

PyCAMA report generated by tropl2-proc

tropl2-proc

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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]	0.592 ± 0.410	24433347	0.995	0.800	0.570	0.0	1.000
sulfurdioxide total vertical column [DU]	-0.168 ± 6.985	24433347	0.570	1.06	-3.213×10^{-3}	-1.309×10^3	1.114×10^3
sulfurdioxide total vertical column precision [DU]	1.36 ± 3.92	24433347	0.346	0.682	0.566	5.861×10^{-2}	754
sulfurdioxide slant column density corrected [DU]	$(-3.700 \pm 140.218) \times 10^{-2}$	24433347	0.508	0.861	-2.825×10^{-3}	-187	113
sulfurdioxide slant column density window1 [DU]	-0.148 ± 1.389	24433347	-2.500×10^{-2}	0.878	-5.509×10^{-2}	-187	88.0
sulfurdioxide slant column density window1 precision [DU]	0.649 ± 0.587	24433347	0.337	0.366	0.430	0.107	25.4
sulfurdioxide slant column density corrected win1 [DU]	$(-3.749 \pm 138.875) \times 10^{-2}$	24433347	-2.500×10^{-2}	0.861	-2.825×10^{-3}	-187	88.5
background so2 slant column offset window1 [DU]	0.111 ± 0.221	24433347	-2.000×10^{-2}	0.217	5.658×10^{-2}	-1.49	6.52
sulfurdioxide slant column density window2 [DU]	2.31 ± 11.81	24433347	0.750	12.9	1.54	-968	2.752×10^3
sulfurdioxide slant column density window2 precision [DU]	9.75 ± 4.33	24433347	7.43	4.03	8.58	2.12	876
sulfurdioxide slant column density corrected win2 [DU]	0.696 ± 11.510	24433347	0.250	12.7	0.378	-975	2.751×10^3
background so2 slant column offset window2 [DU]	-1.61 ± 2.99	24433347	0.250	2.97	-0.772	-23.0	14.7
sulfurdioxide slant column density window3 [DU]	-9.28 ± 28.28	24433347	-7.28	33.5	-8.33	-1.985×10^3	907
sulfurdioxide slant column density window3 precision [DU]	30.9 ± 13.7	24433347	23.7	13.0	27.4	9.16	914
sulfurdioxide slant column density corrected win3 [DU]	-4.58 ± 27.72	24433347	-2.80	33.0	-3.99	-1.971×10^3	901
background so2 slant column offset window3 [DU]	4.71 ± 5.95	24433347	7.28	8.55	4.81	-37.5	91.4
fitted radiance shift [nm]	$(-4.186 \pm 26.574) \times 10^{-4}$	24433347	1.000×10^{-4}	2.000×10^{-3}	-3.155×10^{-4}	-7.182×10^{-2}	4.707×10^{-2}
fitted radiance squeeze [1]	$(-6.704 \pm 35.933) \times 10^{-5}$	24433347	-5.000×10^{-5}	2.572×10^{-4}	-5.735×10^{-5}	-1.827×10^{-2}	2.336×10^{-2}
fitted root mean square [1]	$(1.900 \pm 1.714) \times 10^{-3}$	24433347	9.750×10^{-4}	1.077×10^{-3}	1.261×10^{-3}	3.139×10^{-4}	7.359×10^{-2}
sulfurdioxide total air mass factor polluted [1]	0.877 ± 0.448	24433347	0.780	0.532	0.820	5.000×10^{-2}	3.10
sulfurdioxide total air mass factor polluted precision [1]	0.103 ± 0.109	24433347	3.500×10^{-2}	8.658×10^{-2}	6.639×10^{-2}	2.500×10^{-3}	1.97
sulfurdioxide clear air mass factor polluted [1]	0.823 ± 0.389	24433347	0.740	0.395	0.762	2.074×10^{-2}	3.15
number of spectral points in retrieval [1]	73.4 ± 0.5	24433347	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	3.000×10^{-2}	0.200	1.000	1.000	1.000	1.000	1.000
sulfurdioxide total vertical column [DU]	-13.8	-3.04	-1.50	-0.930	-0.529	0.535	0.935	1.47	2.71	9.83
sulfurdioxide total vertical column precision [DU]	0.154	0.220	0.270	0.312	0.369	1.05	1.56	2.35	4.29	14.4
sulfurdioxide slant column density corrected [DU]	-4.98	-1.73	-1.01	-0.693	-0.432	0.429	0.694	1.00	1.62	3.82
sulfurdioxide slant column density window1 [DU]	-5.28	-2.02	-1.19	-0.811	-0.512	0.366	0.605	0.868	1.39	3.44
sulfurdioxide slant column density window1 precision [DU]	0.204	0.256	0.285	0.306	0.334	0.700	0.950	1.28	1.87	3.17
sulfurdioxide slant column density corrected win1 [DU]	-4.98	-1.73	-1.01	-0.693	-0.432	0.429	0.694	1.00	1.62	3.82
background so2 slant column offset window1 [DU]	-0.184	-8.738×10^{-2}	-6.249×10^{-2}	-4.555×10^{-2}	-2.286×10^{-2}	0.194	0.275	0.350	0.465	0.910
sulfurdioxide slant column density window2 [DU]	-24.1	-14.5	-10.6	-7.77	-4.69	8.24	12.0	15.9	21.9	38.4
sulfurdioxide slant column density window2 precision [DU]	4.37	5.35	5.95	6.45	7.05	11.1	12.9	14.9	18.4	26.1
sulfurdioxide slant column density corrected win2 [DU]	-27.1	-16.5	-12.1	-9.14	-5.90	6.77	10.2	13.5	18.8	34.2
background so2 slant column offset window2 [DU]	-9.88	-8.05	-6.49	-4.38	-2.65	0.319	0.642	0.884	1.33	3.73
sulfurdioxide slant column density window3 [DU]	-87.1	-56.6	-43.6	-34.7	-25.4	8.15	16.6	24.2	34.6	56.5
sulfurdioxide slant column density window3 precision [DU]	13.4	16.4	18.8	20.5	22.4	35.4	40.9	46.9	56.5	83.3
sulfurdioxide slant column density corrected win3 [DU]	-79.1	-50.0	-37.8	-29.4	-20.6	12.4	20.7	28.3	38.8	61.8
background so2 slant column offset window3 [DU]	-7.26	-4.37	-2.81	-1.43	0.128	8.67	10.4	12.2	14.5	18.1
fitted radiance shift [nm]	-8.331×10^{-3}	-4.527×10^{-3}	-3.128×10^{-3}	-2.255×10^{-3}	-1.431×10^{-3}	5.693×10^{-4}	1.240×10^{-3}	2.066×10^{-3}	3.514×10^{-3}	7.622×10^{-3}
fitted radiance squeeze [1]	-1.140×10^{-3}	-5.396×10^{-4}	-3.686×10^{-4}	-2.757×10^{-4}	-1.922×10^{-4}	6.499×10^{-5}	1.323×10^{-4}	2.049×10^{-4}	3.521×10^{-4}	1.020×10^{-3}
fitted root mean square [1]	5.959×10^{-4}	7.462×10^{-4}	8.306×10^{-4}	8.948×10^{-4}	9.757×10^{-4}	2.053×10^{-3}	2.784×10^{-3}	3.744×10^{-3}	5.471×10^{-3}	9.250×10^{-3}
sulfurdioxide total air mass factor polluted [1]	6.573×10^{-2}	0.221	0.356	0.459	0.577	1.11	1.30	1.48	1.74	2.19
sulfurdioxide total air mass factor polluted precision [1]	9.597×10^{-3}	2.039×10^{-2}	2.716×10^{-2}	3.248×10^{-2}	3.967×10^{-2}	0.126	0.170	0.217	0.297	0.552
sulfurdioxide clear air mass factor polluted [1]	0.197	0.345	0.422	0.488	0.575	0.971	1.09	1.27	1.64	2.21
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]	0.578 ± 0.411	15009776	0.800	0.560	0.0	1.000	0.200	1.000
sulfurdioxide total vertical column [DU]	-0.149 ± 6.306	15009776	0.936	-8.169×10^{-3}	-1.309×10^3	1.114×10^3	-0.472	0.464
sulfurdioxide total vertical column precision [DU]	1.18 ± 3.64	15009776	0.534	0.497	5.920×10^{-2}	754	0.342	0.876
sulfurdioxide slant column density corrected [DU]	$(-3.093 \pm 118.787) \times 10^{-2}$	15009776	0.773	-7.236×10^{-3}	-65.5	106	-0.393	0.380
sulfurdioxide slant column density window1 [DU]	-0.130 ± 1.183	15009776	0.790	-5.842×10^{-2}	-65.5	35.7	-0.468	0.322
sulfurdioxide slant column density window1 precision [DU]	0.565 ± 0.512	15009776	0.265	0.393	0.107	16.8	0.319	0.584
sulfurdioxide slant column density corrected win1 [DU]	$(-3.129 \pm 117.739) \times 10^{-2}$	15009776	0.773	-7.236×10^{-3}	-65.5	36.1	-0.393	0.380
background so2 slant column offset window1 [DU]	$(9.826 \pm 19.402) \times 10^{-2}$	15009776	0.204	5.393×10^{-2}	-1.45	2.97	-2.630×10^{-2}	0.177
sulfurdioxide slant column density window2 [DU]	1.12 ± 10.52	15009776	11.9	0.791	-629	566	-5.05	6.82
sulfurdioxide slant column density window2 precision [DU]	9.08 ± 3.98	15009776	3.42	8.07	2.12	876	6.72	10.1
sulfurdioxide slant column density corrected win2 [DU]	0.527 ± 10.483	15009776	11.8	0.350	-633	564	-5.54	6.30
background so2 slant column offset window2 [DU]	-0.591 ± 1.753	15009776	2.18	-0.367	-11.0	14.7	-1.67	0.504
sulfurdioxide slant column density window3 [DU]	-7.14 ± 26.53	15009776	31.5	-6.78	-794	907	-22.5	8.97
sulfurdioxide slant column density window3 precision [DU]	29.3 ± 13.9	15009776	11.7	25.5	9.16	914	21.2	32.9
sulfurdioxide slant column density corrected win3 [DU]	-4.06 ± 26.11	15009776	31.1	-3.71	-798	901	-19.3	11.8
background so2 slant column offset window3 [DU]	3.08 ± 5.13	15009776	8.37	3.74	-15.8	25.0	-1.13	7.24
fitted radiance shift [nm]	$(-1.091 \pm 26.469) \times 10^{-4}$	15009776	1.762×10^{-3}	-1.028×10^{-4}	-4.827×10^{-2}	4.707×10^{-2}	-1.002×10^{-3}	7.603×10^{-4}
fitted radiance squeeze [1]	$(-1.231 \pm 3.102) \times 10^{-4}$	15009776	2.436×10^{-4}	-8.772×10^{-5}	-1.495×10^{-2}	1.107×10^{-2}	-2.210×10^{-4}	2.254×10^{-5}
fitted root mean square [1]	$(1.655 \pm 1.498) \times 10^{-3}$	15009776	7.808×10^{-4}	1.151×10^{-3}	3.139×10^{-4}	4.871×10^{-2}	9.319×10^{-4}	1.713×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.912 ± 0.493	15009776	0.608	0.845	5.000×10^{-2}	3.09	0.565	1.17
sulfurdioxide total air mass factor polluted precision [1]	0.115 ± 0.125	15009776	0.100	7.371×10^{-2}	2.500×10^{-3}	1.97	4.169×10^{-2}	0.142
sulfurdioxide clear air mass factor polluted [1]	0.870 ± 0.445	15009776	0.464	0.794	2.074×10^{-2}	3.04	0.565	1.03
number of spectral points in retrieval [1]	73.5 ± 0.5	15009776	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]	0.614 ± 0.406	9423571	0.790	0.590	0.0	1.000	0.210	1.000
sulfurdioxide total vertical column [DU]	-0.198 ± 7.947	9423571	1.34	7.432×10^{-3}	-754	1.101×10^3	-0.649	0.686
sulfurdioxide total vertical column precision [DU]	1.64 ± 4.32	9423571	0.936	0.711	5.861×10^{-2}	671	0.443	1.38
sulfurdioxide slant column density corrected [DU]	$(-4.666 \pm 168.820) \times 10^{-2}$	9423571	1.04	6.411×10^{-3}	-187	113	-0.512	0.531
sulfurdioxide slant column density window1 [DU]	-0.178 ± 1.666	9423571	1.06	-4.829×10^{-2}	-187	88.0	-0.603	0.454
sulfurdioxide slant column density window1 precision [DU]	0.783 ± 0.669	9423571	0.557	0.528	0.113	25.4	0.368	0.925
sulfurdioxide slant column density corrected win1 [DU]	$(-4.738 \pm 167.103) \times 10^{-2}$	9423571	1.04	6.411×10^{-3}	-187	88.5	-0.512	0.531
background so2 slant column offset window1 [DU]	0.131 ± 0.258	9423571	0.244	5.944×10^{-2}	-1.49	6.52	-1.493×10^{-2}	0.229
sulfurdioxide slant column density window2 [DU]	4.21 ± 13.39	9423571	14.9	2.98	-968	2.752×10^3	-3.99	10.9
sulfurdioxide slant column density window2 precision [DU]	10.8 ± 4.6	9423571	4.79	9.57	2.20	567	7.75	12.5
sulfurdioxide slant column density corrected win2 [DU]	0.965 ± 12.975	9423571	14.2	0.433	-975	2.751×10^3	-6.55	7.64
background so2 slant column offset window2 [DU]	-3.24 ± 3.74	9423571	6.49	-2.21	-23.0	14.7	-6.54	-5.427×10^{-2}
sulfurdioxide slant column density window3 [DU]	-12.7 ± 30.6	9423571	37.0	-11.2	-1.985×10^3	571	-30.3	6.67
sulfurdioxide slant column density window3 precision [DU]	33.4 ± 13.2	9423571	13.7	30.3	9.80	748	24.9	38.5
sulfurdioxide slant column density corrected win3 [DU]	-5.40 ± 30.08	9423571	36.2	-4.51	-1.971×10^3	575	-22.9	13.3
background so2 slant column offset window3 [DU]	7.30 ± 6.24	9423571	9.70	7.00	-37.5	91.4	2.22	11.9
fitted radiance shift [nm]	$(-9.116 \pm 25.991) \times 10^{-4}$	9423571	2.248×10^{-3}	-7.421×10^{-4}	-7.182×10^{-2}	4.347×10^{-2}	-2.052×10^{-3}	1.956×10^{-4}
fitted radiance squeeze [1]	$(2.223 \pm 41.056) \times 10^{-5}$	9423571	2.813×10^{-4}	-1.257×10^{-6}	-1.827×10^{-2}	2.336×10^{-2}	-1.373×10^{-4}	1.440×10^{-4}
fitted root mean square [1]	$(2.290 \pm 1.949) \times 10^{-3}$	9423571	1.636×10^{-3}	1.549×10^{-3}	3.339×10^{-4}	7.359×10^{-2}	1.079×10^{-3}	2.714×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.822 ± 0.358	9423571	0.442	0.790	5.000×10^{-2}	3.10	0.591	1.03
sulfurdioxide total air mass factor polluted precision [1]	$(8.422 \pm 7.368) \times 10^{-2}$	9423571	6.765×10^{-2}	5.825×10^{-2}	2.500×10^{-3}	1.62	3.763×10^{-2}	0.105
sulfurdioxide clear air mass factor polluted [1]	0.748 ± 0.260	9423571	0.293	0.729	3.066×10^{-2}	3.15	0.587	0.880
number of spectral points in retrieval [1]	73.4 ± 0.5	9423571	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]	0.579 ± 0.414	17607447	0.800	0.540	0.0	1.000	0.200	1.000
sulfurdioxide total vertical column [DU]	-0.169 ± 7.025	17607447	1.12	3.860×10^{-3}	-754	1.114×10^3	-0.552	0.572
sulfurdioxide total vertical column precision [DU]	1.43 ± 3.91	17607447	0.766	0.580	6.056×10^{-2}	671	0.378	1.14
sulfurdioxide slant column density corrected [DU]	$(-3.607 \pm 147.930) \times 10^{-2}$	17607447	0.902	3.299×10^{-3}	-66.5	113	-0.446	0.456
sulfurdioxide slant column density window1 [DU]	-0.158 ± 1.467	17607447	0.921	-4.884×10^{-2}	-66.5	88.0	-0.533	0.388
sulfurdioxide slant column density window1 precision [DU]	0.688 ± 0.613	17607447	0.448	0.452	0.107	24.6	0.332	0.780
sulfurdioxide slant column density corrected win1 [DU]	$(-3.657 \pm 146.620) \times 10^{-2}$	17607447	0.902	3.299×10^{-3}	-66.5	88.5	-0.446	0.456
background so2 slant column offset window1 [DU]	0.121 ± 0.236	17607447	0.242	5.864×10^{-2}	-1.48	6.52	-2.446×10^{-2}	0.217
sulfurdioxide slant column density window2 [DU]	2.73 ± 12.19	17607447	13.3	1.78	-968	958	-4.53	8.75
sulfurdioxide slant column density window2 precision [DU]	9.94 ± 4.48	17607447	4.38	8.68	2.12	876	7.06	11.4
sulfurdioxide slant column density corrected win2 [DU]	0.765 ± 11.831	17607447	12.9	0.396	-975	953	-5.98	6.92
background so2 slant column offset window2 [DU]	-1.96 ± 3.28	17607447	3.80	-0.902	-23.0	14.7	-3.51	0.298
sulfurdioxide slant column density window3 [DU]	-8.00 ± 28.96	17607447	34.2	-6.83	-1.985×10^3	907	-24.3	9.97
sulfurdioxide slant column density window3 precision [DU]	30.3 ± 12.4	17607447	12.8	27.1	9.16	914	22.3	35.1
sulfurdioxide slant column density corrected win3 [DU]	-3.05 ± 28.06	17607447	33.2	-2.41	-1.971×10^3	901	-19.1	14.1
background so2 slant column offset window3 [DU]	4.95 ± 6.24	17607447	8.92	4.80	-37.5	91.4	0.178	9.09
fitted radiance shift [nm]	$(-5.188 \pm 23.960) \times 10^{-4}$	17607447	2.004×10^{-3}	-3.677×10^{-4}	-7.182×10^{-2}	3.897×10^{-2}	-1.516×10^{-3}	4.873×10^{-4}
fitted radiance squeeze [1]	$(-5.035 \pm 37.618) \times 10^{-5}$	17607447	2.626×10^{-4}	-4.441×10^{-5}	-1.827×10^{-2}	2.336×10^{-2}	-1.818×10^{-4}	8.076×10^{-5}
fitted root mean square [1]	$(2.013 \pm 1.785) \times 10^{-3}$	17607447	1.315×10^{-3}	1.323×10^{-3}	3.139×10^{-4}	7.095×10^{-2}	9.712×10^{-4}	2.286×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.860 ± 0.413	17607447	0.489	0.824	5.000×10^{-2}	3.06	0.592	1.08
sulfurdioxide total air mass factor polluted precision [1]	$(9.304 \pm 9.906) \times 10^{-2}$	17607447	7.022×10^{-2}	6.255×10^{-2}	2.500×10^{-3}	1.97	4.024×10^{-2}	0.110
sulfurdioxide clear air mass factor polluted [1]	0.831 ± 0.363	17607447	0.364	0.783	2.074×10^{-2}	2.81	0.609	0.973
number of spectral points in retrieval [1]	73.4 ± 0.5	17607447	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]	0.664 ± 0.389	4611279	0.780	1.000	0.0	1.000	0.220	1.000
sulfurdioxide total vertical column [DU]	-0.108 ± 5.368	4611279	0.865	-1.648×10^{-2}	-559	639	-0.445	0.420
sulfurdioxide total vertical column precision [DU]	0.936 ± 3.070	4611279	0.494	0.509	5.861×10^{-2}	508	0.322	0.816
sulfurdioxide slant column density corrected [DU]	$(-3.421 \pm 105.517) \times 10^{-2}$	4611279	0.735	-1.564×10^{-2}	-187	78.2	-0.381	0.354
sulfurdioxide slant column density window1 [DU]	$(-9.528 \pm 104.787) \times 10^{-2}$	4611279	0.746	-4.946×10^{-2}	-187	46.4	-0.428	0.318
sulfurdioxide slant column density window1 precision [DU]	0.505 ± 0.438	4611279	0.164	0.393	0.118	25.4	0.331	0.495
sulfurdioxide slant column density corrected win1 [DU]	$(-3.452 \pm 104.522) \times 10^{-2}$	4611279	0.735	-1.564×10^{-2}	-187	46.4	-0.381	0.354
background so2 slant column offset window1 [DU]	$(6.076 \pm 16.806) \times 10^{-2}$	4611279	0.140	2.213×10^{-2}	-1.49	6.52	-3.143×10^{-2}	0.109
sulfurdioxide slant column density window2 [DU]	1.01 ± 10.22	4611279	11.9	0.749	-692	1.135×10^3	-5.16	6.77
sulfurdioxide slant column density window2 precision [DU]	8.97 ± 3.53	4611279	3.05	8.26	2.29	534	6.95	10.0
sulfurdioxide slant column density corrected win2 [DU]	0.491 ± 10.156	4611279	11.9	0.333	-692	1.135×10^3	-5.59	6.29
background so2 slant column offset window2 [DU]	-0.514 ± 1.780	4611279	1.94	-0.261	-19.6	14.6	-1.43	0.507
sulfurdioxide slant column density window3 [DU]	-12.6 ± 25.5	4611279	30.8	-11.9	-609	798	-27.7	3.17
sulfurdioxide slant column density window3 precision [DU]	32.2 ± 16.9	4611279	12.9	27.6	9.56	311	22.6	35.5
sulfurdioxide slant column density corrected win3 [DU]	-9.41 ± 25.72	4611279	31.4	-8.82	-605	805	-24.9	6.55
background so2 slant column offset window3 [DU]	3.19 ± 5.14	4611279	8.10	3.40	-15.8	61.7	-0.847	7.25
fitted radiance shift [nm]	$(-1.553 \pm 32.986) \times 10^{-4}$	4611279	1.884×10^{-3}	-2.027×10^{-4}	-4.418×10^{-2}	4.707×10^{-2}	-1.125×10^{-3}	7.593×10^{-4}
fitted radiance squeeze [1]	$(-9.218 \pm 27.786) \times 10^{-5}$	4611279	2.269×10^{-4}	-7.382×10^{-5}	-1.495×10^{-2}	1.228×10^{-2}	-1.919×10^{-4}	3.499×10^{-5}
fitted root mean square [1]	$(1.482 \pm 1.291) \times 10^{-3}$	4611279	4.886×10^{-4}	1.152×10^{-3}	3.400×10^{-4}	7.359×10^{-2}	9.664×10^{-4}	1.455×10^{-3}
sulfurdioxide total air mass factor polluted [1]	0.941 ± 0.533	4611279	0.652	0.807	5.000×10^{-2}	3.10	0.561	1.21
sulfurdioxide total air mass factor polluted precision [1]	0.127 ± 0.126	4611279	0.142	8.264×10^{-2}	2.505×10^{-3}	1.95	3.622×10^{-2}	0.178
sulfurdioxide clear air mass factor polluted [1]	0.833 ± 0.468	4611279	0.441	0.704	2.264×10^{-2}	3.15	0.537	0.978
number of spectral points in retrieval [1]	73.4 ± 0.5	4611279	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	
-0.191	-0.112	-0.175	8.993 × 10 ⁻²	-2.278 × 10 ⁻²	7.004 × 10 ⁻³	3.613 × 10 ⁻²	-4.040 × 10 ⁻³	2.513 × 10 ⁻²	-1.160 × 10 ⁻⁴	4.711 × 10 ⁻²	0.137	8.331 × 10 ⁻²	-2.621 × 10 ⁻²	-4.045 × 10 ⁻³	0.131	-1.631 × 10 ⁻²	-6.799 × 10 ⁻³	1.000	
9.183 × 10 ⁻²	-7.153 × 10 ⁻²	6.348 × 10 ⁻²	0.683	-8.517 × 10 ⁻²	-0.190	0.681	-7.226 × 10 ⁻²	-0.214	7.851 × 10 ⁻²	0.635	0.595	0.683	-0.156	-6.045 × 10 ⁻²	0.289	-4.599 × 10 ⁻²	1.000	4 × 10 ⁻³	
0.238	0.168	0.179	-0.142	-0.288	0.145	-0.197	2.522 × 10 ⁻²	0.404	-2.306 × 10 ⁻²	-0.145	3.424 × 10 ⁻²	-0.141	2.089 × 10 ⁻³	7.321 × 10 ⁻³	7.321 × 10 ⁻³	3.591 × 10 ⁻³	-6.001 × 10 ⁻²	-6.799 × 10 ⁻³	99 × 10 ⁻³
-0.268	-0.157	3.525 × 10 ⁻²	0.594	-0.105	-0.174	2.428 × 10 ⁻²	-3.702 × 10 ⁻²	1.179 × 10 ⁻²	-3.279 × 10 ⁻²	0.455	0.107	0.597	0.620	0.633	0.633	3.591 × 10 ⁻³	-4.599 × 10 ⁻²	-6.799 × 10 ⁻³	51 × 10 ⁻²
2.094 × 10 ⁻²	7.628 × 10 ⁻³	2.059 × 10 ⁻²	-0.142	0.253	-0.109	1.985 × 10 ⁻²	-4.501 × 10 ⁻²	2.080 × 10 ⁻²	-3.906 × 10 ⁻²	-0.102	7.724 × 10 ⁻²	-0.137	0.982	1.000	1.000	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	45 × 10 ⁻³
1.821 × 10 ⁻²	1.170 × 10 ⁻²	1.998 × 10 ⁻²	-0.208	0.269	-0.117	7.870 × 10 ⁻²	-6.665 × 10 ⁻²	3.980 × 10 ⁻²	-4.763 × 10 ⁻²	-0.164	-8.246 × 10 ⁻²	-0.206	1.000	0.982	0.982	3.591 × 10 ⁻³	-6.001 × 10 ⁻²	-6.799 × 10 ⁻³	21 × 10 ⁻²
-0.121	-0.199	-0.151	0.999	-5.577 × 10 ⁻³	-0.212	0.308	-0.109	0.461	-0.117	0.128	-0.172	0.411	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	1 × 10 ⁻²
1.773 × 10 ⁻²	-2.409 × 10 ⁻²	4.939 × 10 ⁻³	0.406	-8.732 × 10 ⁻²	-0.117	0.461	-2.020 × 10 ⁻²	0.128	-0.117	0.128	-0.172	0.411	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	4 × 10 ⁻³
-2.272 × 10 ⁻²	-1.853 × 10 ⁻²	-3.222 × 10 ⁻²	0.158	1.783 × 10 ⁻²	-0.184	0.322	-0.104	0.578	-0.170	0.124	1.000	0.159	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	1 × 10 ⁻²
-1.060 × 10 ⁻²	6.600 × 10 ⁻²	-2.463 × 10 ⁻²	-0.385	-5.673 × 10 ⁻²	0.174	-0.673	-4.002 × 10 ⁻²	1.000	2.897 × 10 ⁻²	-0.383	4.057 × 10 ⁻²	-0.109	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	60 × 10 ⁻⁴
3.022 × 10 ⁻²	2.638 × 10 ⁻²	3.418 × 10 ⁻²	-0.172	-2.535 × 10 ⁻²	-0.199	0.978	-9.609 × 10 ⁻²	0.181	-0.170	-0.170	-0.170	-0.170	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	1.07 × 10 ⁻²
-6.496 × 10 ⁻²	-3.953 × 10 ⁻²	-1.401 × 10 ⁻²	0.413	2.998 × 10 ⁻²	-0.161	1.000	-6.340 × 10 ⁻²	3.974 × 10 ⁻²	-4.002 × 10 ⁻²	-0.191	4.002 × 10 ⁻²	-0.104	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	3.10 × 10 ⁻²
1.845 × 10 ⁻²	2.961 × 10 ⁻²	3.459 × 10 ⁻²	-0.109	-2.683 × 10 ⁻²	-0.172	1.000	1.172 × 10 ⁻²	0.978	-0.199	-0.199	0.978	-0.104	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	40 × 10 ⁻³
0.774	0.395	0.395	-0.121	-4.451 × 10 ⁻³	-0.136	1.000	-6.726 × 10 ⁻²	0.161	-0.199	-0.199	0.161	1.172 × 10 ⁻²	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	3 × 10 ⁻²
4.347 × 10 ⁻²	1.000	0.395	-0.200	-3.939 × 10 ⁻²	-0.148	1.000	-6.726 × 10 ⁻²	0.174	-0.199	-0.199	0.174	1.172 × 10 ⁻²	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	4 × 10 ⁻³
1.000	4.347 × 10 ⁻²	0.395	-0.200	-3.939 × 10 ⁻²	-0.148	1.000	-6.726 × 10 ⁻²	0.174	-0.199	-0.199	0.174	1.172 × 10 ⁻²	0.982	0.982	0.982	3.591 × 10 ⁻³	-6.045 × 10 ⁻²	-6.799 × 10 ⁻³	78 × 10 ⁻³
0.012	0.091	9.183 × 10 ⁻²	0.238	4.347 × 10 ⁻²	0.395	0.395	-0.200	1.000	4.347 × 10 ⁻²	0.238	4.347 × 10 ⁻²	0.238	4.347 × 10 ⁻²	0.238	4.347 × 10 ⁻²	0.238	4.347 × 10 ⁻²	0.012	

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	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)	Corrected SO ₂ slant column (window 1)	SO ₂ vertical column precision	SO ₂ vertical column precision	Latitude	Solar zenith angle	Viewing zenith angle
-1.45	-0.239	-1.53	3.013 × 10 ⁻³	-1.599 × 10 ⁻⁴	3.637 × 10 ⁻⁴	18.1	-1.08	6.24	-2.609 × 10 ⁻²	3.99	0.594	0.956	-0.712	10.0	-6.02	3.46	382
0.745	-0.163	0.592	2.439 × 10 ⁻²	-6.379 × 10 ⁻⁴	-1.054 × 10 ⁻²	-41.7	72.6	-40.7	18.8	57.3	2.75	-1.77	23.6	-6.69	-56.7	434	
4.20	0.833	3.64	-1.105 × 10 ⁻²	-4.686 × 10 ⁻³	1.749 × 10 ⁻²	31.7	-81.9	54.8	-12.0	-28.5	0.343	0.465	-8.79	1.14	2.055 × 10 ³	-6.02	
9.434 × 10 ⁻²	1.246 × 10 ⁻²	0.110	-1.474 × 10 ⁻³	4.372 × 10 ⁻⁴	-2.808 × 10 ⁻⁴	3.34	-3.55	2.33	-2.64	-2.62	0.108	0.496	-4.77	48.8	-6.69	-2.23	
-0.409	-6.732 × 10 ⁻²	-0.539	3.997 × 10 ⁻³	-3.217 × 10 ⁻⁵	-1.097 × 10 ⁻³	-5.20	10.5	-1.13	7.74	4.82	0.155	-0.686	15.4	-4.77	-8.79	23.6	
1.142 × 10 ⁻²	1.171 × 10 ⁻³	1.293 × 10 ⁻²	-3.417 × 10 ⁻⁴	1.275 × 10 ⁻⁴	-1.037 × 10 ⁻⁴	0.991	-0.867	0.825	-0.630	-0.622	2.396 × 10 ⁻²	-0.113	-0.490	6.20	-1.77	-0.111	
9.845 × 10 ⁻³	1.779 × 10 ⁻³	1.243 × 10 ⁻²	-4.958 × 10 ⁻⁴	1.342 × 10 ⁻⁴	-3.458 × 10 ⁻⁵	1.12	-1.27	0.229	-0.986	-0.986	-2.535 × 10 ⁻²	-0.168	1.91	6.02	-4.53	-0.712	
-2.754 × 10 ⁻²	-1.282 × 10 ⁻²	-3.958 × 10 ⁻²	1.006 × 10 ⁻³	-1.177 × 10 ⁻⁶	-3.307 × 10 ⁻⁴	-1.78	3.32	-2.85	1.08	2.18	0.345	5.265 × 10 ⁻²	1.38	0.108	-3.76	0.956	
-0.143	-5.832 × 10 ⁻⁴	-5.832 × 10 ⁻⁴	1.538 × 10 ⁻⁴	-6.943 × 10 ⁻⁶	-6.868 × 10 ⁻⁵	0.389	-0.731	-0.295	0.353	0.353	4.896 × 10 ⁻²	-0.986	0.155	0.155	2.75	0.594	
-0.102	-2.333 × 10 ⁻²	-0.166	3.126 × 10 ⁻³	2.777 × 10 ⁻⁵	-2.118 × 10 ⁻³	-12.5	34.4	-4.96	6.19	18.8	0.103	-0.762	4.82	-2.64	-28.5	3.99	
-1.234 × 10 ⁻²	2.161 × 10 ⁻²	-3.300 × 10 ⁻²	-1.977 × 10 ⁻³	-6.100 × 10 ⁻⁵	1.387 × 10 ⁻³	3.30	-7.87	-13.1	0.998	-4.96	-0.295	-0.675	-1.13	-0.406	-40.7	6.24	
0.333	8.164 × 10 ⁻²	0.433	-8.359 × 10 ⁻³	-2.576 × 10 ⁻⁴	-2.805 × 10 ⁻³	766	-37.3	800	-13.1	15.3	0.825	-0.731	10.5	2.33	-126	13.9	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	9.711 × 10 ⁻³	1.479 × 10 ⁻⁴	-3.054 × 10 ⁻³	-24.1	189	-37.3	8.10	34.4	0.389	-0.124	10.5	-3.55	-41.7	-1.08	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
0.199	8.982 × 10 ⁻²	8.982 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	
-0.134	8.174 × 10 ⁻³	8.174 × 10 ⁻³	-2.149 × 10 ⁻³	-9.522 × 10 ⁻⁶	-2.149 × 10 ⁻³	1.93	13.2	8.30	0.351	8.30	0.607	-0.444	1.84	1.01	84.5	4.20	
3.884 × 10 ⁻⁵	-5.903 × 10 ⁻⁶	-5.903 × 10 ⁻⁶	7.062 × 10 ⁻⁶	-1.413 × 10 ⁻⁷	-1.413 × 10 ⁻⁶	35.4	-33.5	-12.0	0.351	2.449 × 10 ⁻³	5.087 × 10 ⁻⁵	-0.166	3.126 × 10 ⁻³	-0.166	-53.1	-2.609 × 10 ⁻²	
-8.064 × 10 ⁻⁵	1.756 × 10 ⁻⁵	1.756 × 10 ⁻⁵	-9.623 × 10 ⁻⁷	1.291 × 10 ⁻⁷	1.291 × 10 ⁻⁷	-12.8	8.10	13.1	0.998	6.19	18.8	-0.295	-1.13	-0.406	-40.7	6.24	
-0.347	-5.941 × 10 ⁻²	-5.941 × 10 ⁻²	-4.954 × 10 ⁻³	-2.672 × 10 ⁻⁴	-4.954 × 10 ⁻³	768	-24.1	766	-12.8	-12.5	-0.124	0.991	-5.20	3.34	18.1	18.1	

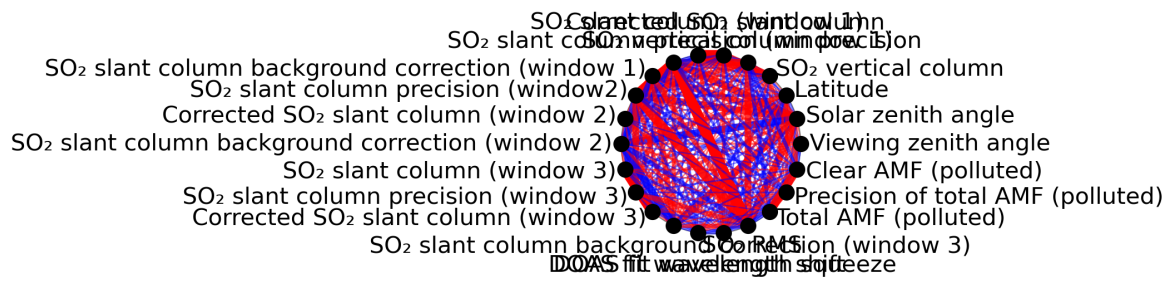


Figure 1: Map of correlation graph for 2023-08-09 to 2023-08-11.

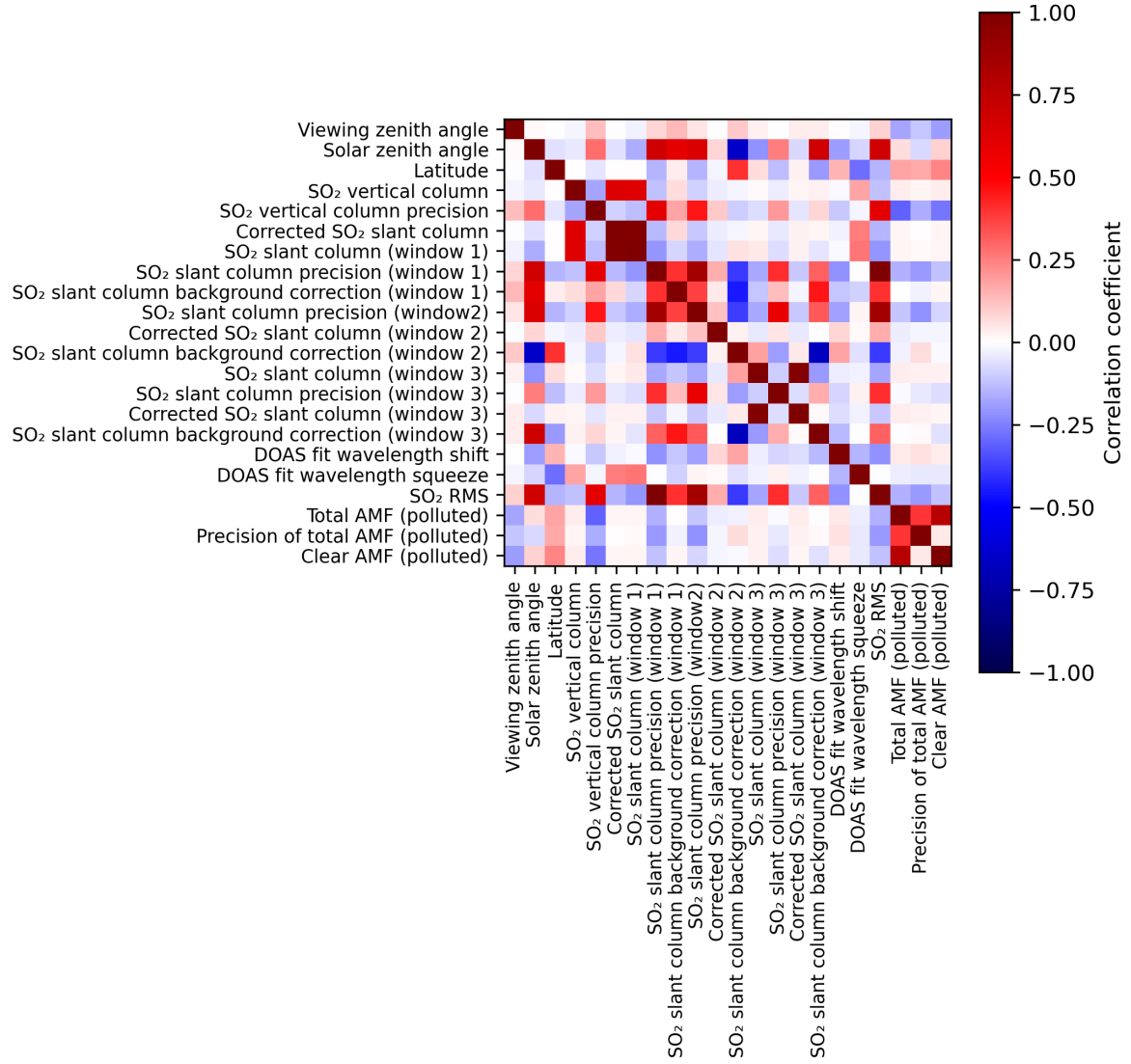


Figure 2: Map of correlation matrix for 2023-08-09 to 2023-08-11.

3 Granule outlines

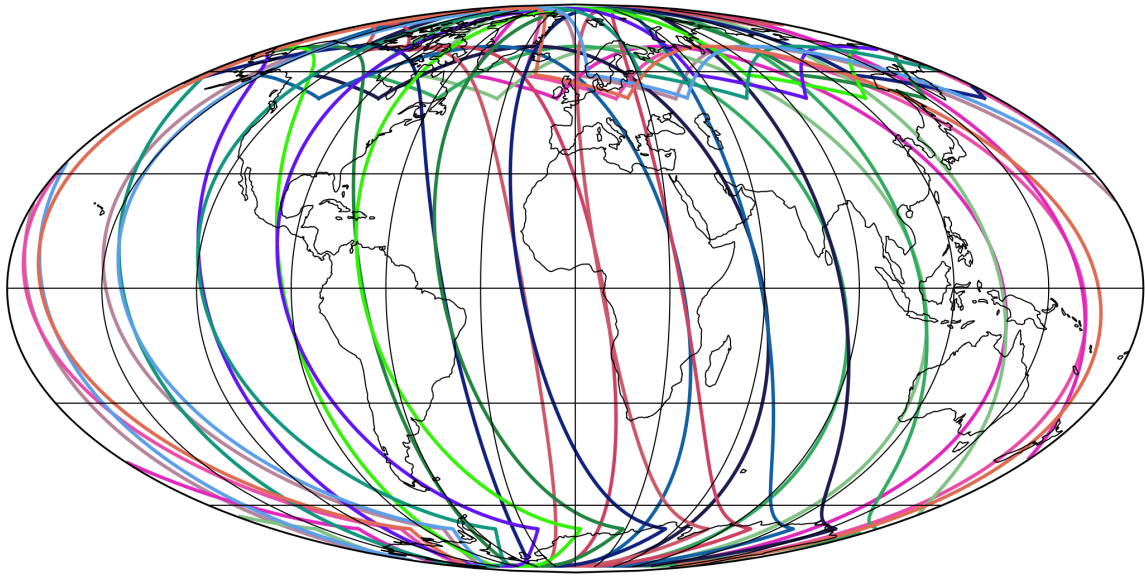


Figure 3: Outline of the granules.

