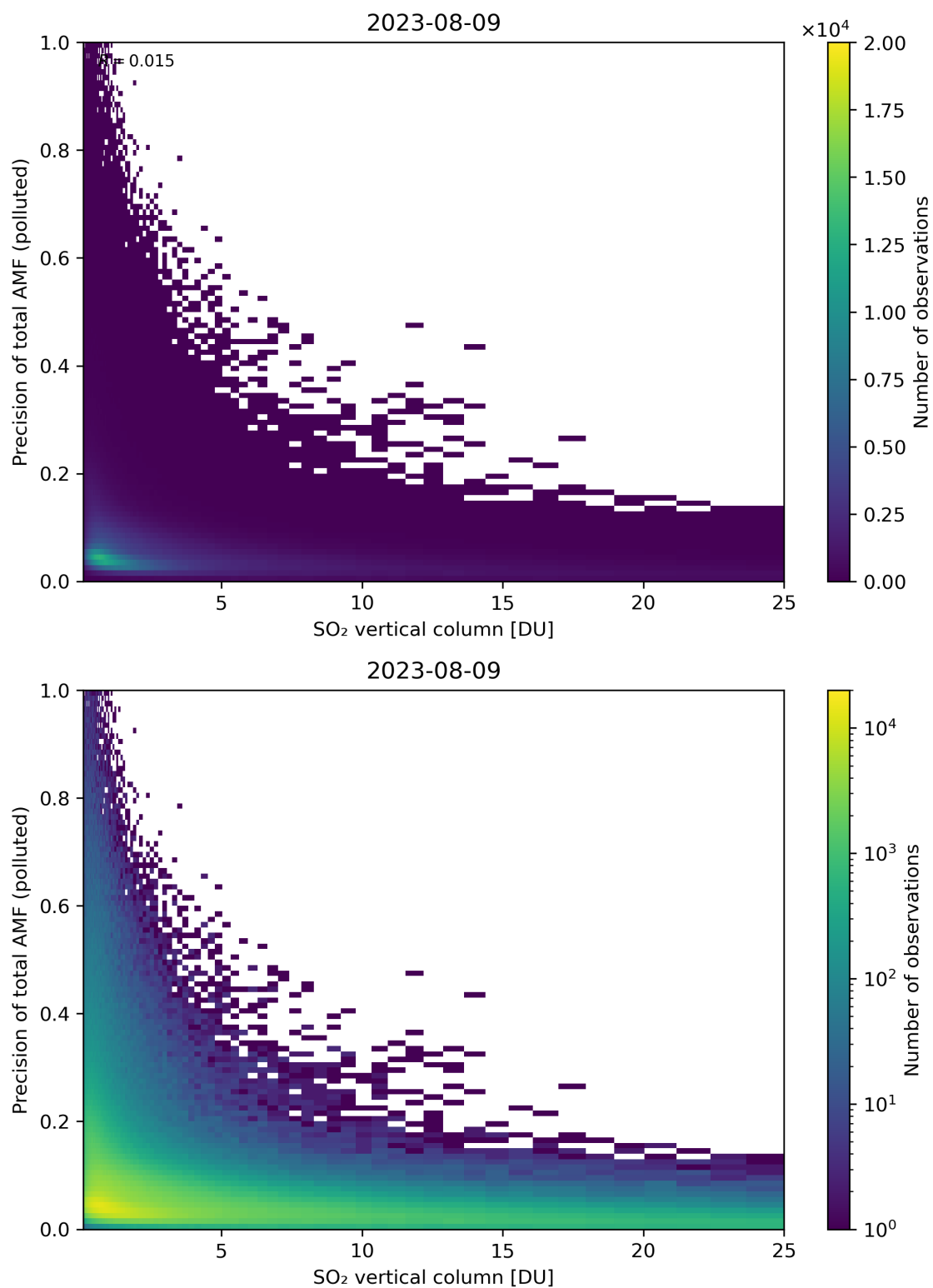


Figure 306: Scatter density plot of “SO₂ vertical column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

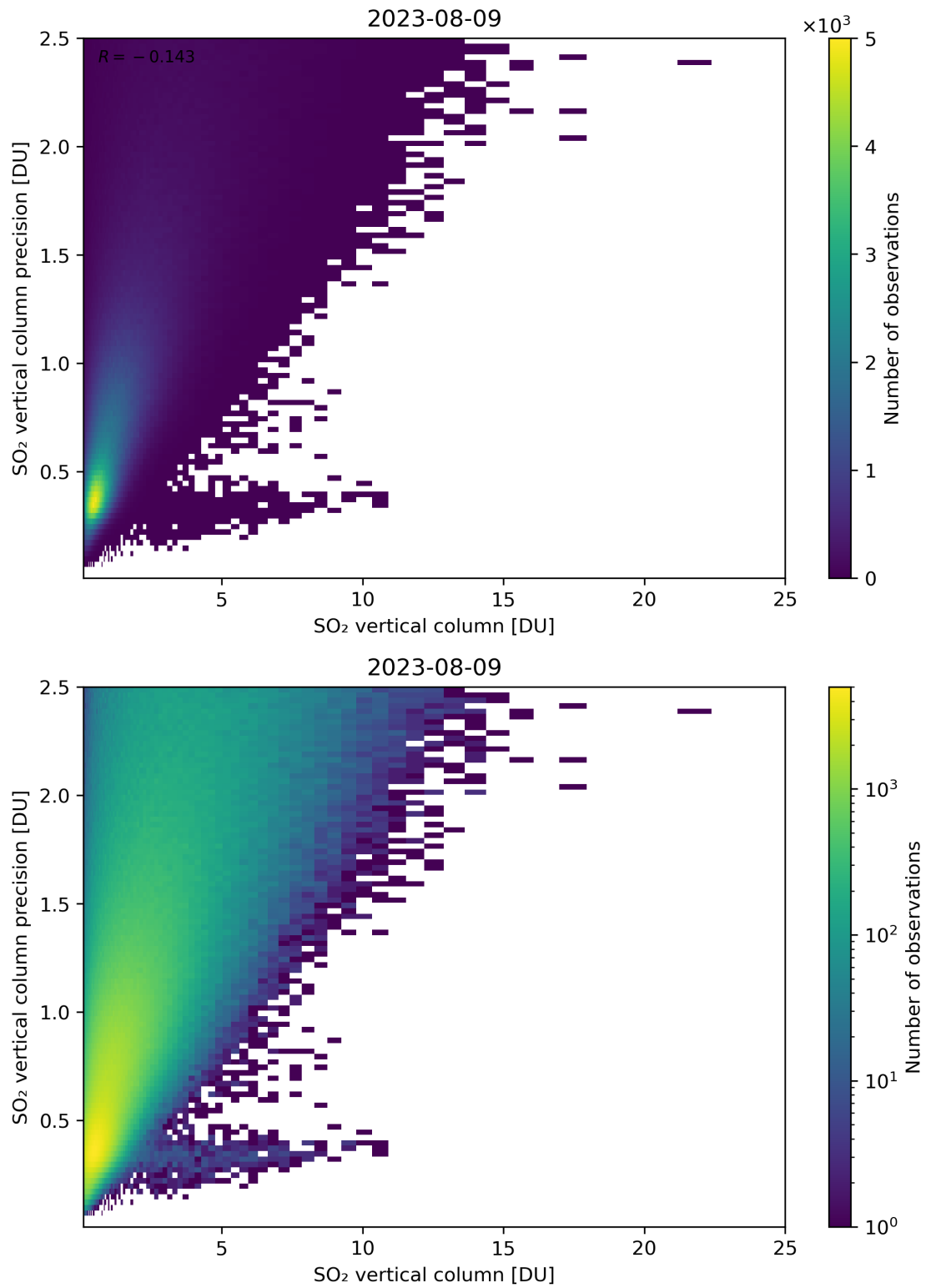


Figure 307: Scatter density plot of “SO₂ vertical column” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10.

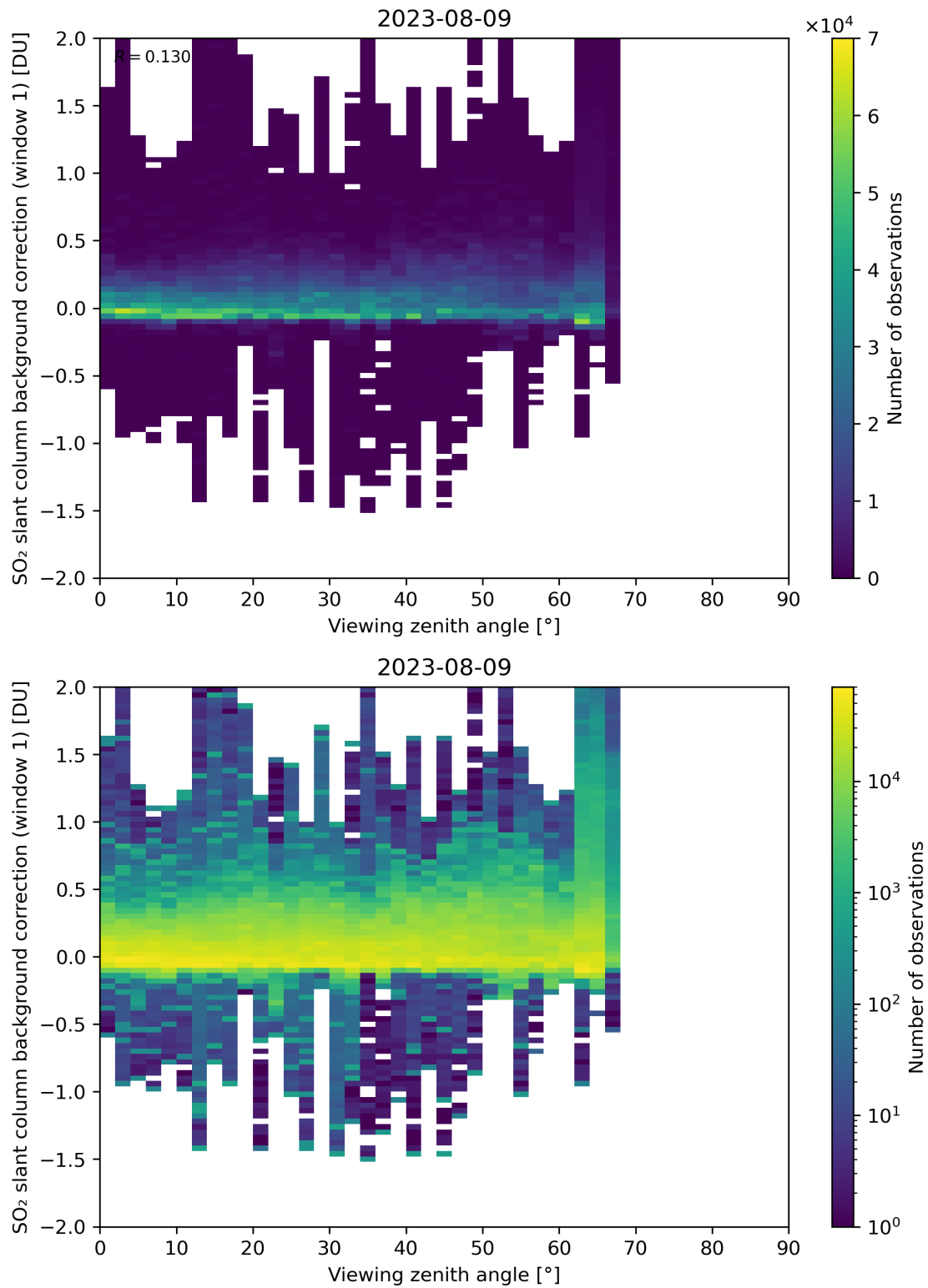


Figure 308: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.

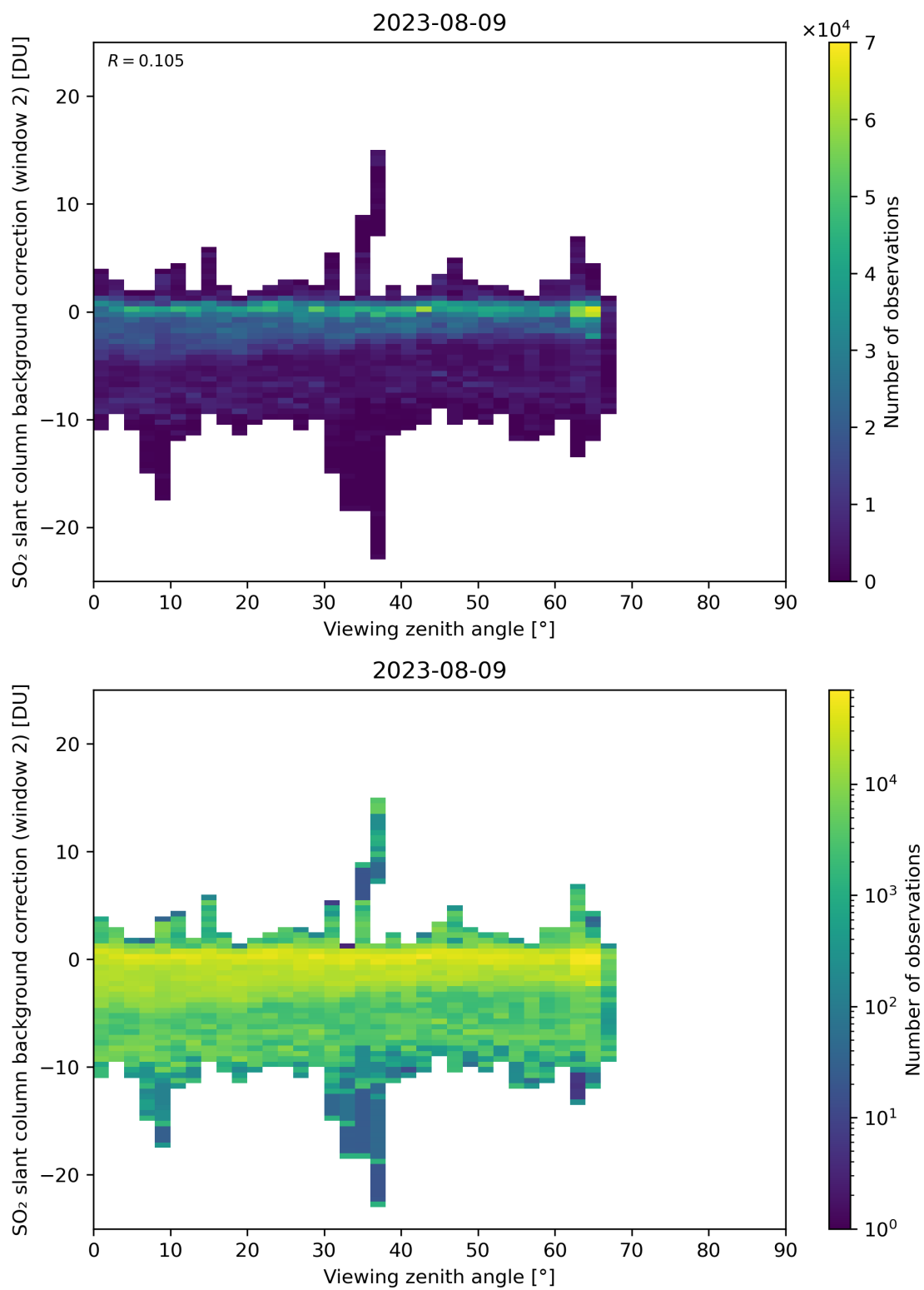


Figure 309: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.

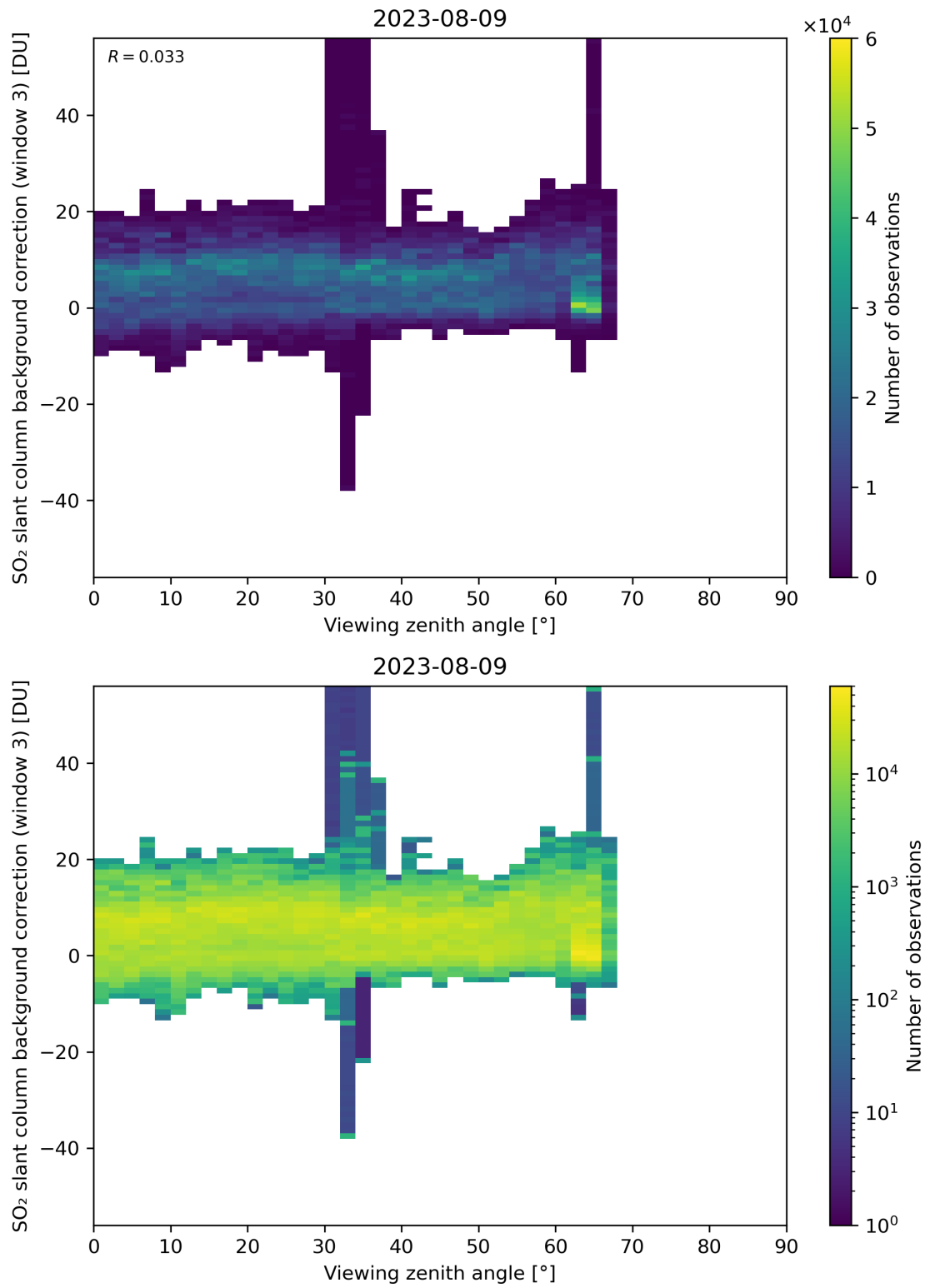


Figure 310: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.

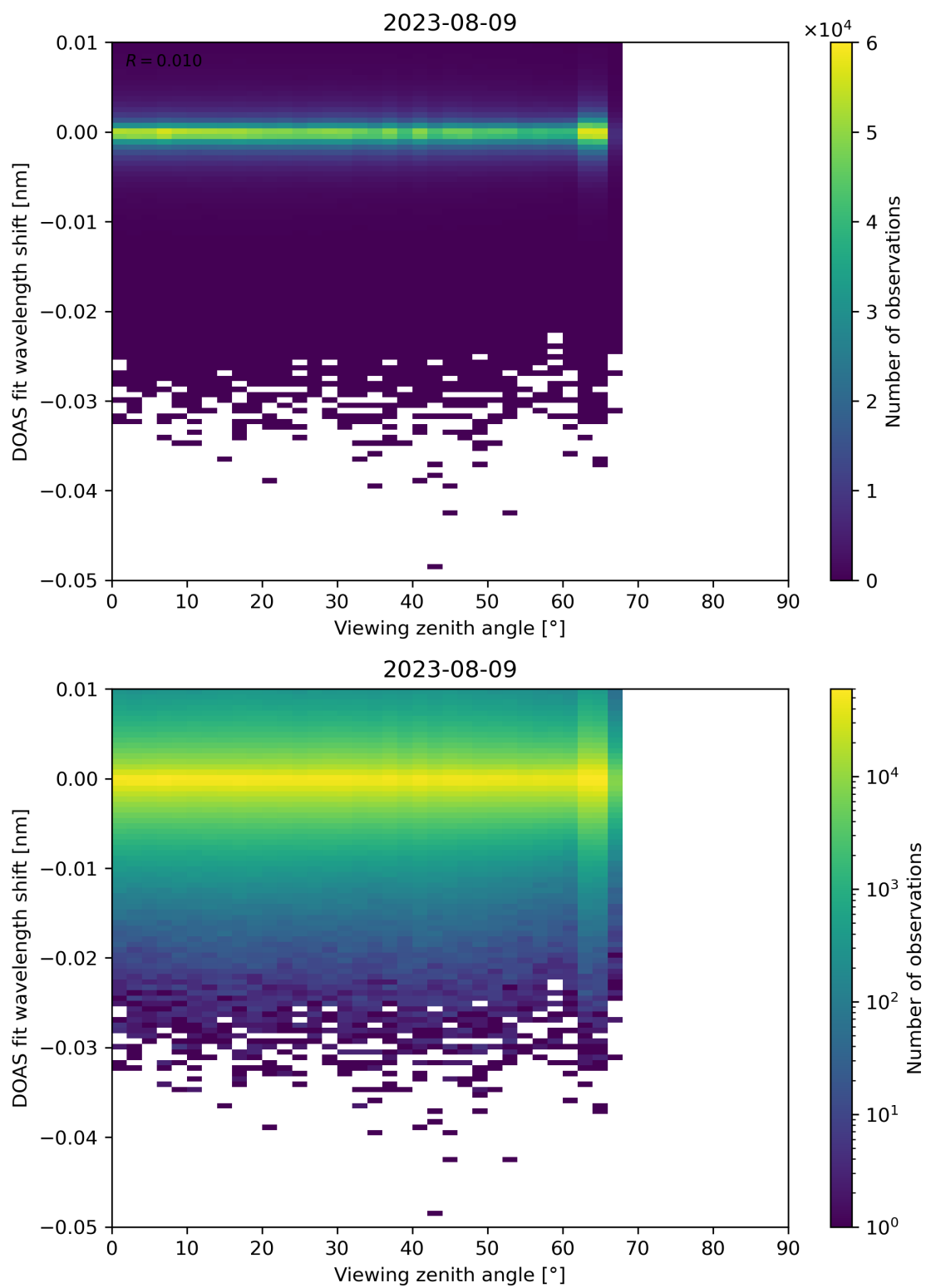


Figure 311: Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.

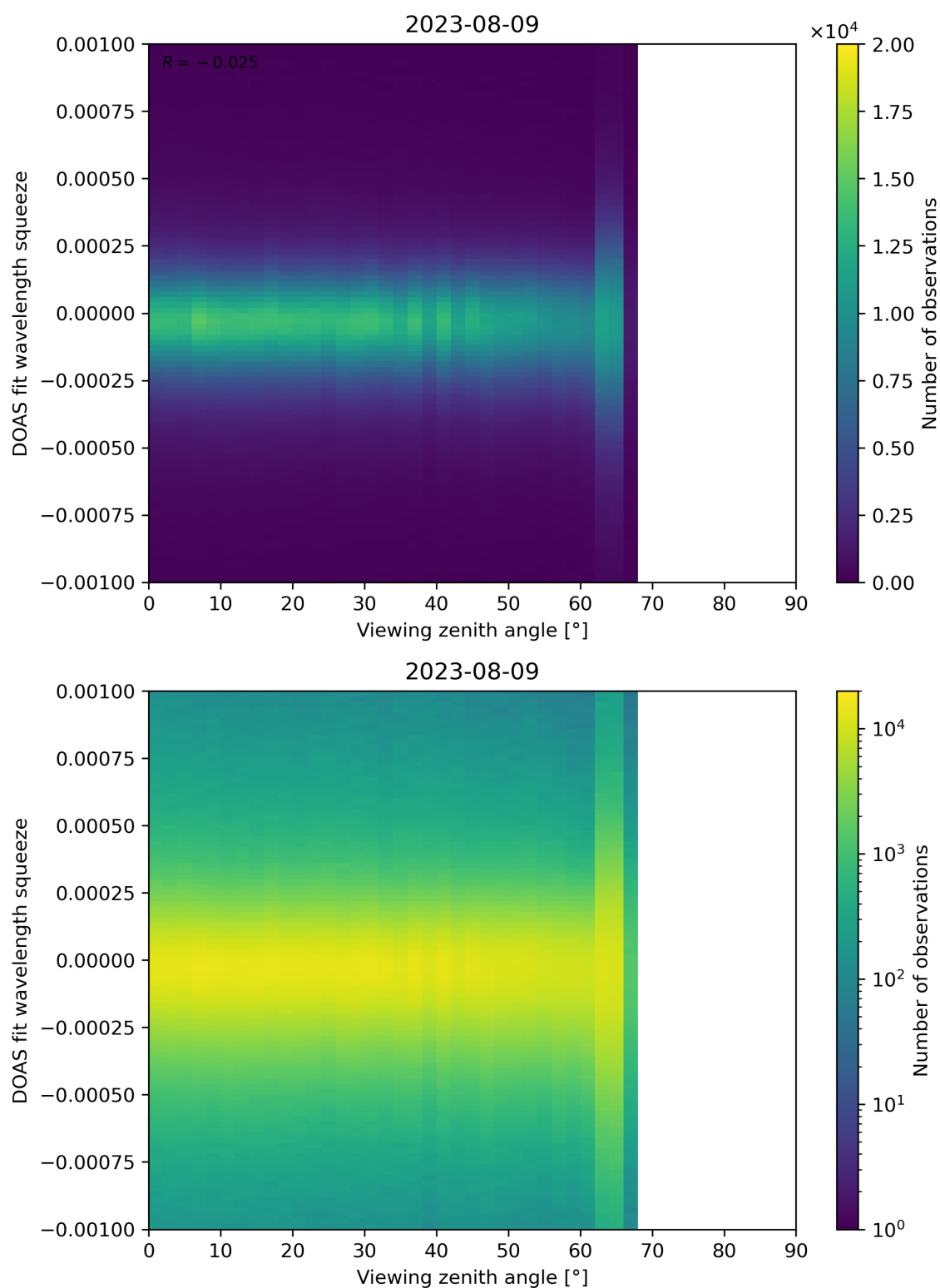


Figure 312: Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.