4 Input data monitoring

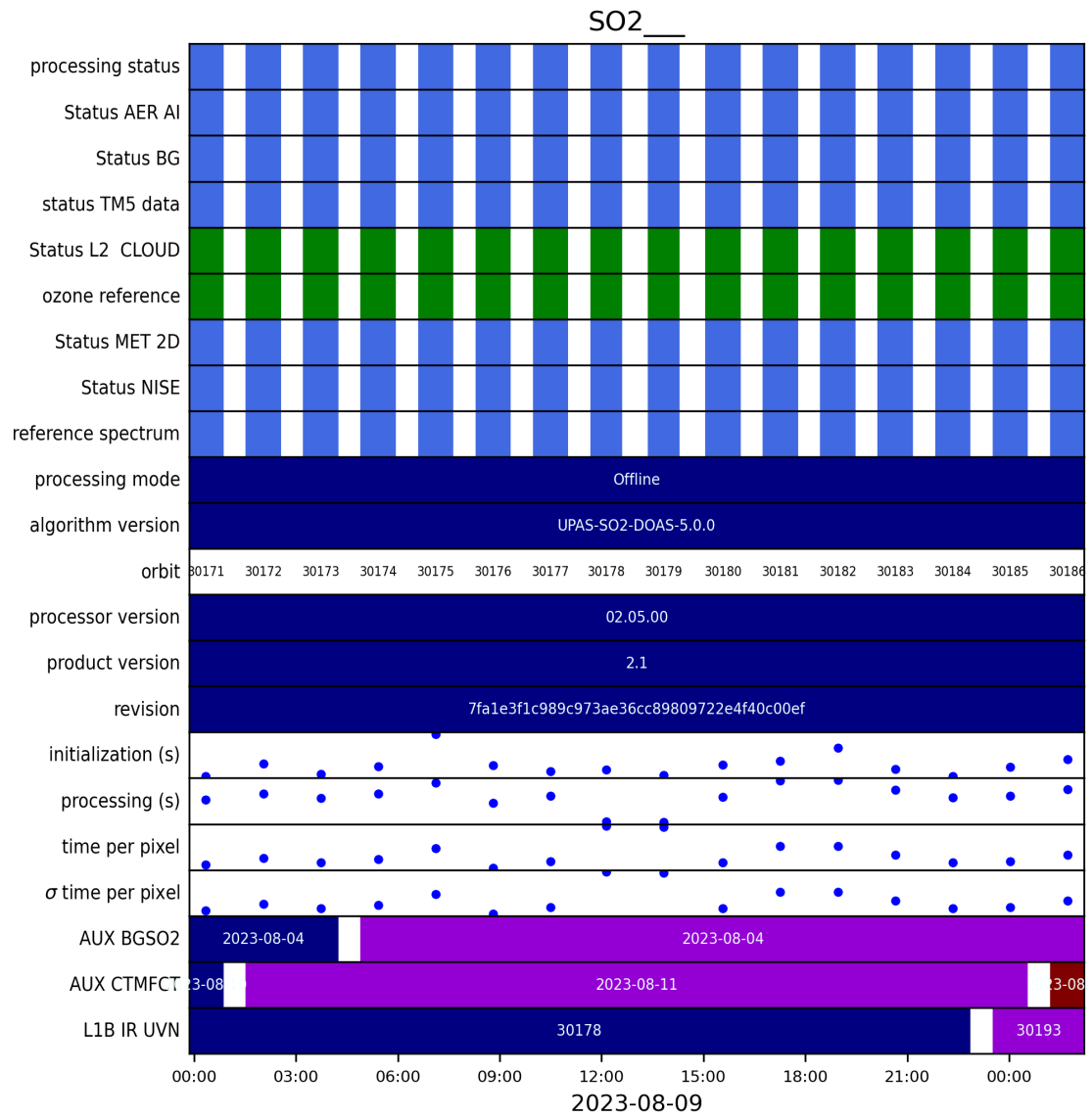


Figure 4: Input data per granule

5 Warnings and errors

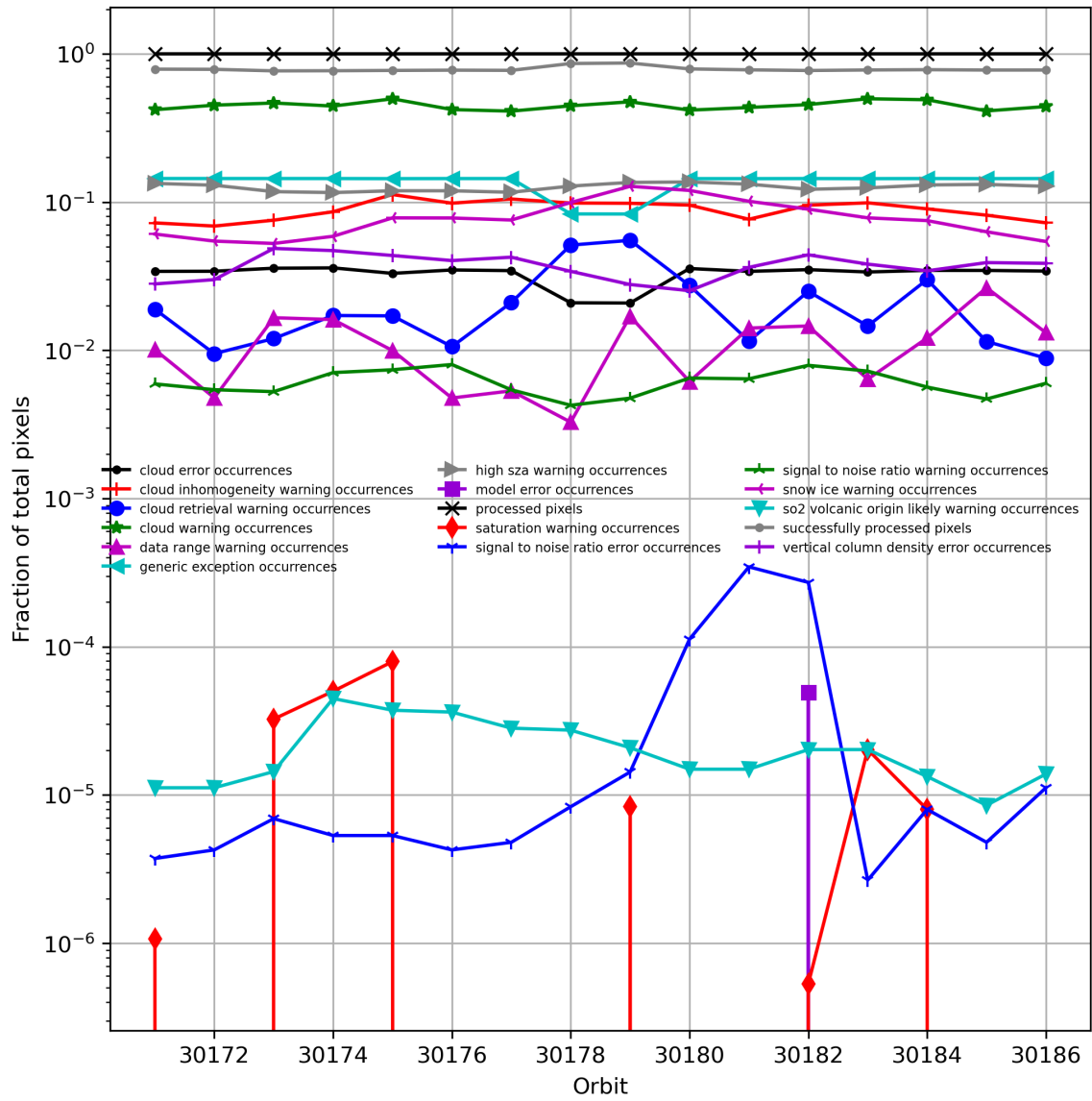


Figure 5: Fraction of pixels with specific warnings and errors during processing

6 World maps

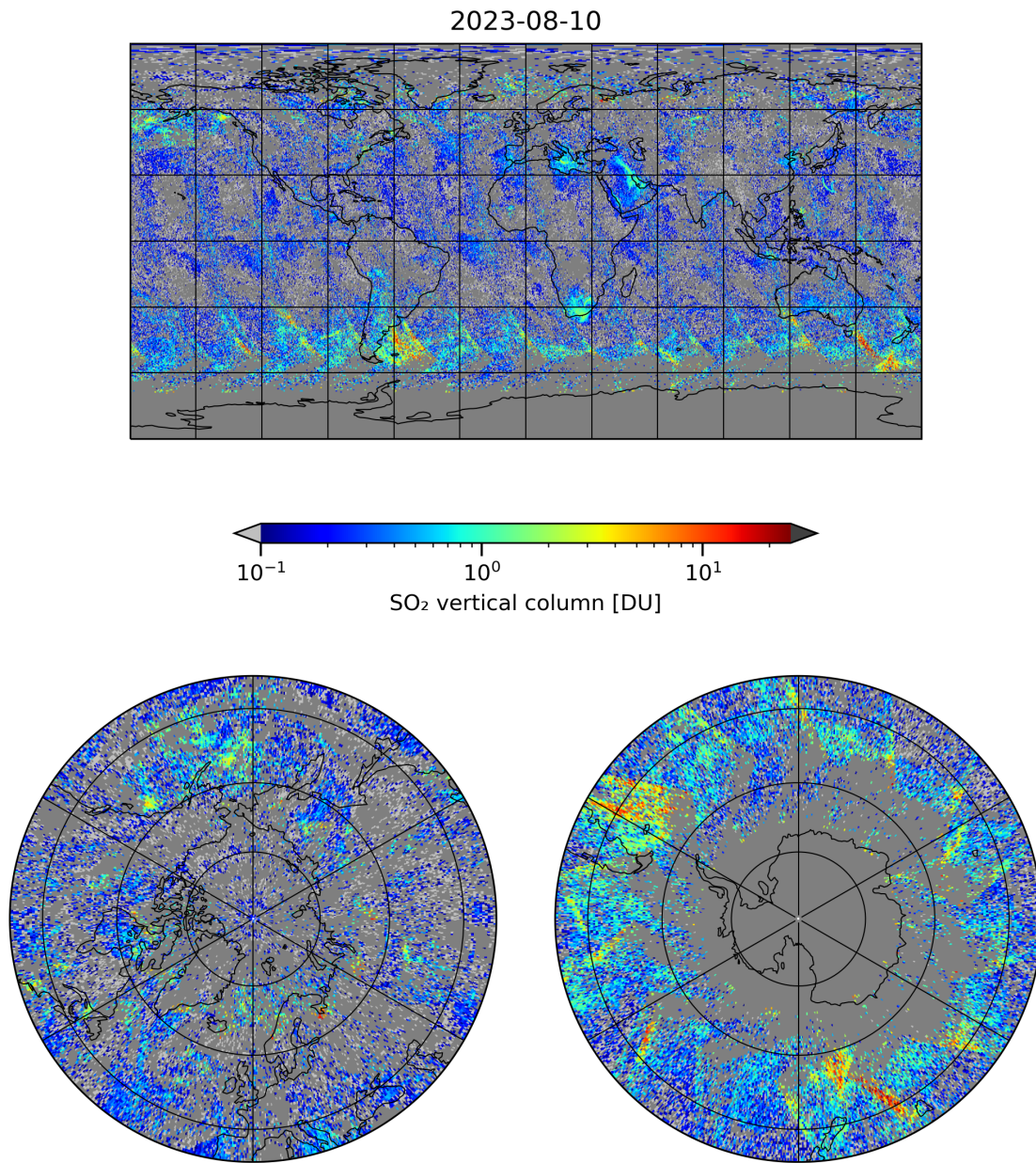


Figure 6: Map of “SO₂ vertical column” for 2023-08-09 to 2023-08-11

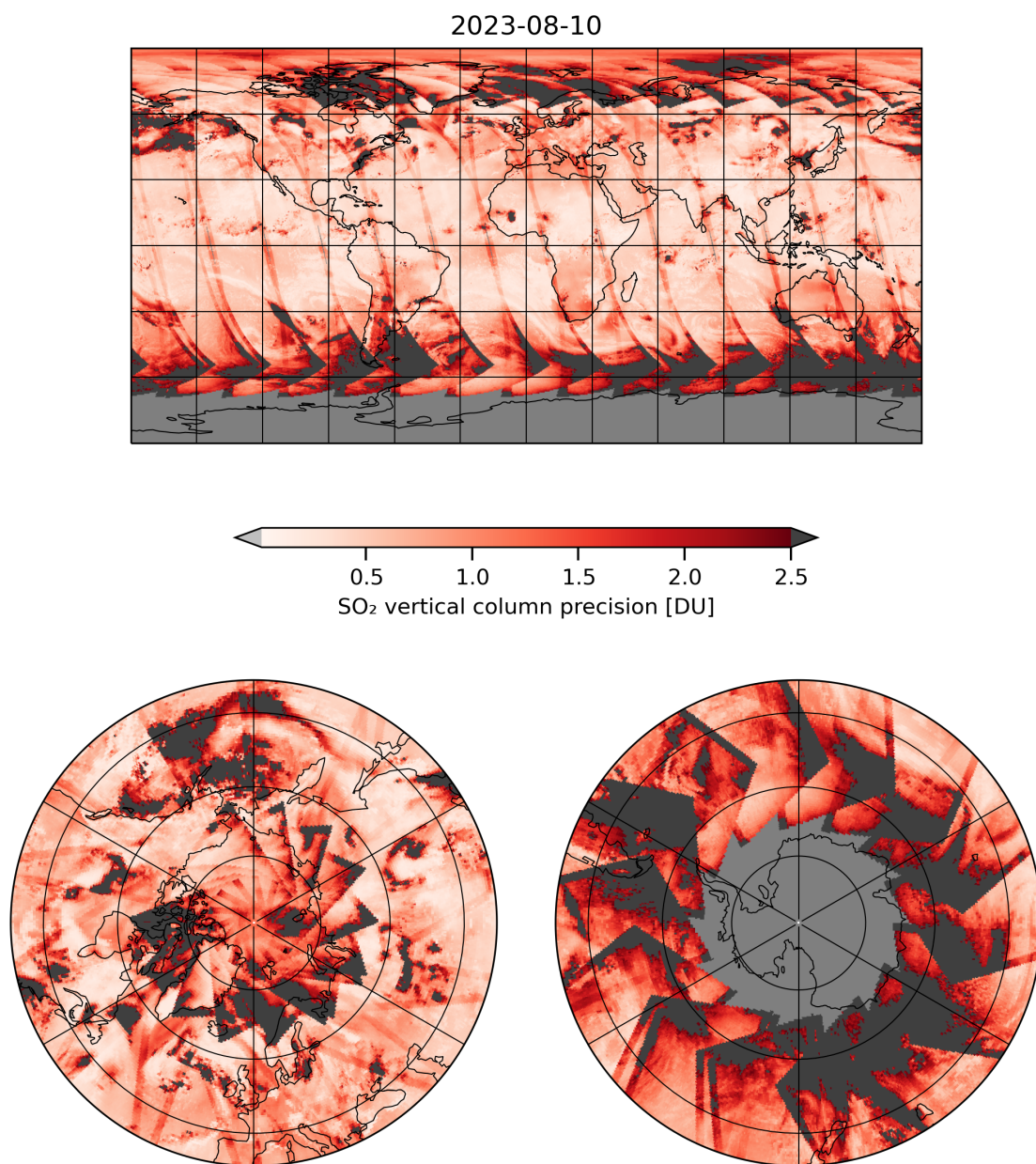


Figure 7: Map of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11

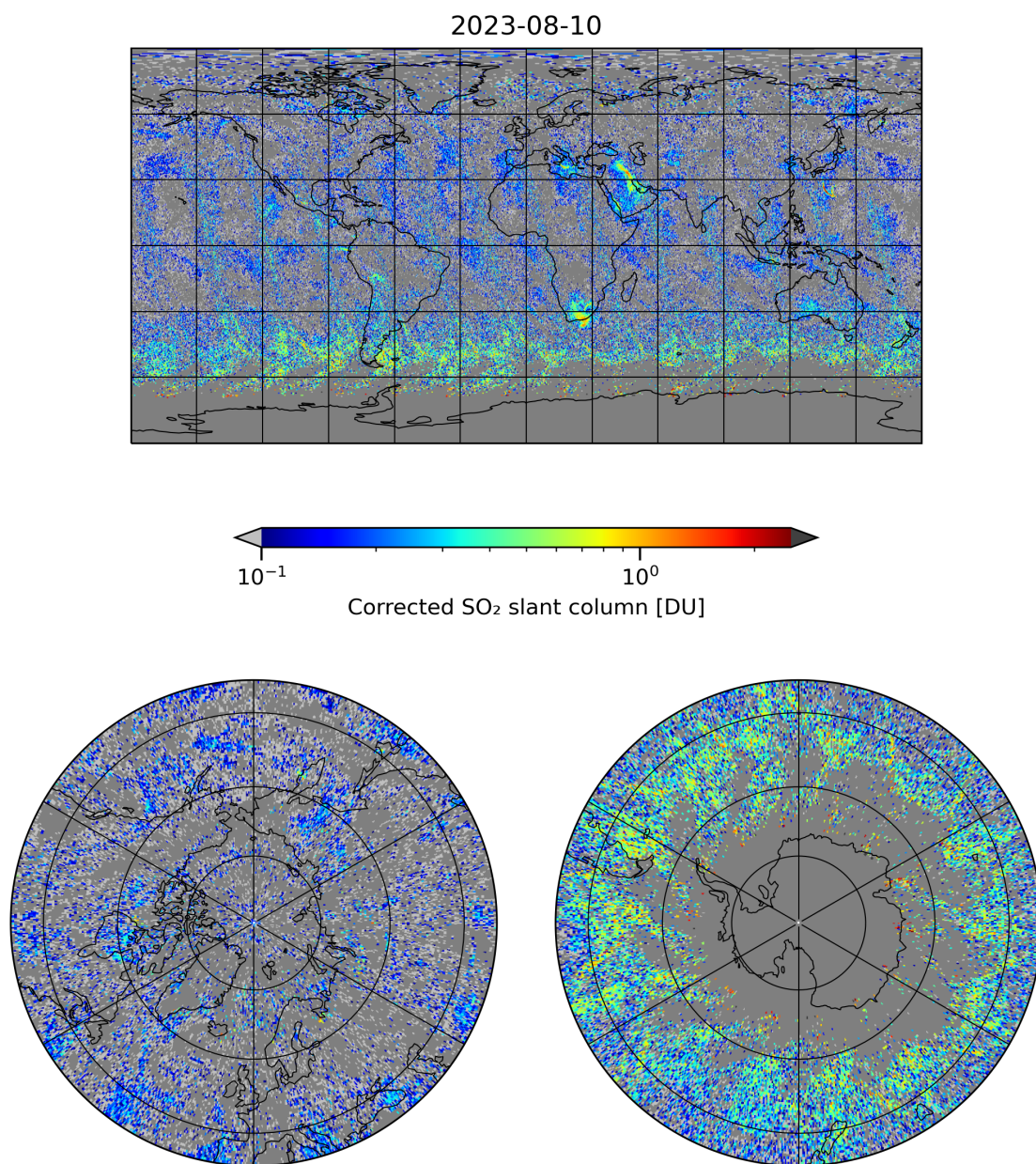


Figure 8: Map of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11

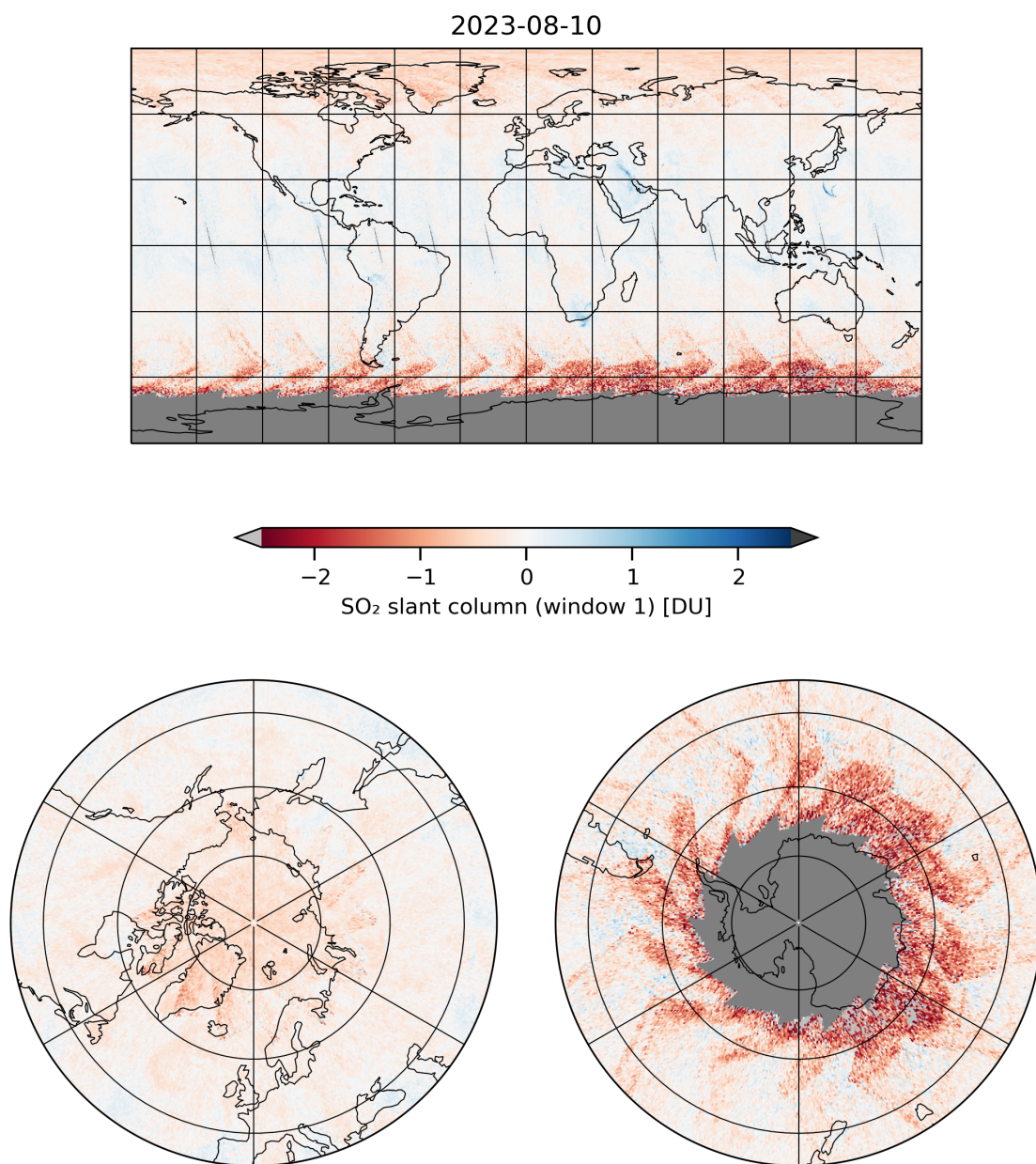


Figure 9: Map of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

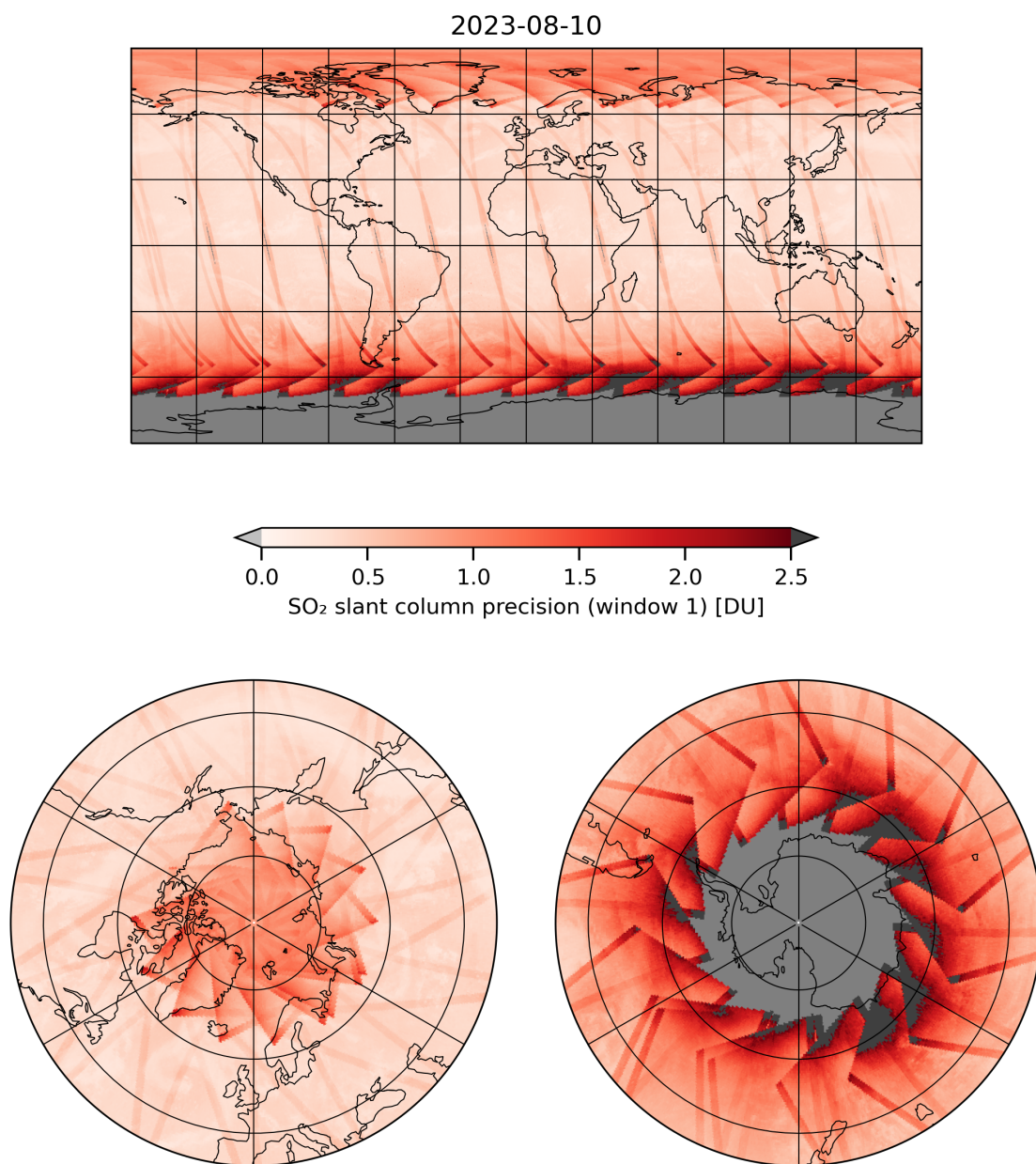


Figure 10: Map of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11

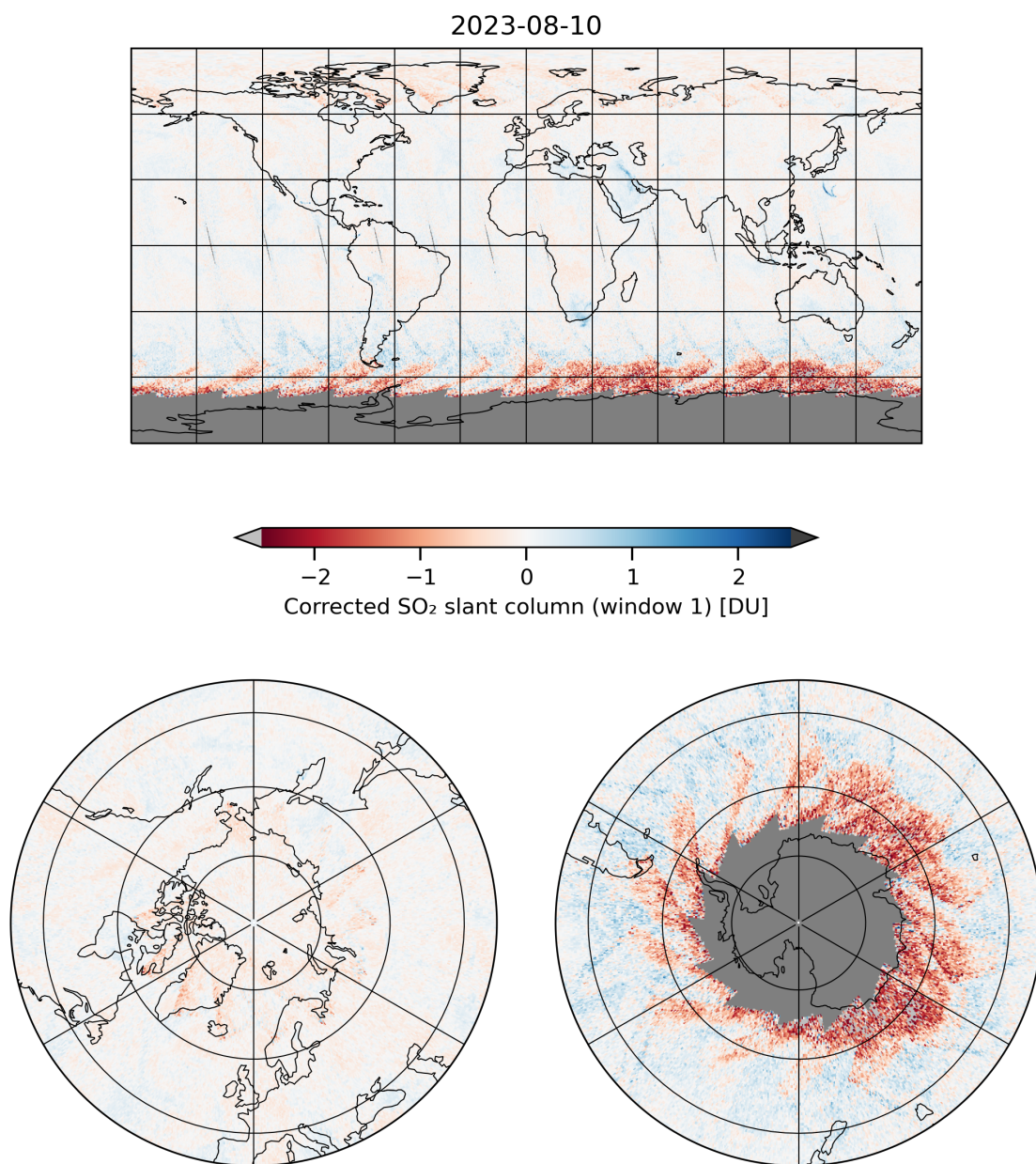


Figure 11: Map of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

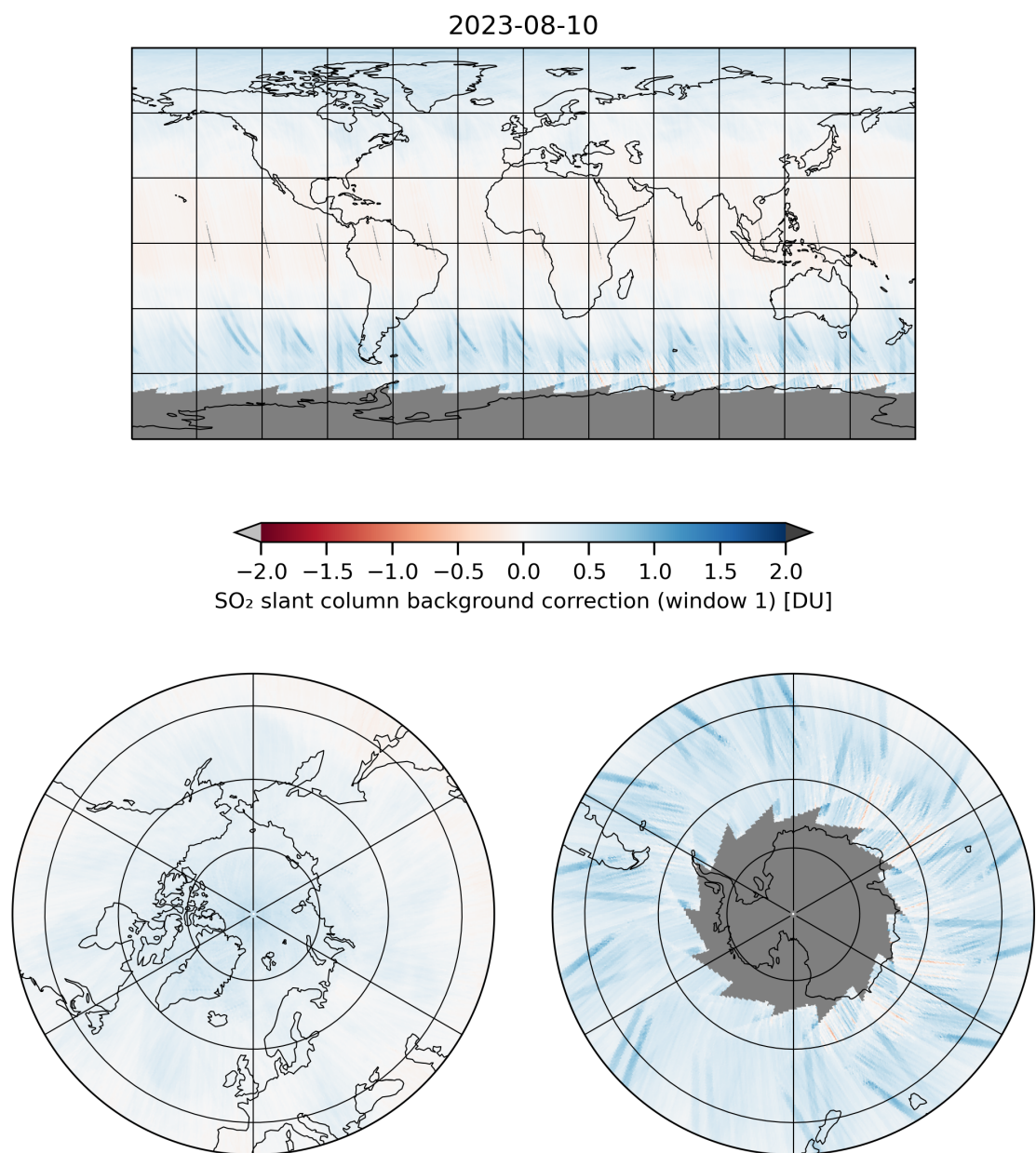


Figure 12: Map of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11

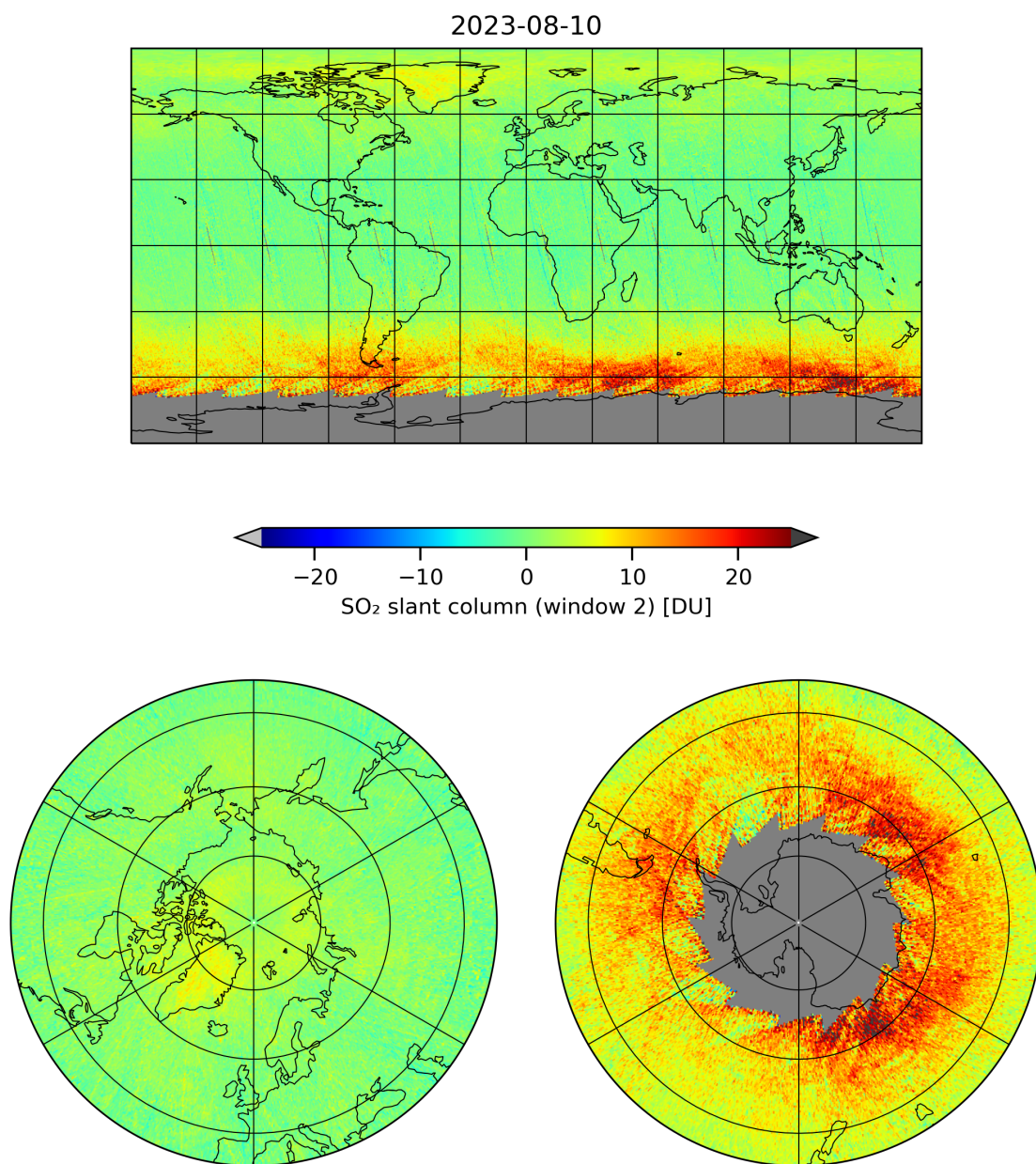


Figure 13: Map of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

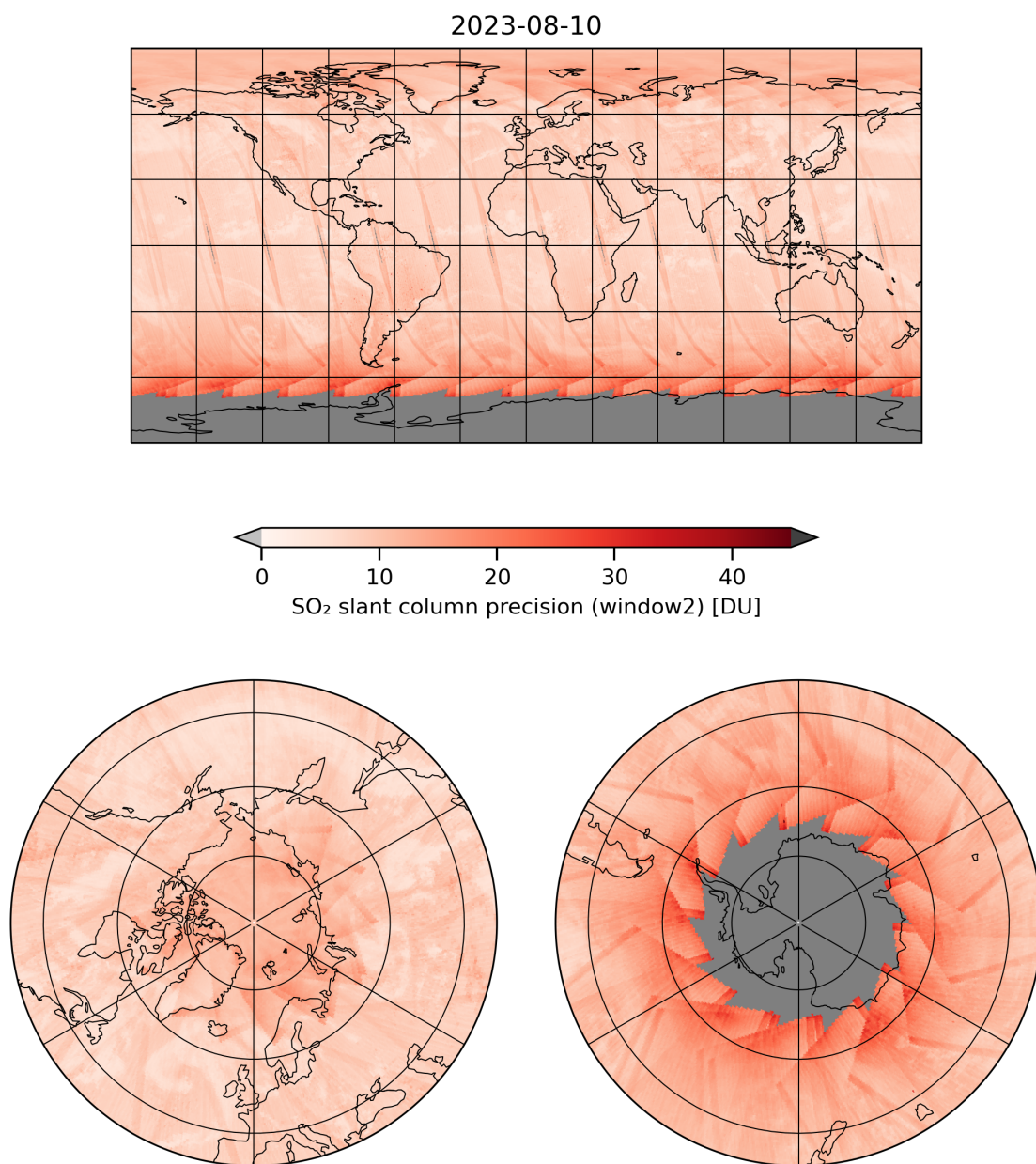


Figure 14: Map of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11

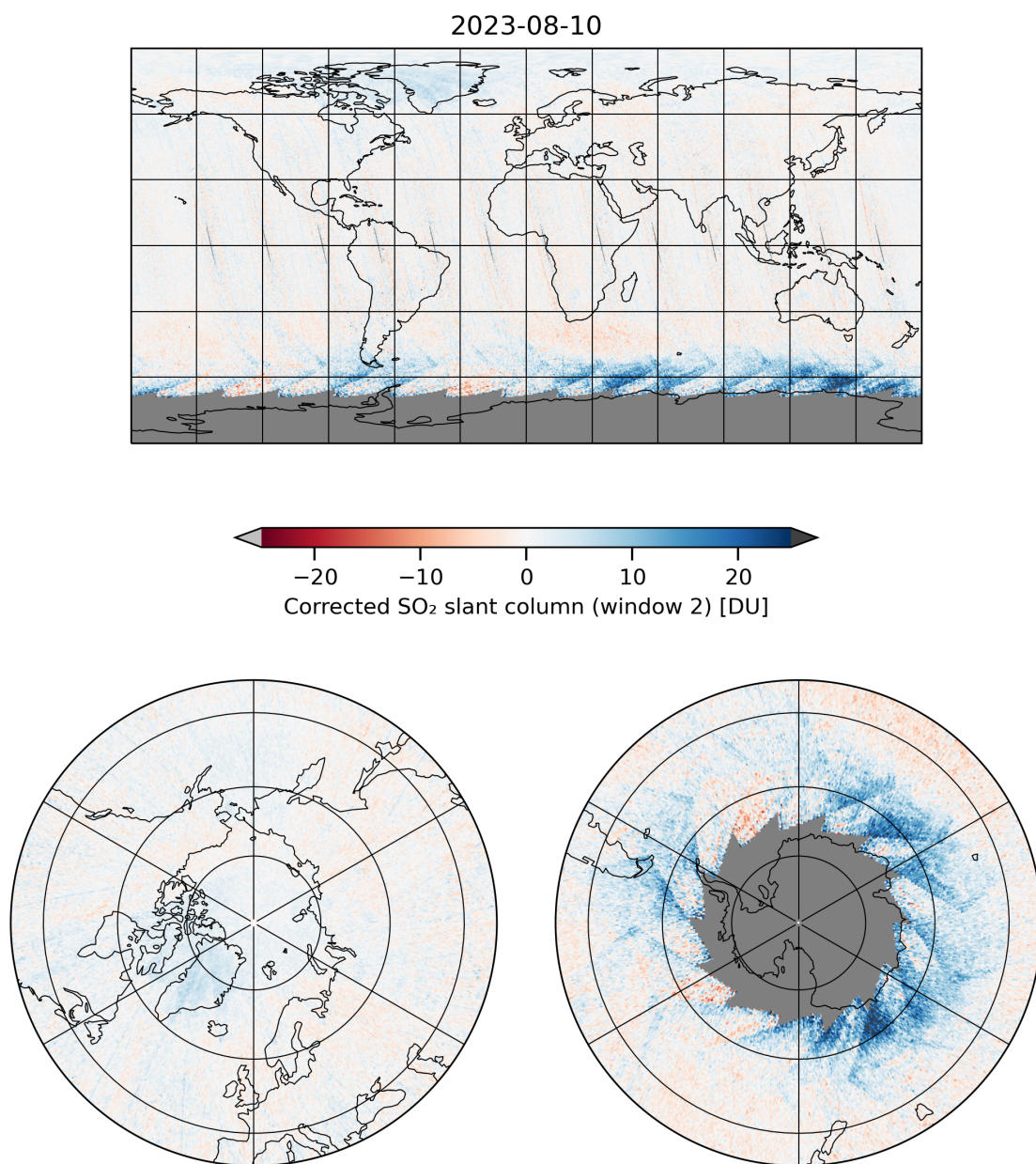


Figure 15: Map of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

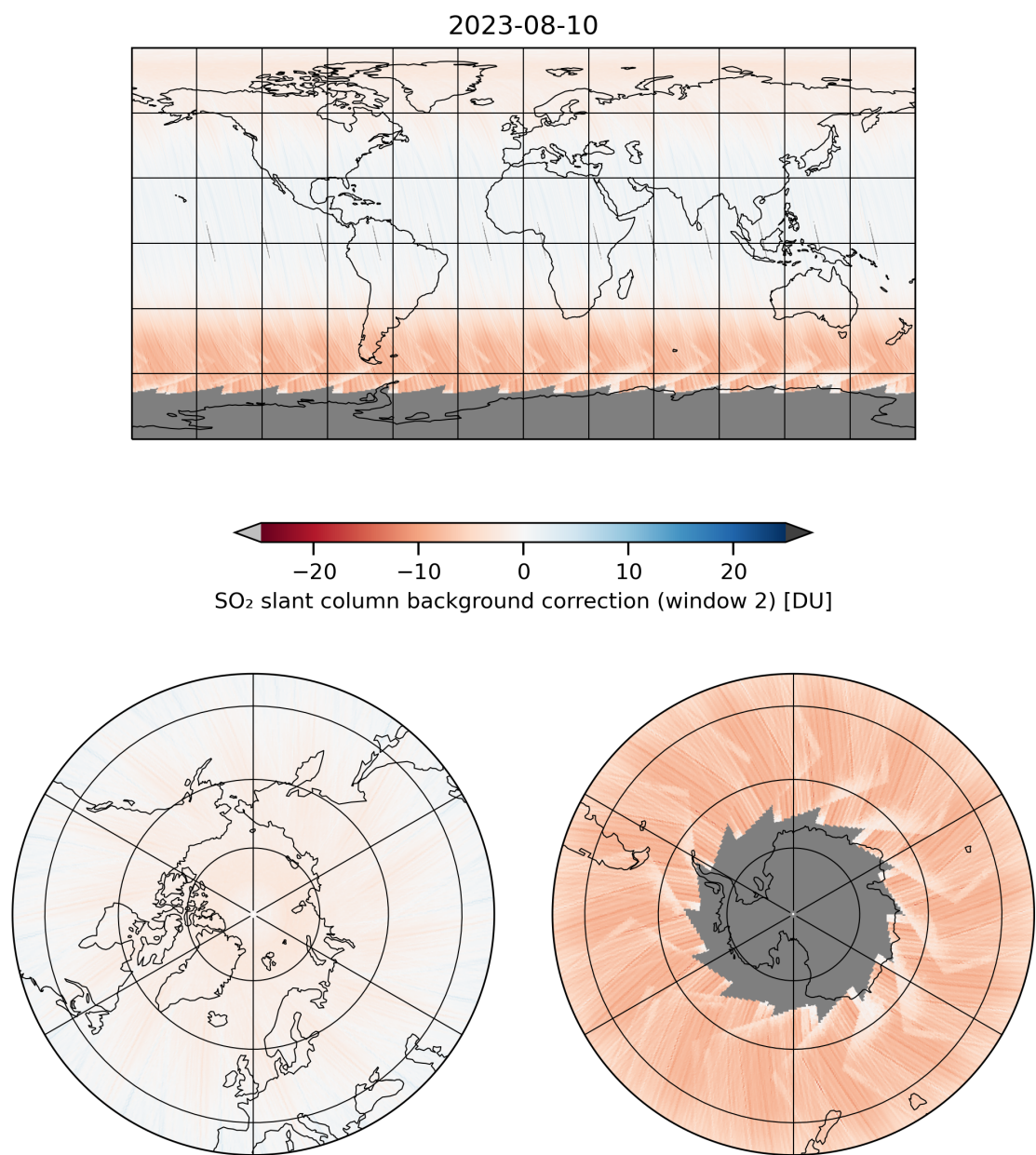


Figure 16: Map of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11

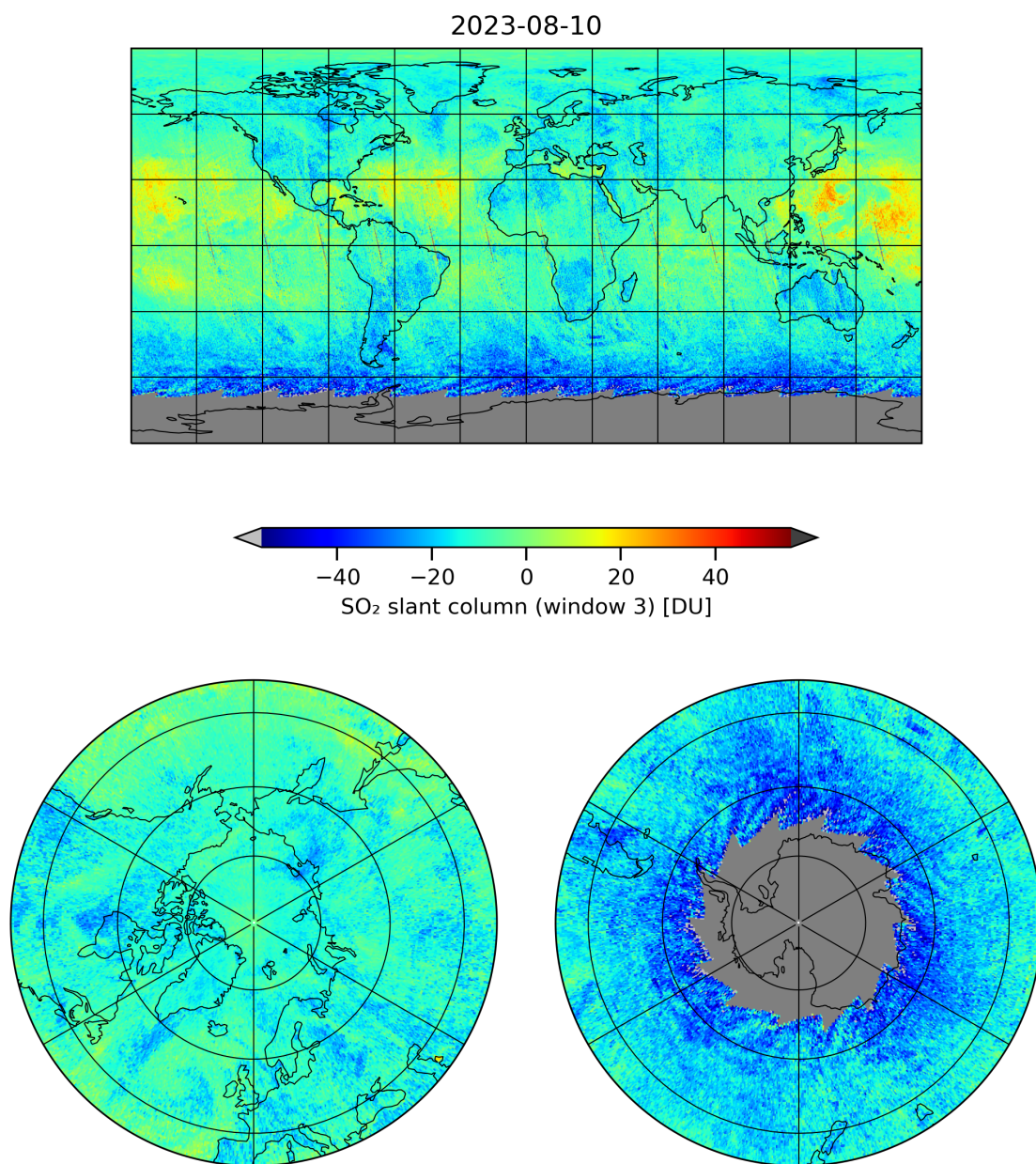


Figure 17: Map of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11