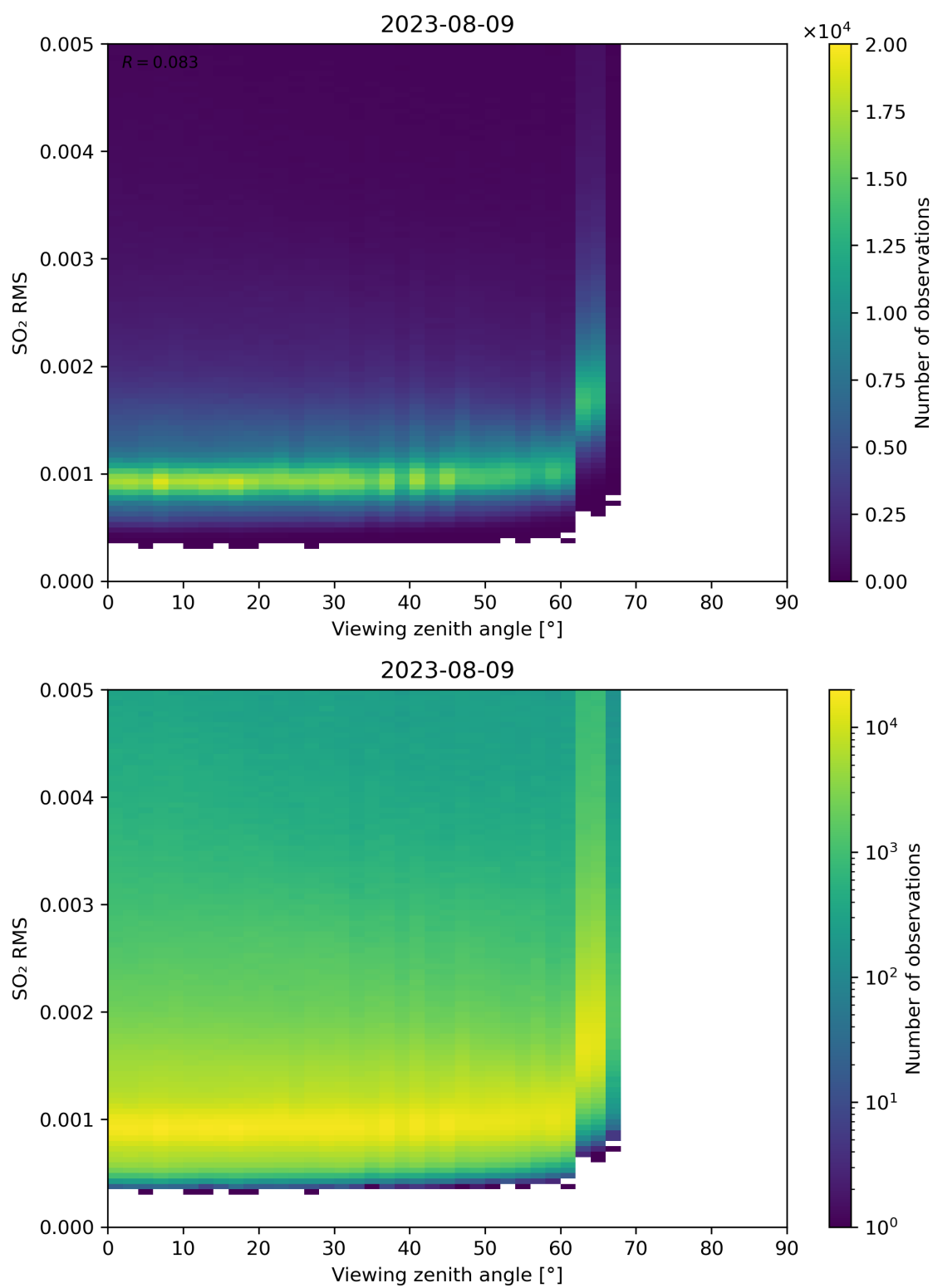


Figure 313: Scatter density plot of “Viewing zenith angle” against “SO₂ RMS” for 2023-08-09 to 2023-08-10.

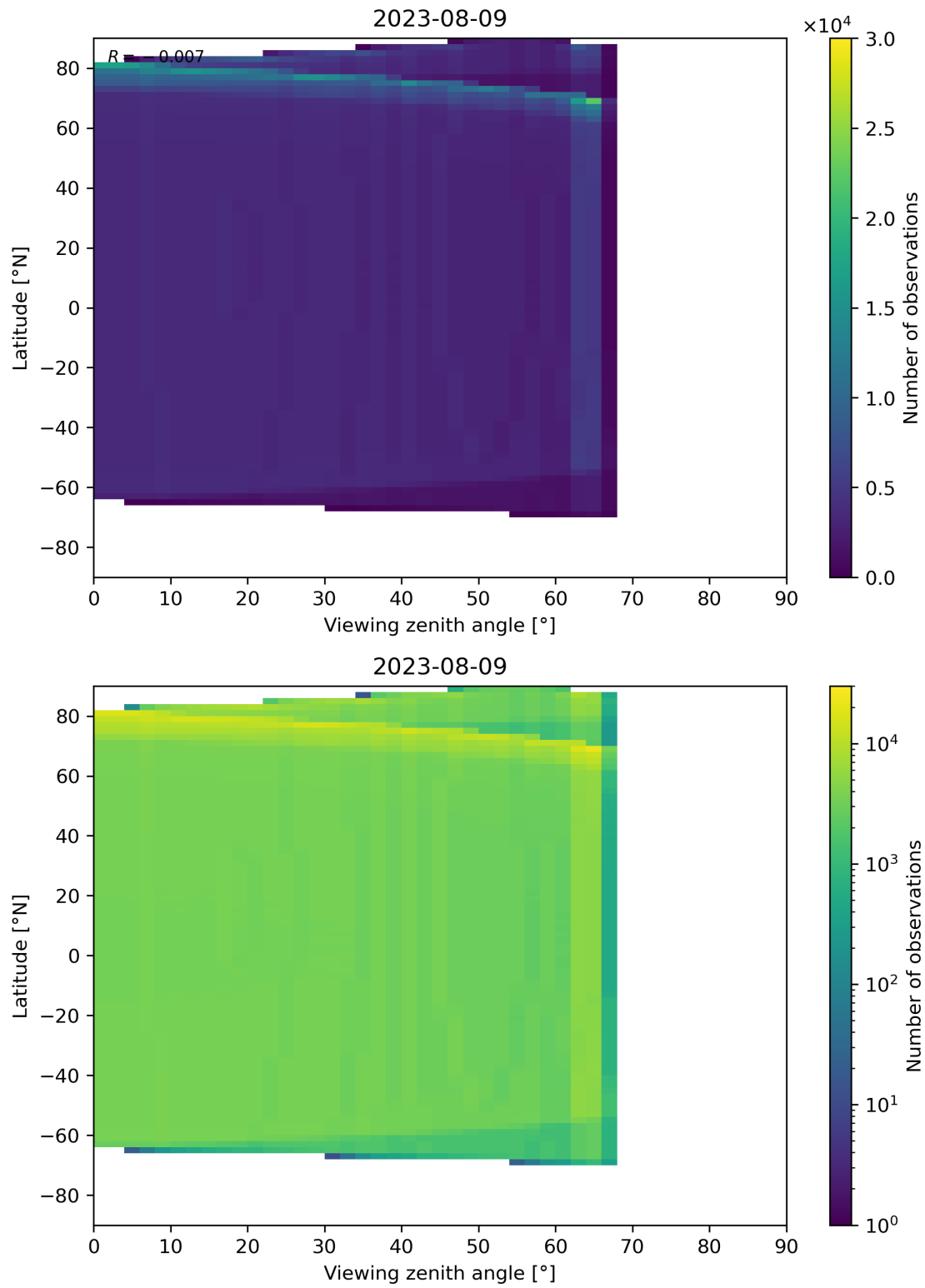


Figure 314: Scatter density plot of “Viewing zenith angle” against “Latitude” for 2023-08-09 to 2023-08-10.

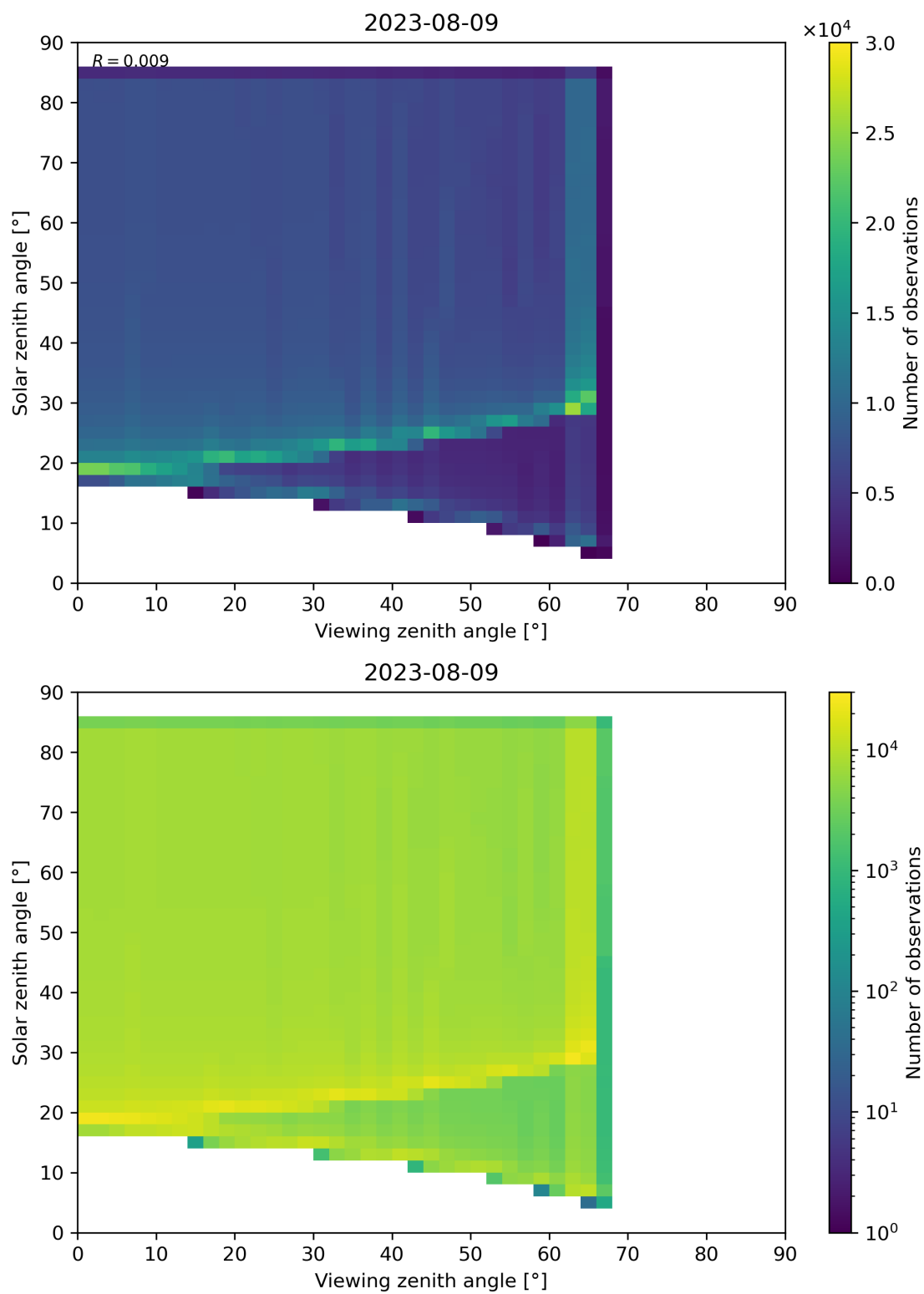


Figure 315: Scatter density plot of “Viewing zenith angle” against “Solar zenith angle” for 2023-08-09 to 2023-08-10.

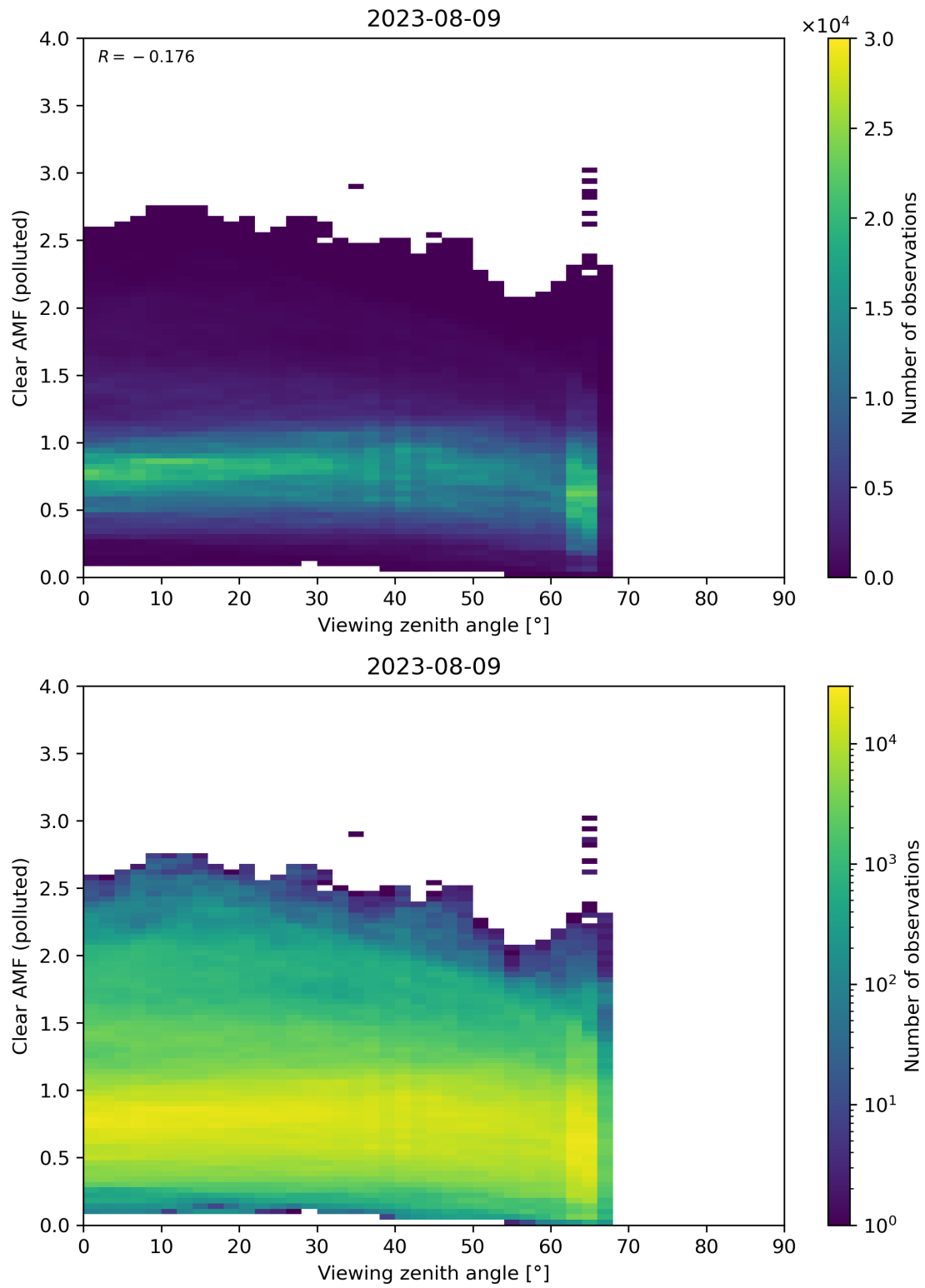


Figure 316: Scatter density plot of “Viewing zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.

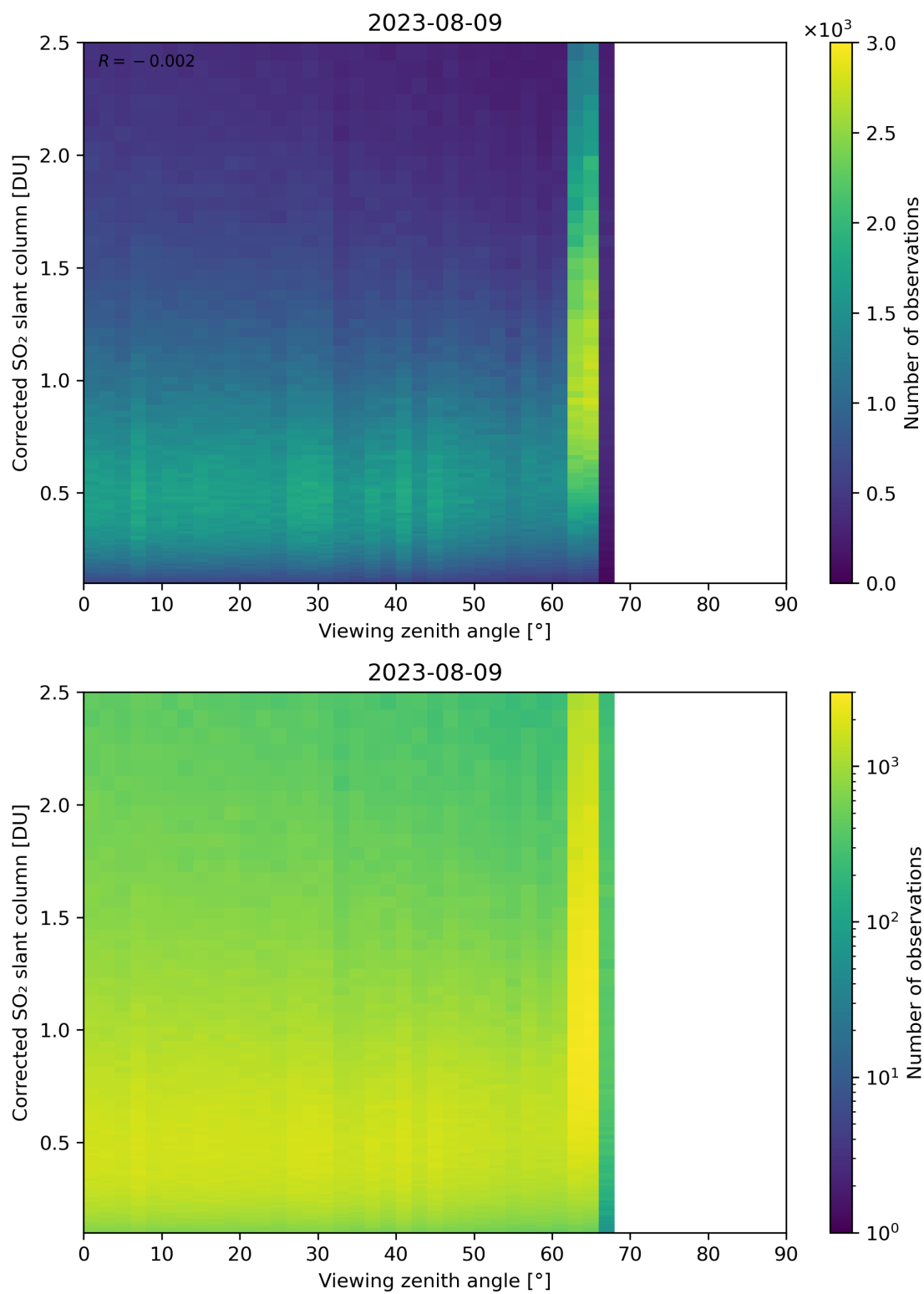


Figure 317: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-10.

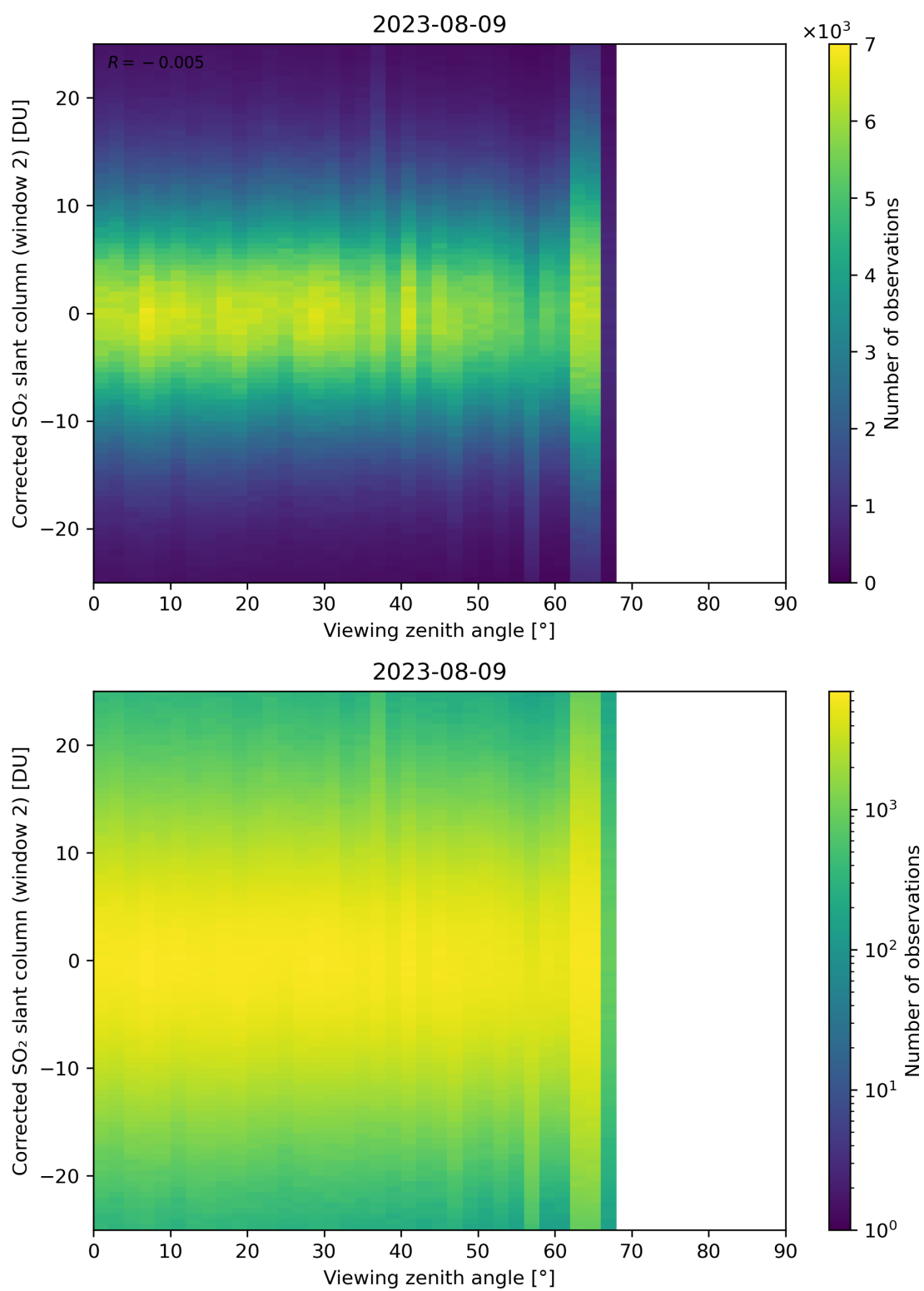


Figure 318: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.