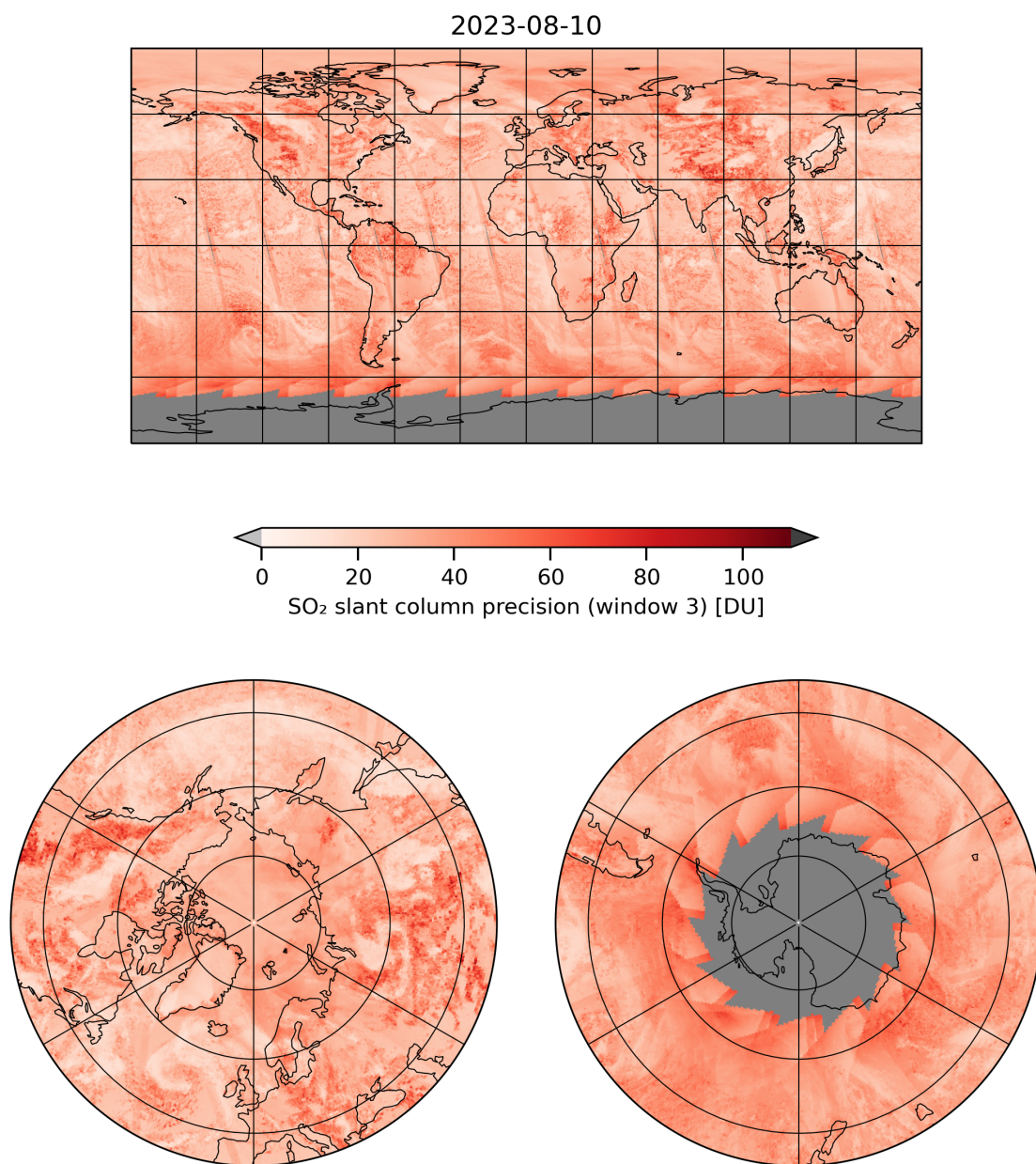


Figure 18: Map of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11

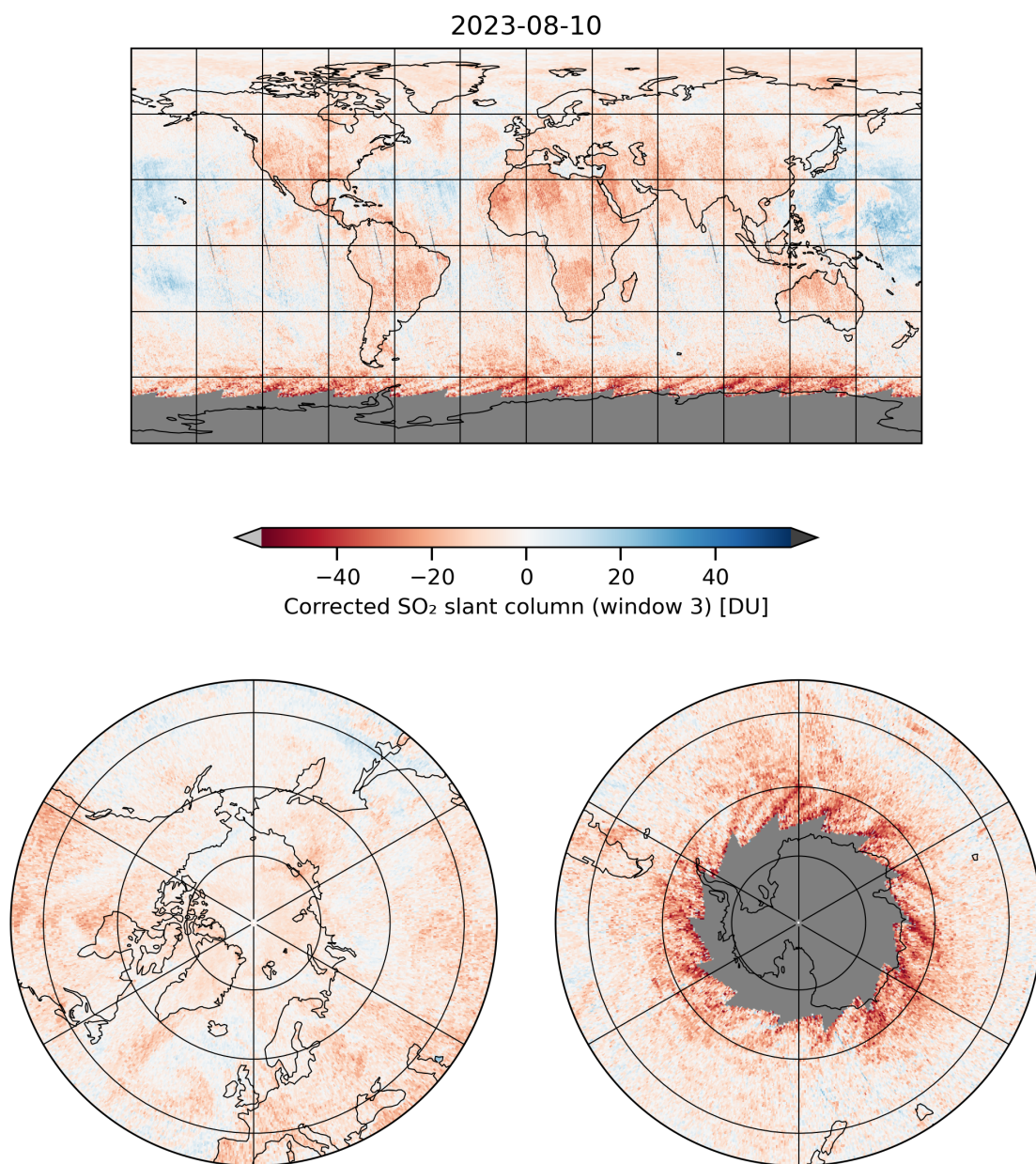


Figure 19: Map of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11

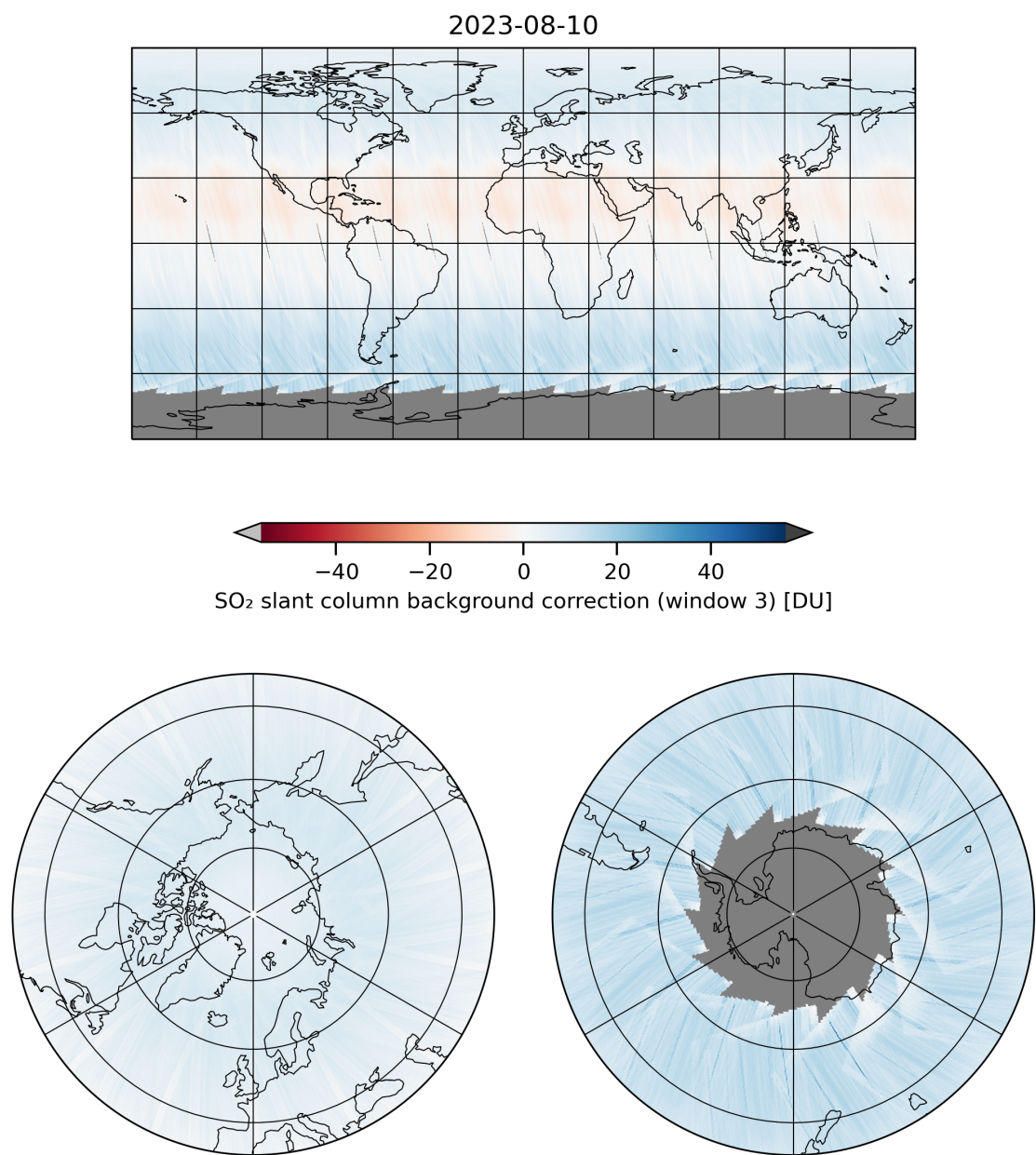


Figure 20: Map of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11

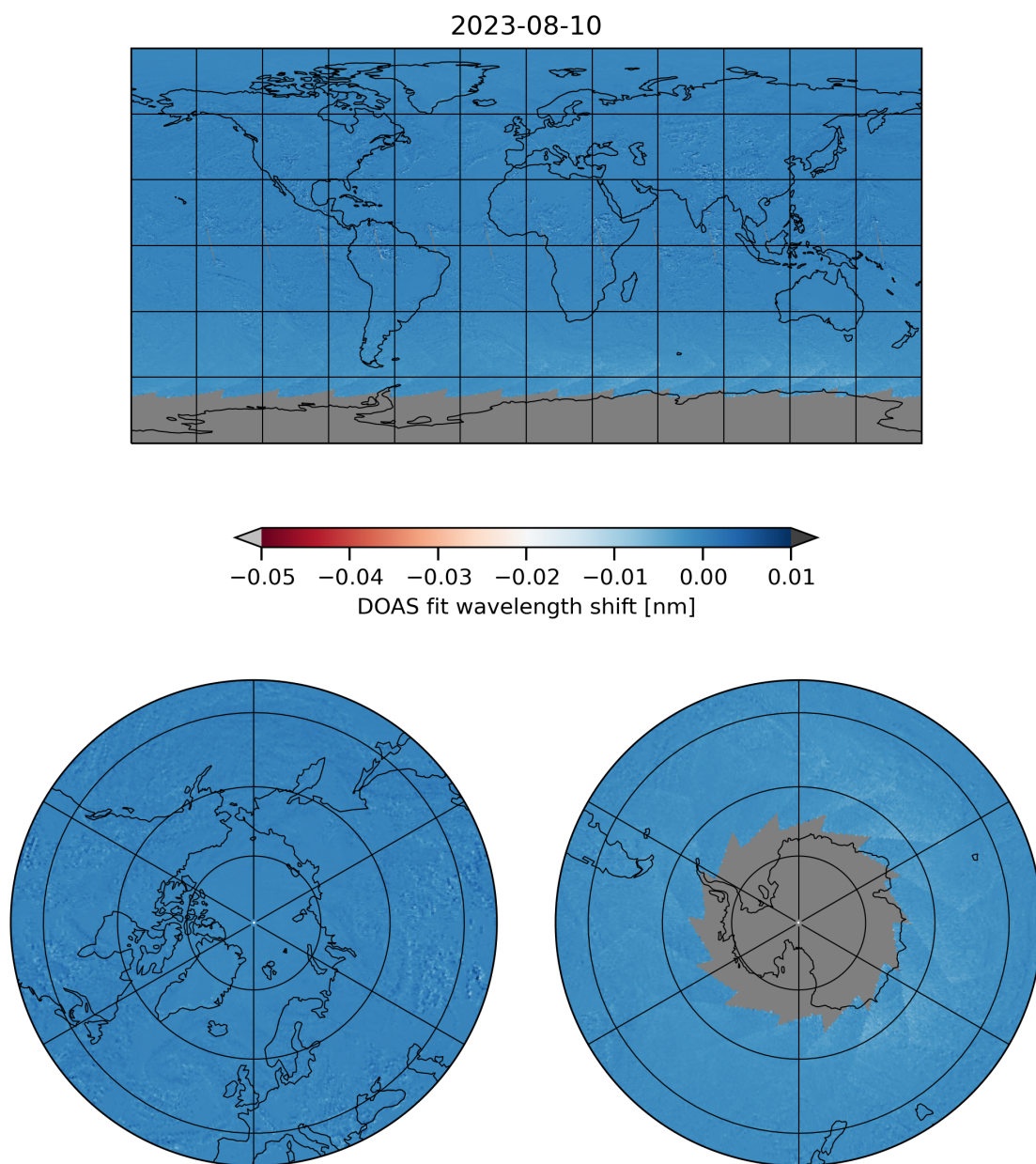


Figure 21: Map of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11

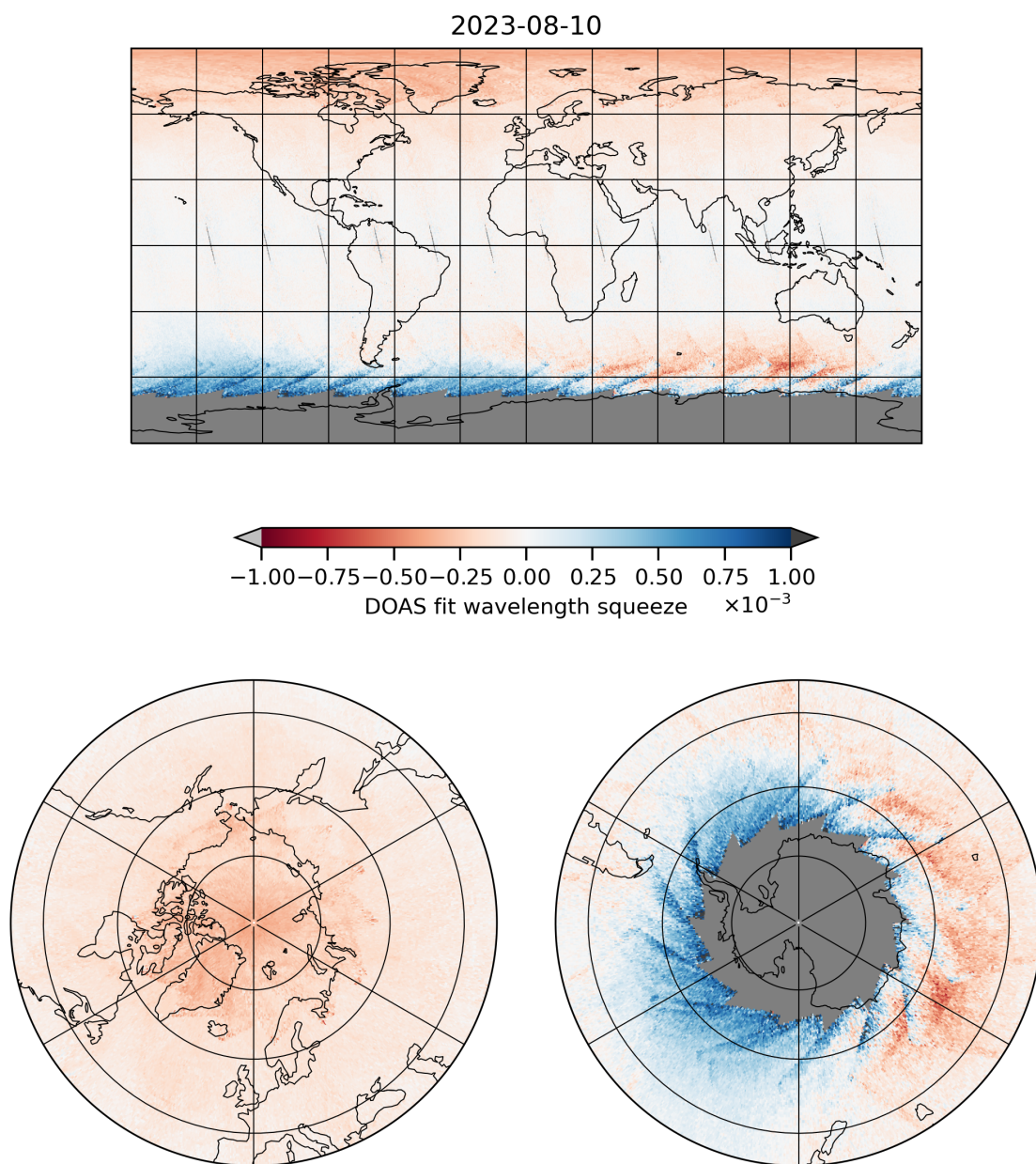


Figure 22: Map of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11

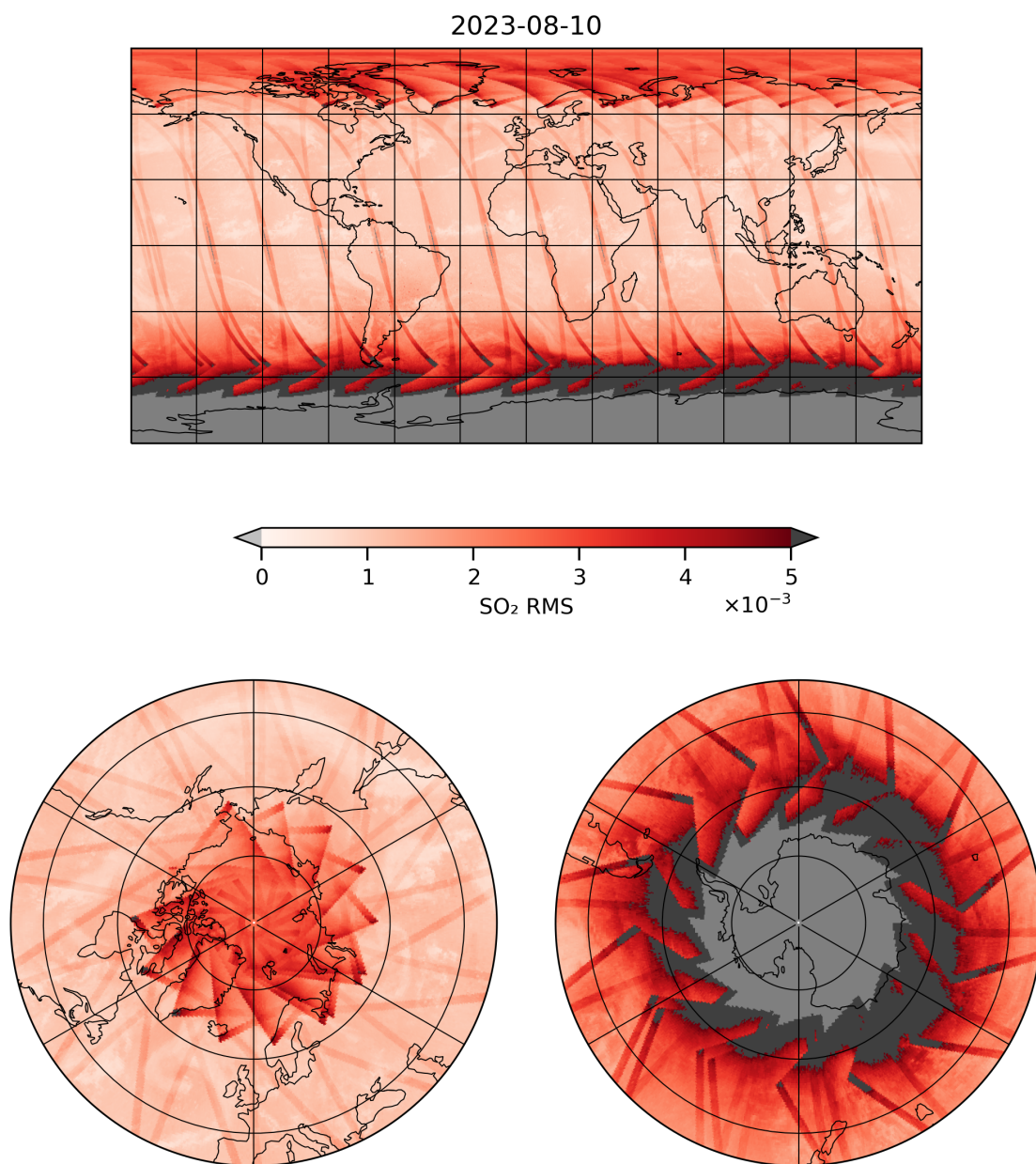


Figure 23: Map of “SO₂ RMS” for 2023-08-09 to 2023-08-11

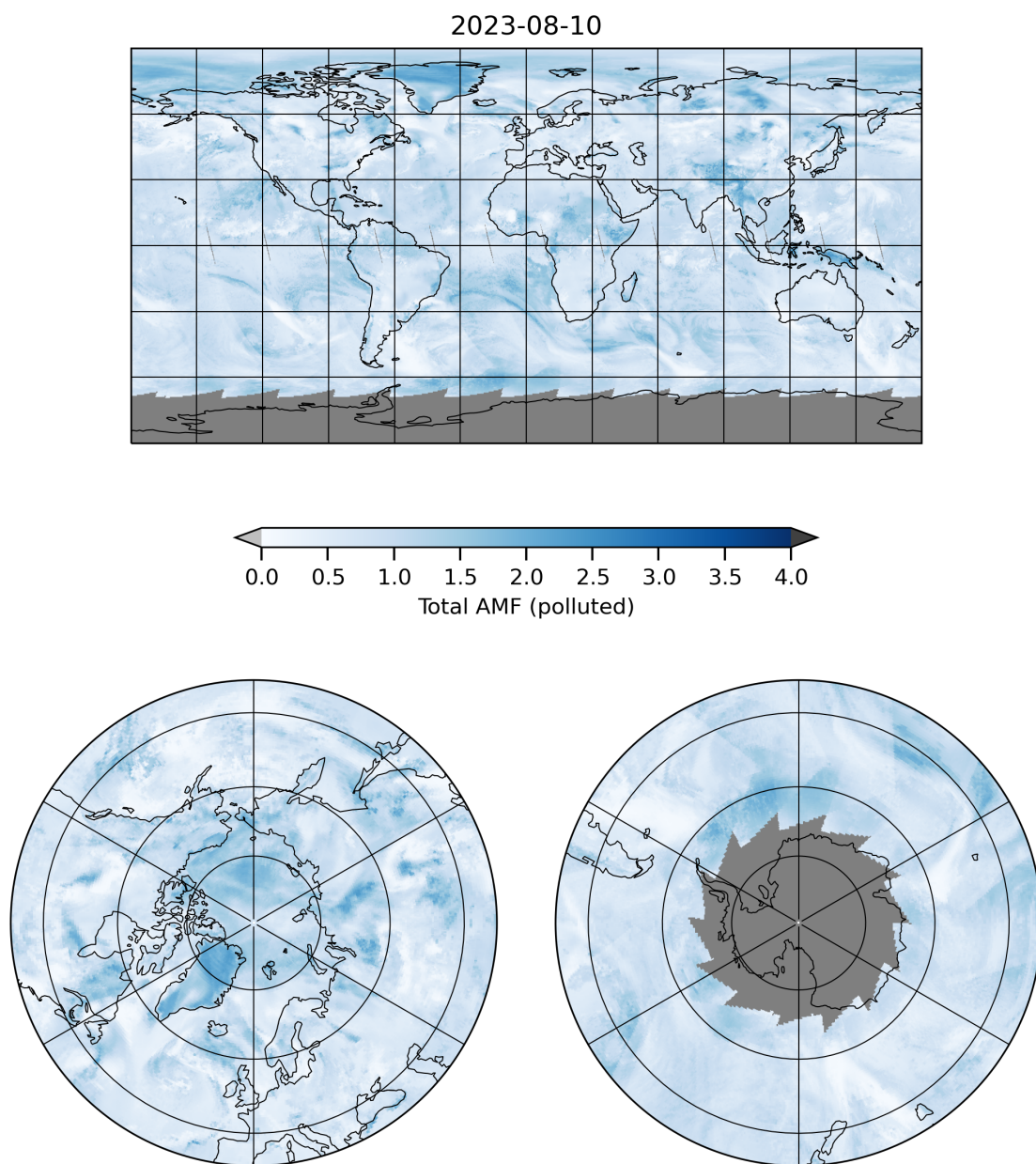


Figure 24: Map of “Total AMF (polluted)” for 2023-08-09 to 2023-08-11

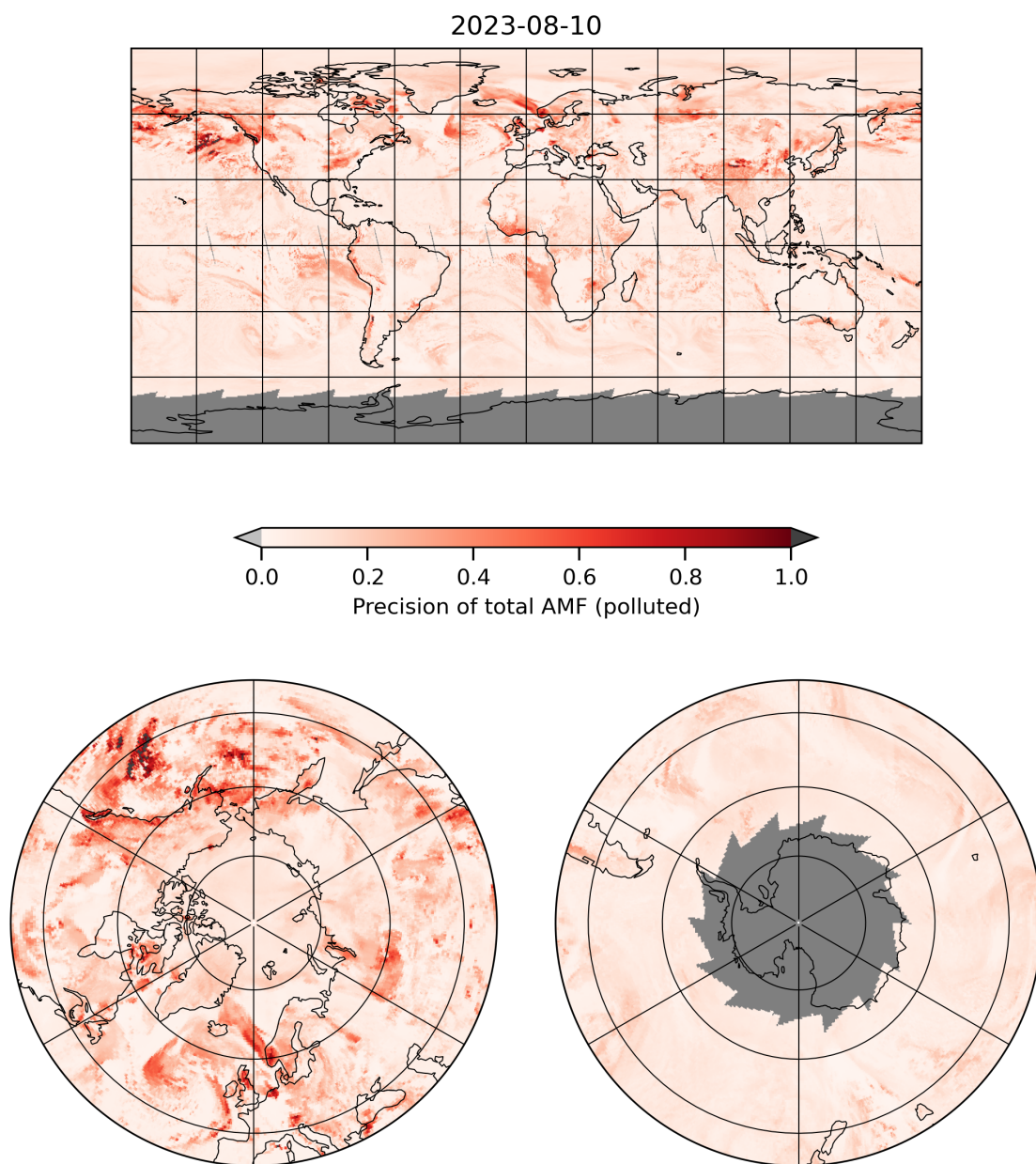


Figure 25: Map of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11

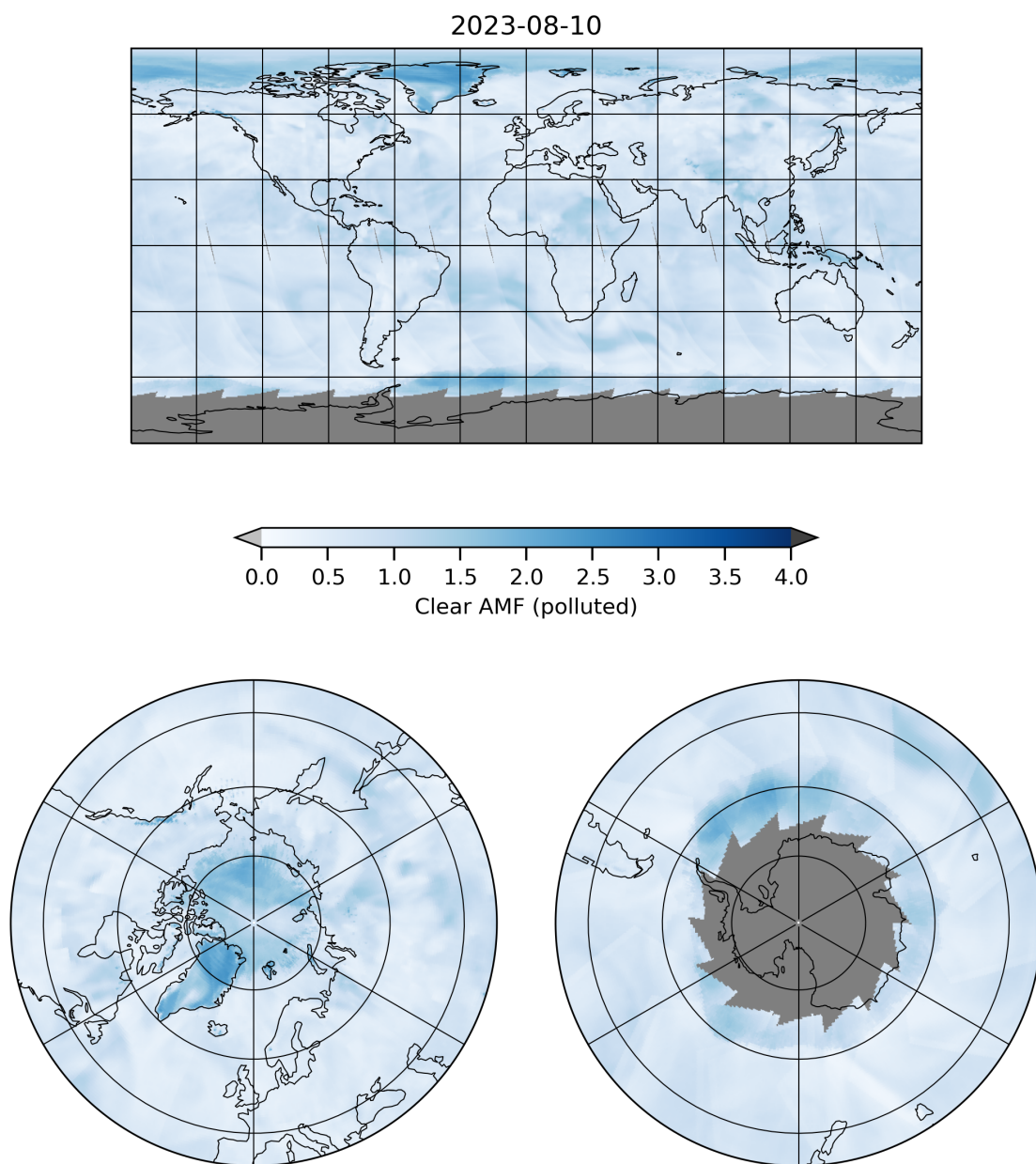


Figure 26: Map of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11

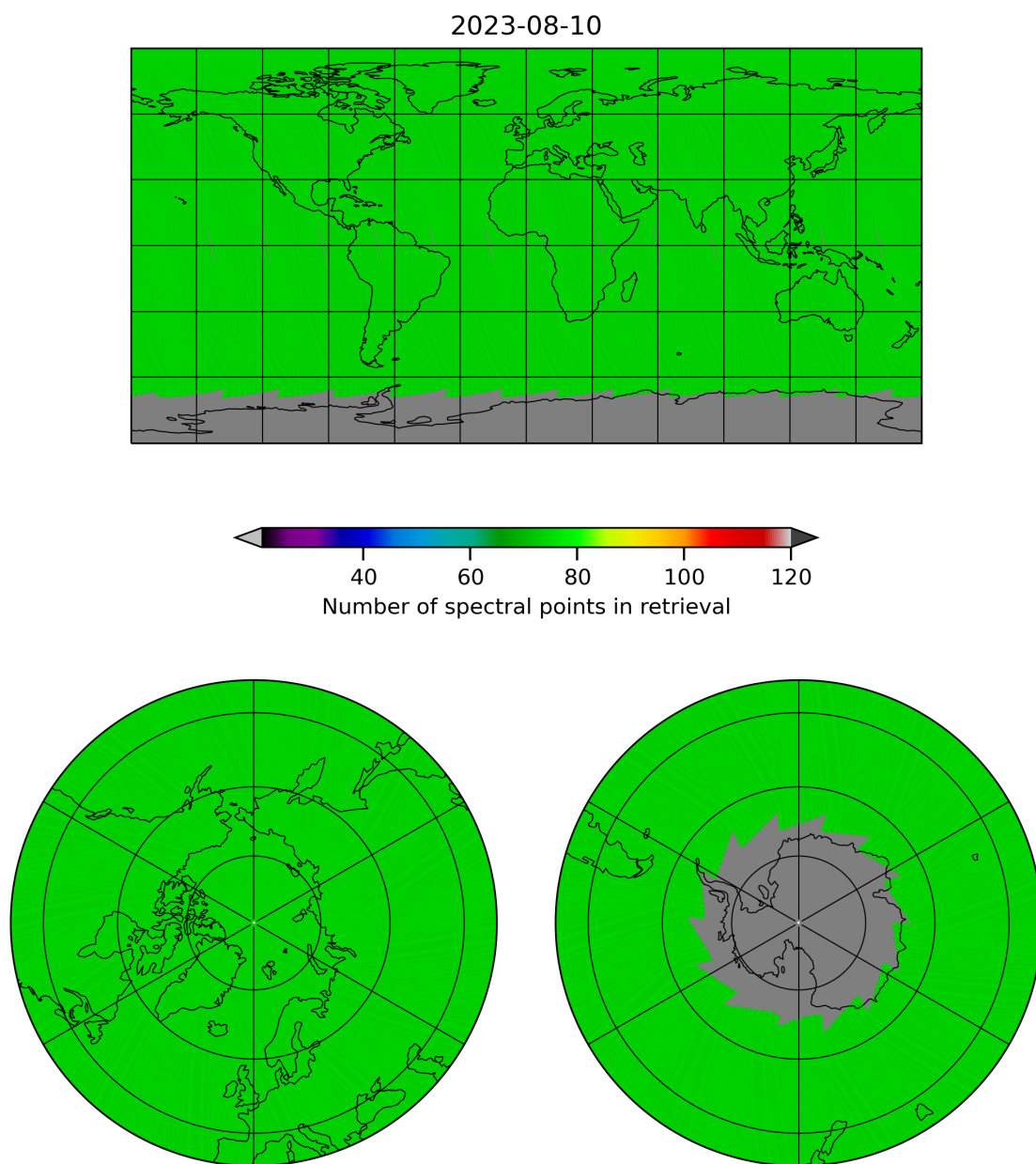


Figure 27: Map of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-11

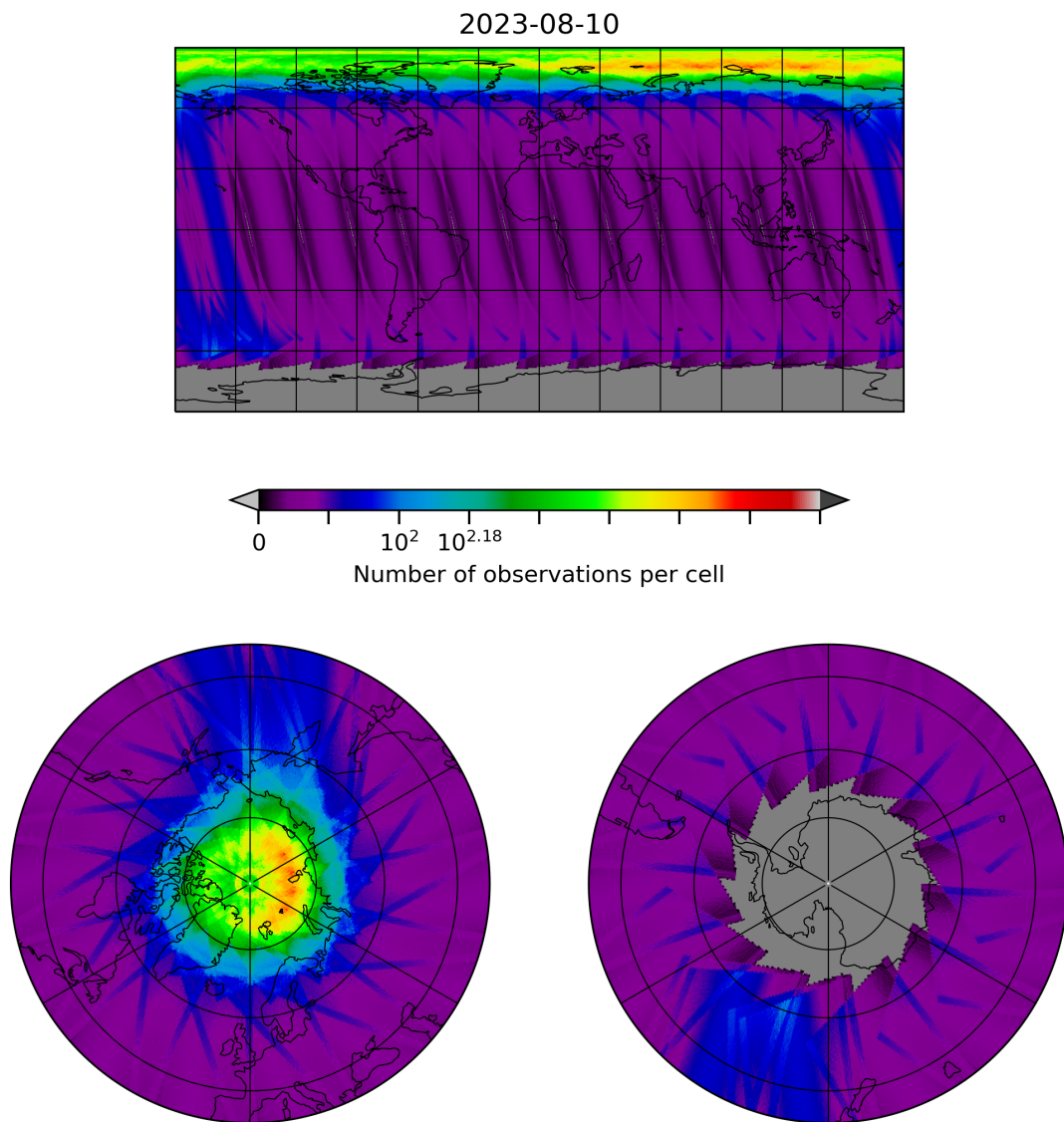


Figure 28: Map of the number of observations for 2023-08-09 to 2023-08-11

7 Zonal average

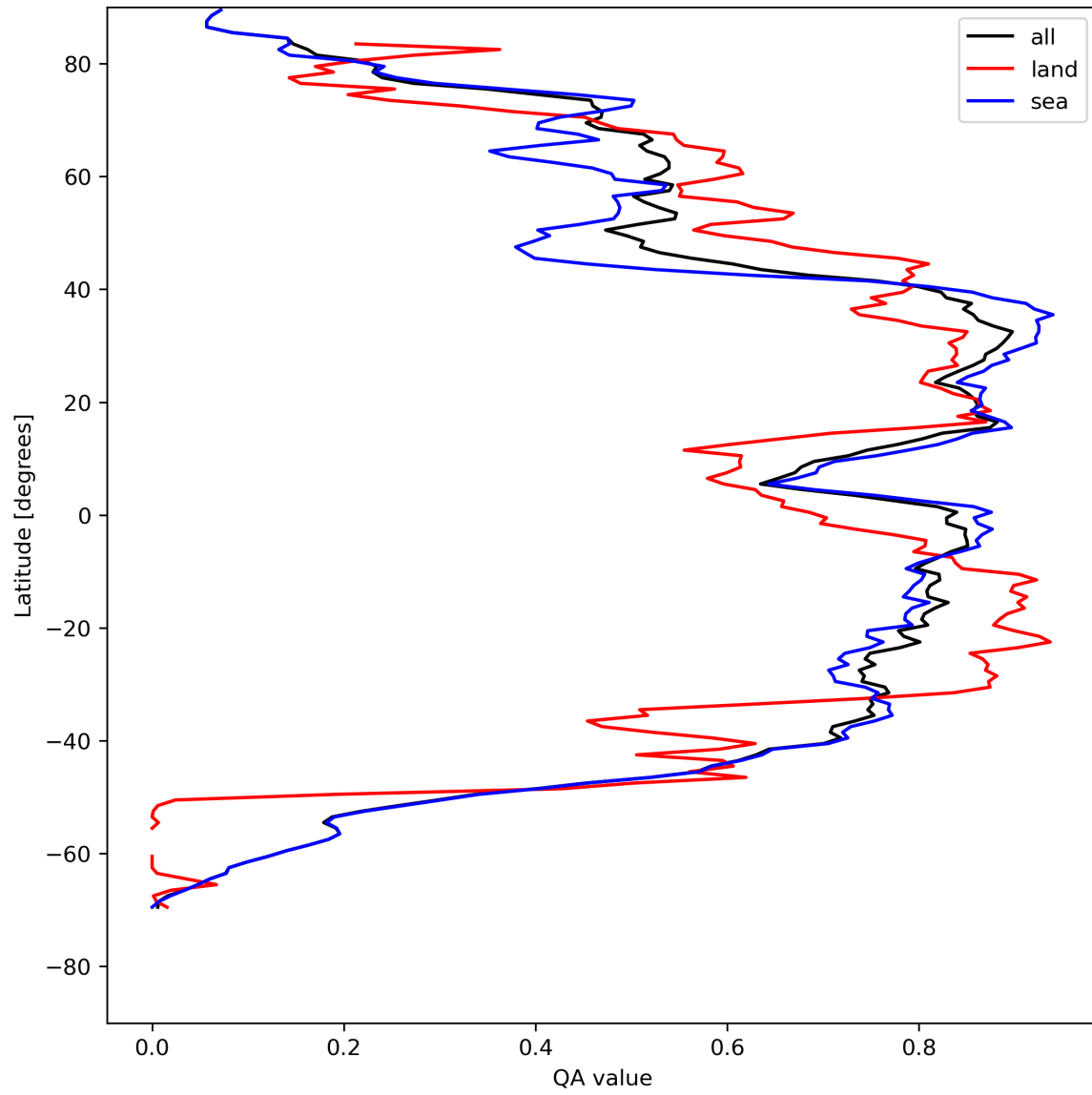


Figure 29: Zonal average of “QA value” for 2023-08-09 to 2023-08-11.

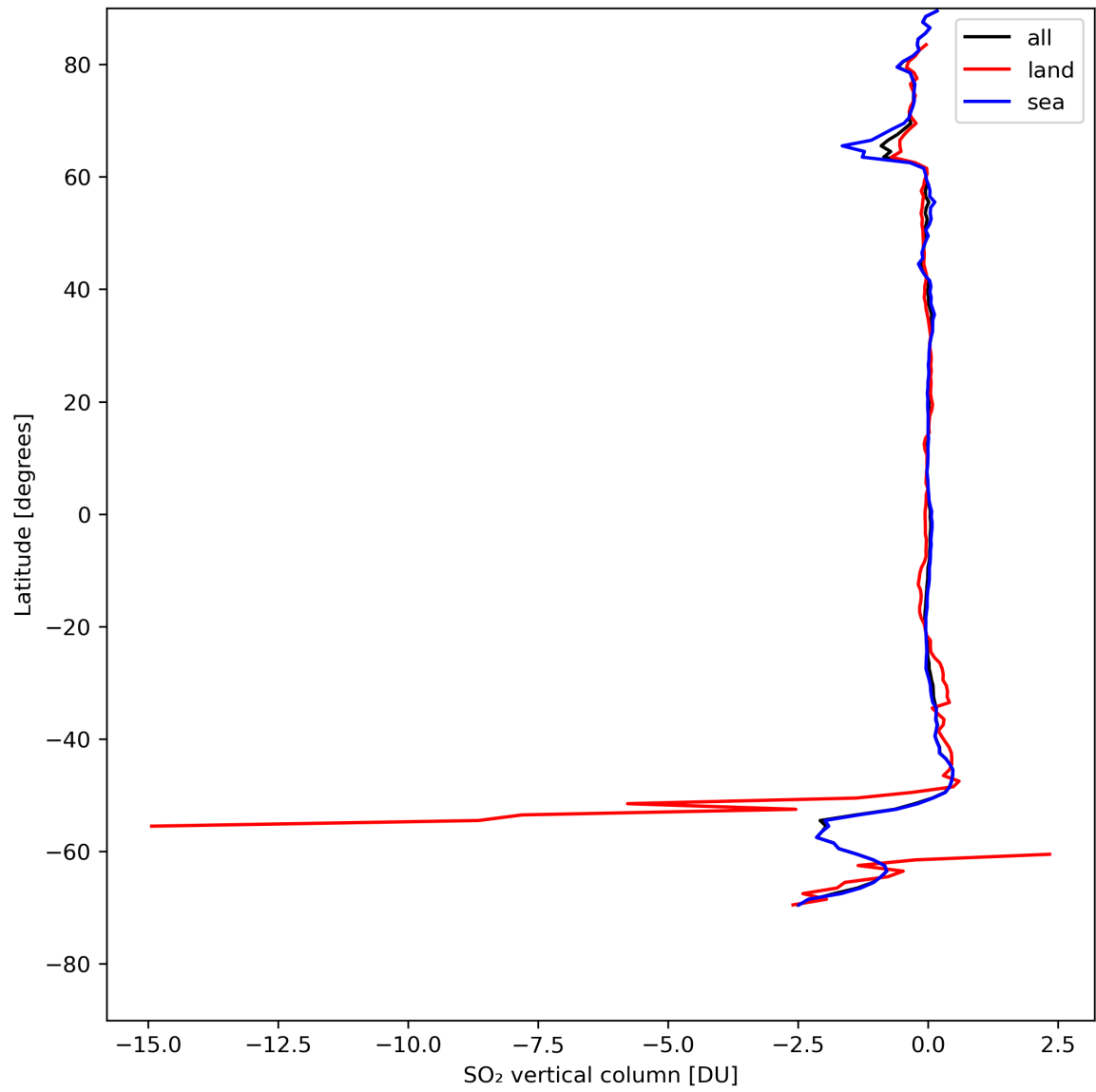


Figure 30: Zonal average of “SO₂ vertical column” for 2023-08-09 to 2023-08-11.

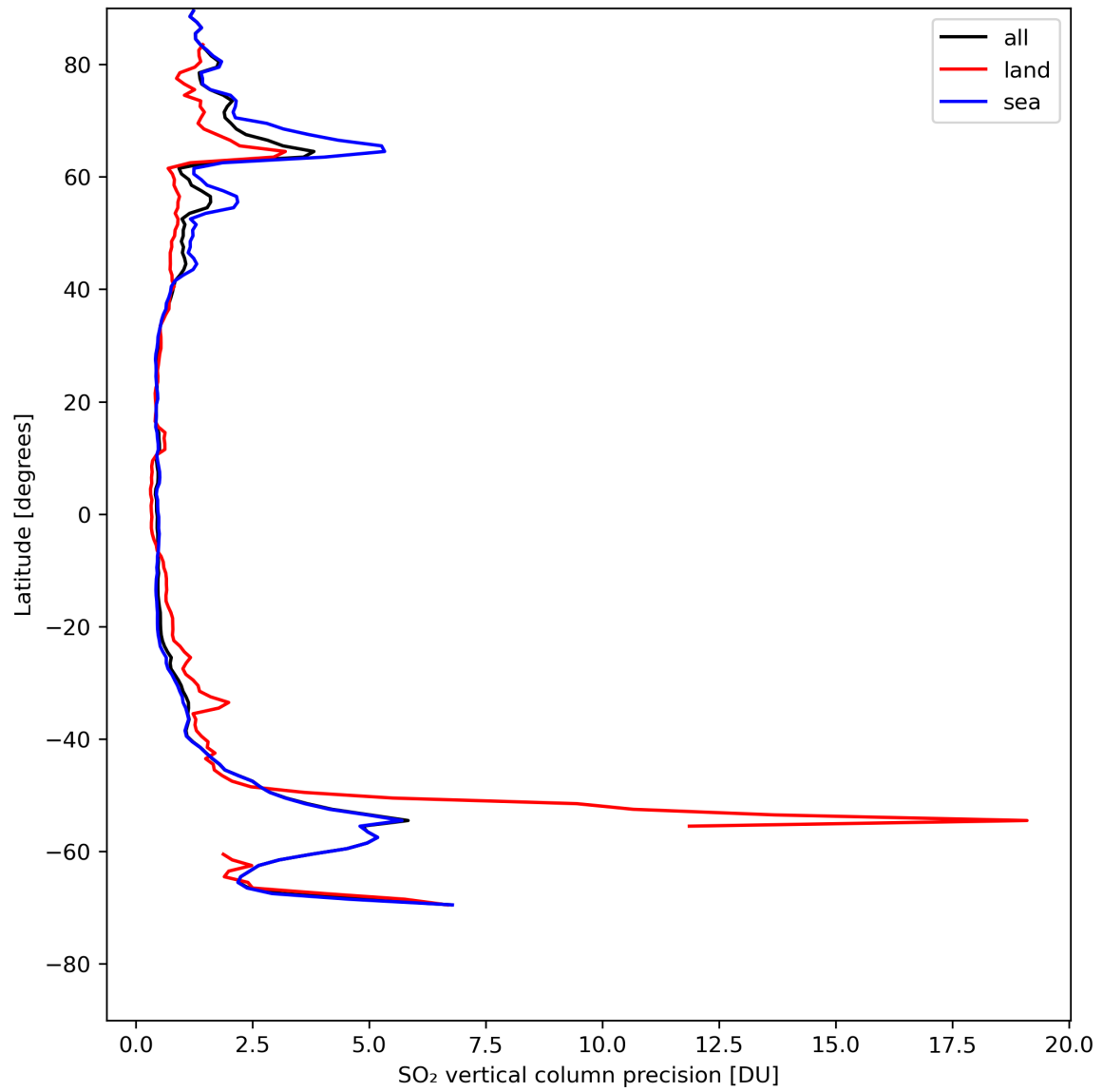


Figure 31: Zonal average of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11.

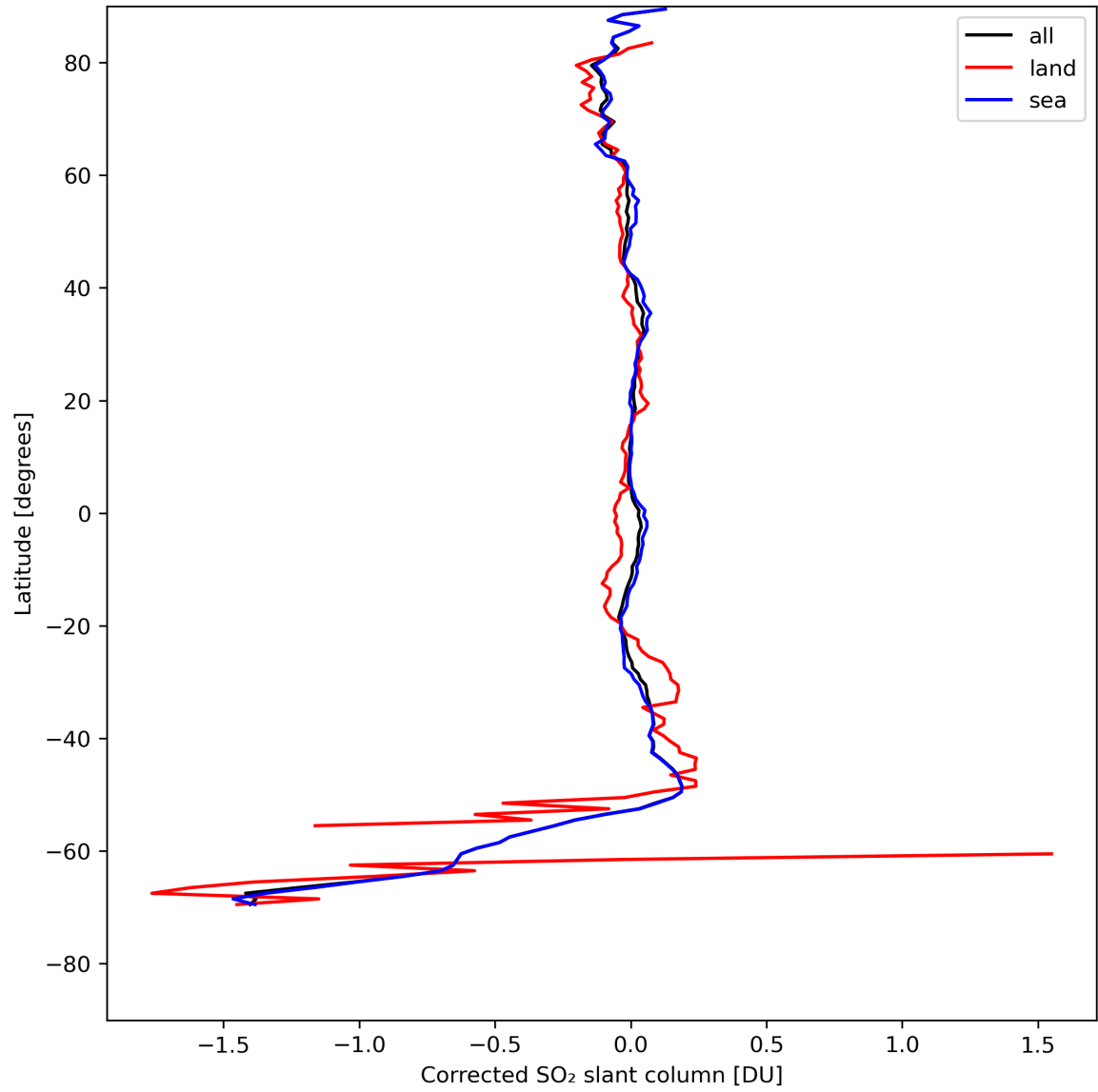


Figure 32: Zonal average of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

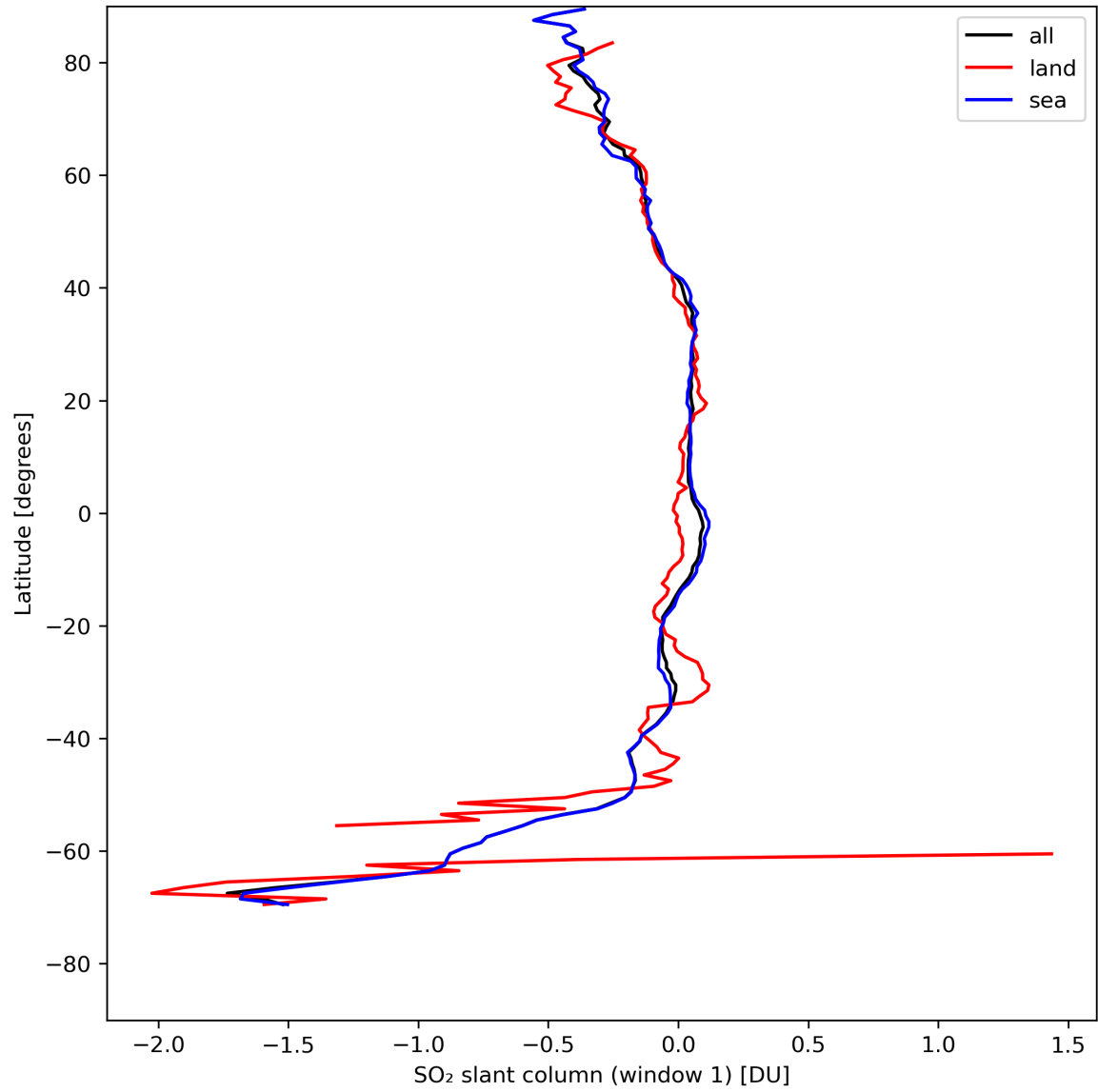


Figure 33: Zonal average of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

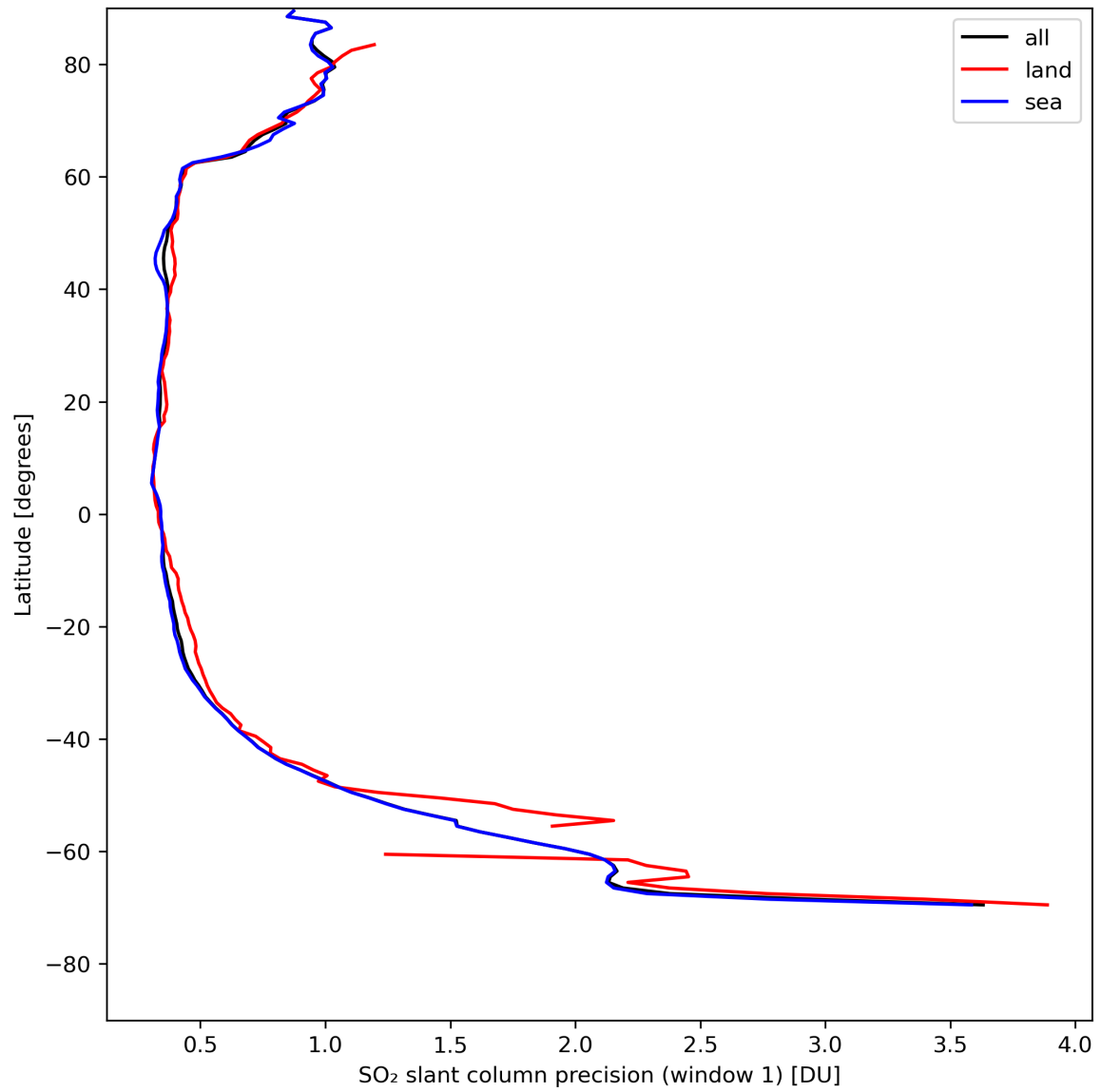


Figure 34: Zonal average of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

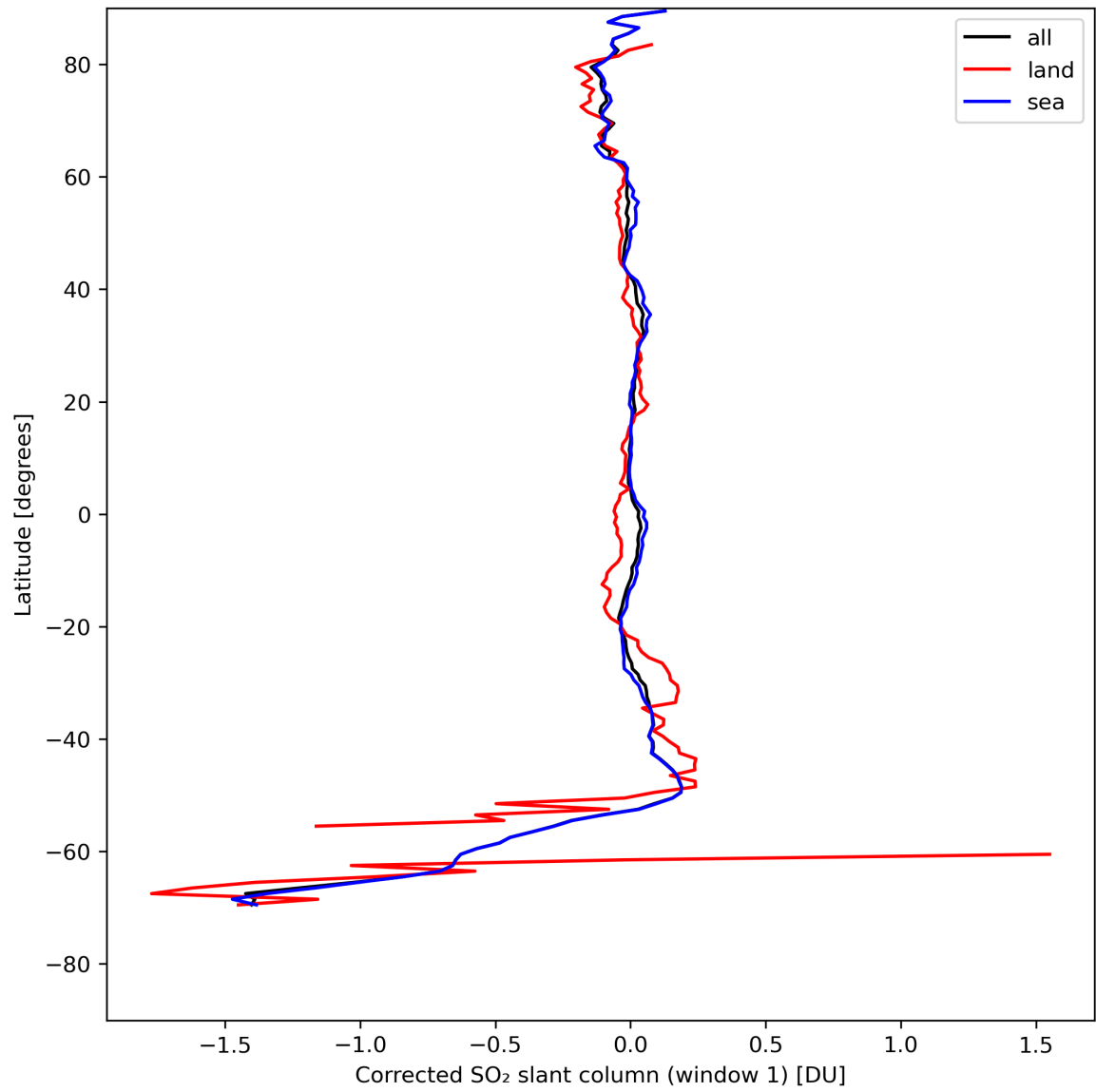


Figure 35: Zonal average of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

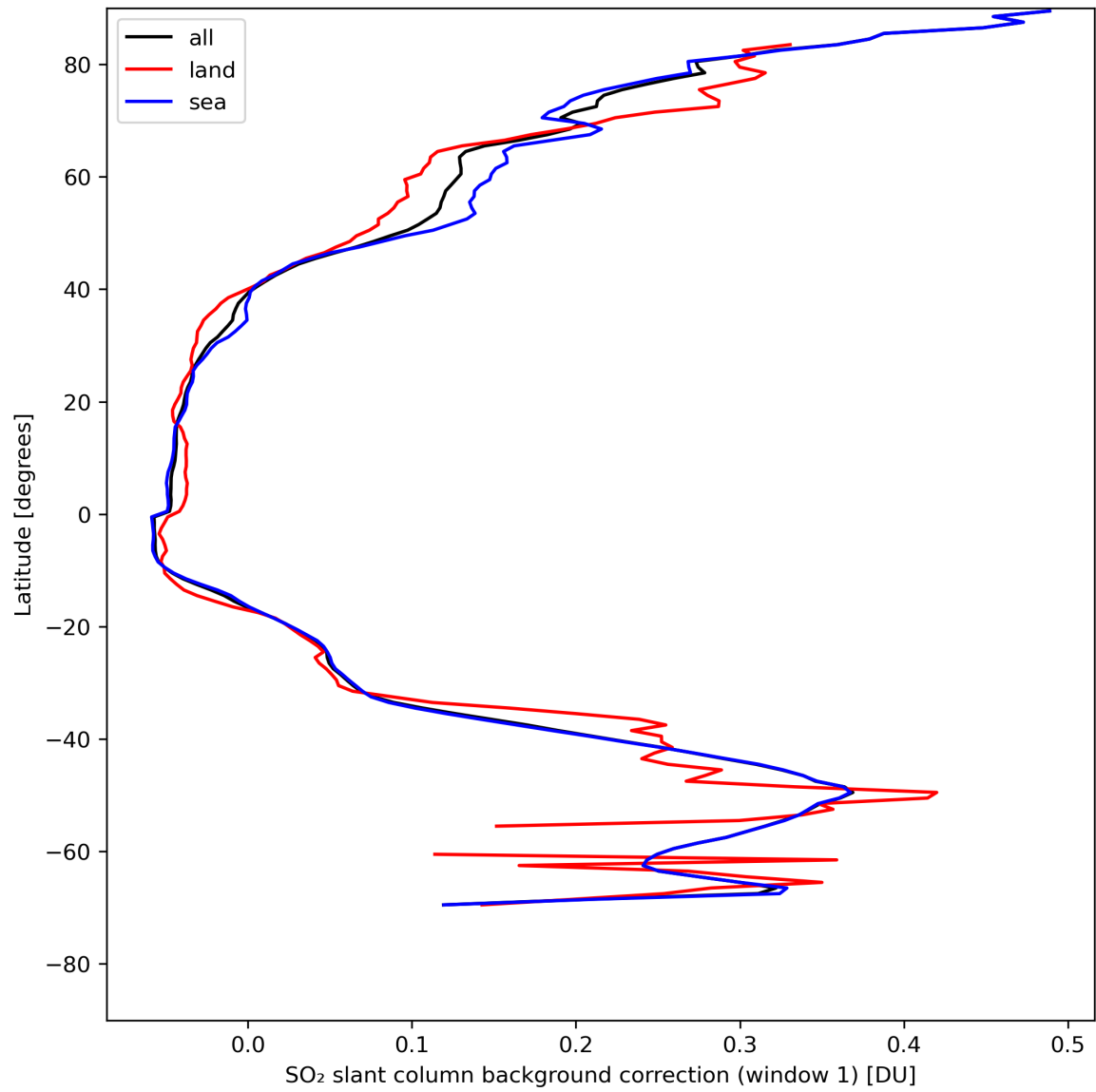


Figure 36: Zonal average of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

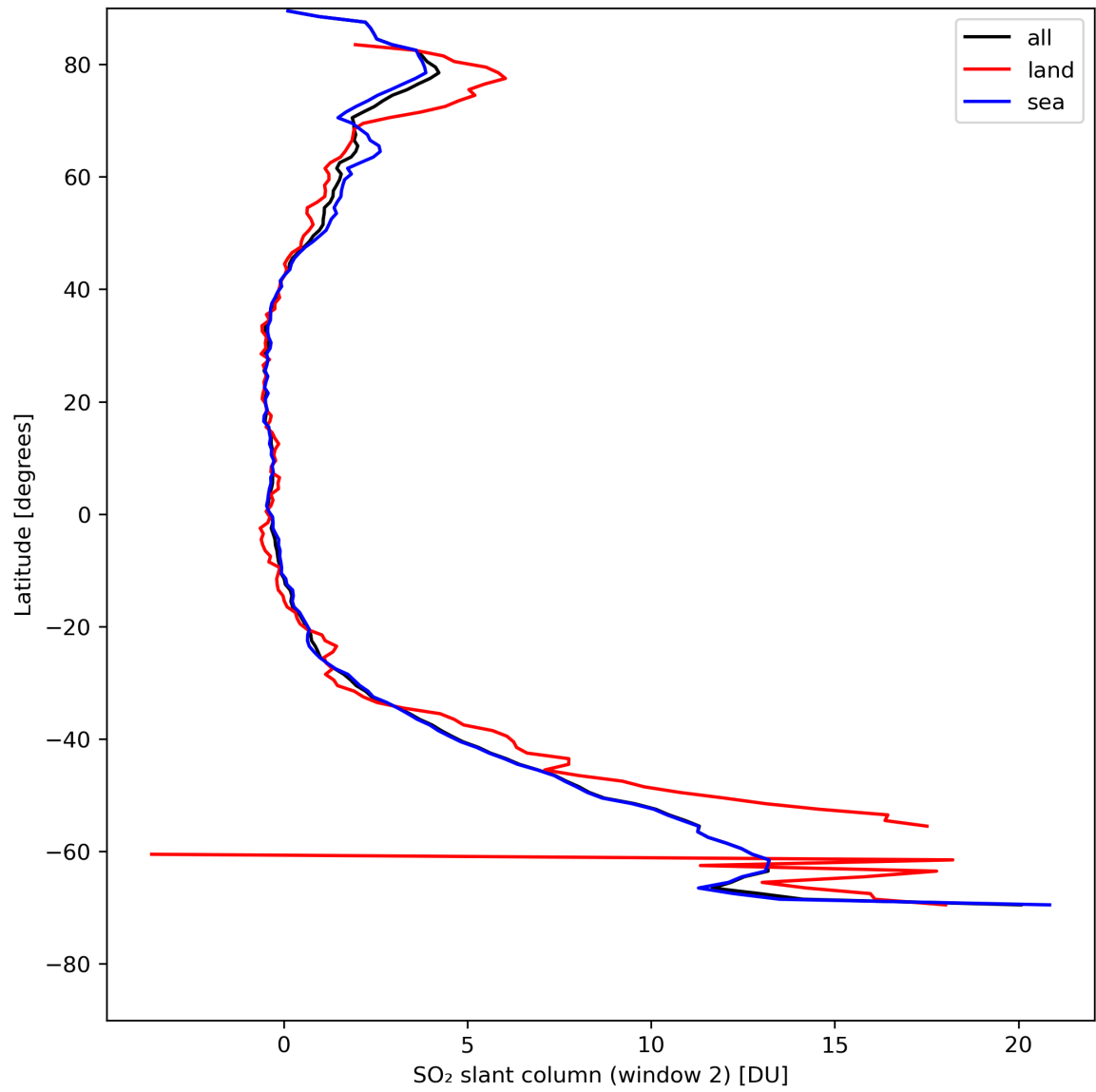


Figure 37: Zonal average of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

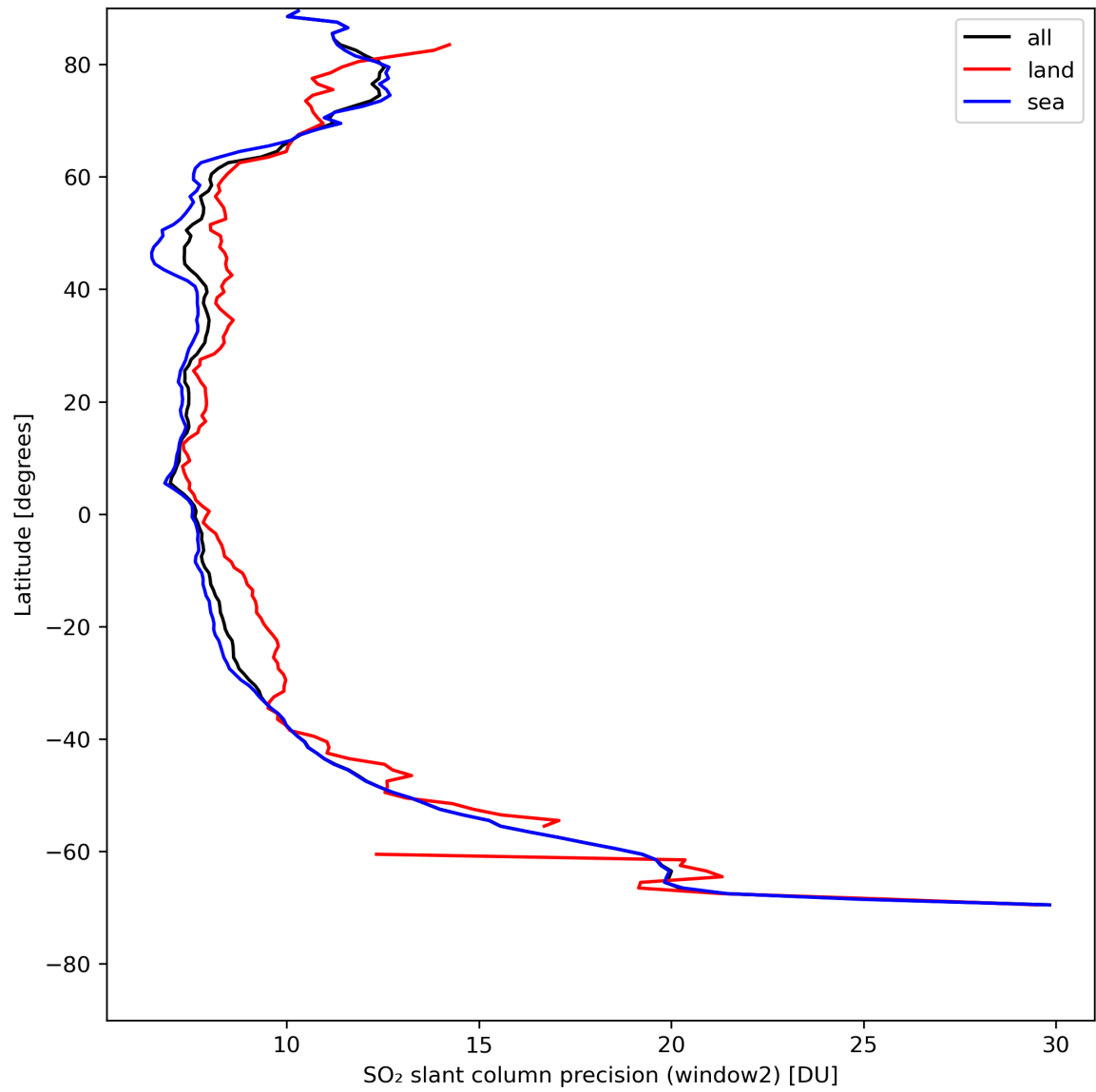


Figure 38: Zonal average of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

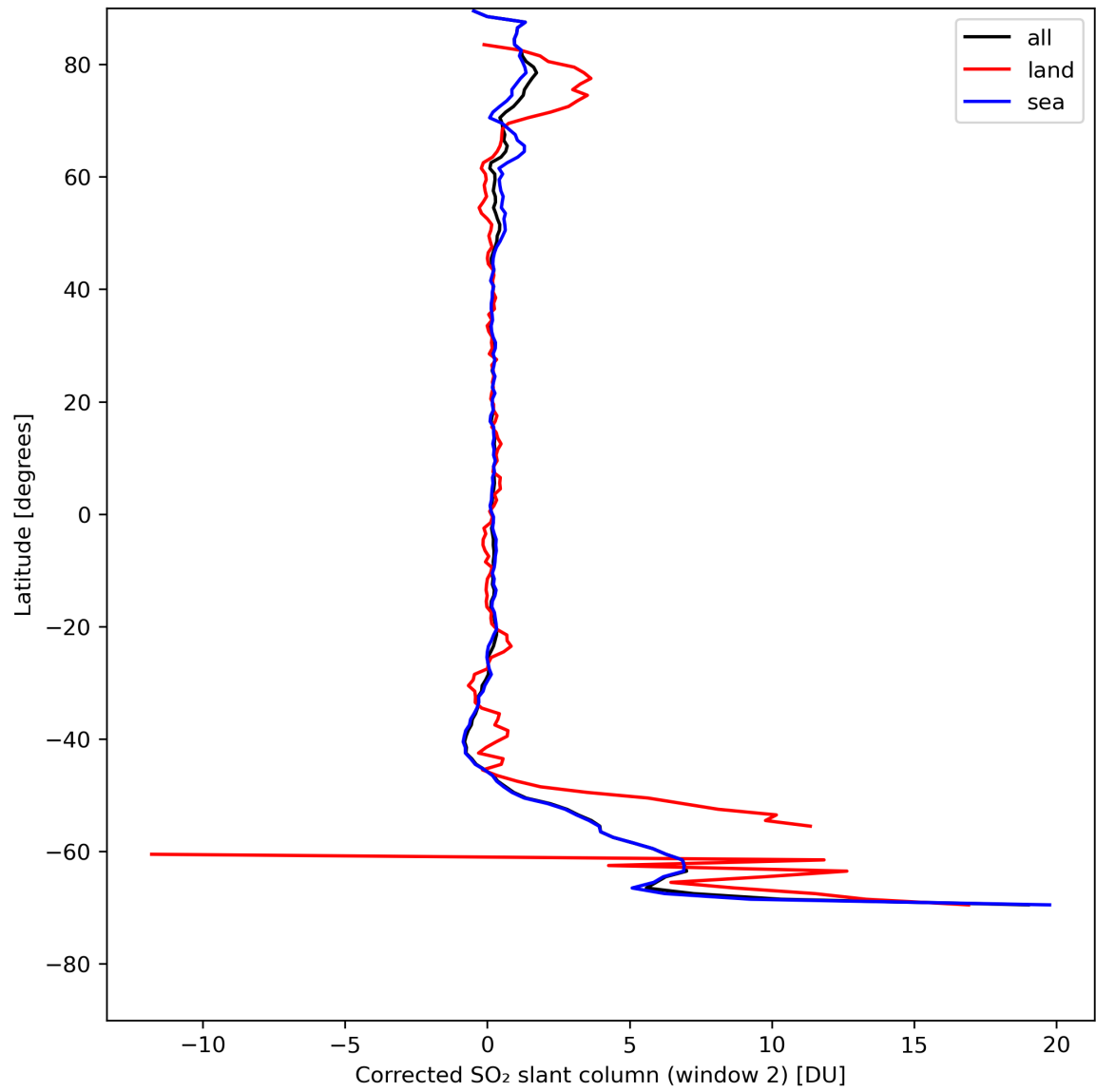


Figure 39: Zonal average of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

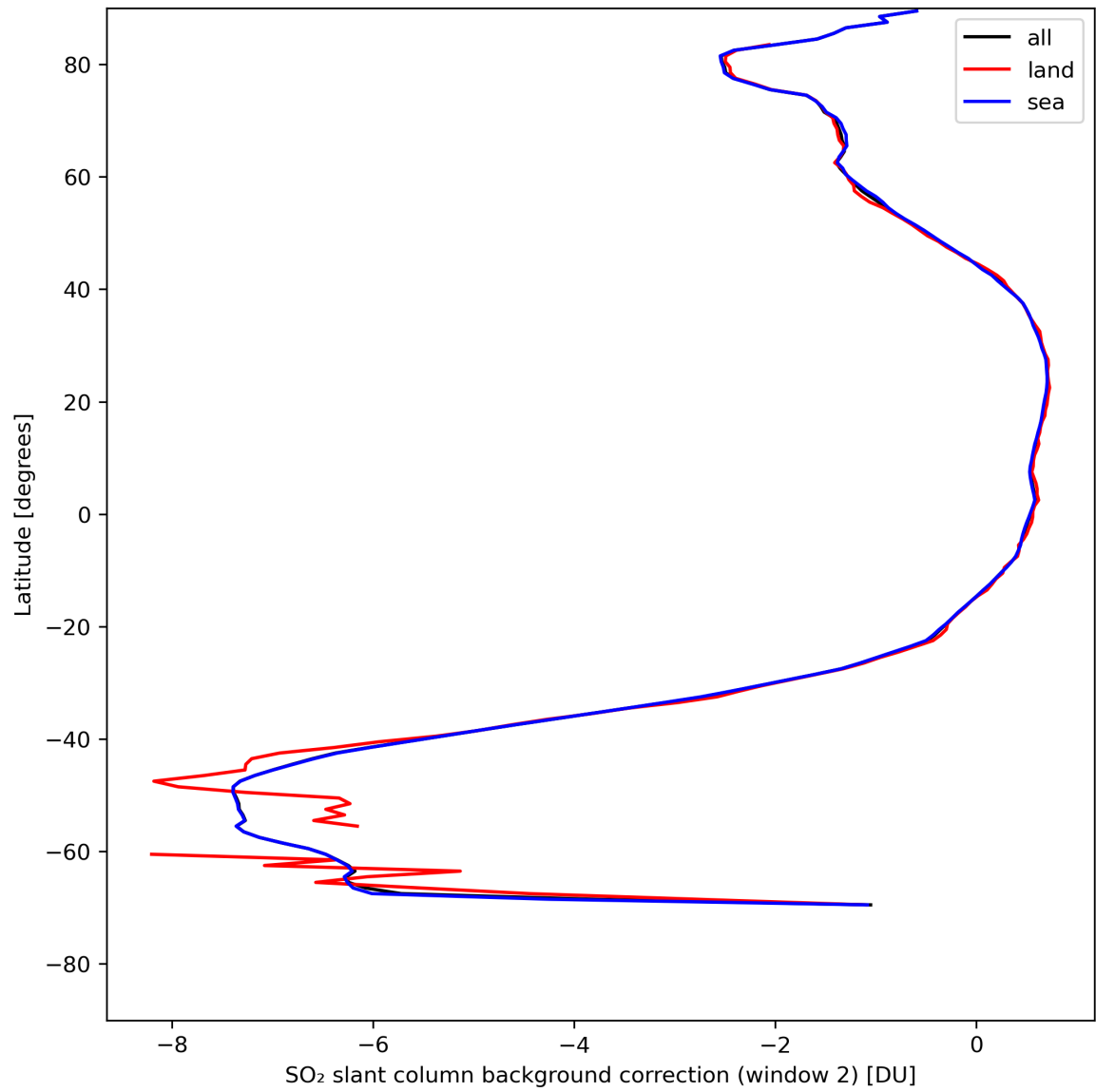


Figure 40: Zonal average of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

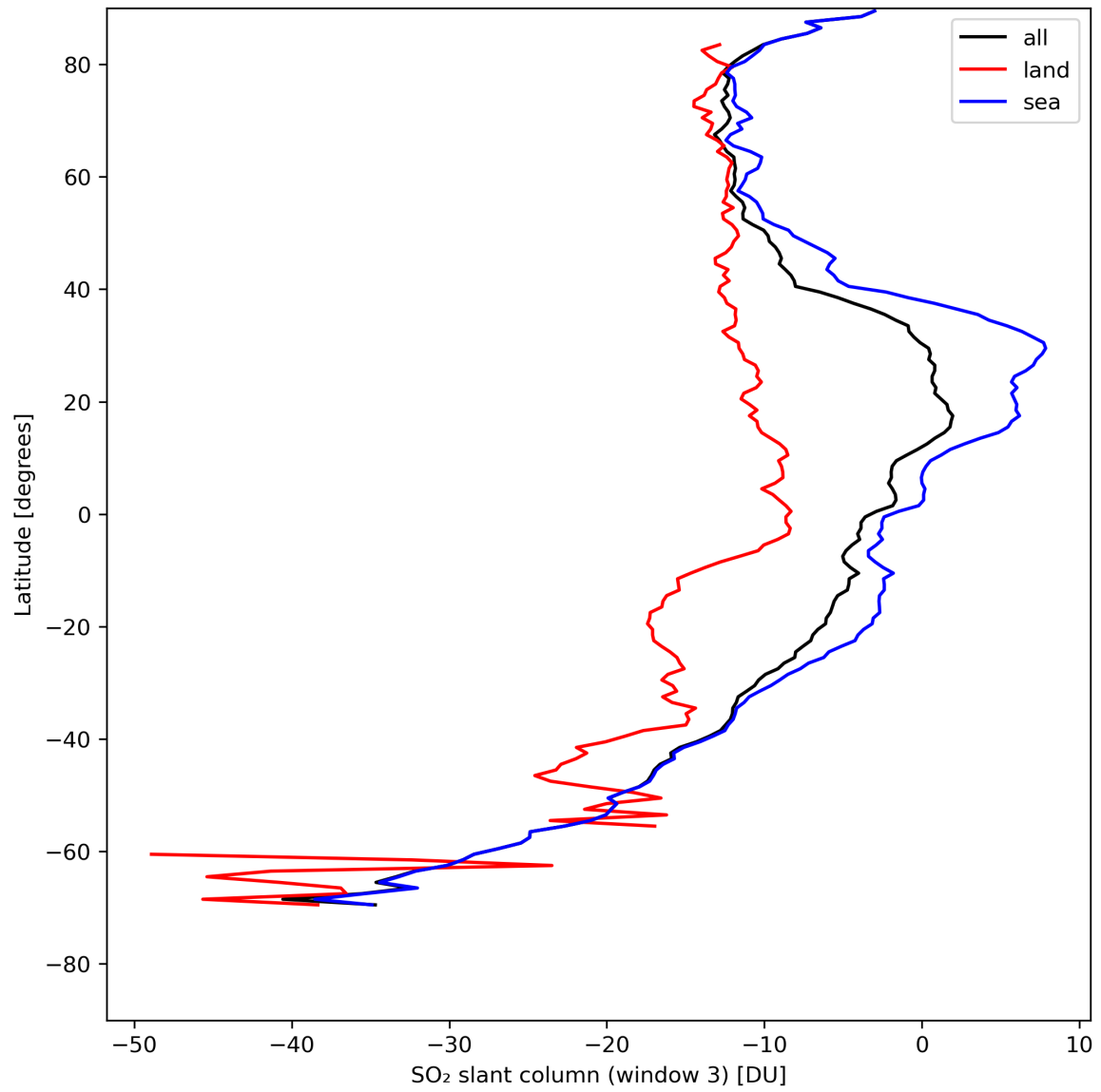


Figure 41: Zonal average of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

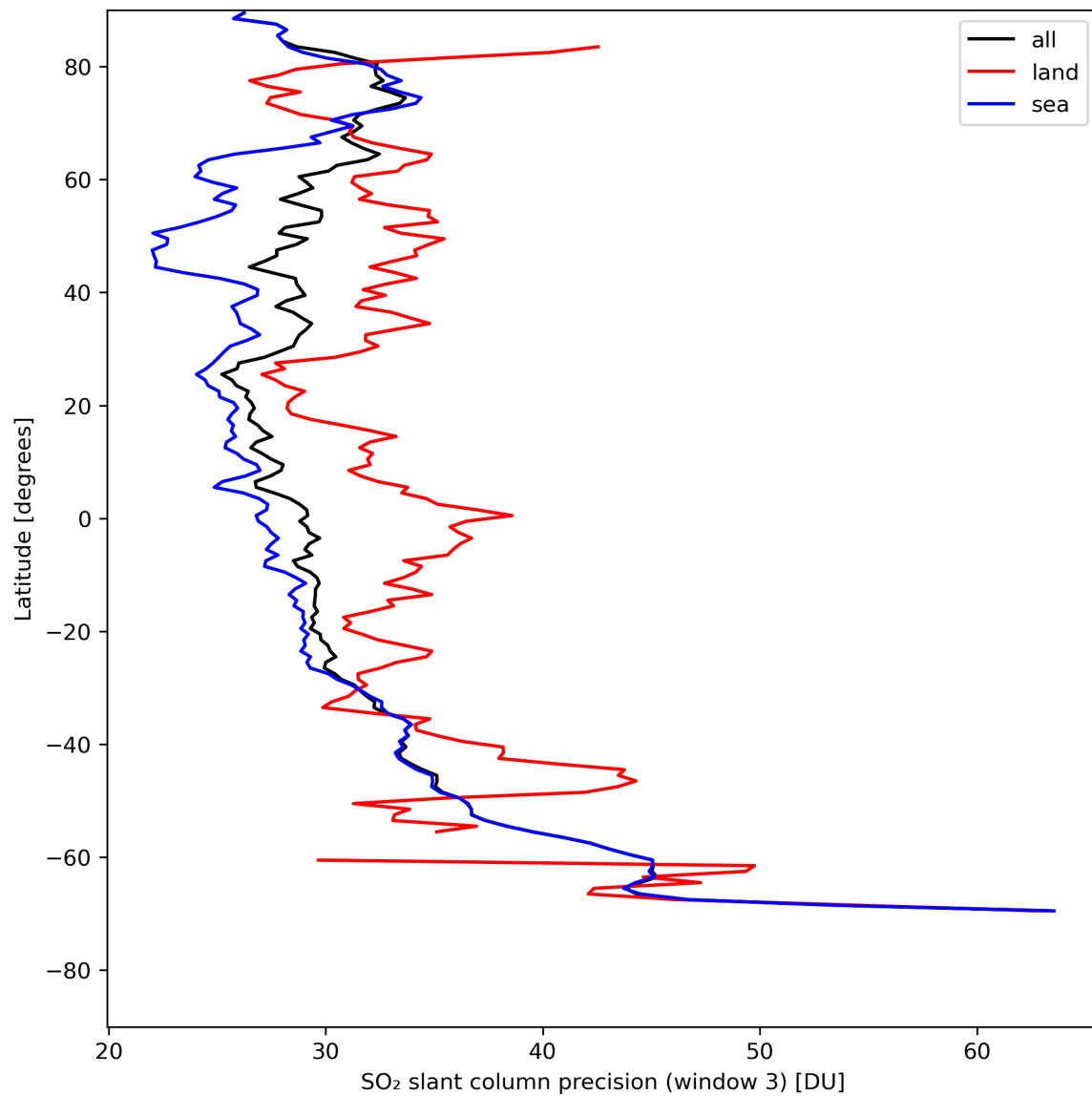


Figure 42: Zonal average of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

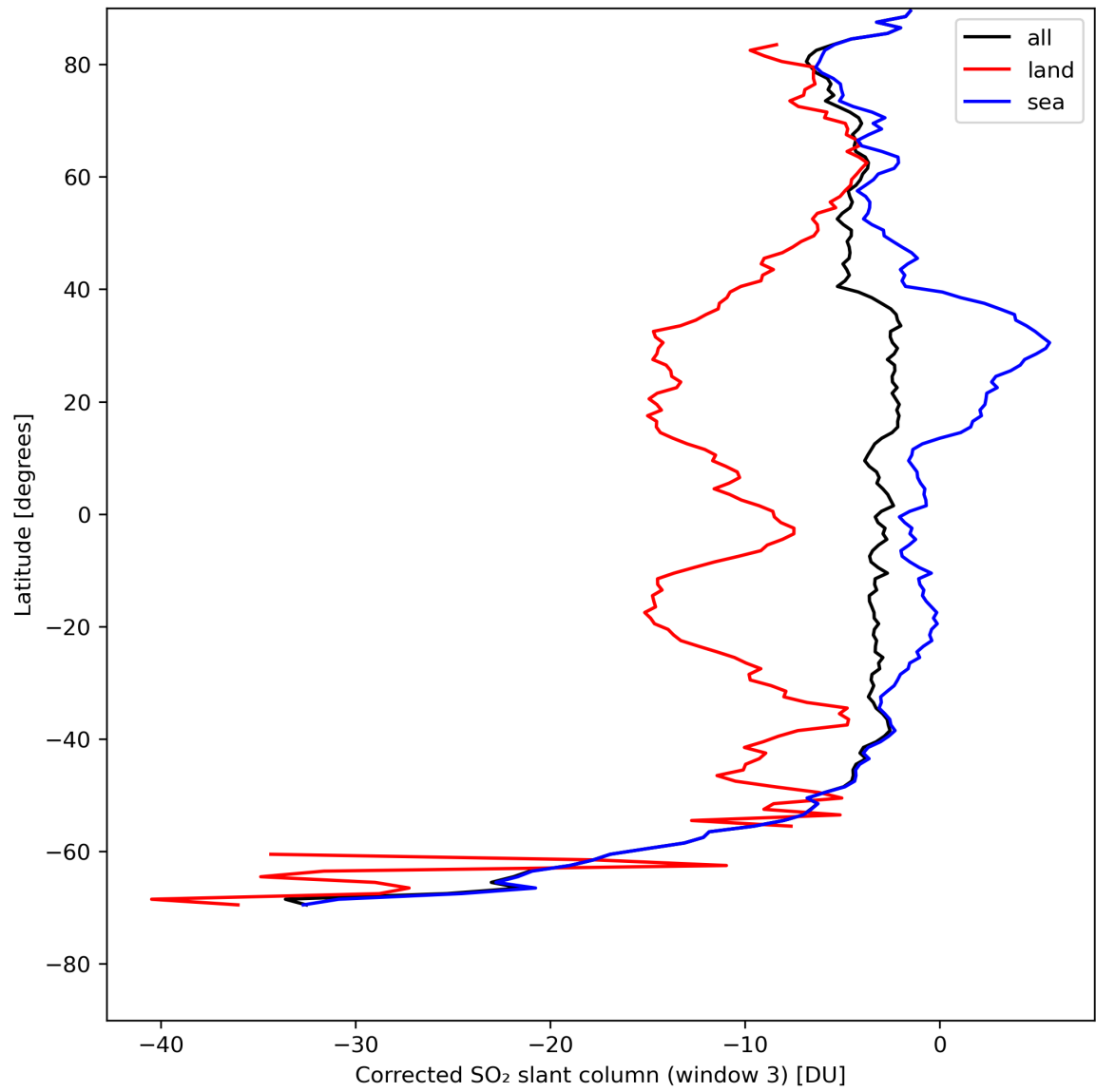


Figure 43: Zonal average of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

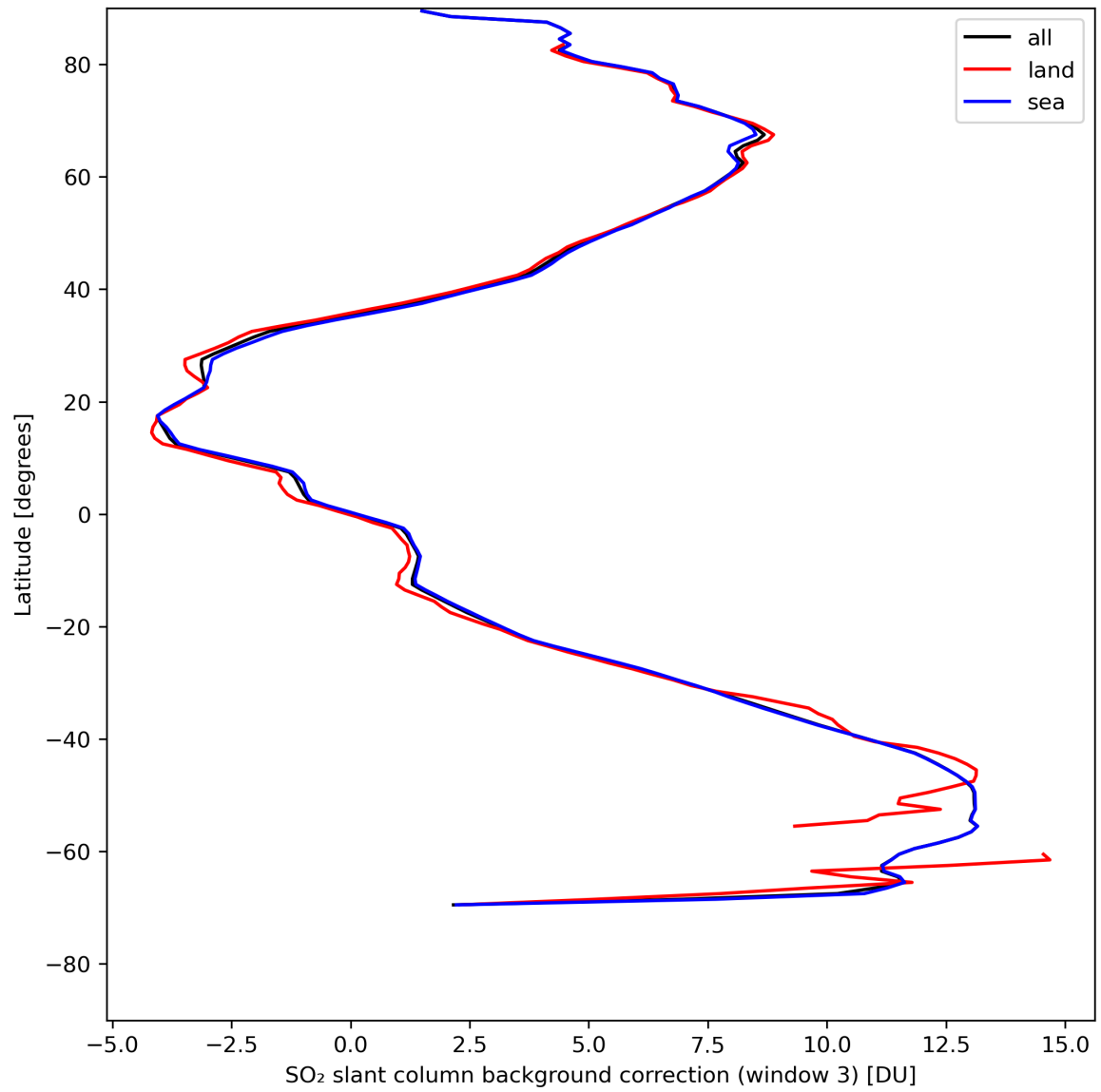


Figure 44: Zonal average of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

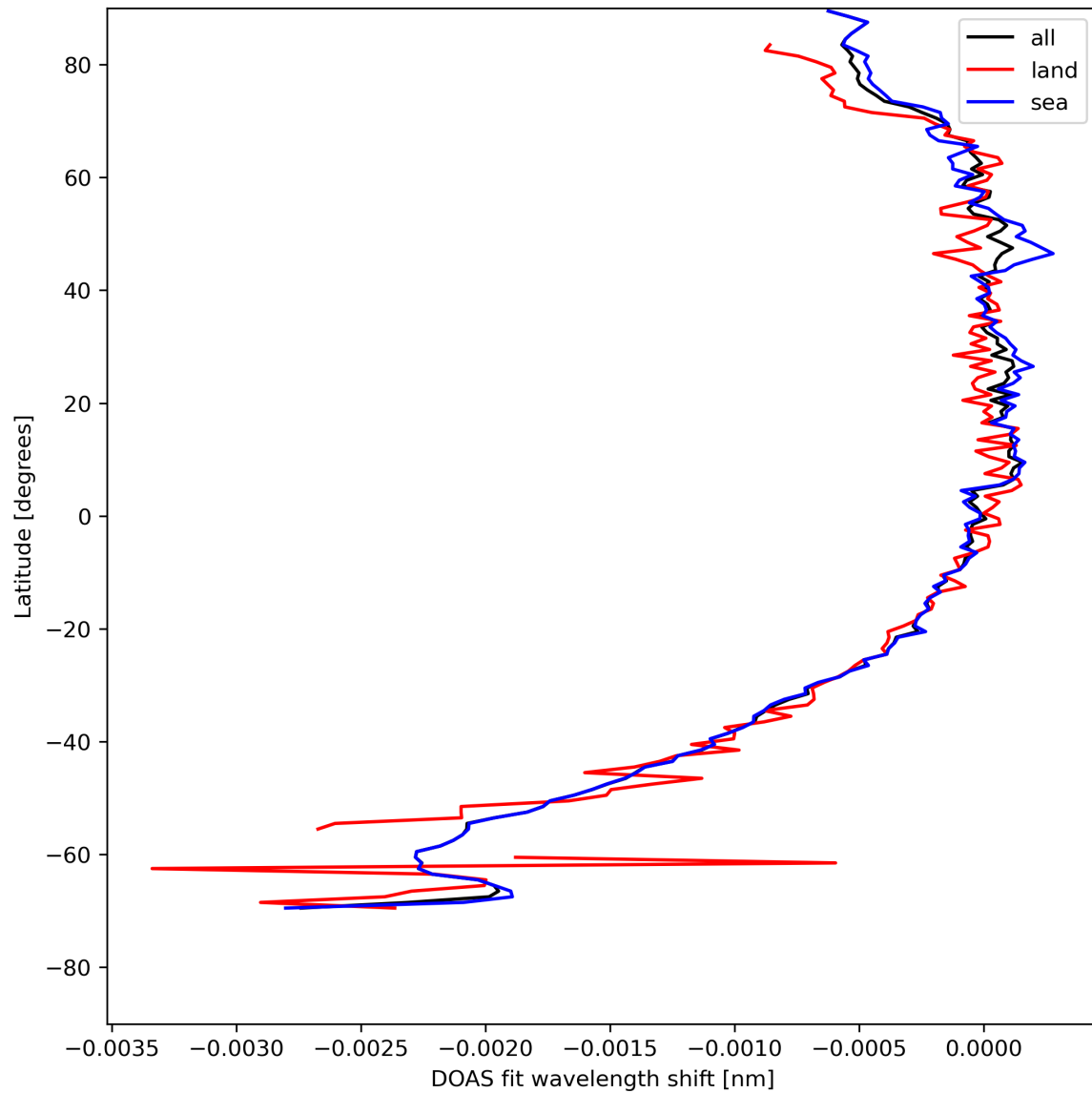


Figure 45: Zonal average of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

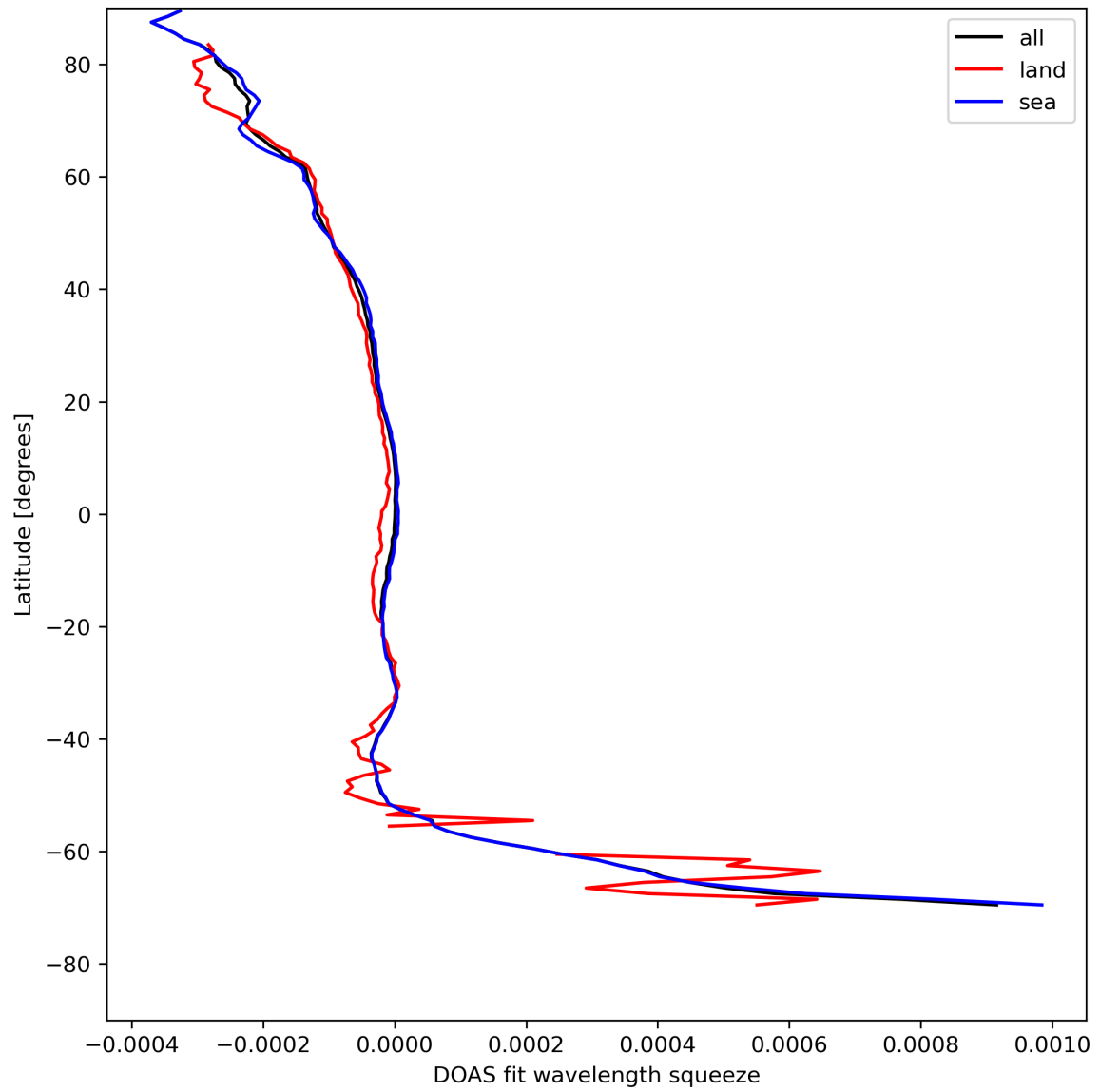


Figure 46: Zonal average of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

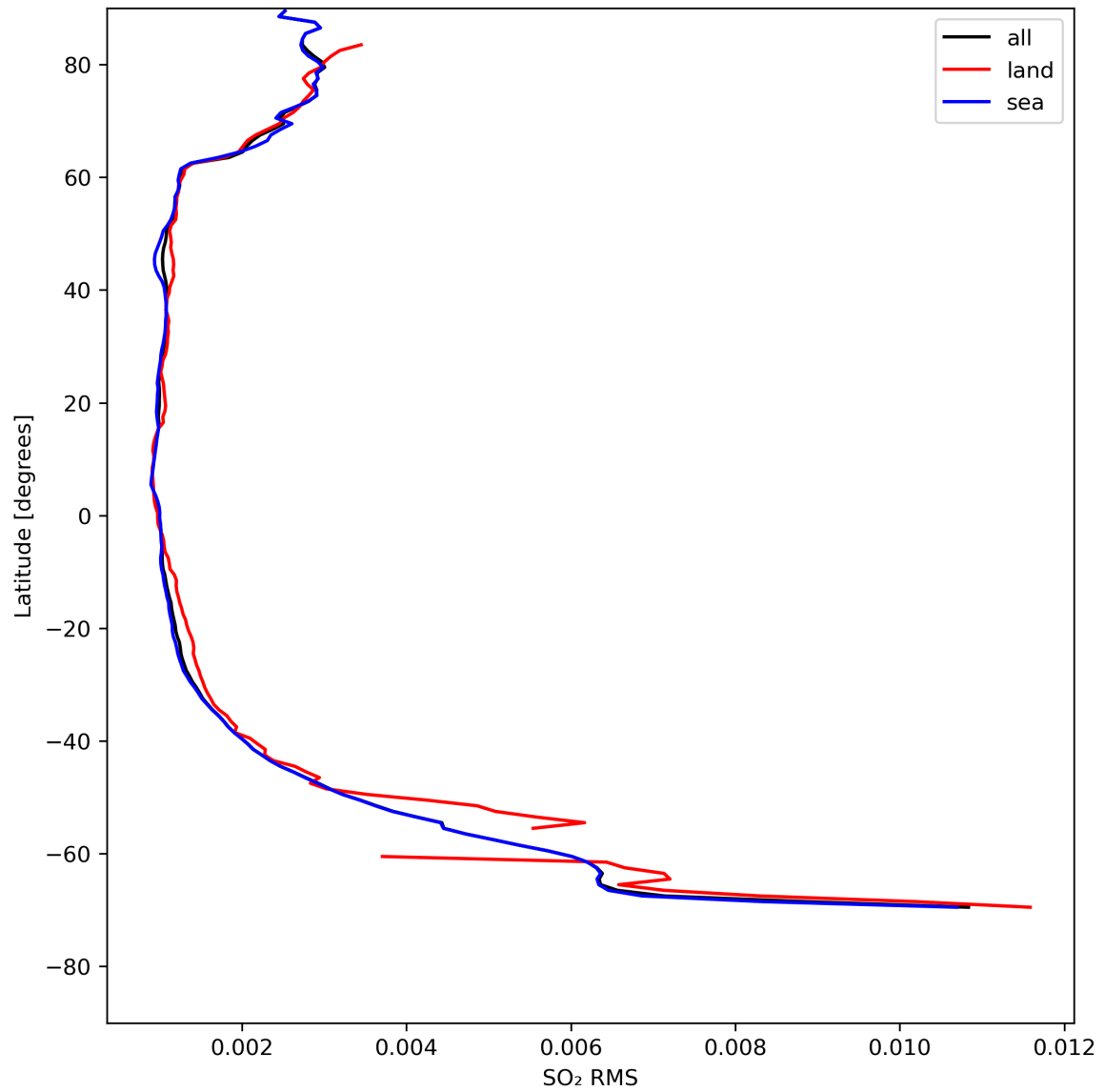


Figure 47: Zonal average of “SO₂ RMS” for 2023-08-09 to 2023-08-11.