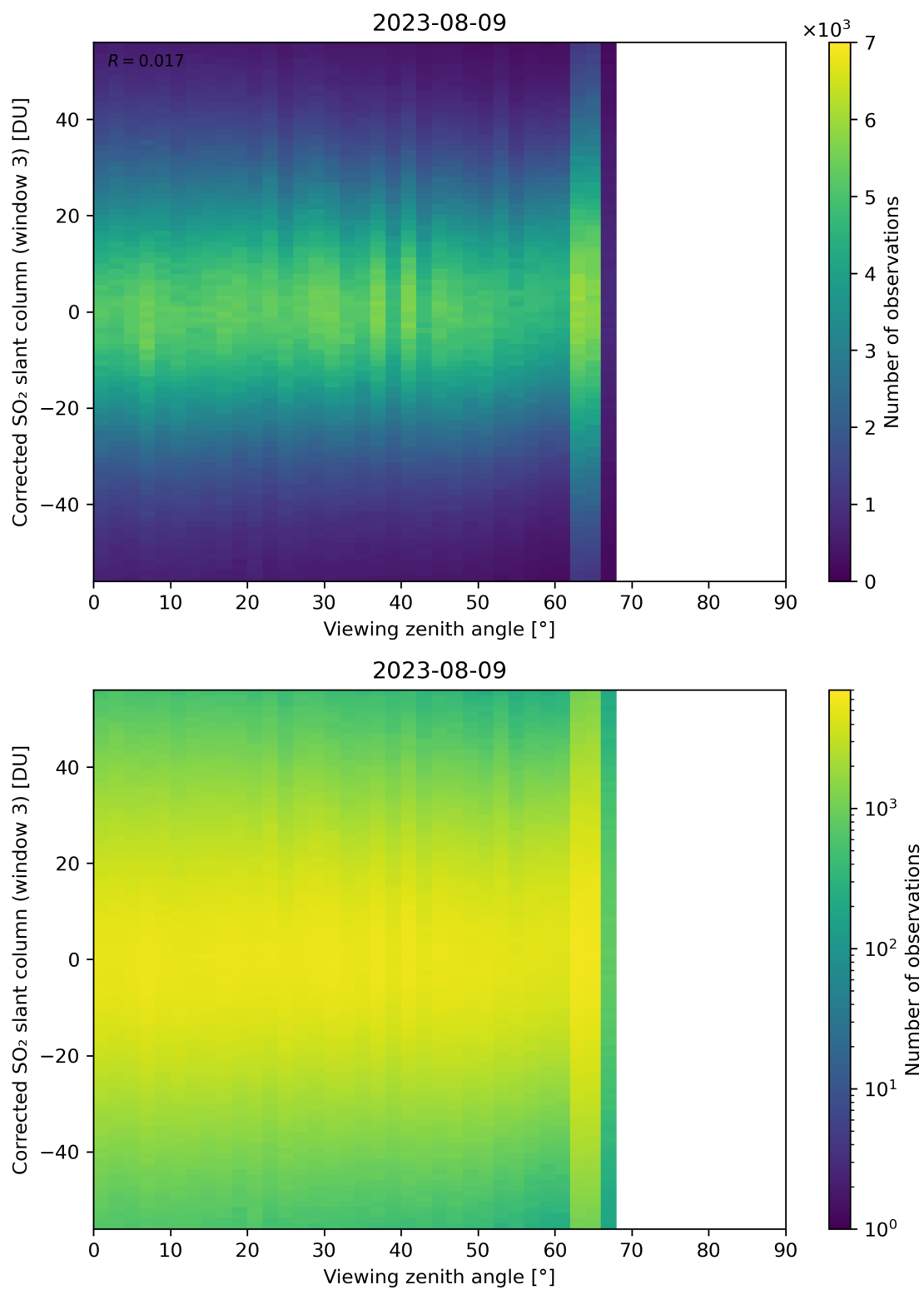


Figure 319: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

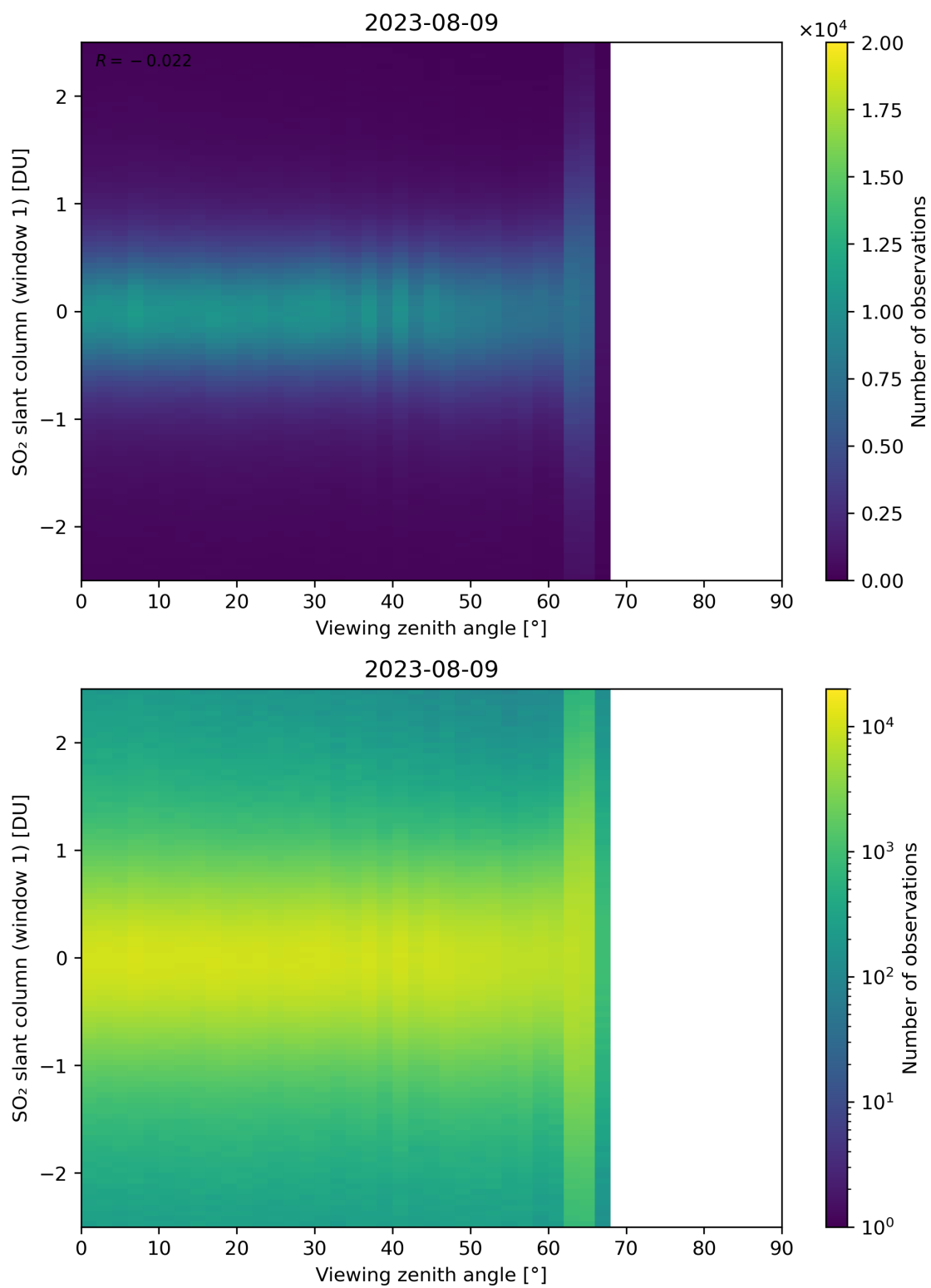


Figure 320: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.

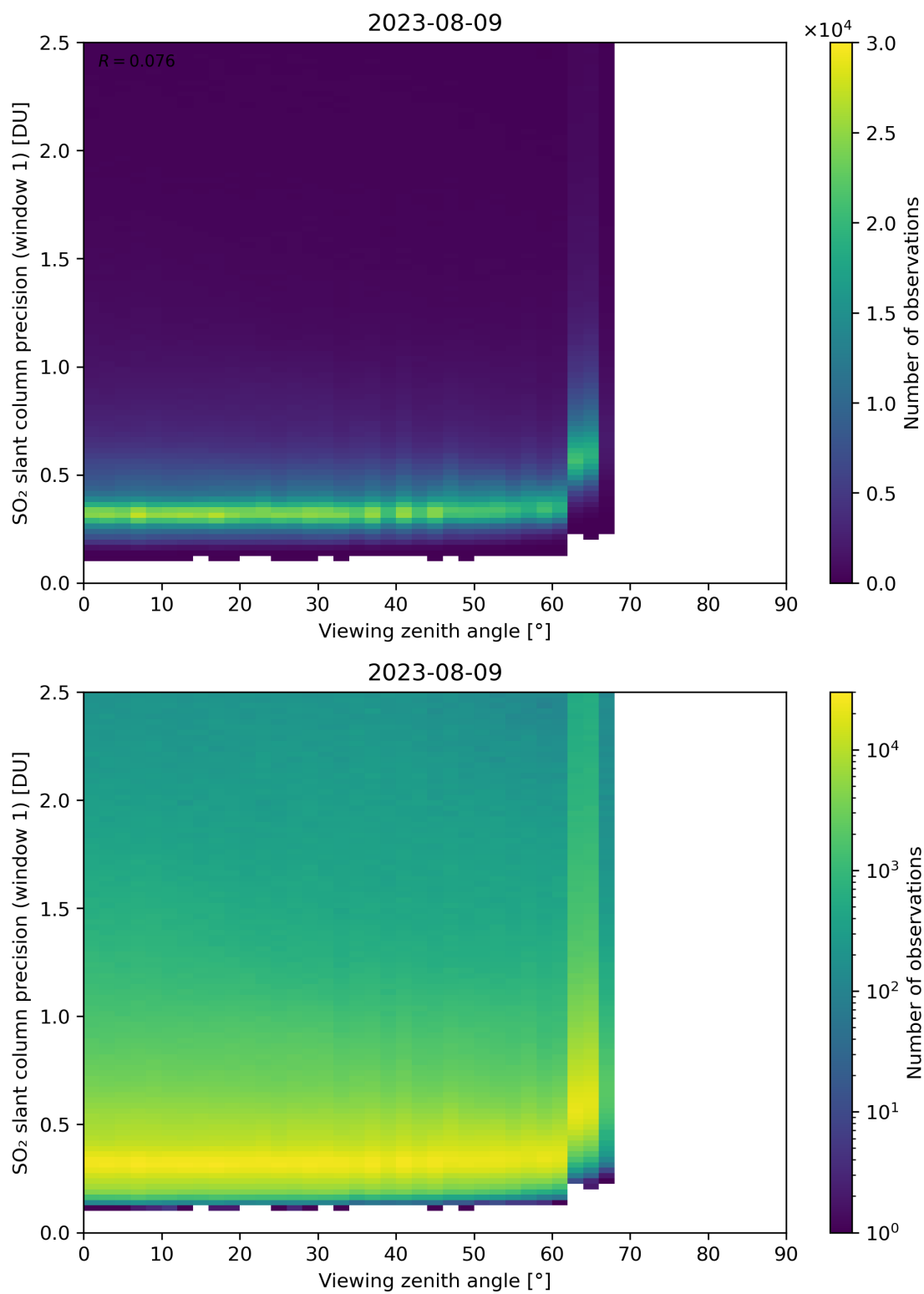


Figure 321: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.

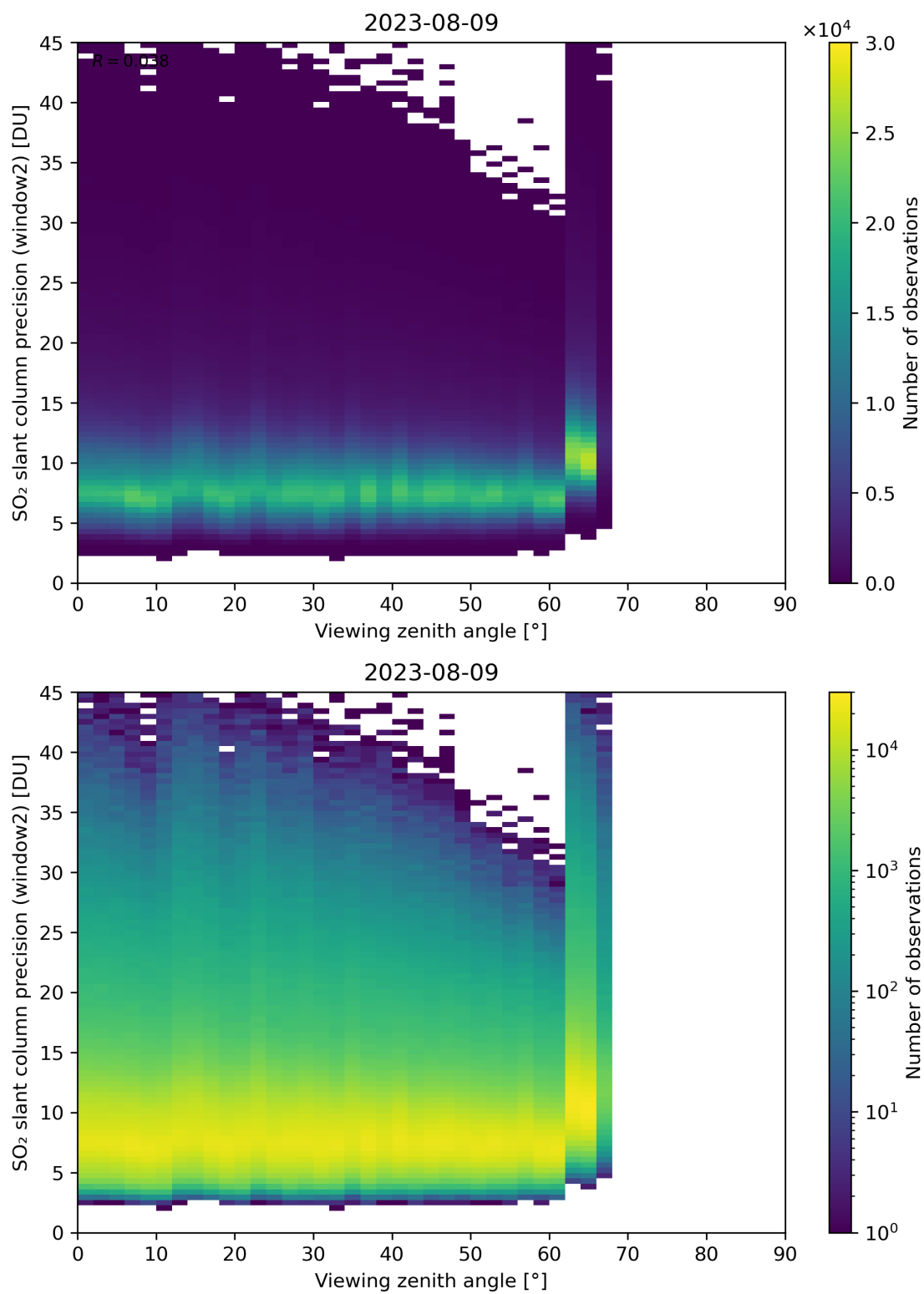


Figure 322: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.