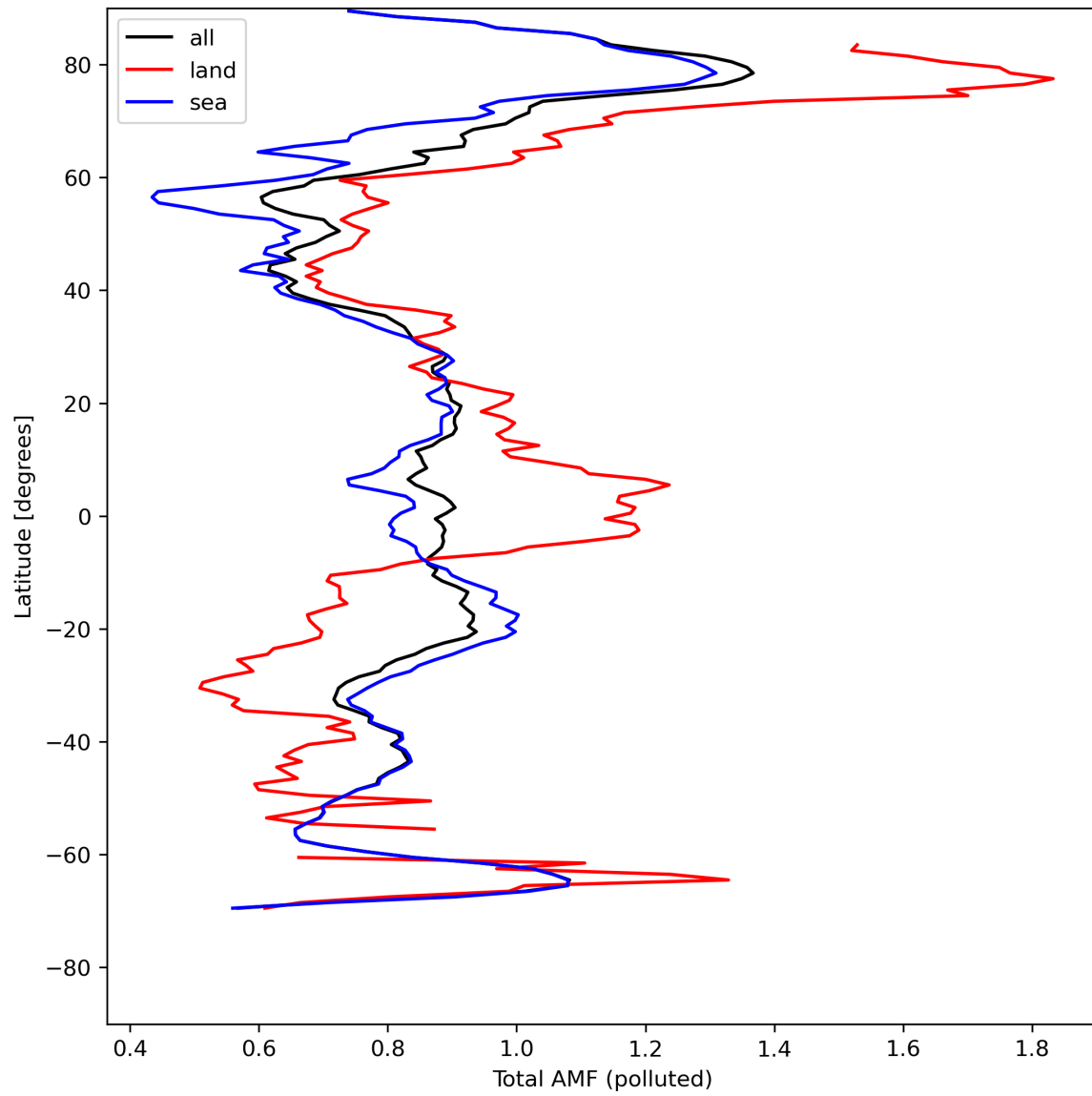


Figure 48: Zonal average of “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

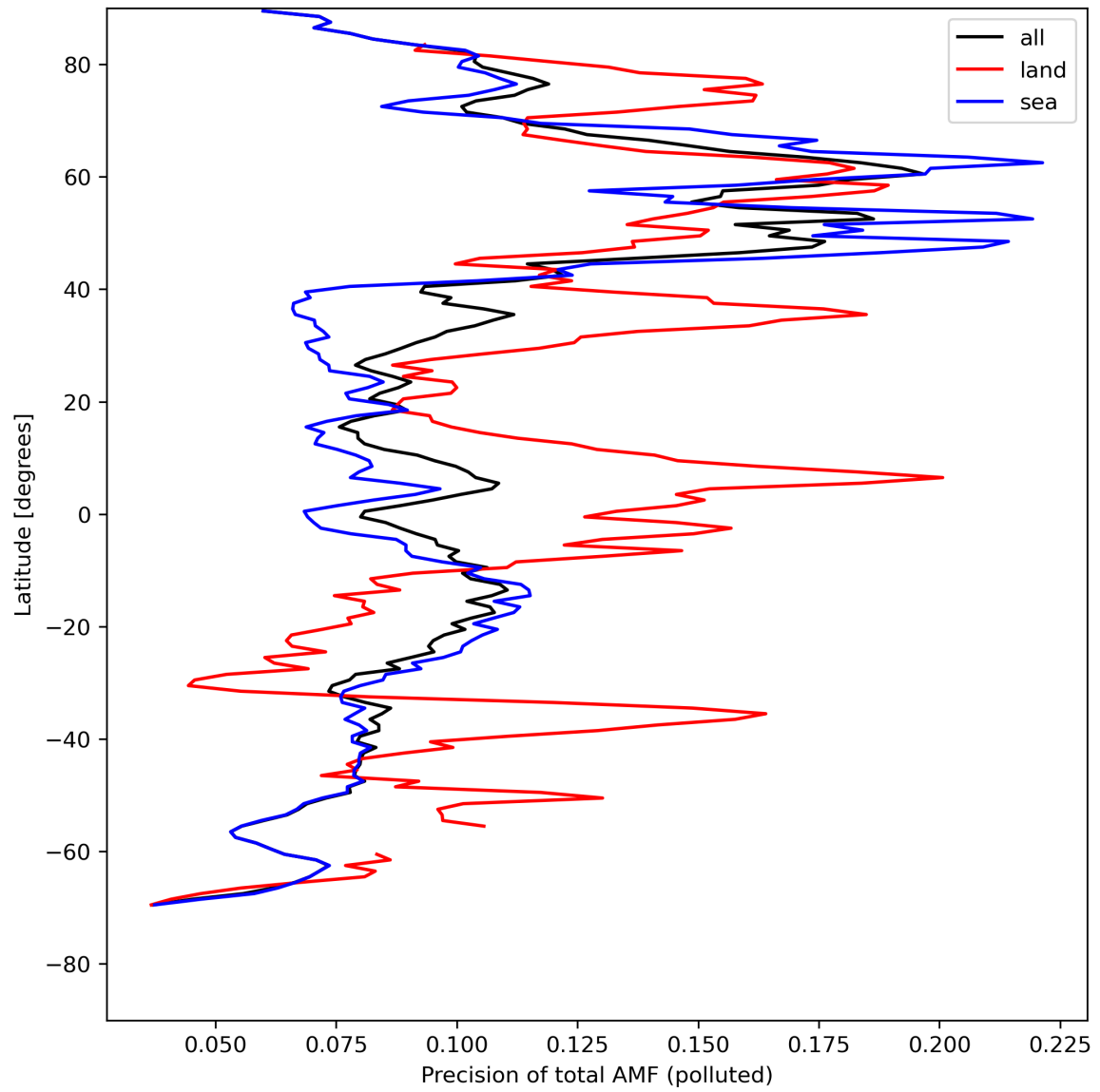


Figure 49: Zonal average of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

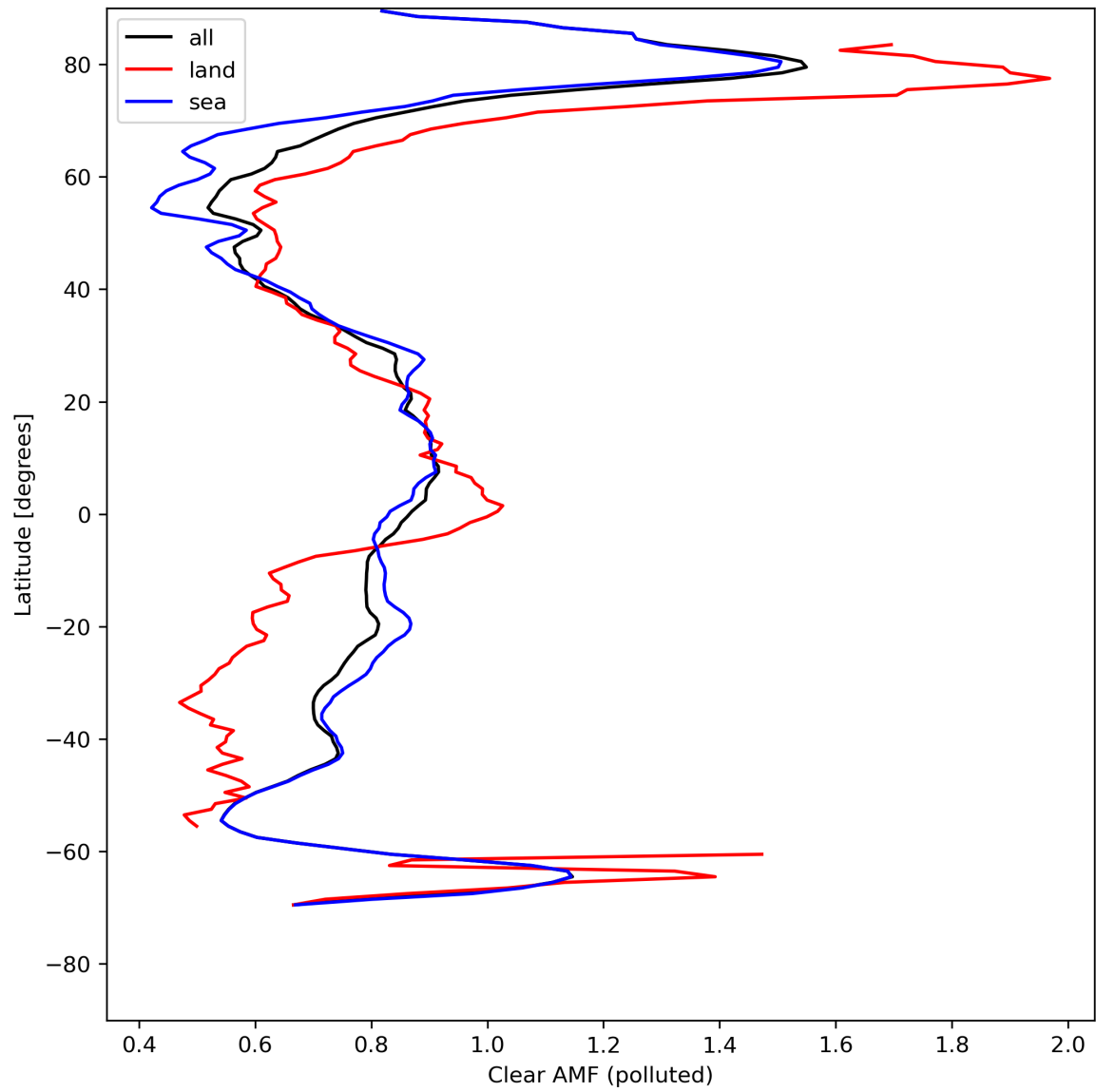


Figure 50: Zonal average of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

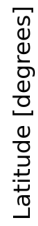


Figure 51: Zonal average of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-11.

8 Histograms

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

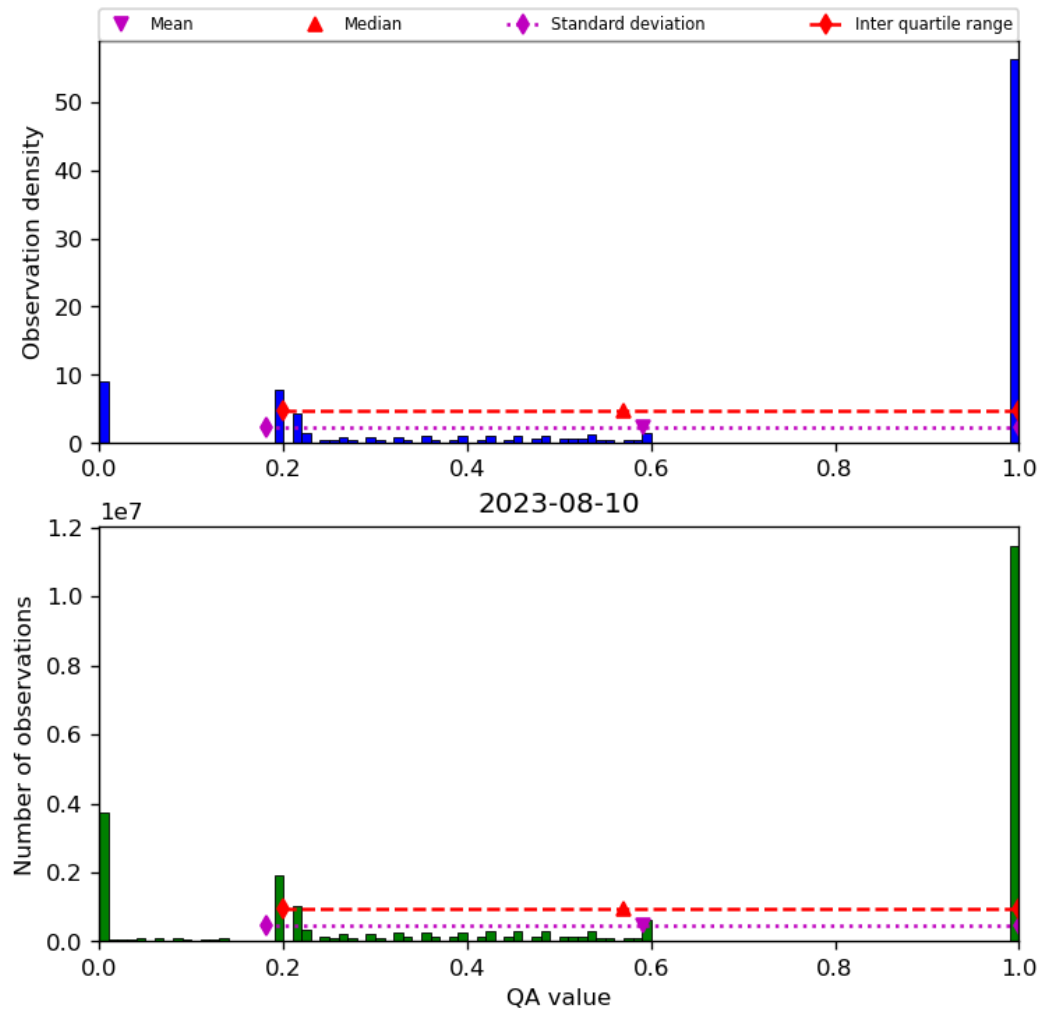


Figure 52: Histogram of “QA value” for 2023-08-09 to 2023-08-11

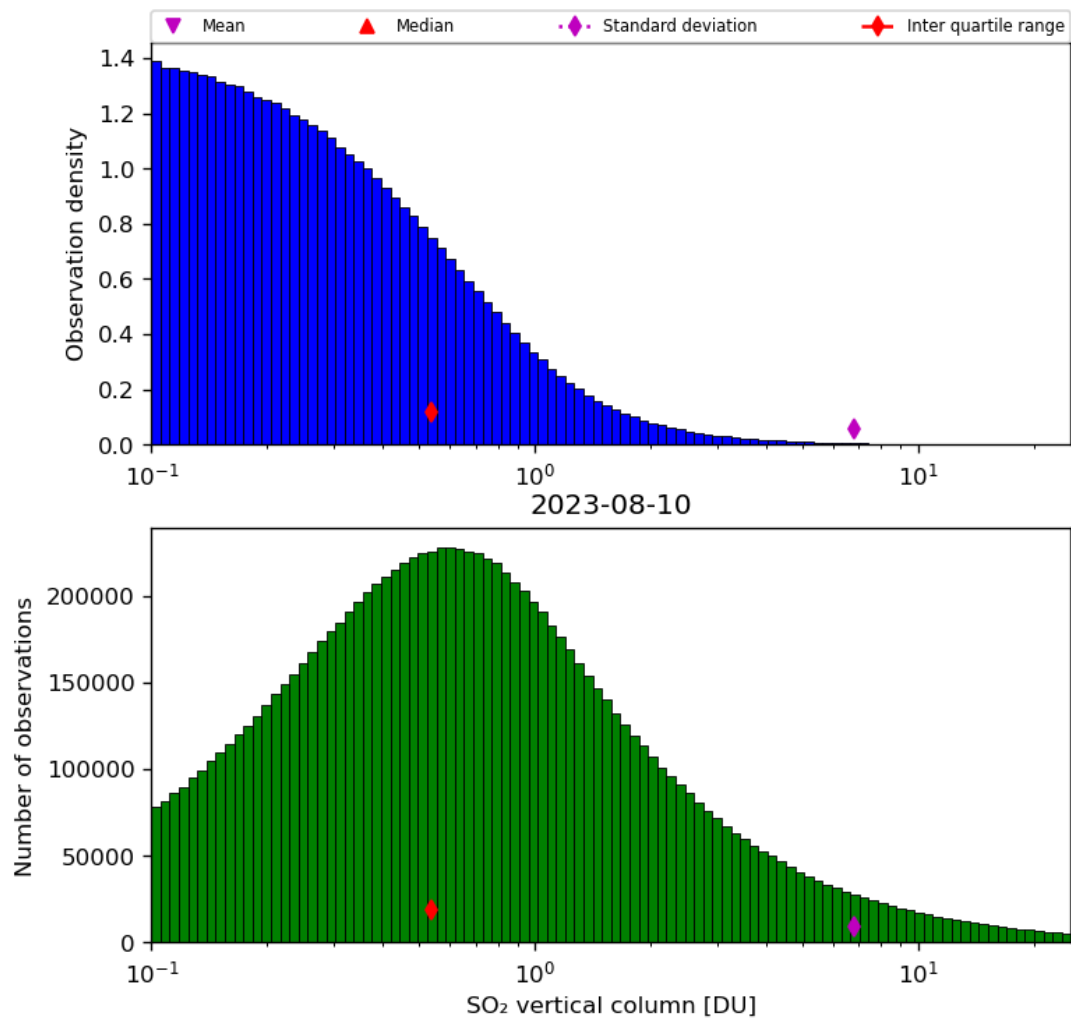


Figure 53: Histogram of “SO₂ vertical column” for 2023-08-09 to 2023-08-11

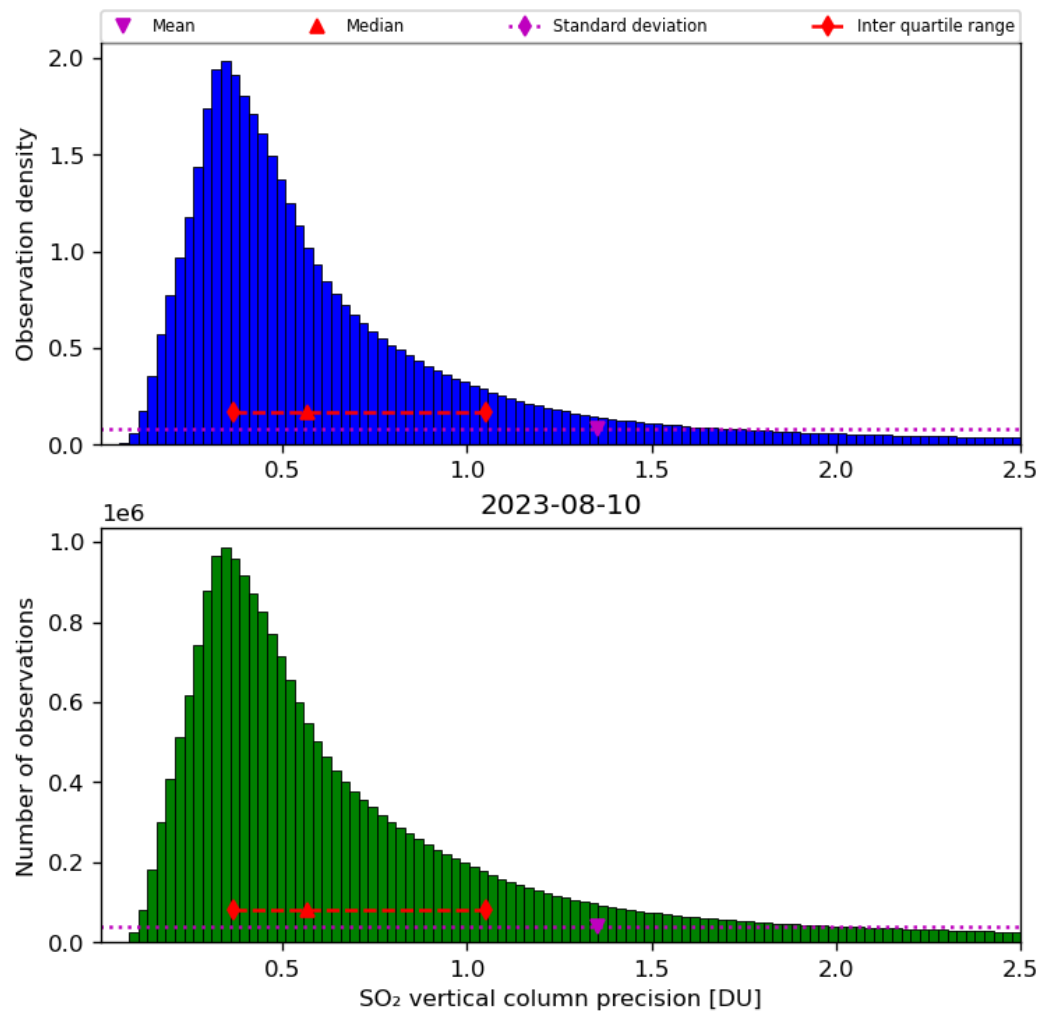


Figure 54: Histogram of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11

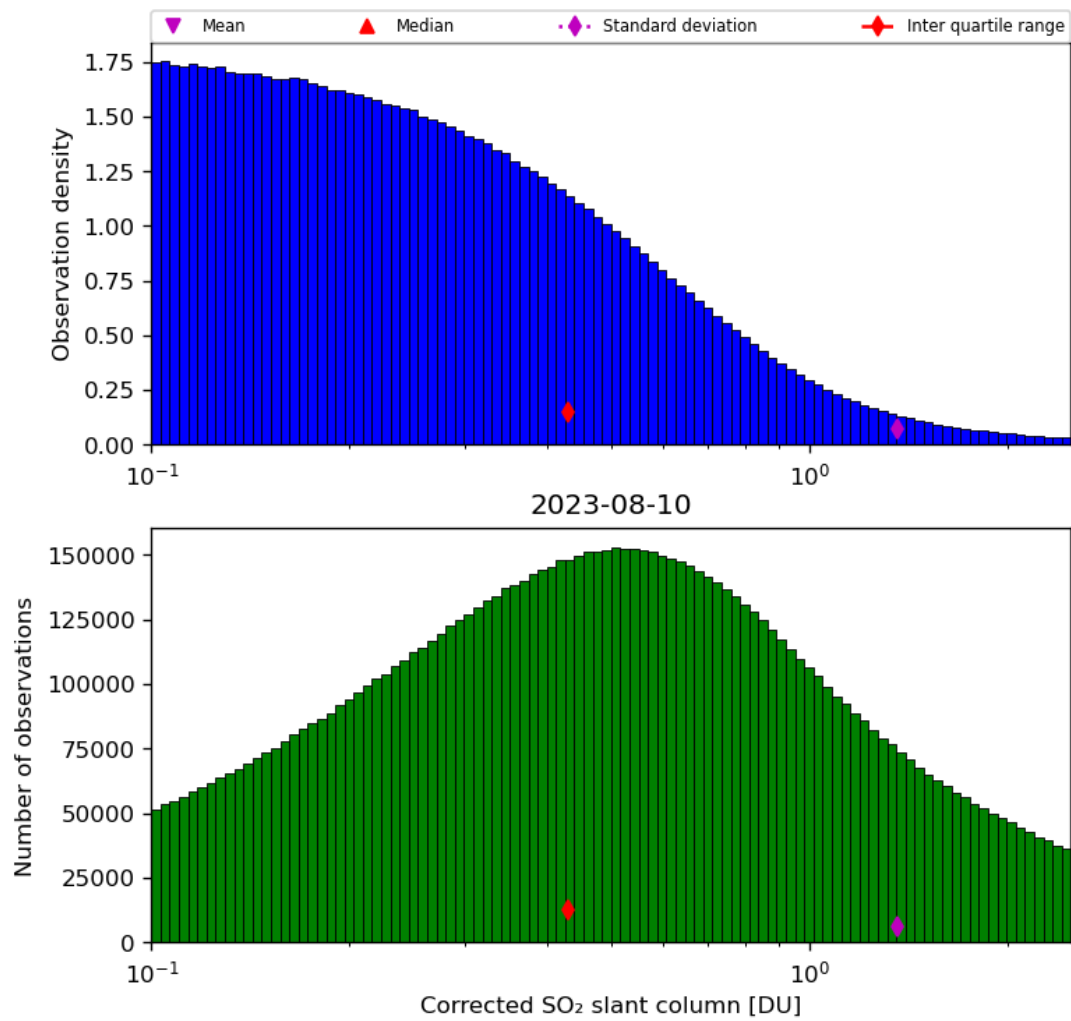


Figure 55: Histogram of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11

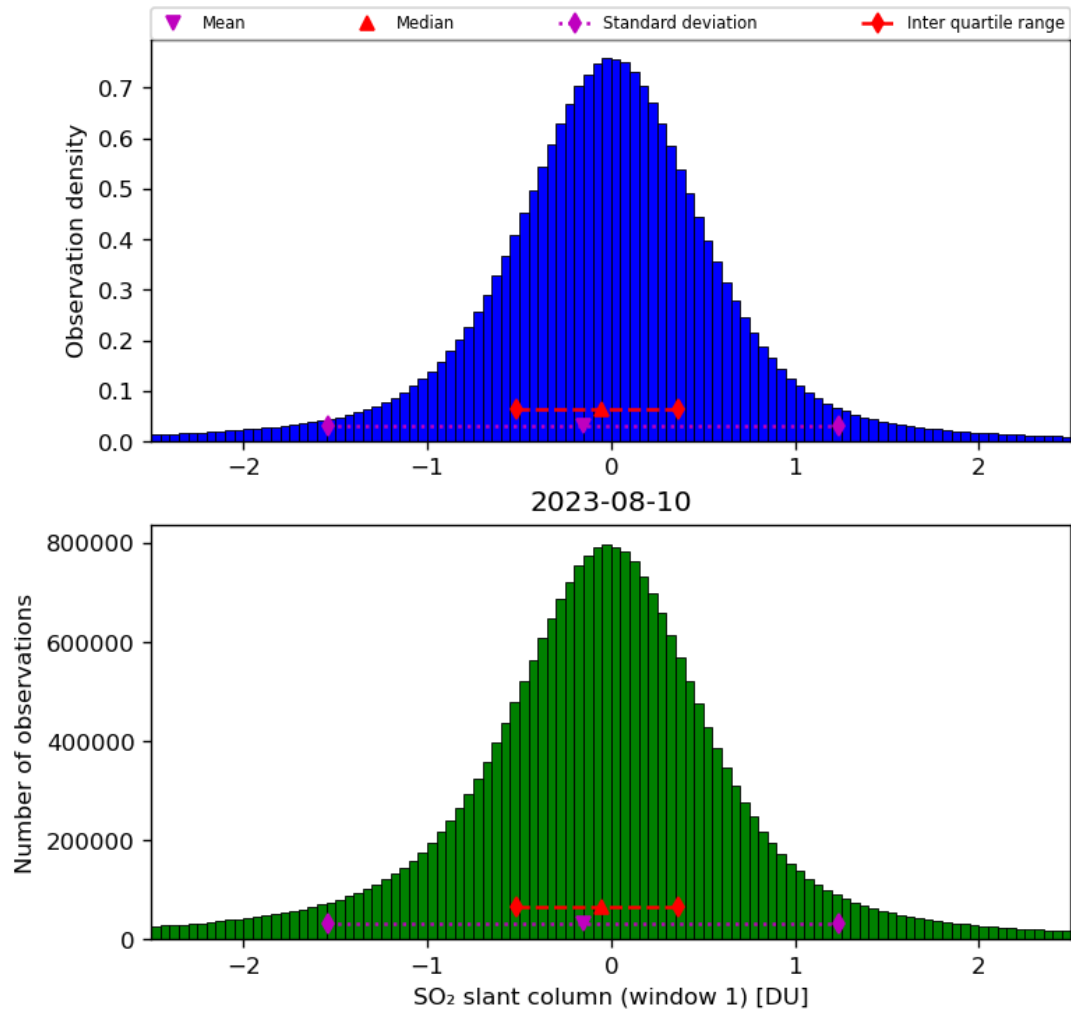


Figure 56: Histogram of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

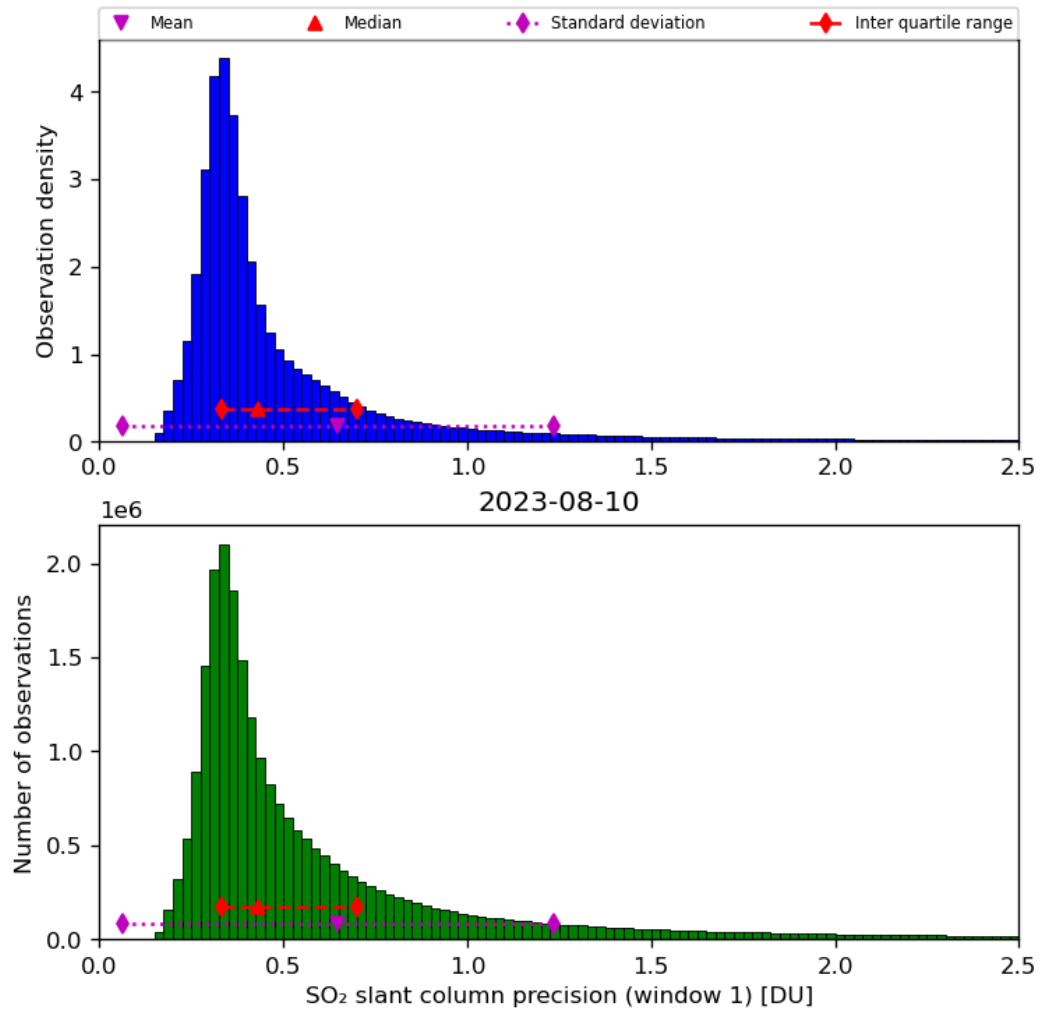


Figure 57: Histogram of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11

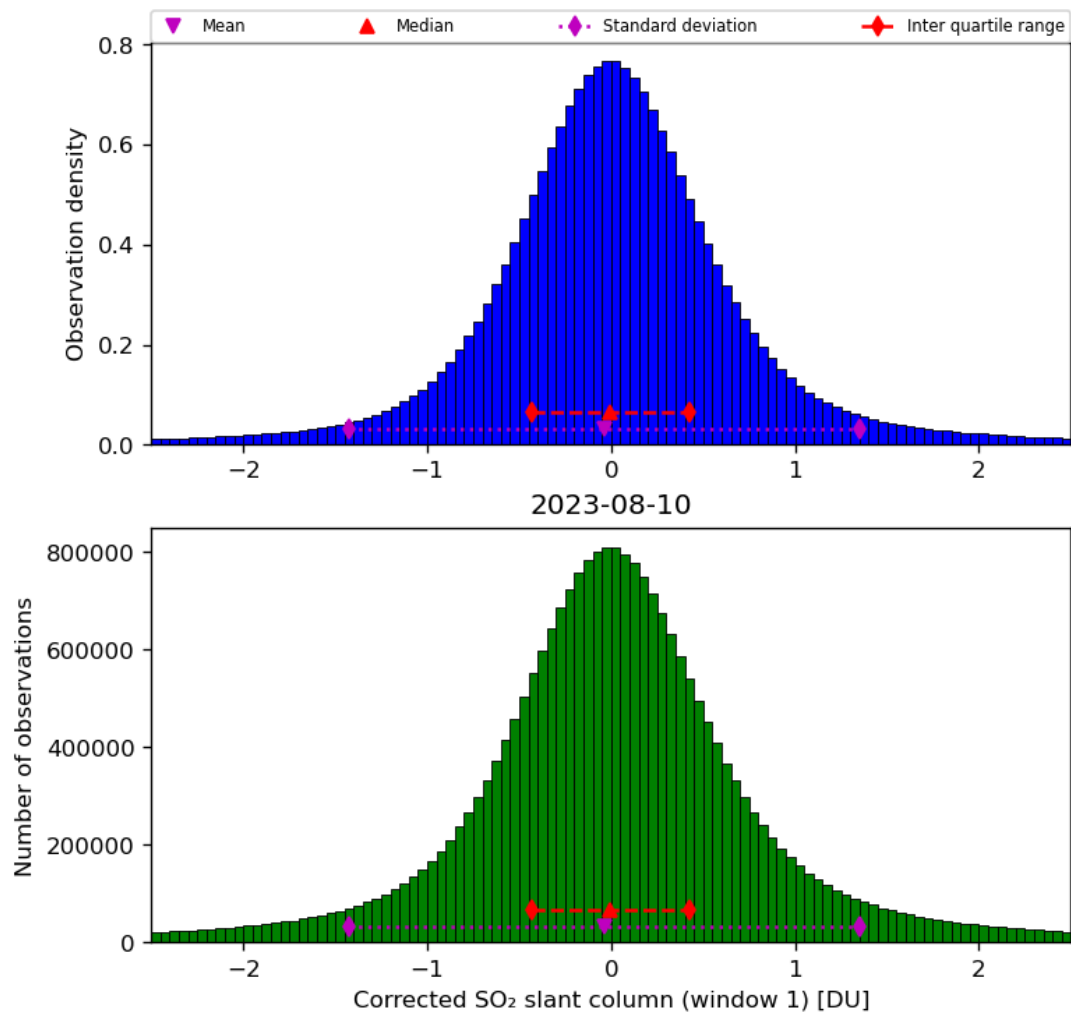


Figure 58: Histogram of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

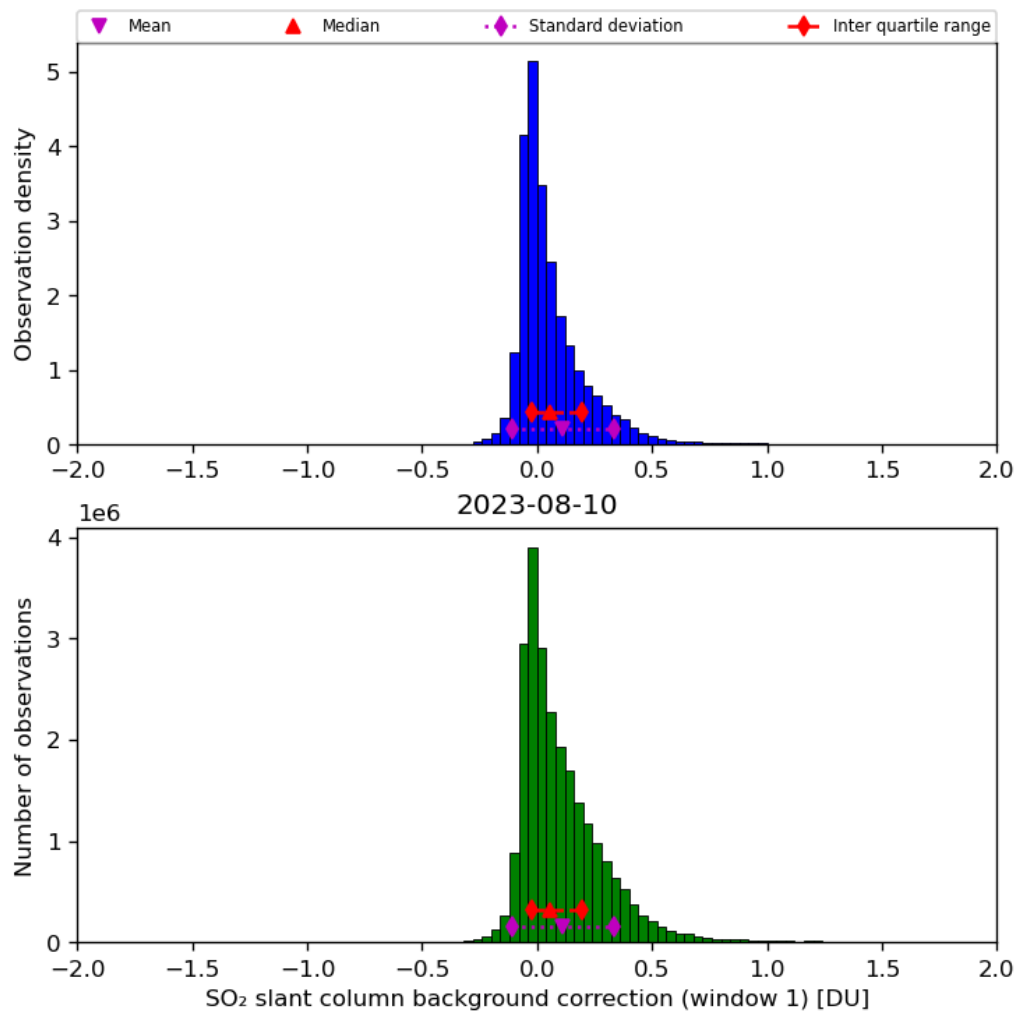


Figure 59: Histogram of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11

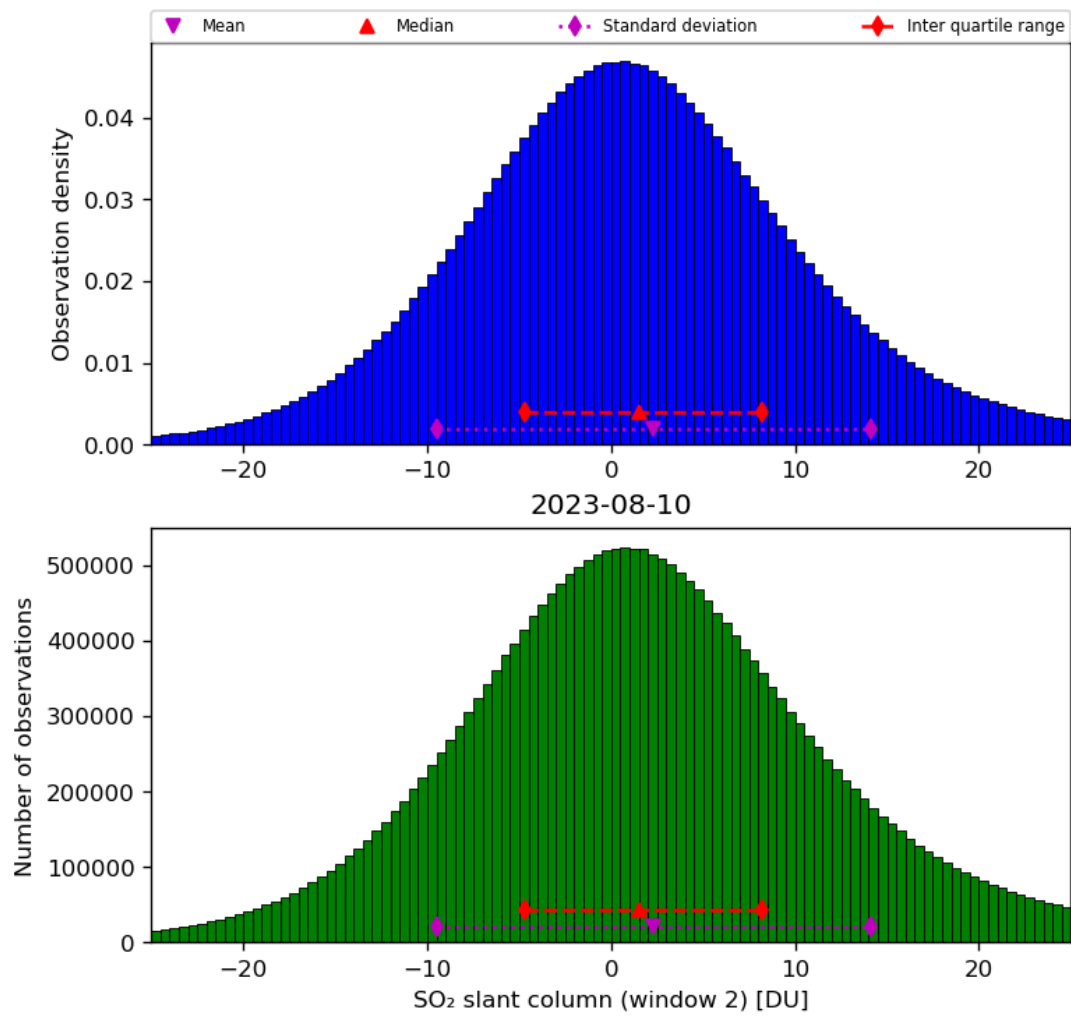


Figure 60: Histogram of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

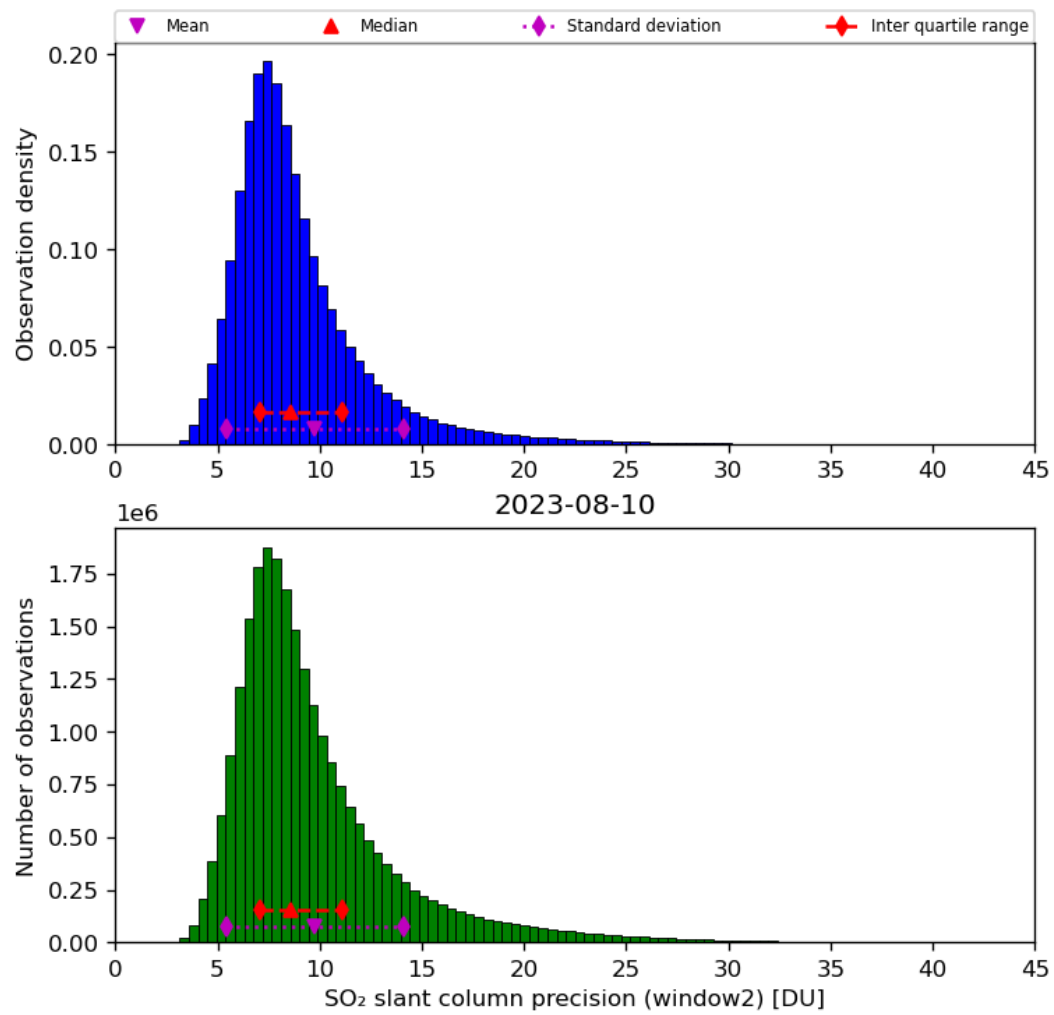


Figure 61: Histogram of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11

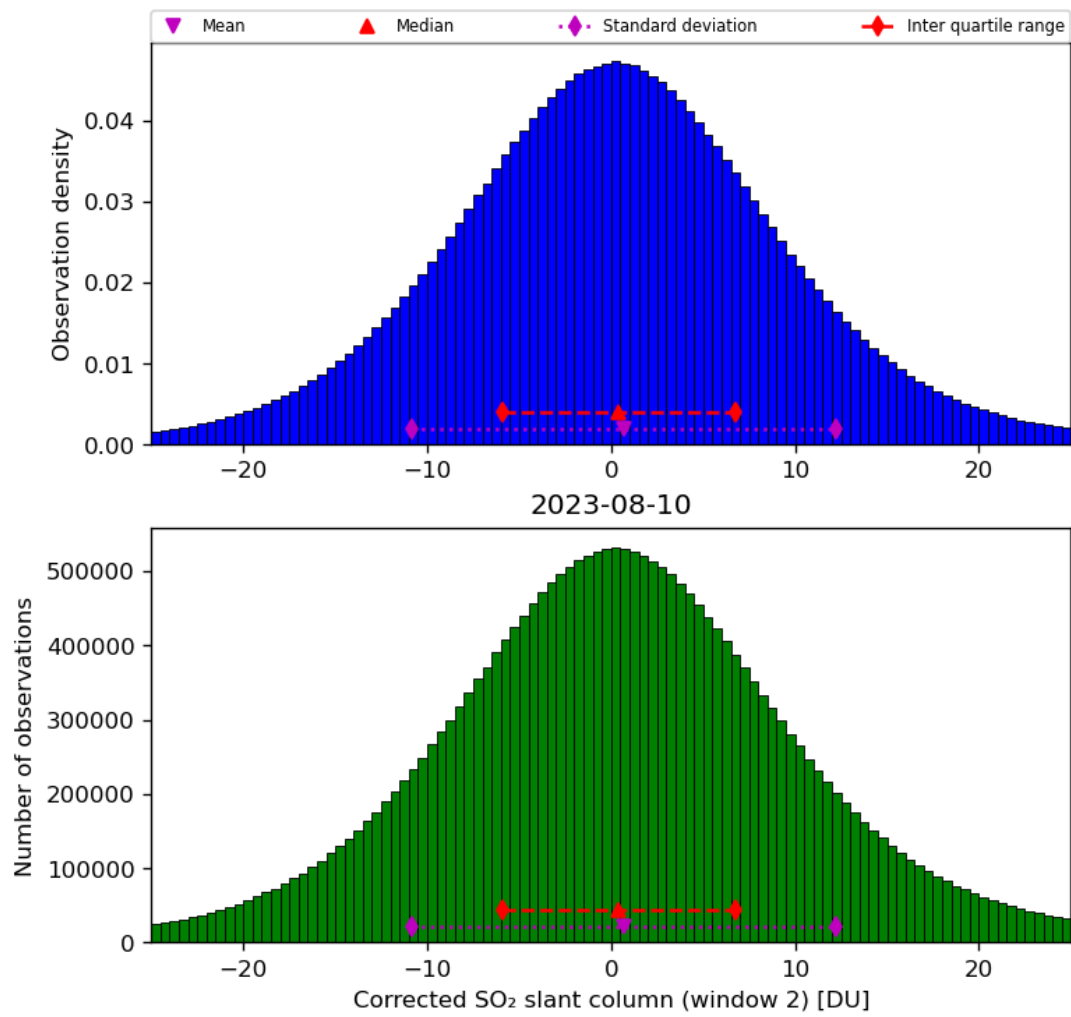


Figure 62: Histogram of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