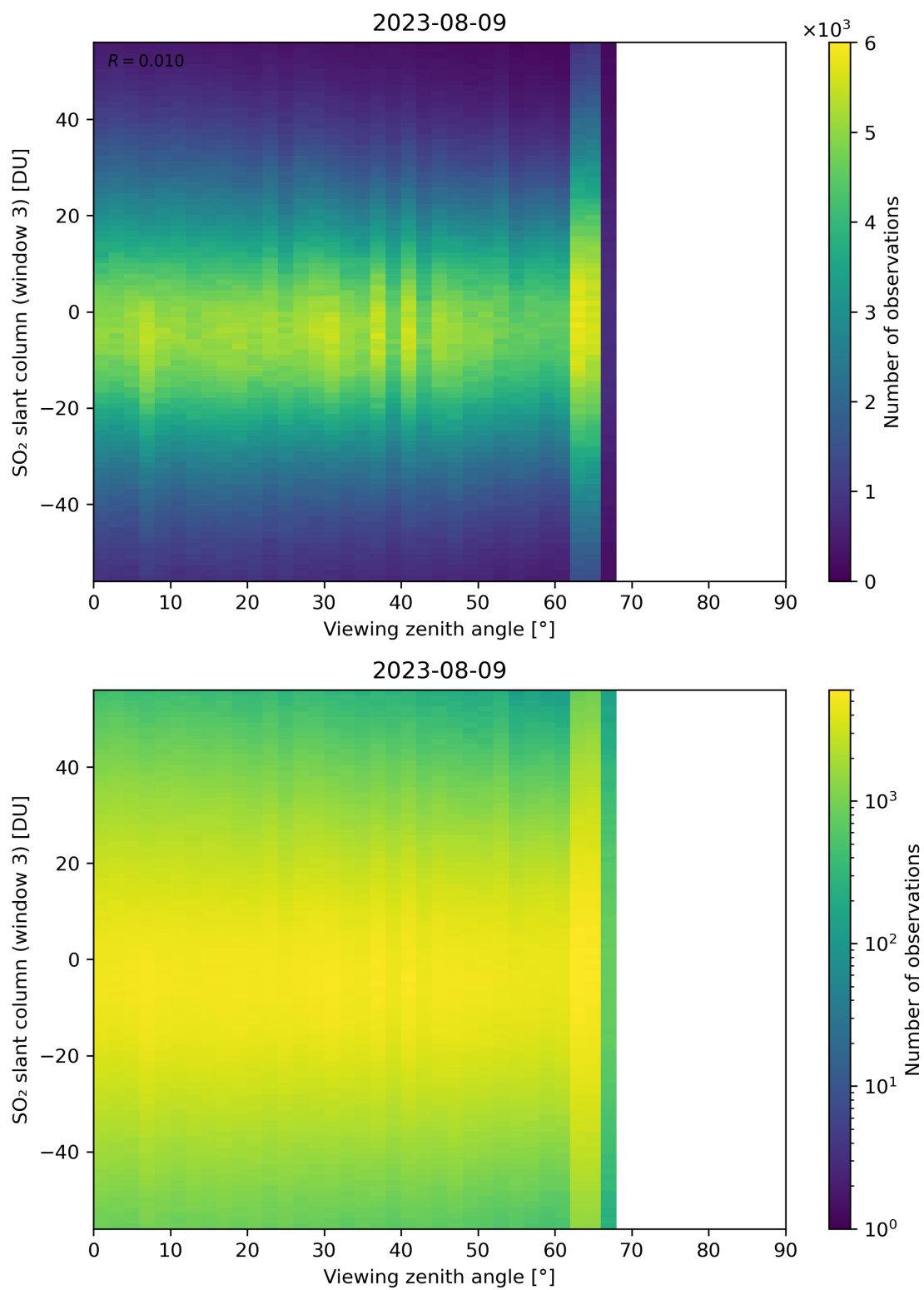


Figure 323: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.

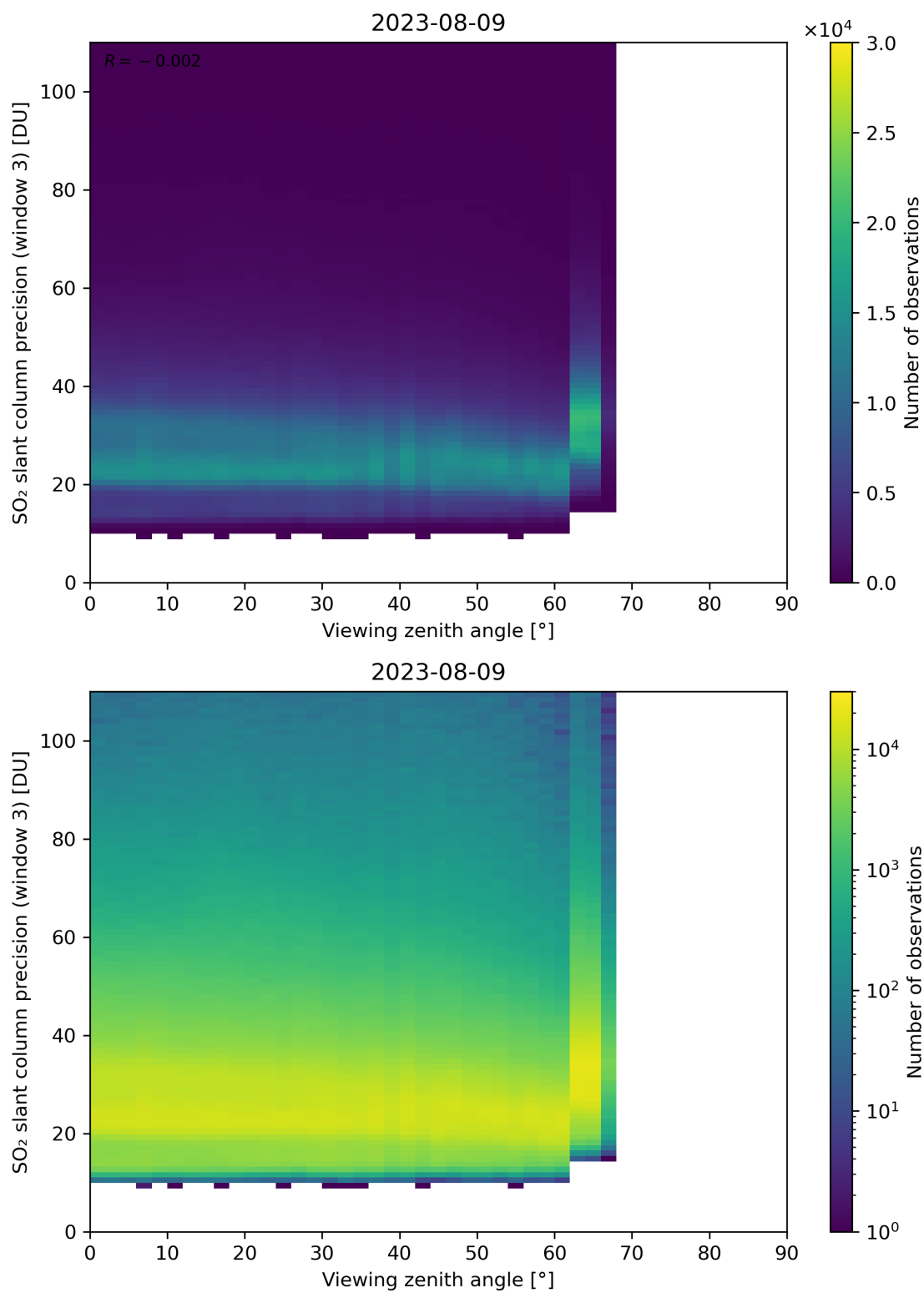


Figure 324: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.

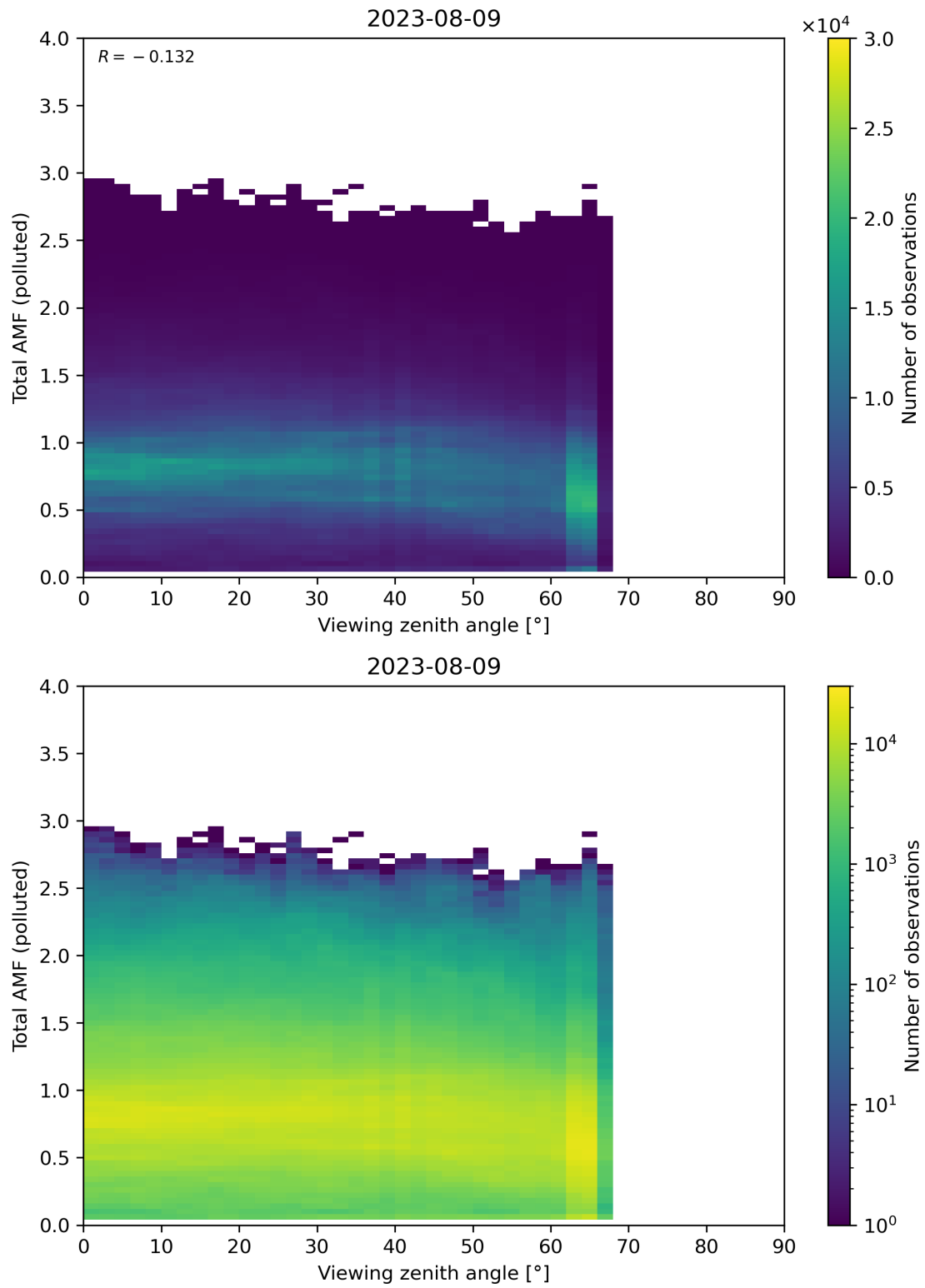


Figure 325: Scatter density plot of “Viewing zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.