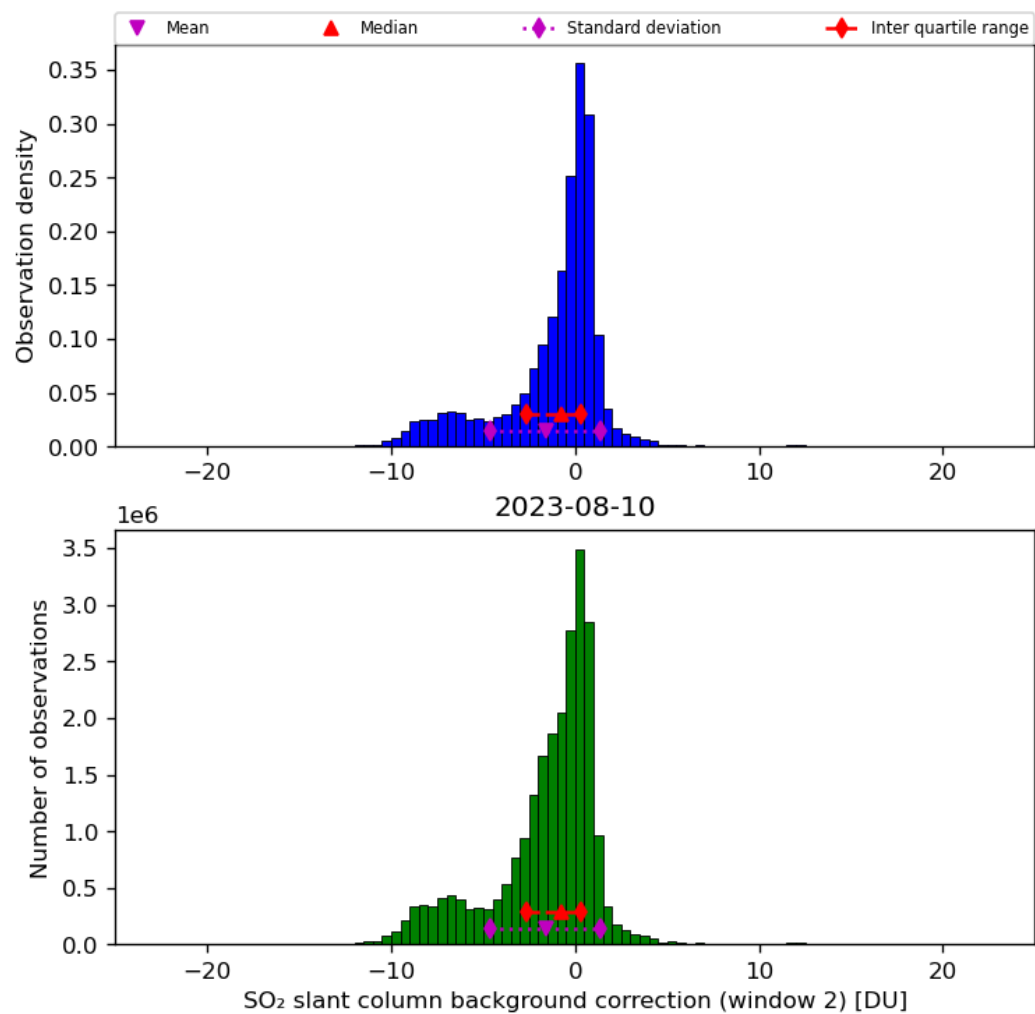


Figure 63: Histogram of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11

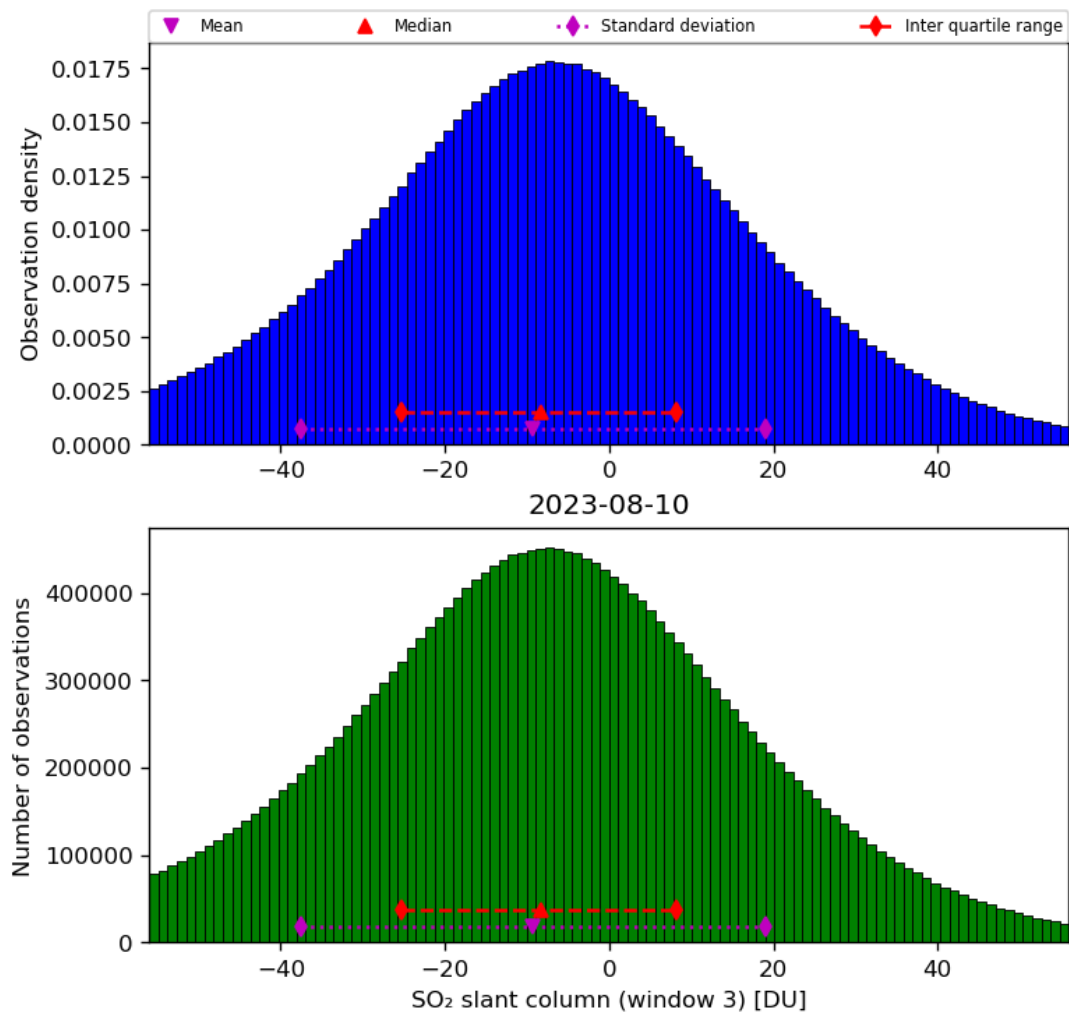


Figure 64: Histogram of “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11

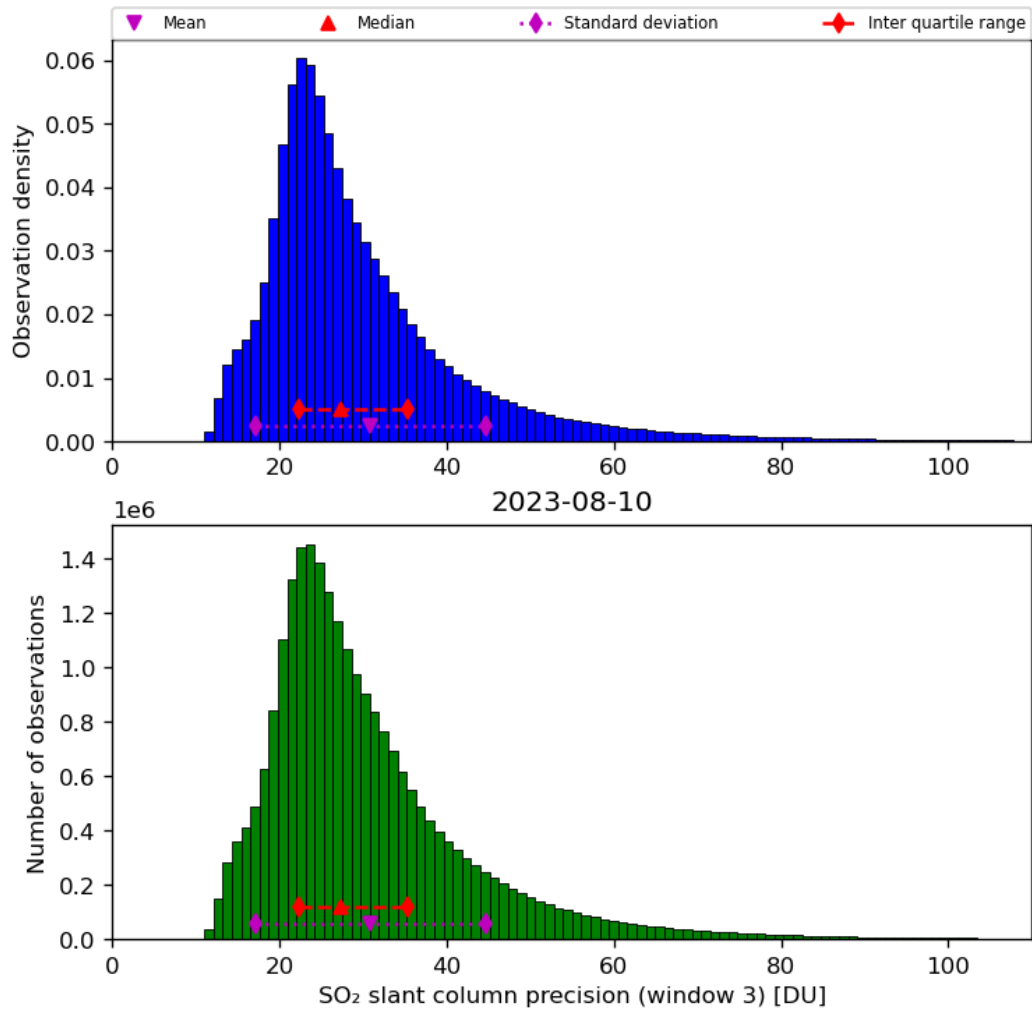


Figure 65: Histogram of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11

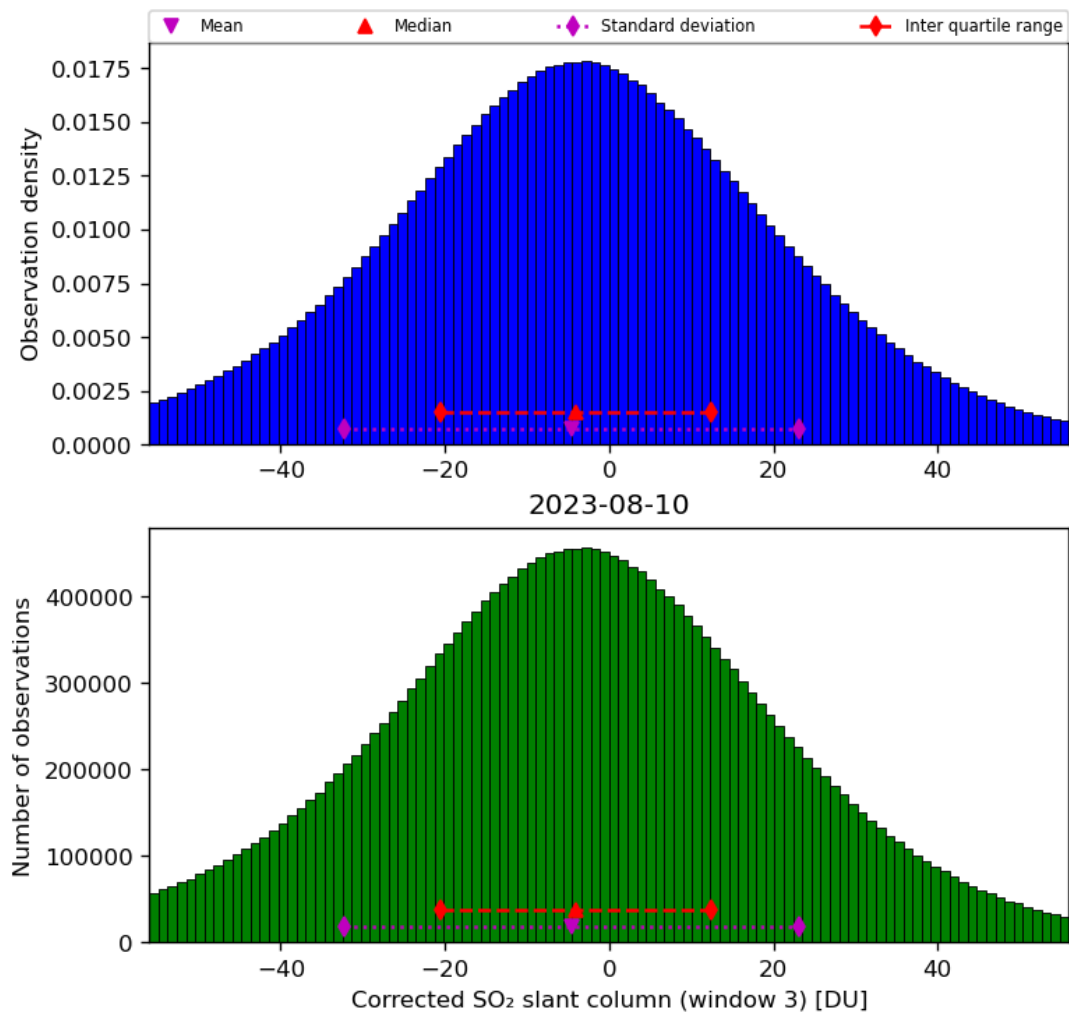


Figure 66: Histogram of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11

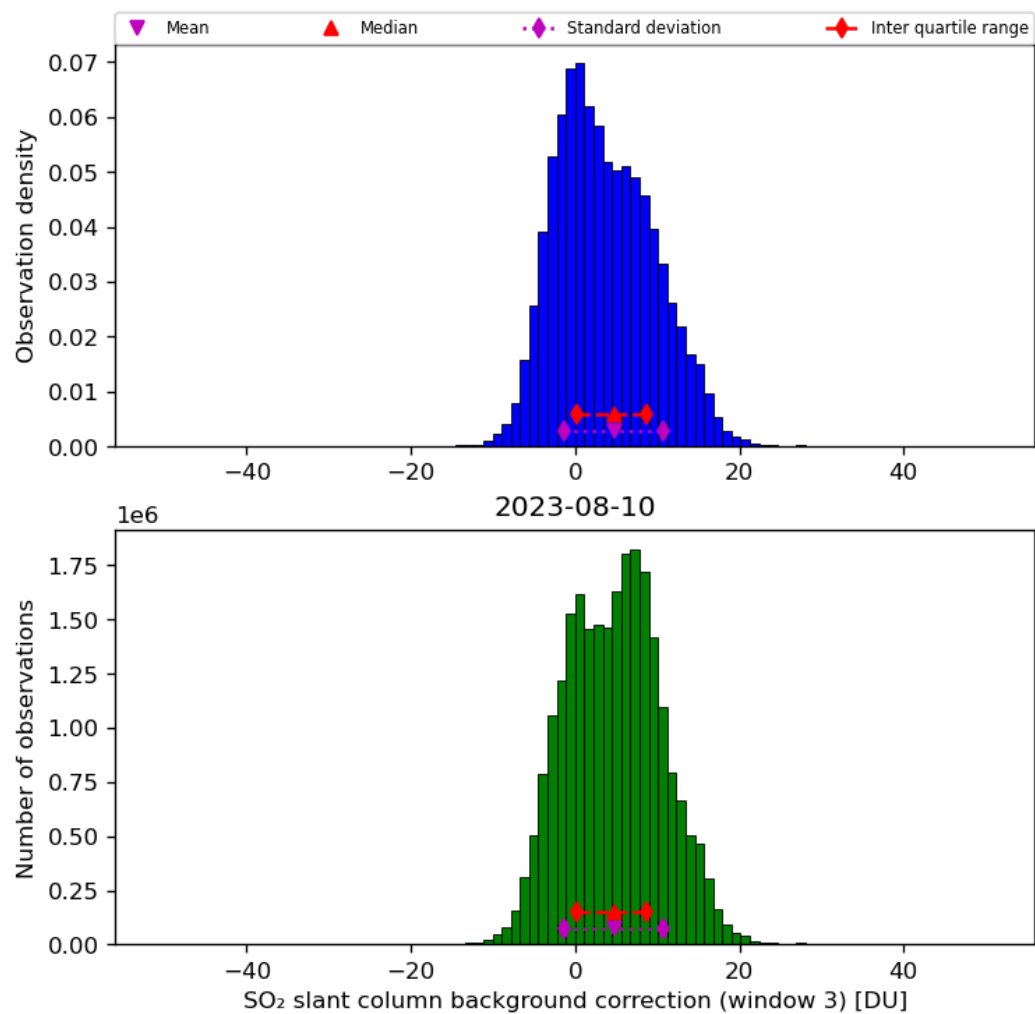


Figure 67: Histogram of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11

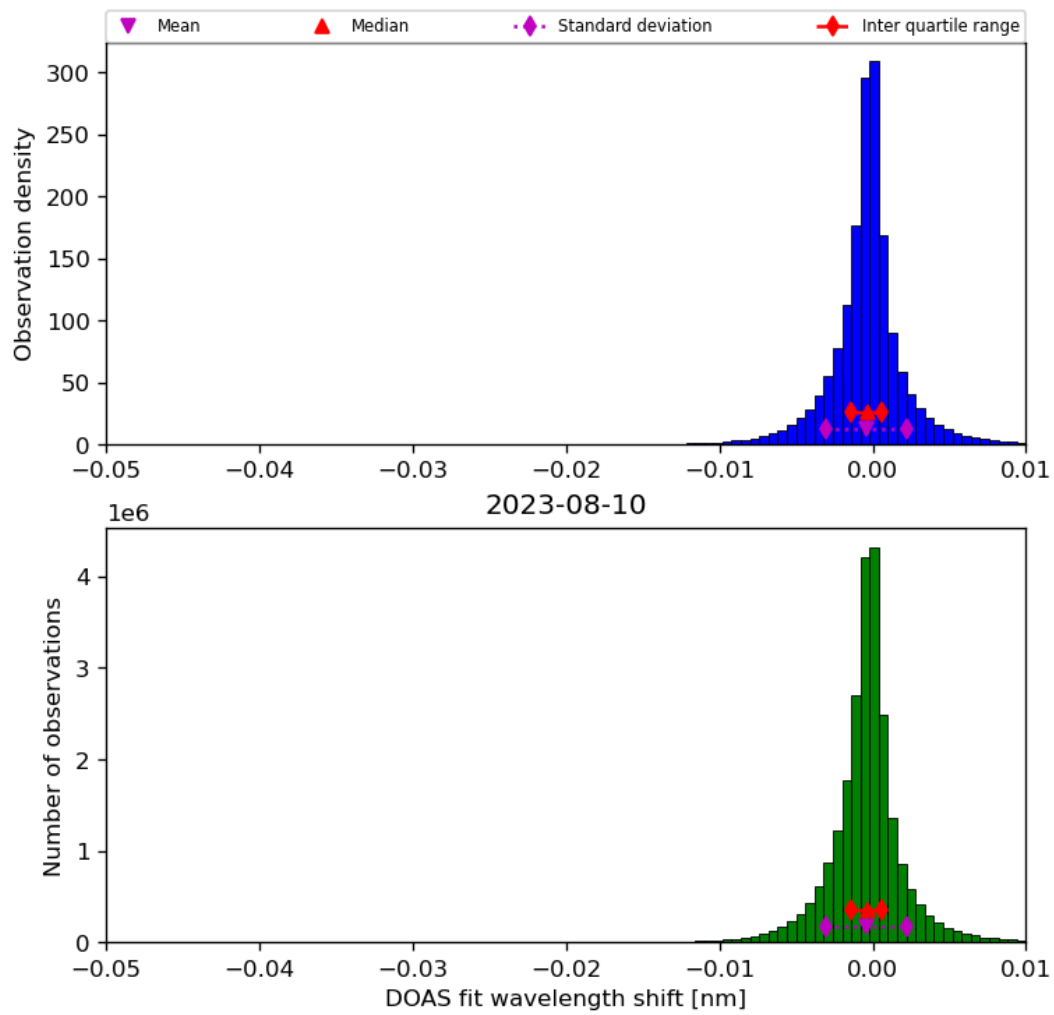


Figure 68: Histogram of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11

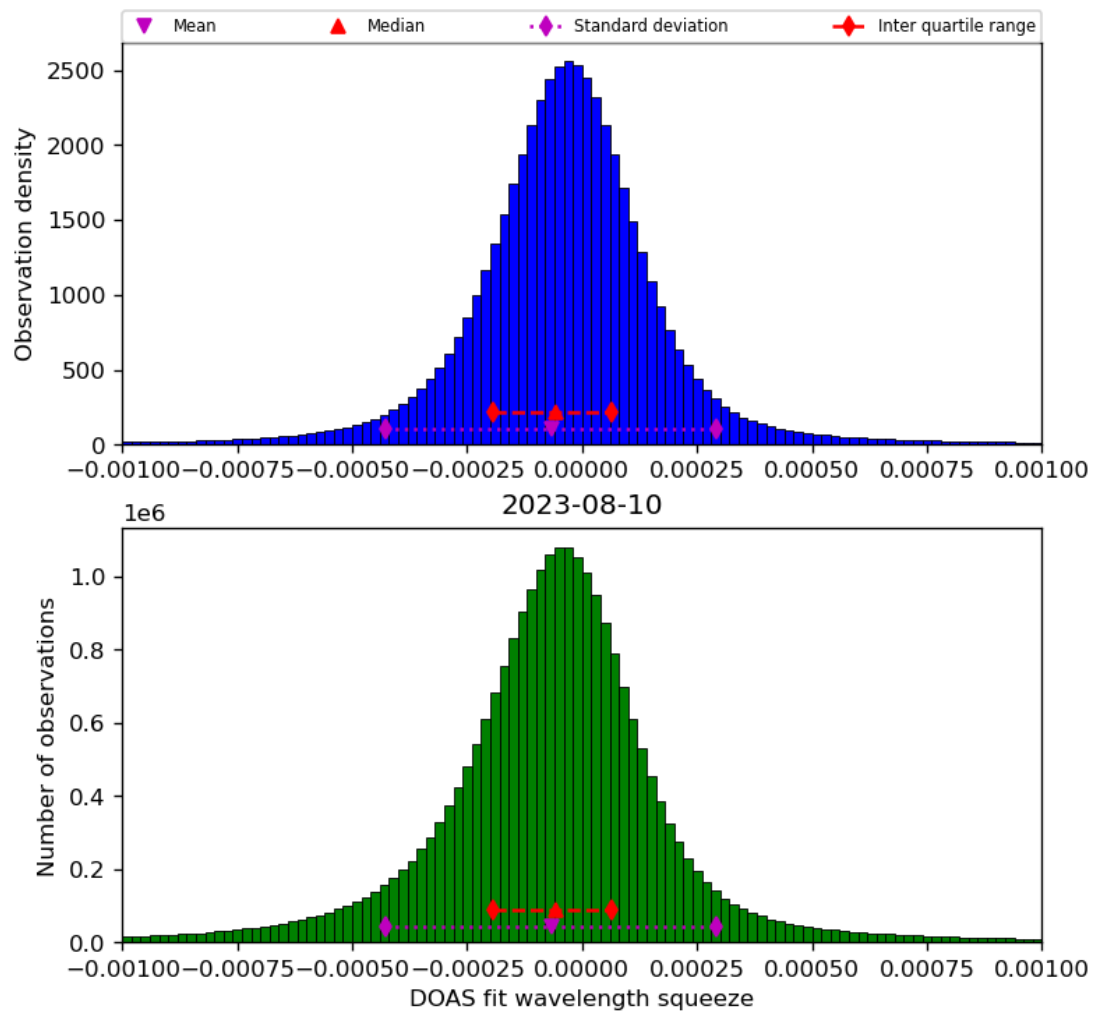


Figure 69: Histogram of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11

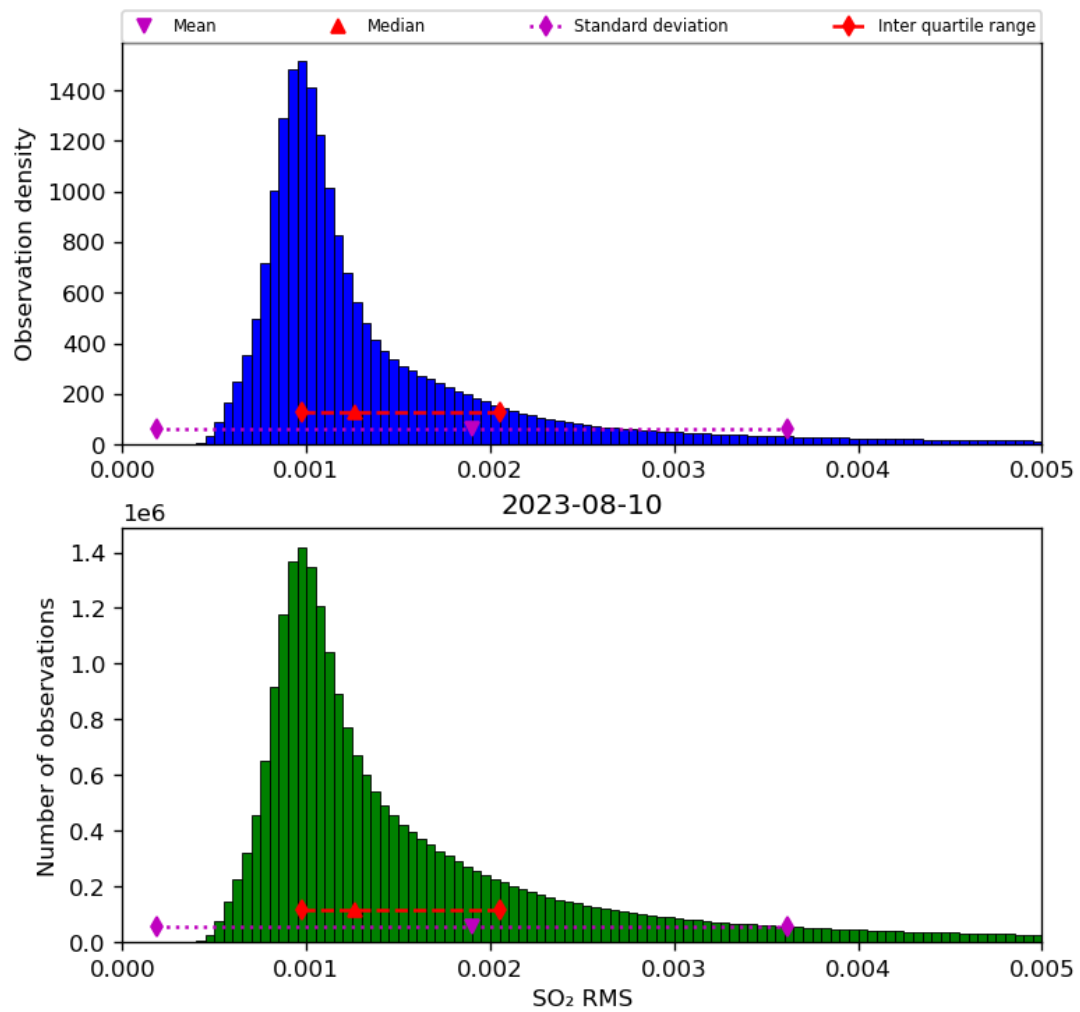


Figure 70: Histogram of “SO₂ RMS” for 2023-08-09 to 2023-08-11

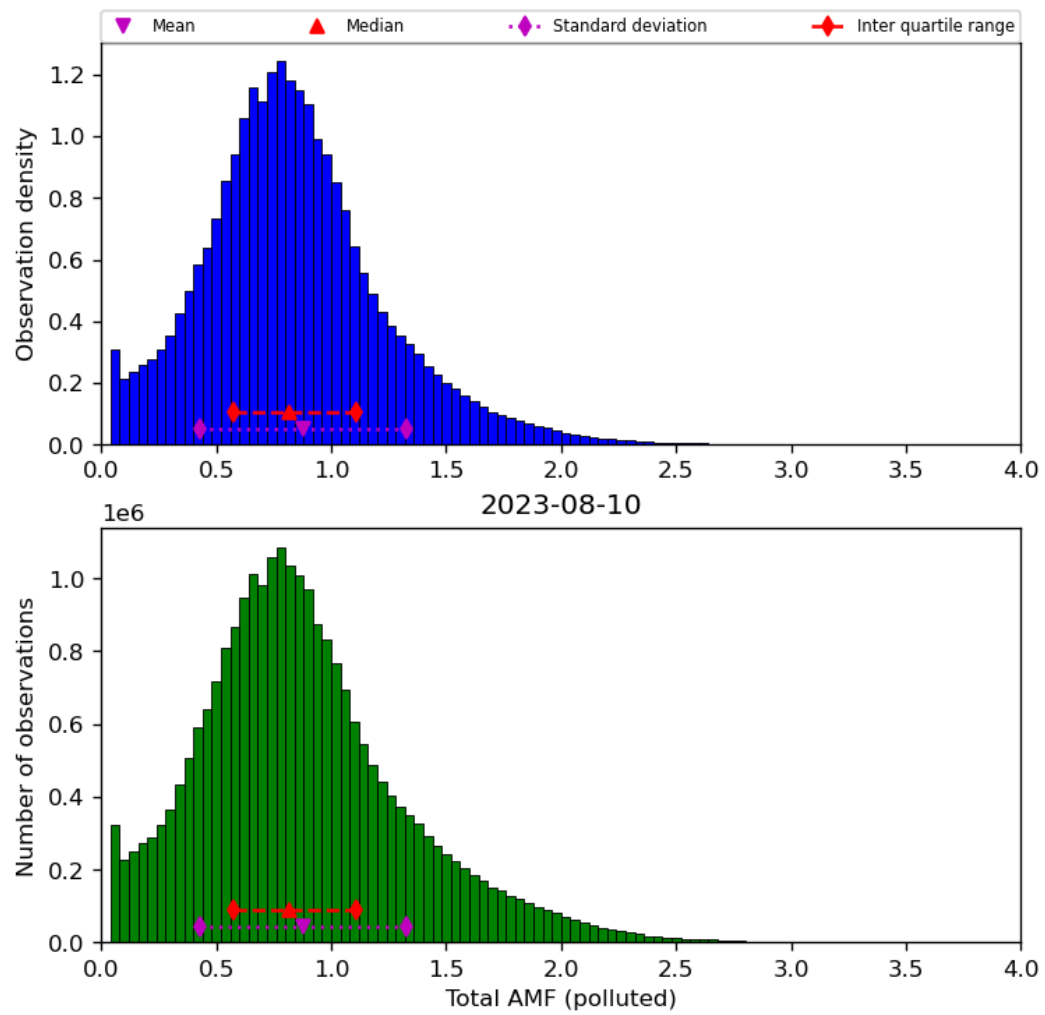


Figure 71: Histogram of “Total AMF (polluted)” for 2023-08-09 to 2023-08-11

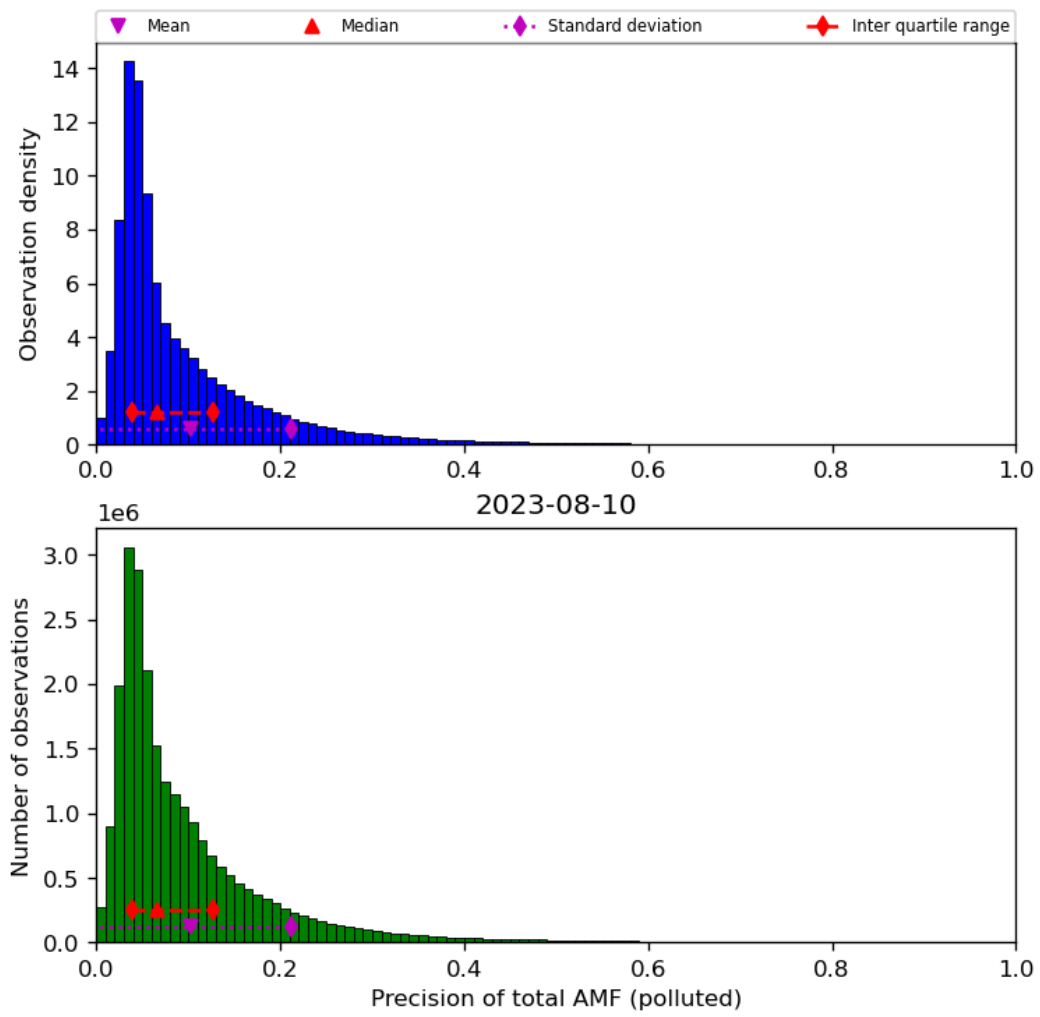


Figure 72: Histogram of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11

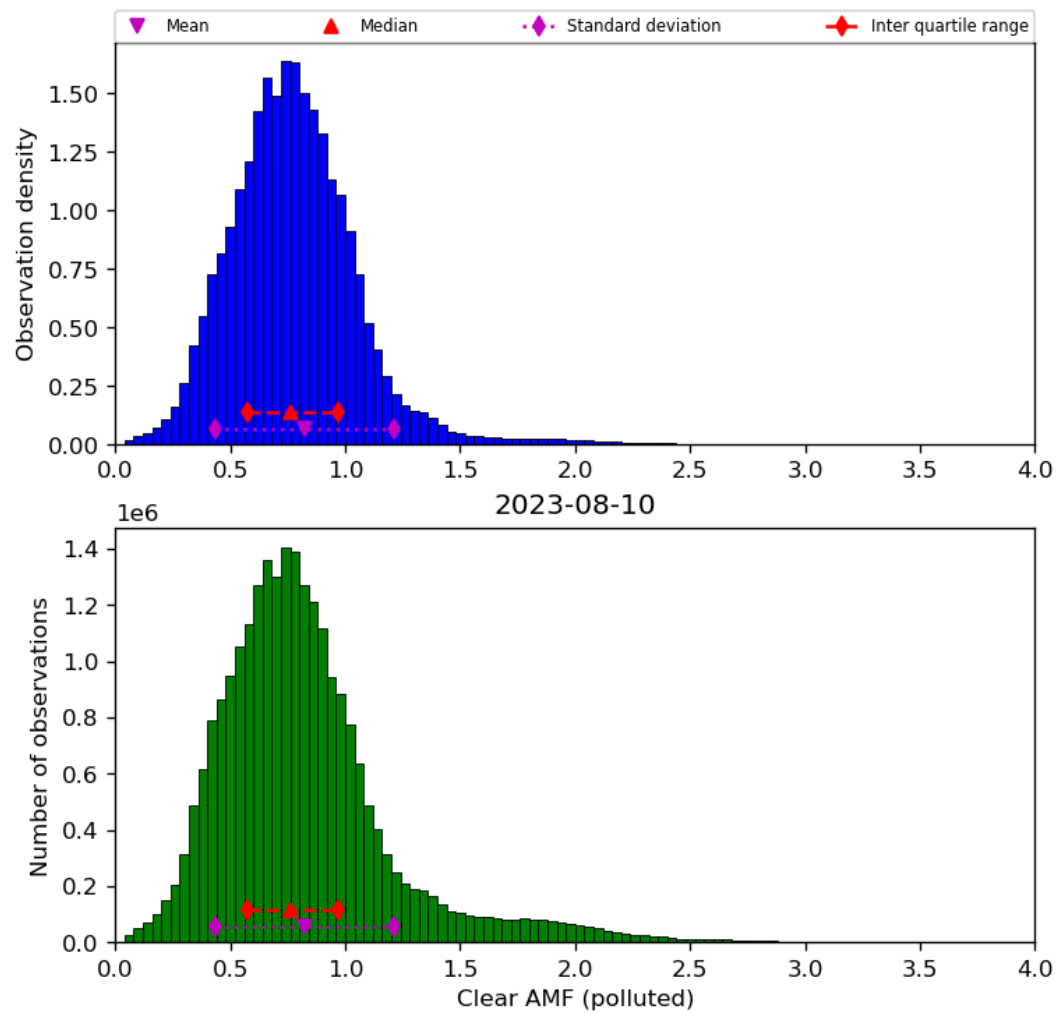


Figure 73: Histogram of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11

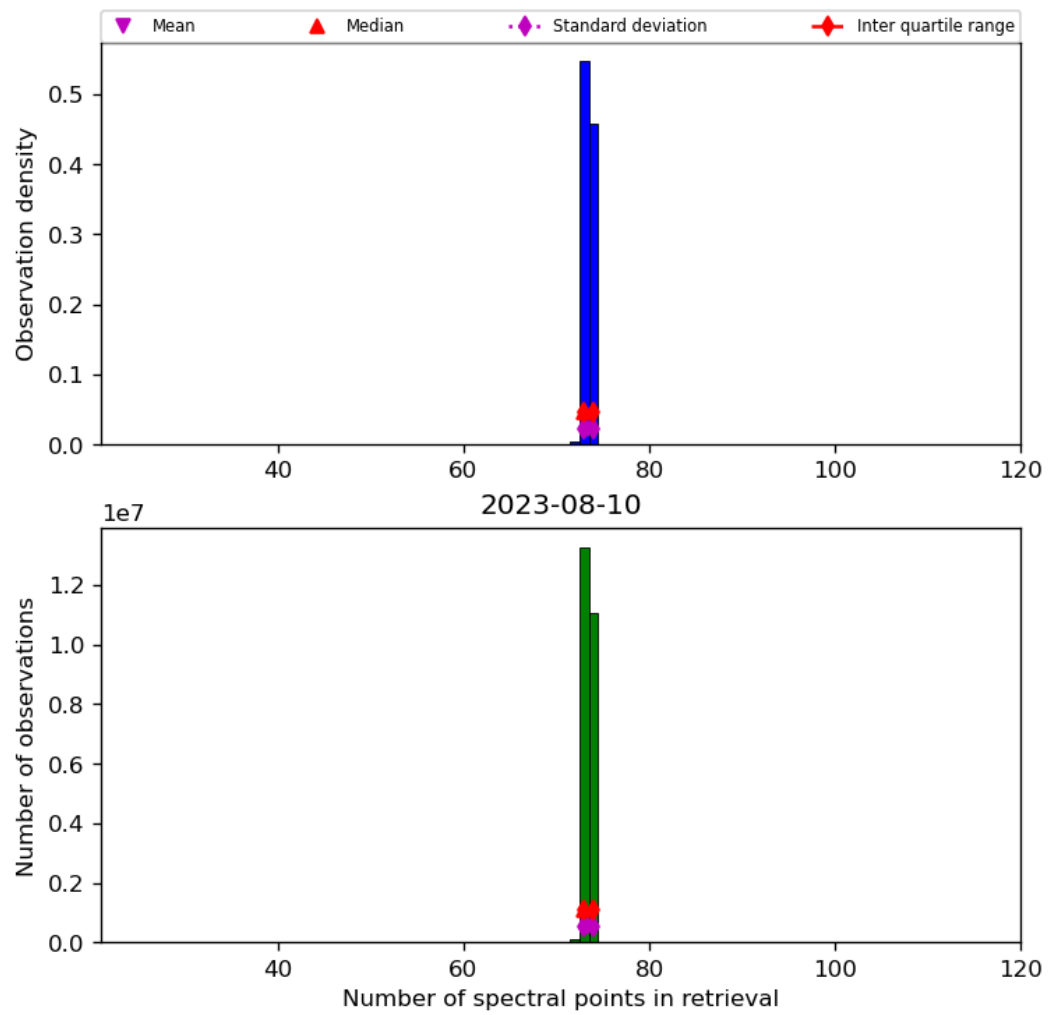