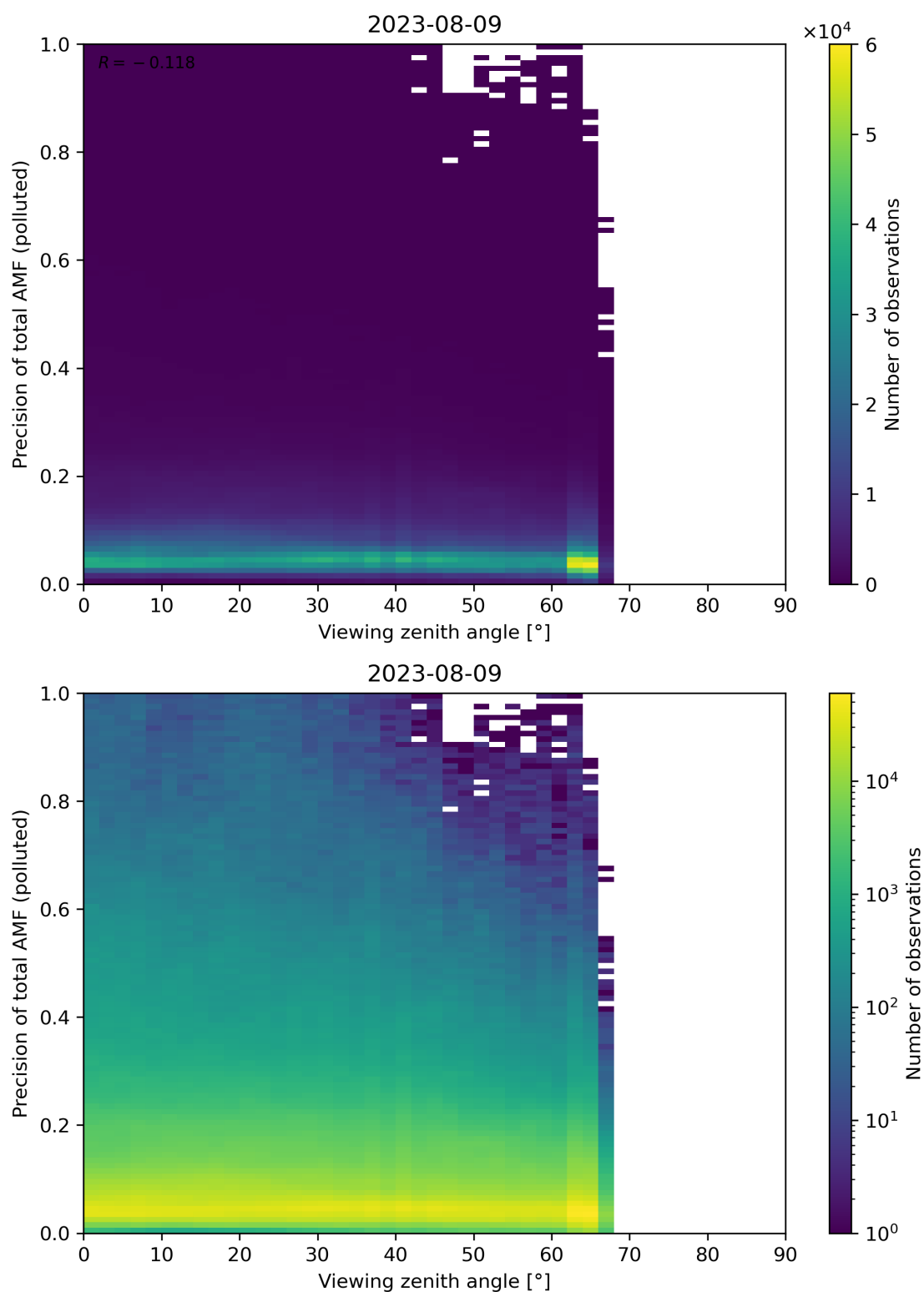


Figure 326: Scatter density plot of “Viewing zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.

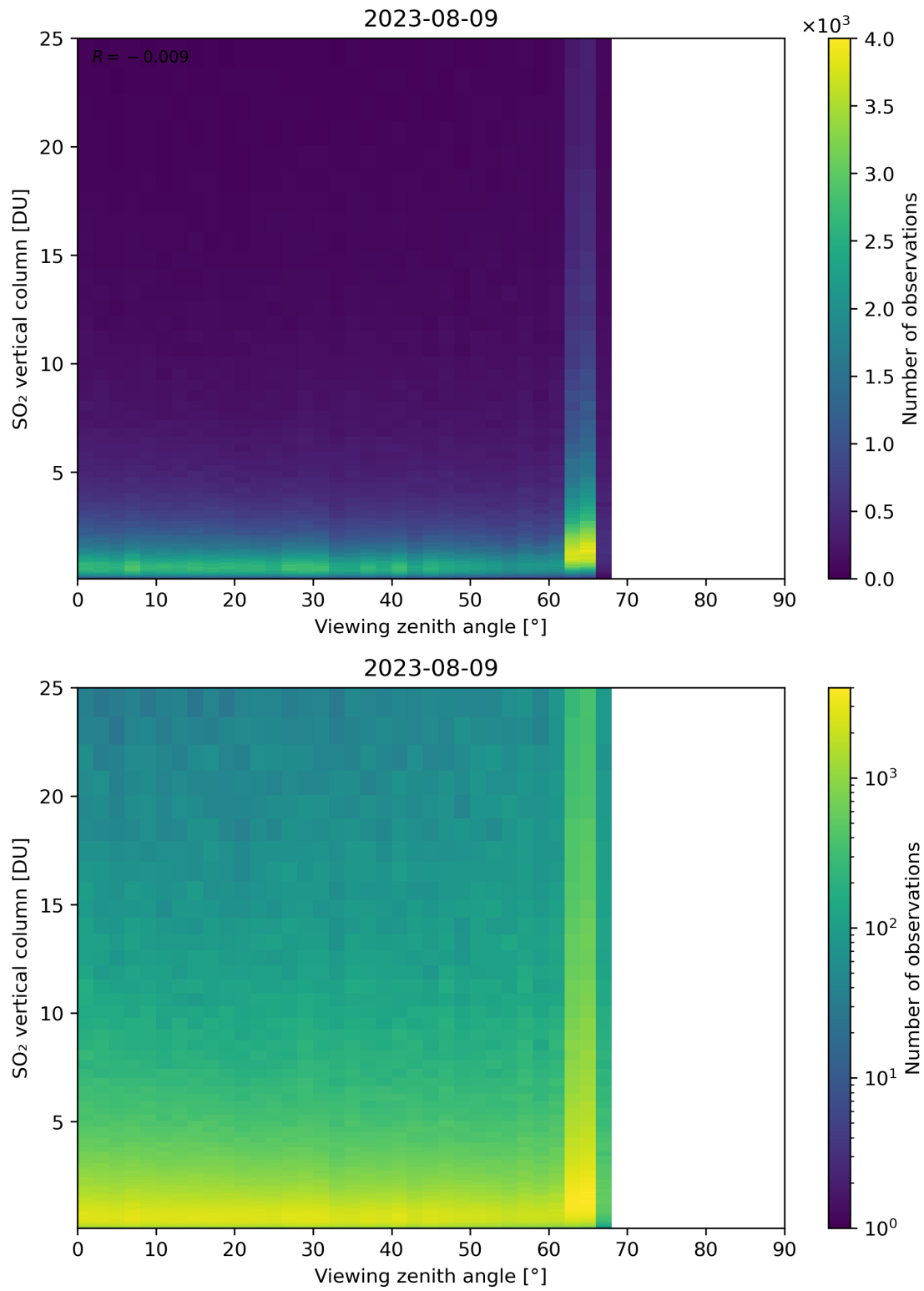


Figure 327: Scatter density plot of “Viewing zenith angle” against “SO₂ vertical column” for 2023-08-09 to 2023-08-10.

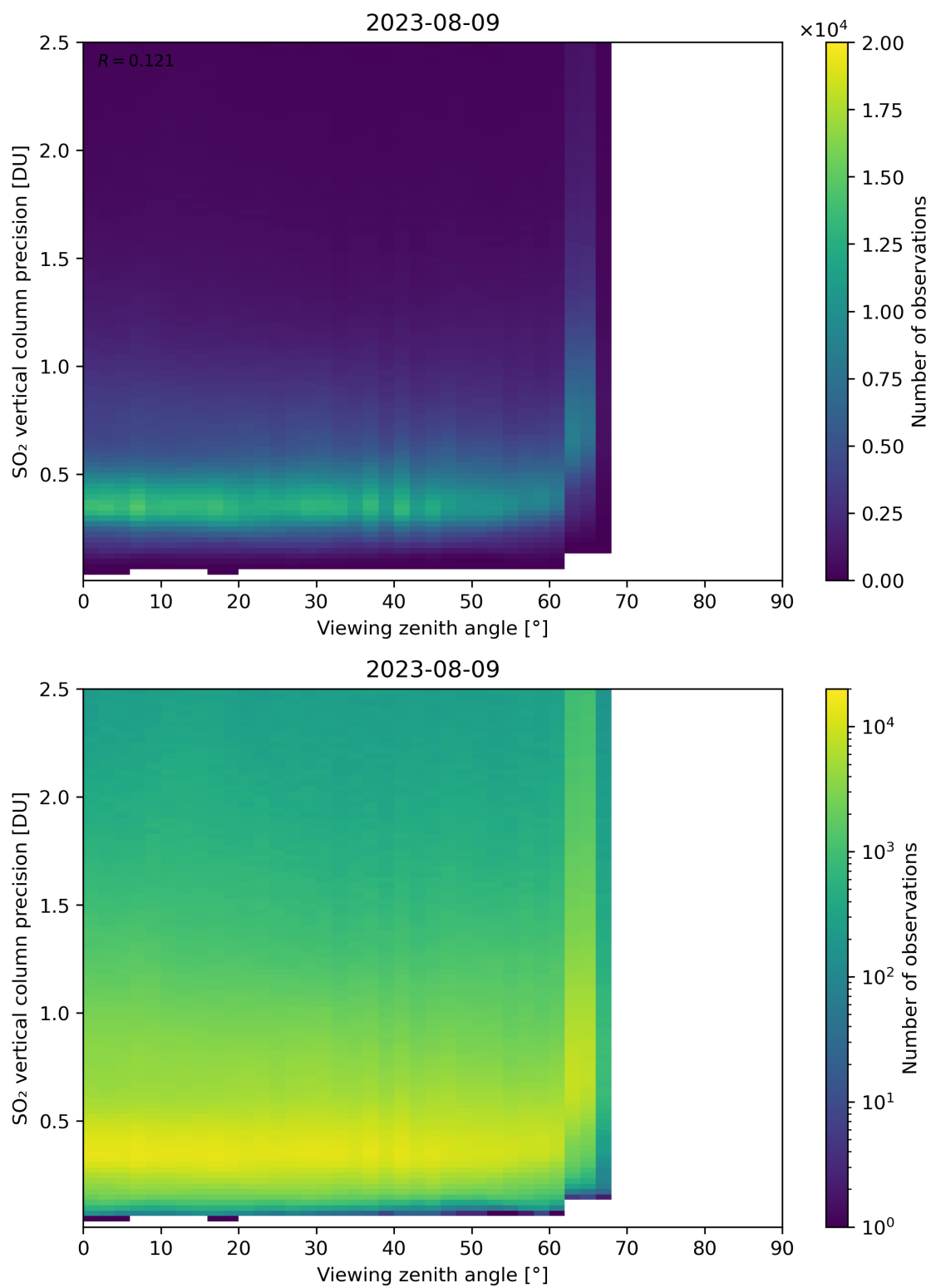


Figure 328: Scatter density plot of “Viewing zenith angle” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-10.

Contents

1	Short Introduction	1
1.1	The list of parameters	1
2	Definitions	1
3	Granule outlines	12
4	Input data monitoring	13
5	Warnings and errors	14
6	World maps	15
7	Zonal average	38
8	Histograms	61
9	Along track statistics	84
10	Coincidence density	107
11	Copyright information of ‘PyCAMA’	338

List of Figures

1	Map of correlation graph for 2023-08-09 to 2023-08-10.	10
2	Map of correlation matrix for 2023-08-09 to 2023-08-10.	11
3	Outline of the granules.	12
4	Input data per granule	13
5	Fraction of pixels with specific warnings and errors during processing	14
6	Map of “SO ₂ vertical column” for 2023-08-09 to 2023-08-10	15
7	Map of “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10	16
8	Map of “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10	17
9	Map of “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	18
10	Map of “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10	19
11	Map of “Corrected SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	20
12	Map of “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10	21
13	Map of “SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	22
14	Map of “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10	23
15	Map of “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	24
16	Map of “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10	25
17	Map of “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	26
18	Map of “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10	27
19	Map of “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	28
20	Map of “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10	29
21	Map of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10	30
22	Map of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10	31
23	Map of “SO ₂ RMS” for 2023-08-09 to 2023-08-10	32
24	Map of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10	33
25	Map of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10	34
26	Map of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10	35
27	Map of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10	36
28	Map of the number of observations for 2023-08-09 to 2023-08-10	37
29	Zonal average of “QA value” for 2023-08-09 to 2023-08-10.	38
30	Zonal average of “SO ₂ vertical column” for 2023-08-09 to 2023-08-10.	39
31	Zonal average of “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10.	40
32	Zonal average of “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	41
33	Zonal average of “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	42
34	Zonal average of “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	43
35	Zonal average of “Corrected SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	44
36	Zonal average of “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	45

37	Zonal average of “SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	46
38	Zonal average of “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	47
39	Zonal average of “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	48
40	Zonal average of “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10. . .	49
41	Zonal average of “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	50
42	Zonal average of “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	51
43	Zonal average of “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	52
44	Zonal average of “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10. . .	53
45	Zonal average of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	54
46	Zonal average of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	55
47	Zonal average of “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	56
48	Zonal average of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	57
49	Zonal average of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	58
50	Zonal average of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	59
51	Zonal average of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10.	60
52	Histogram of “QA value” for 2023-08-09 to 2023-08-10	61
53	Histogram of “SO ₂ vertical column” for 2023-08-09 to 2023-08-10	62
54	Histogram of “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10	63
55	Histogram of “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10	64
56	Histogram of “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	65
57	Histogram of “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10	66
58	Histogram of “Corrected SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	67
59	Histogram of “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10	68
60	Histogram of “SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	69
61	Histogram of “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10	70
62	Histogram of “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	71
63	Histogram of “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10	72
64	Histogram of “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	73
65	Histogram of “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10	74
66	Histogram of “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	75
67	Histogram of “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10	76
68	Histogram of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10	77
69	Histogram of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10	78
70	Histogram of “SO ₂ RMS” for 2023-08-09 to 2023-08-10	79
71	Histogram of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10	80
72	Histogram of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10	81
73	Histogram of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10	82
74	Histogram of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10	83
75	Along track statistics of “QA value” for 2023-08-09 to 2023-08-10	84
76	Along track statistics of “SO ₂ vertical column” for 2023-08-09 to 2023-08-10	85
77	Along track statistics of “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10	86
78	Along track statistics of “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10	87
79	Along track statistics of “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	88
80	Along track statistics of “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10	89
81	Along track statistics of “Corrected SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10	90
82	Along track statistics of “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10	91
83	Along track statistics of “SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	92
84	Along track statistics of “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10	93
85	Along track statistics of “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10	94
86	Along track statistics of “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10	95
87	Along track statistics of “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	96
88	Along track statistics of “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10	97
89	Along track statistics of “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10	98
90	Along track statistics of “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10	99
91	Along track statistics of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10	100
92	Along track statistics of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10	101
93	Along track statistics of “SO ₂ RMS” for 2023-08-09 to 2023-08-10	102
94	Along track statistics of “Total AMF (polluted)” for 2023-08-09 to 2023-08-10	103
95	Along track statistics of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10	104
96	Along track statistics of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10	105
97	Along track statistics of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-10	106

129	Scatter density plot of “DOAS fit wavelength shift” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	138
130	Scatter density plot of “DOAS fit wavelength shift” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	139
131	Scatter density plot of “DOAS fit wavelength shift” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	140
132	Scatter density plot of “DOAS fit wavelength squeeze” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	141
133	Scatter density plot of “DOAS fit wavelength squeeze” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	142
134	Scatter density plot of “DOAS fit wavelength squeeze” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	143
135	Scatter density plot of “DOAS fit wavelength squeeze” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	144
136	Scatter density plot of “SO ₂ RMS” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	145
137	Scatter density plot of “SO ₂ RMS” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	146
138	Scatter density plot of “SO ₂ RMS” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	147
139	Scatter density plot of “Latitude” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	148
140	Scatter density plot of “Latitude” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	149
141	Scatter density plot of “Latitude” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	150
142	Scatter density plot of “Latitude” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	151
143	Scatter density plot of “Latitude” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	152
144	Scatter density plot of “Latitude” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	153
145	Scatter density plot of “Latitude” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	154
146	Scatter density plot of “Latitude” against “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	155
147	Scatter density plot of “Latitude” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	156
148	Scatter density plot of “Latitude” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	157
149	Scatter density plot of “Latitude” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	158
150	Scatter density plot of “Latitude” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	159
151	Scatter density plot of “Latitude” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	160
152	Scatter density plot of “Latitude” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	161
153	Scatter density plot of “Latitude” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	162
154	Scatter density plot of “Latitude” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	163
155	Scatter density plot of “Latitude” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	164
156	Scatter density plot of “Latitude” against “SO ₂ vertical column” for 2023-08-09 to 2023-08-10.	165
157	Scatter density plot of “Latitude” against “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10.	166
158	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	167
159	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	168
160	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	169
161	Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	170
162	Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	171
163	Scatter density plot of “Solar zenith angle” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	172
164	Scatter density plot of “Solar zenith angle” against “Latitude” for 2023-08-09 to 2023-08-10.	173
165	Scatter density plot of “Solar zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	174
166	Scatter density plot of “Solar zenith angle” against “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	175
167	Scatter density plot of “Solar zenith angle” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	176
168	Scatter density plot of “Solar zenith angle” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	177

169	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	178
170	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	179
171	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	180
172	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	181
173	Scatter density plot of “Solar zenith angle” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	182
174	Scatter density plot of “Solar zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	183
175	Scatter density plot of “Solar zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	184
176	Scatter density plot of “Solar zenith angle” against “SO ₂ vertical column” for 2023-08-09 to 2023-08-10.	185
177	Scatter density plot of “Solar zenith angle” against “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10.	186
178	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	187
179	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	188
180	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	189
181	Scatter density plot of “Corrected SO ₂ slant column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	190
182	Scatter density plot of “Corrected SO ₂ slant column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	191
183	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	192
184	Scatter density plot of “Corrected SO ₂ slant column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	193
185	Scatter density plot of “Corrected SO ₂ slant column” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	194
186	Scatter density plot of “Corrected SO ₂ slant column” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	195
187	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	196
188	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	197
189	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	198
190	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	199
191	Scatter density plot of “Corrected SO ₂ slant column” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	200
192	Scatter density plot of “Corrected SO ₂ slant column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	201
193	Scatter density plot of “Corrected SO ₂ slant column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	202
194	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	203
195	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	204
196	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	205
197	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	206
198	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	207
199	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	208
200	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	209

201	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	210
202	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	211
203	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	212
204	Scatter density plot of “Corrected SO ₂ slant column (window 2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	213
205	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	214
206	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	215
207	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	216
208	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	217
209	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	218
210	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	219
211	Scatter density plot of “Corrected SO ₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	220
212	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	221
213	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	222
214	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	223
215	Scatter density plot of “SO ₂ slant column (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	224
216	Scatter density plot of “SO ₂ slant column (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	225
217	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	226
218	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	227
219	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	228
220	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	229
221	Scatter density plot of “SO ₂ slant column precision (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	230
222	Scatter density plot of “SO ₂ slant column precision (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	231
223	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	232
224	Scatter density plot of “SO ₂ slant column precision (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	233
225	Scatter density plot of “SO ₂ slant column precision (window 1)” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	234
226	Scatter density plot of “SO ₂ slant column precision (window 1)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	235
227	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column precision (window 2)” for 2023-08-09 to 2023-08-10.	236
228	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	237
229	Scatter density plot of “SO ₂ slant column precision (window 1)” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	238
230	Scatter density plot of “SO ₂ slant column precision (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	239
231	Scatter density plot of “SO ₂ slant column precision (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	240

232	Scatter density plot of “SO ₂ slant column (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	241
233	Scatter density plot of “SO ₂ slant column (window 1)” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	242
234	Scatter density plot of “SO ₂ slant column (window 1)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	243
235	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	244
236	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	245
237	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	246
238	Scatter density plot of “SO ₂ slant column (window 1)” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	247
239	Scatter density plot of “SO ₂ slant column (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	248
240	Scatter density plot of “SO ₂ slant column (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	249
241	Scatter density plot of “SO ₂ slant column precision (window2)” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	250
242	Scatter density plot of “SO ₂ slant column precision (window2)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	251
243	Scatter density plot of “SO ₂ slant column precision (window2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	252
244	Scatter density plot of “SO ₂ slant column precision (window2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	253
245	Scatter density plot of “SO ₂ slant column precision (window2)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	254
246	Scatter density plot of “SO ₂ slant column precision (window2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	255
247	Scatter density plot of “SO ₂ slant column precision (window2)” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	256
248	Scatter density plot of “SO ₂ slant column precision (window2)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	257
249	Scatter density plot of “SO ₂ slant column precision (window2)” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	258
250	Scatter density plot of “SO ₂ slant column precision (window2)” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	259
251	Scatter density plot of “SO ₂ slant column precision (window2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	260
252	Scatter density plot of “SO ₂ slant column precision (window2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	261
253	Scatter density plot of “SO ₂ slant column (window 3)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	262
254	Scatter density plot of “SO ₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	263
255	Scatter density plot of “SO ₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	264
256	Scatter density plot of “SO ₂ slant column (window 3)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	265
257	Scatter density plot of “SO ₂ slant column precision (window 3)” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	266
258	Scatter density plot of “SO ₂ slant column precision (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	267
259	Scatter density plot of “SO ₂ slant column precision (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	268
260	Scatter density plot of “SO ₂ slant column precision (window 3)” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	269
261	Scatter density plot of “SO ₂ slant column precision (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	270
262	Scatter density plot of “SO ₂ slant column precision (window 3)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	271

263	Scatter density plot of “SO ₂ slant column precision (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	272
264	Scatter density plot of “SO ₂ slant column precision (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	273
265	Scatter density plot of “SO ₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	274
266	Scatter density plot of “SO ₂ slant column (window 3)” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	275
267	Scatter density plot of “SO ₂ slant column (window 3)” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	276
268	Scatter density plot of “SO ₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	277
269	Scatter density plot of “SO ₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	278
270	Scatter density plot of “Precision of total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	279
271	Scatter density plot of “Total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	280
272	Scatter density plot of “Total AMF (polluted)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	281
273	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	282
274	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	283
275	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	284
276	Scatter density plot of “SO ₂ vertical column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	285
277	Scatter density plot of “SO ₂ vertical column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	286
278	Scatter density plot of “SO ₂ vertical column” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	287
279	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	288
280	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	289
281	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	290
282	Scatter density plot of “SO ₂ vertical column precision” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	291
283	Scatter density plot of “SO ₂ vertical column precision” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	292
284	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	293
285	Scatter density plot of “SO ₂ vertical column precision” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	294
286	Scatter density plot of “SO ₂ vertical column precision” against “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	295
287	Scatter density plot of “SO ₂ vertical column precision” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	296
288	Scatter density plot of “SO ₂ vertical column precision” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	297
289	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	298
290	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	299
291	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column precision (window 2)” for 2023-08-09 to 2023-08-10.	300
292	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	301
293	Scatter density plot of “SO ₂ vertical column precision” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	302
294	Scatter density plot of “SO ₂ vertical column precision” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	303

295	Scatter density plot of “SO ₂ vertical column precision” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	304
296	Scatter density plot of “SO ₂ vertical column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	305
297	Scatter density plot of “SO ₂ vertical column” against “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	306
298	Scatter density plot of “SO ₂ vertical column” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	307
299	Scatter density plot of “SO ₂ vertical column” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	308
300	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	309
301	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	310
302	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	311
303	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	312
304	Scatter density plot of “SO ₂ vertical column” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	313
305	Scatter density plot of “SO ₂ vertical column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	314
306	Scatter density plot of “SO ₂ vertical column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	315
307	Scatter density plot of “SO ₂ vertical column” against “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10.	316
308	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-10.	317
309	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-10.	318
310	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-10.	319
311	Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-10.	320
312	Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-10.	321
313	Scatter density plot of “Viewing zenith angle” against “SO ₂ RMS” for 2023-08-09 to 2023-08-10.	322
314	Scatter density plot of “Viewing zenith angle” against “Latitude” for 2023-08-09 to 2023-08-10.	323
315	Scatter density plot of “Viewing zenith angle” against “Solar zenith angle” for 2023-08-09 to 2023-08-10.	324
316	Scatter density plot of “Viewing zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-10.	325
317	Scatter density plot of “Viewing zenith angle” against “Corrected SO ₂ slant column” for 2023-08-09 to 2023-08-10.	326
318	Scatter density plot of “Viewing zenith angle” against “Corrected SO ₂ slant column (window 2)” for 2023-08-09 to 2023-08-10.	327
319	Scatter density plot of “Viewing zenith angle” against “Corrected SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	328
320	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column (window 1)” for 2023-08-09 to 2023-08-10.	329
321	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-10.	330
322	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column precision (window2)” for 2023-08-09 to 2023-08-10.	331
323	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column (window 3)” for 2023-08-09 to 2023-08-10.	332
324	Scatter density plot of “Viewing zenith angle” against “SO ₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-10.	333
325	Scatter density plot of “Viewing zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-10.	334
326	Scatter density plot of “Viewing zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-10.	335
327	Scatter density plot of “Viewing zenith angle” against “SO ₂ vertical column” for 2023-08-09 to 2023-08-10.	336
328	Scatter density plot of “Viewing zenith angle” against “SO ₂ vertical column precision” for 2023-08-09 to 2023-08-10.	337

List of Tables

1	Parameterlist and basic statistics for the analysis	2
2	Percentile ranges	3
3	Parameterlist and basic statistics for the analysis for observations in the northern hemisphere	4
4	Parameterlist and basic statistics for the analysis for observations in the southern hemisphere	5
5	Parameterlist and basic statistics for the analysis for observations over water	6
6	Parameterlist and basic statistics for the analysis for observations over land	7
7	Correlation matrix	8
8	Covariance matrix	9

11 Copyright information of ‘PyCAMA’

Copyright © 2005 – 2023, Maarten Sneep (KNMI).

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors “as is” and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall the copyright holder or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

Maarten Sneep (maarten.sneep@knmi.nl).