Figure 74: Histogram of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-11

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.

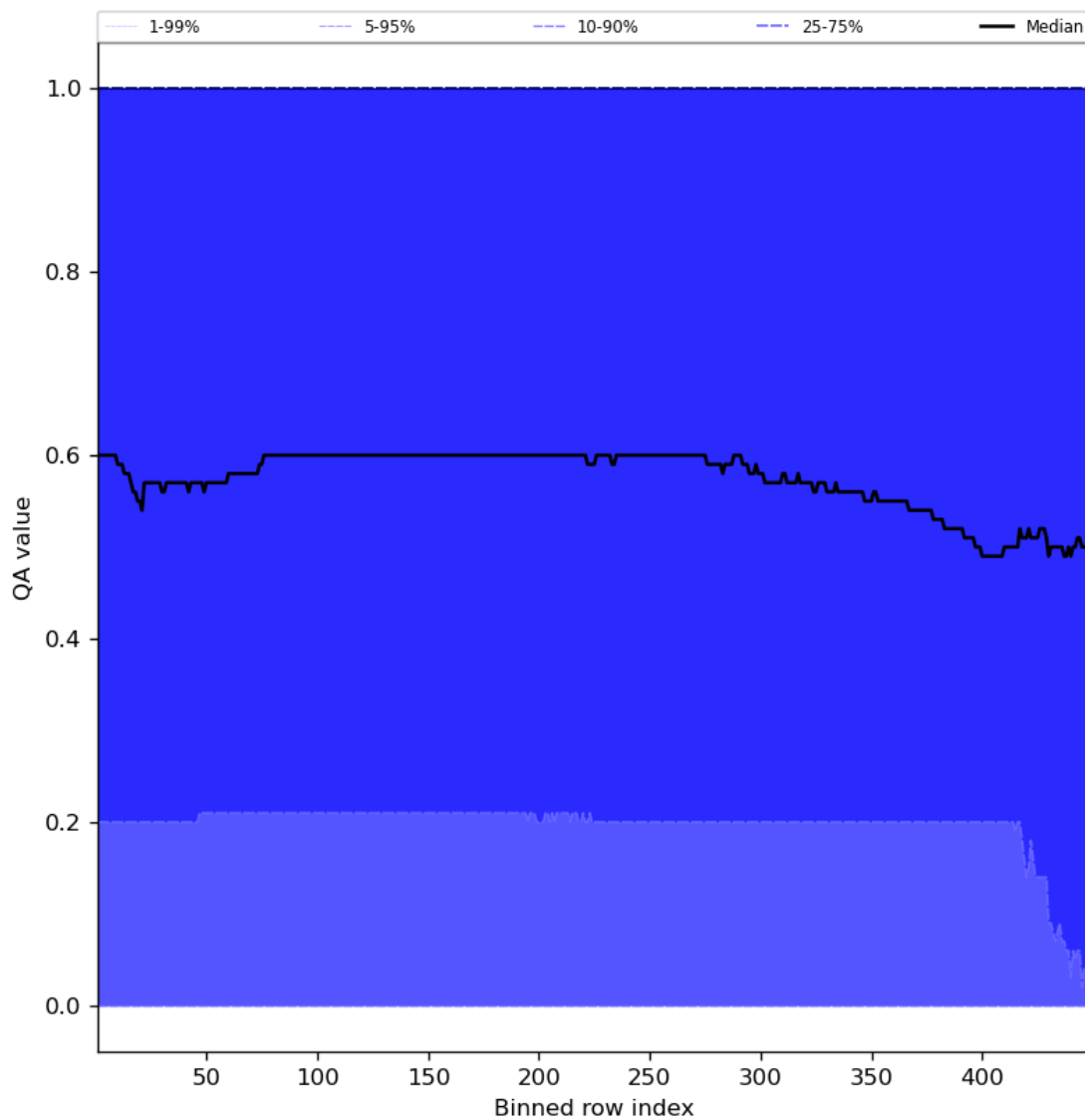


Figure 75: Along track statistics of “QA value” for 2023-08-09 to 2023-08-11

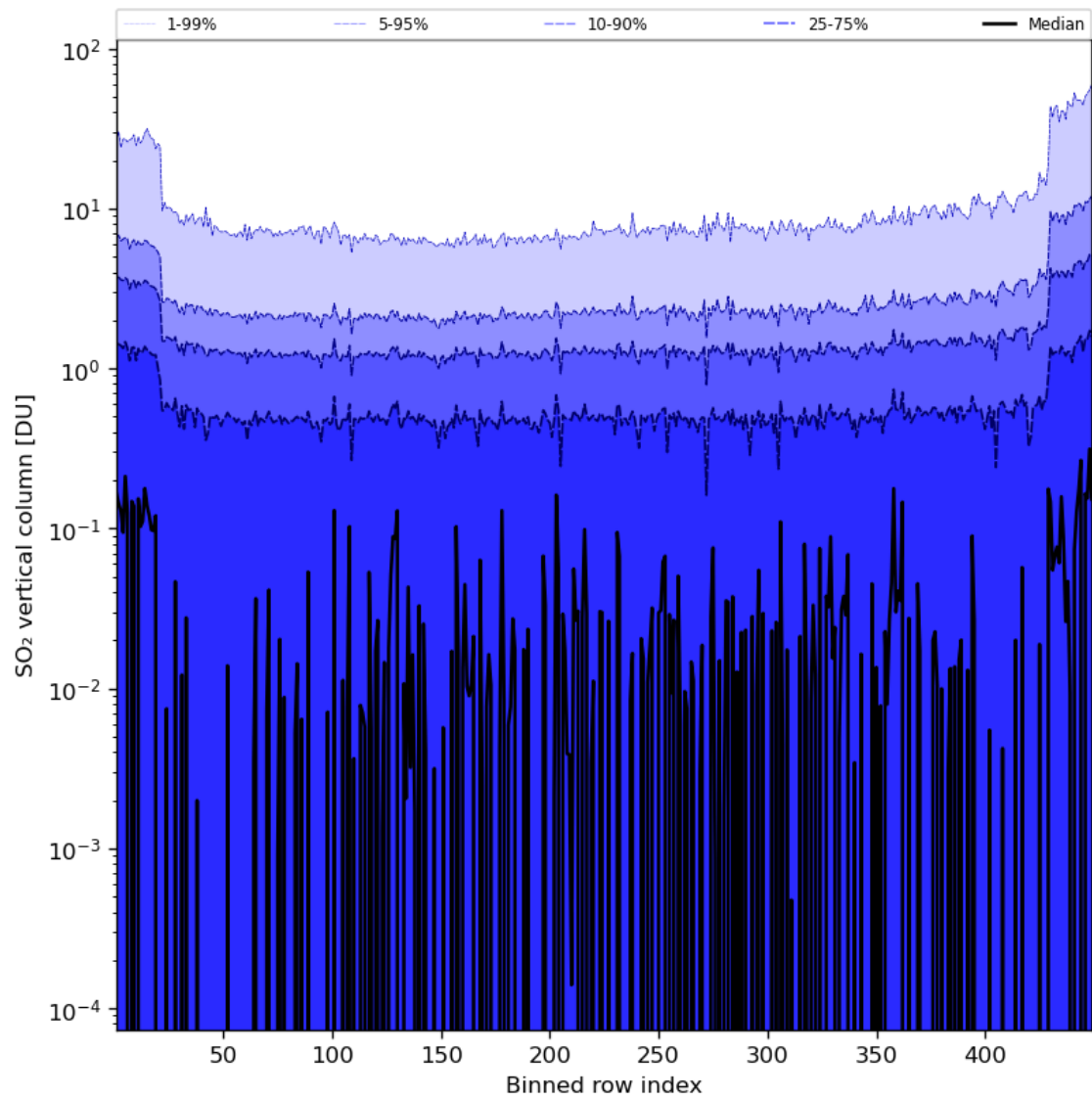


Figure 76: Along track statistics of “SO₂ vertical column” for 2023-08-09 to 2023-08-11

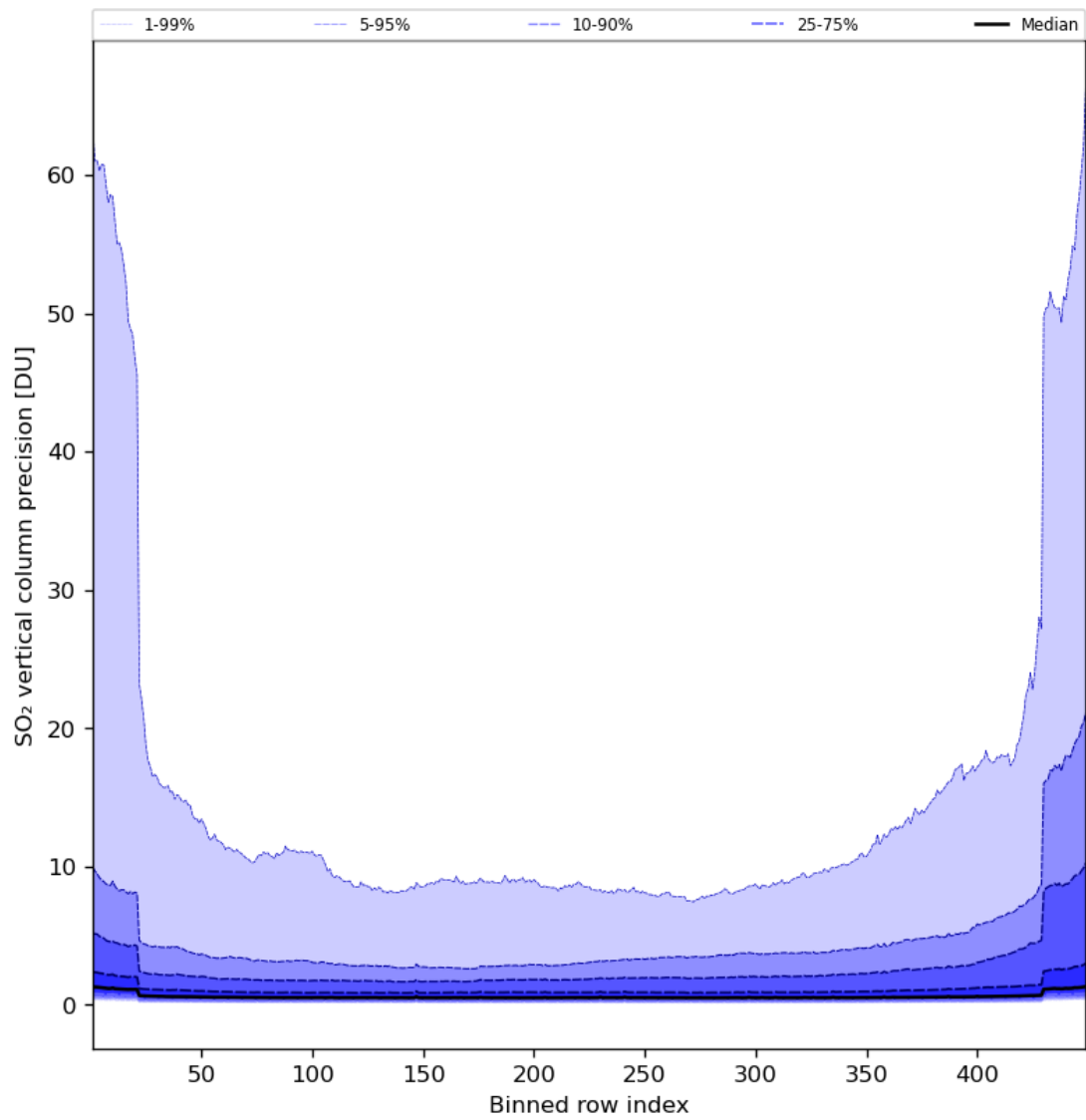


Figure 77: Along track statistics of “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11

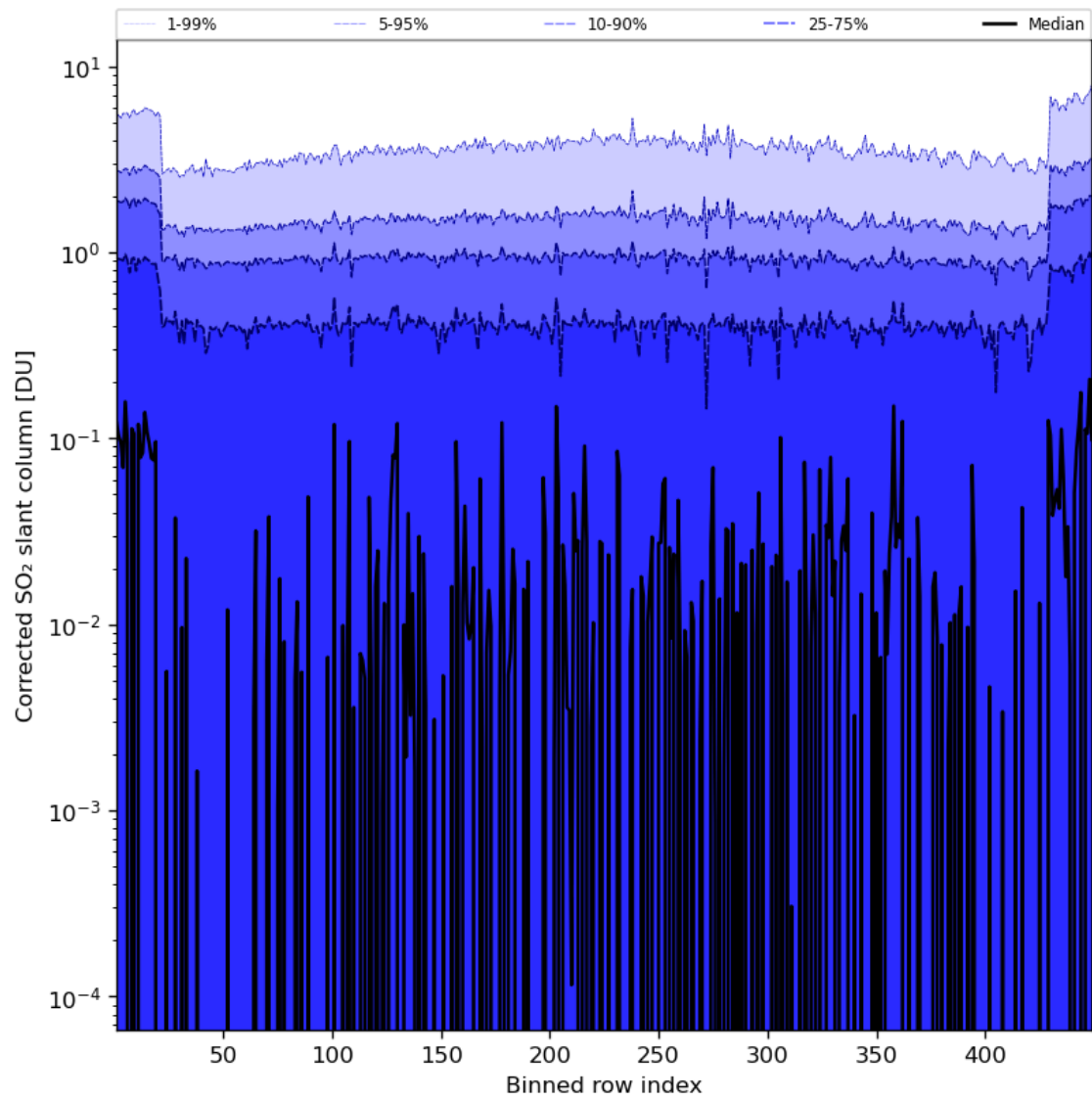


Figure 78: Along track statistics of “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11

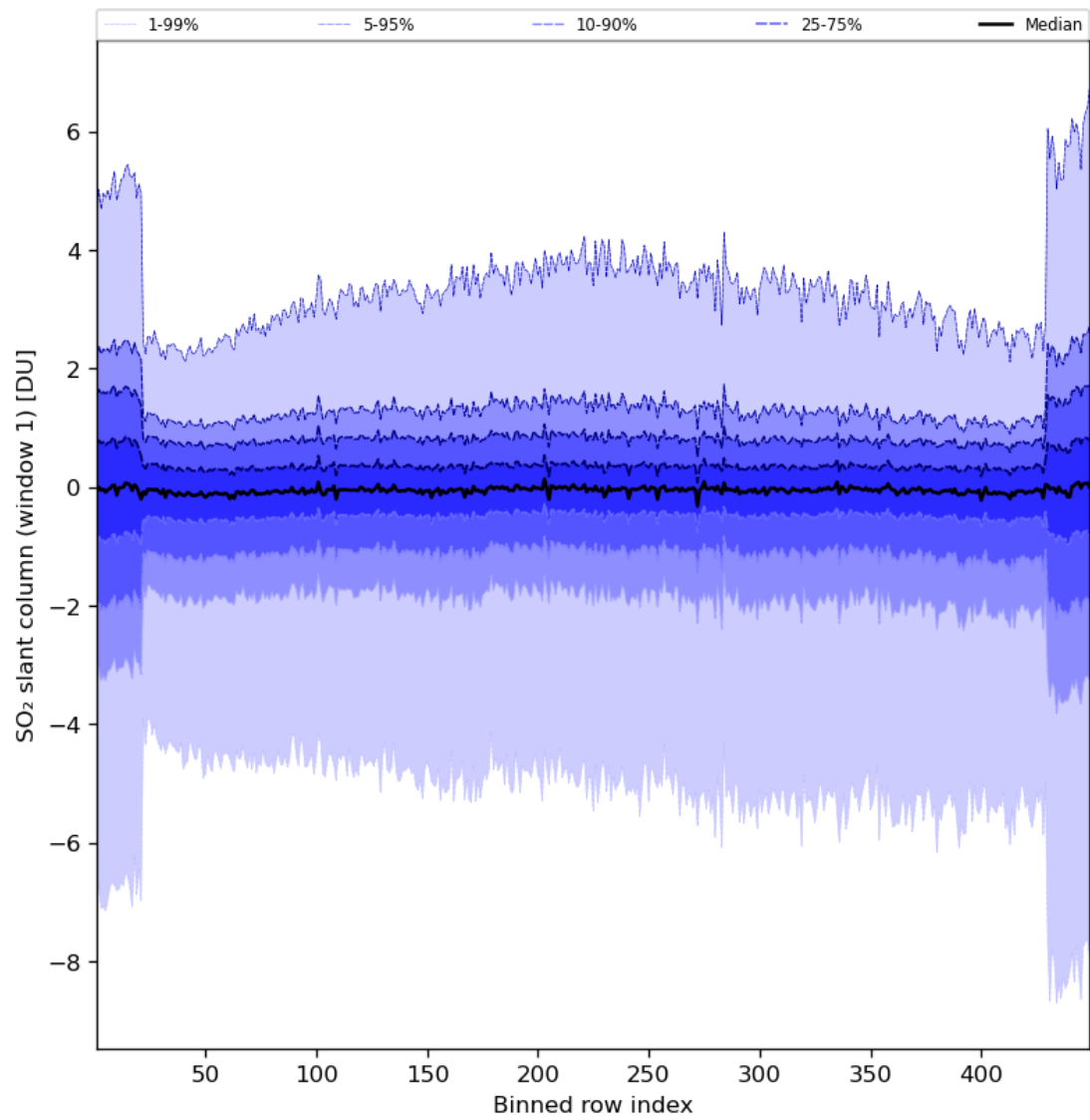


Figure 79: Along track statistics of “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

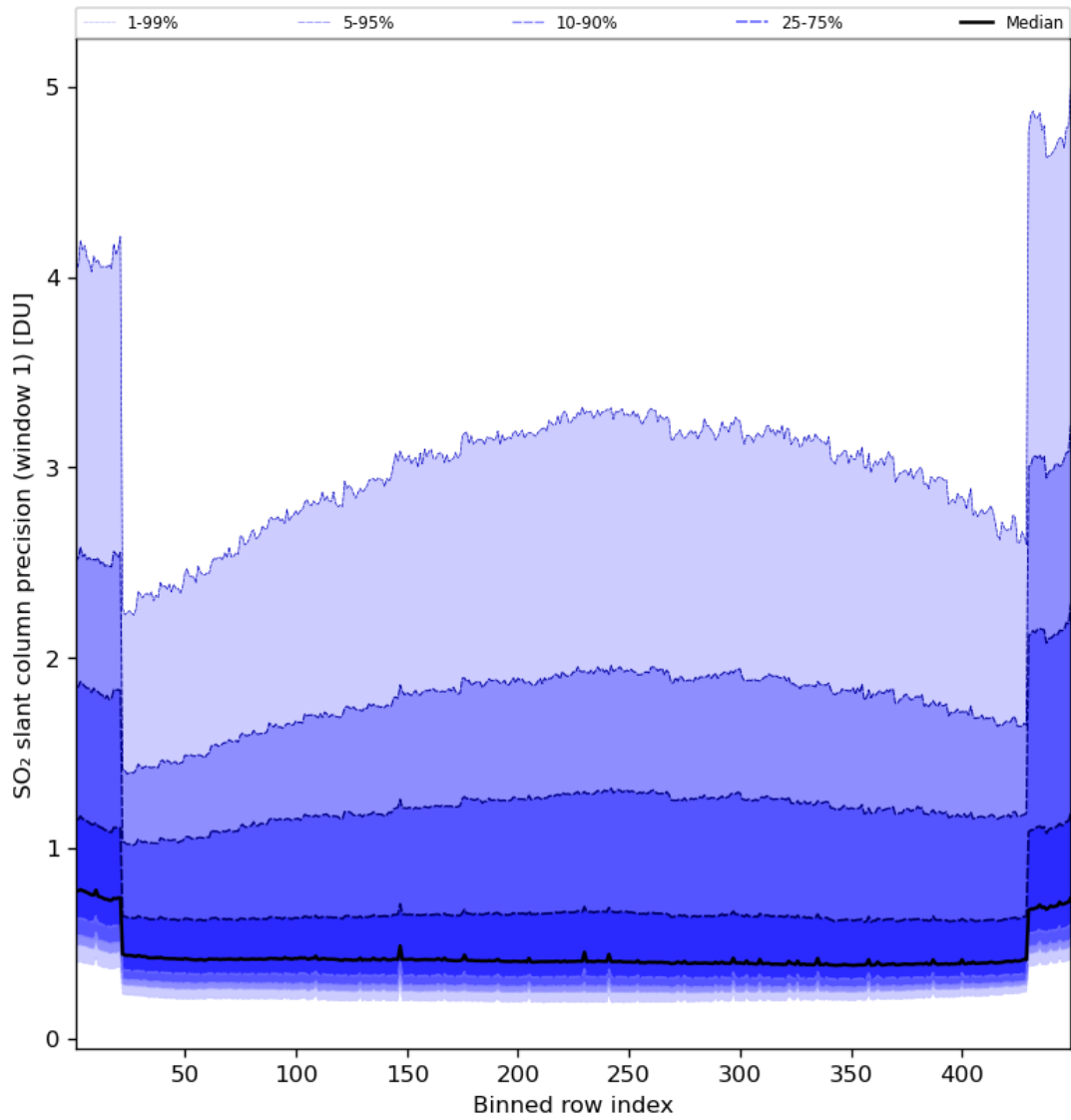


Figure 80: Along track statistics of “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11

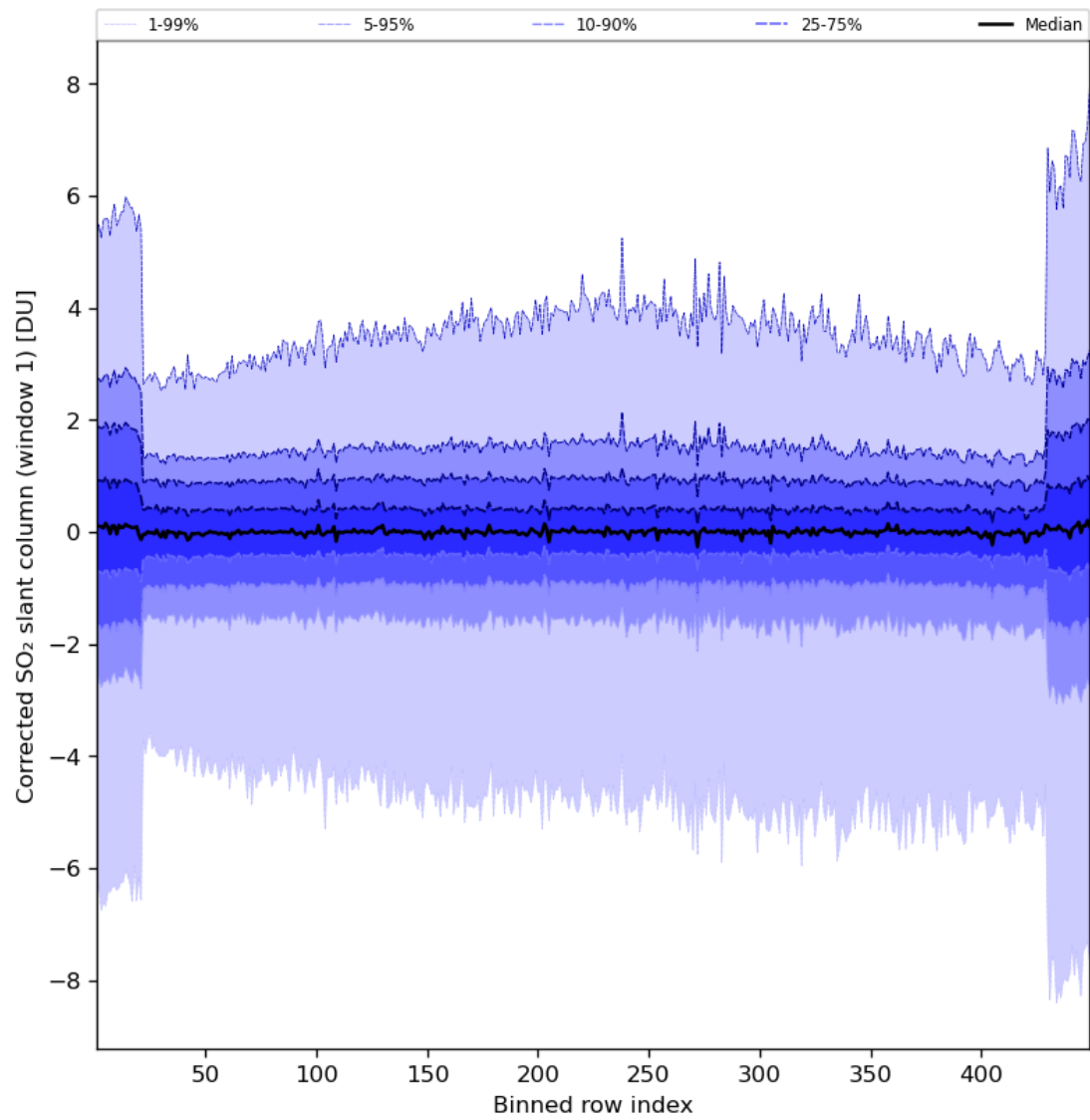


Figure 81: Along track statistics of “Corrected SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11

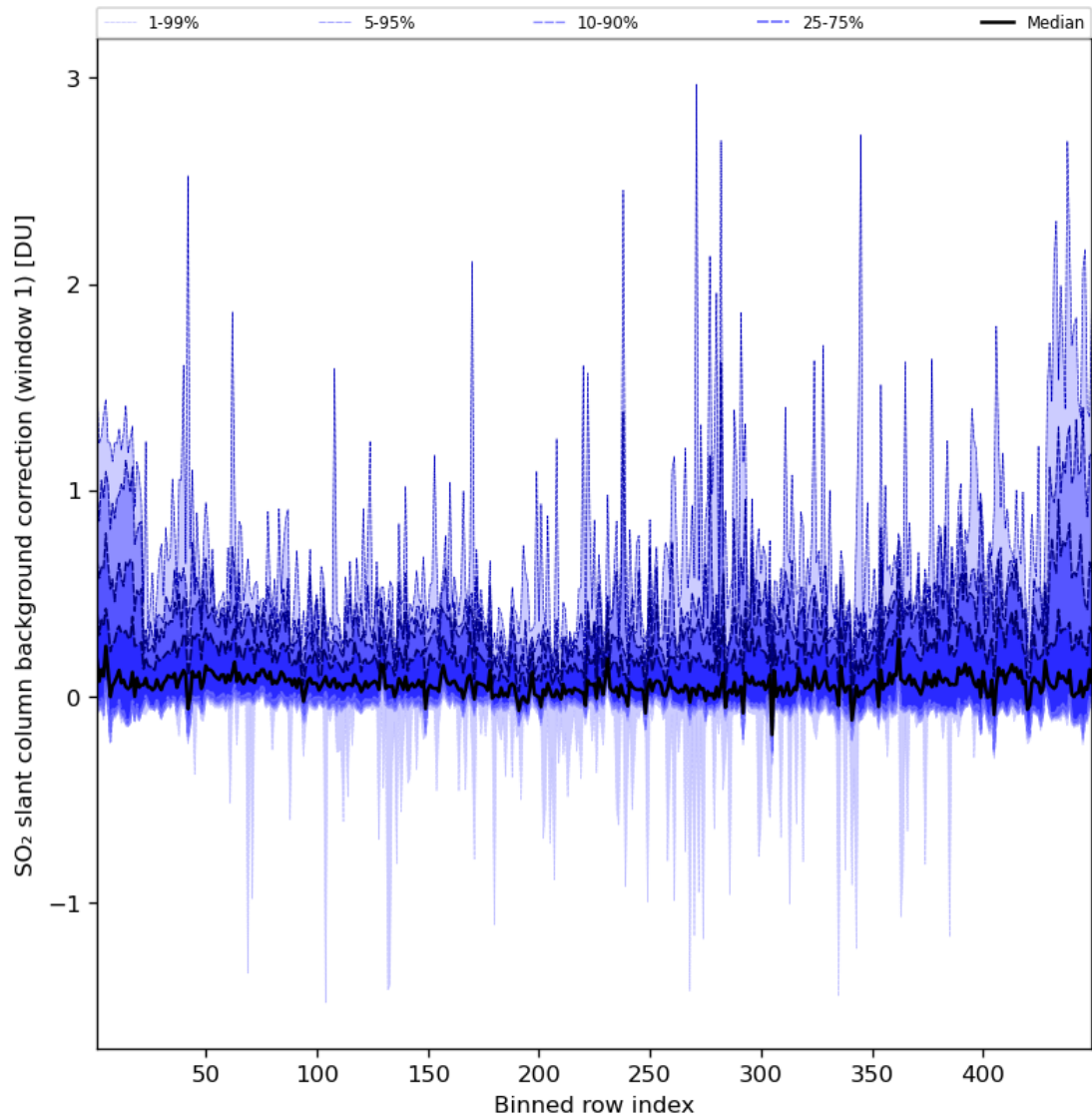


Figure 82: Along track statistics of “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11

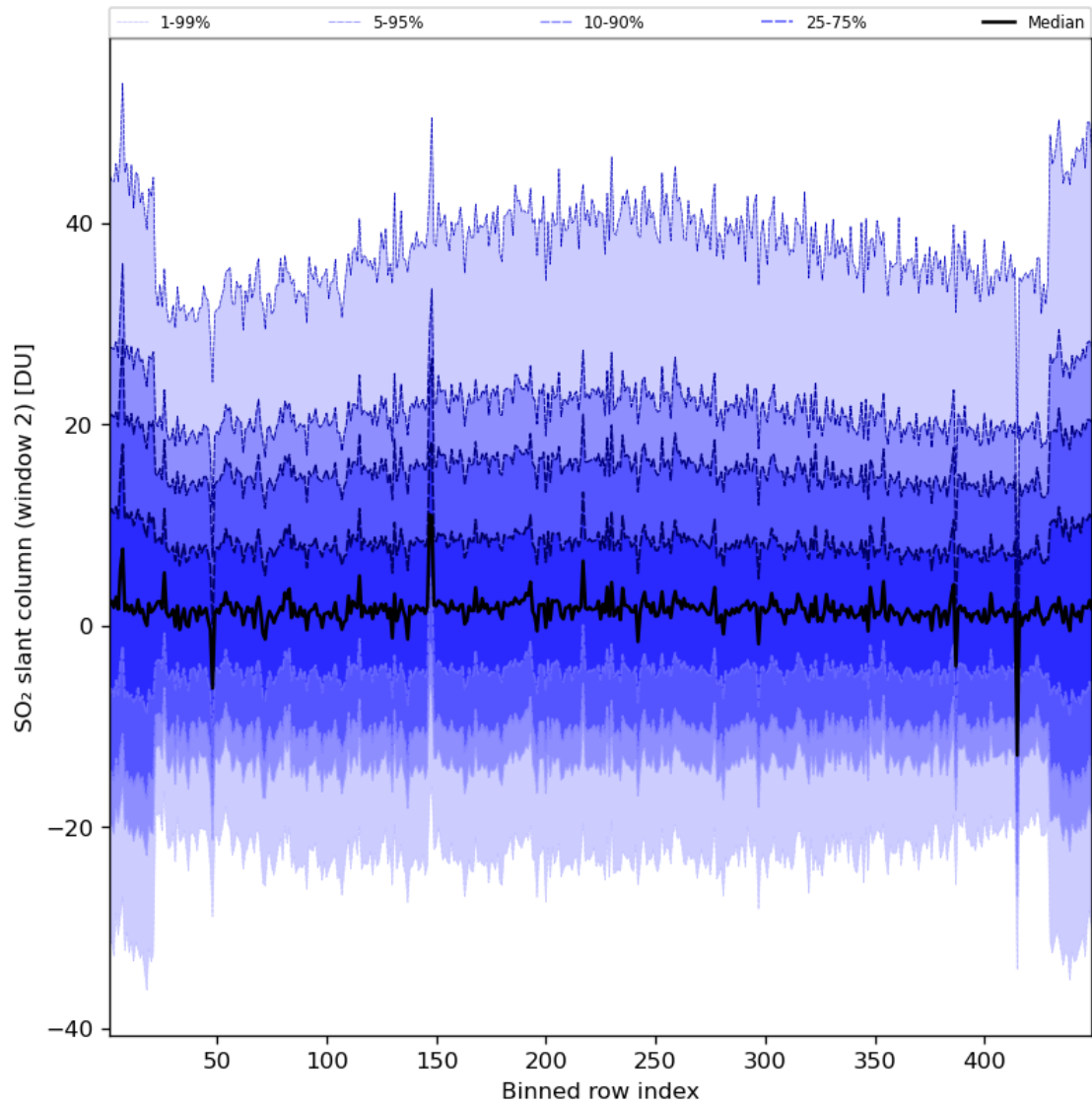


Figure 83: Along track statistics of “SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

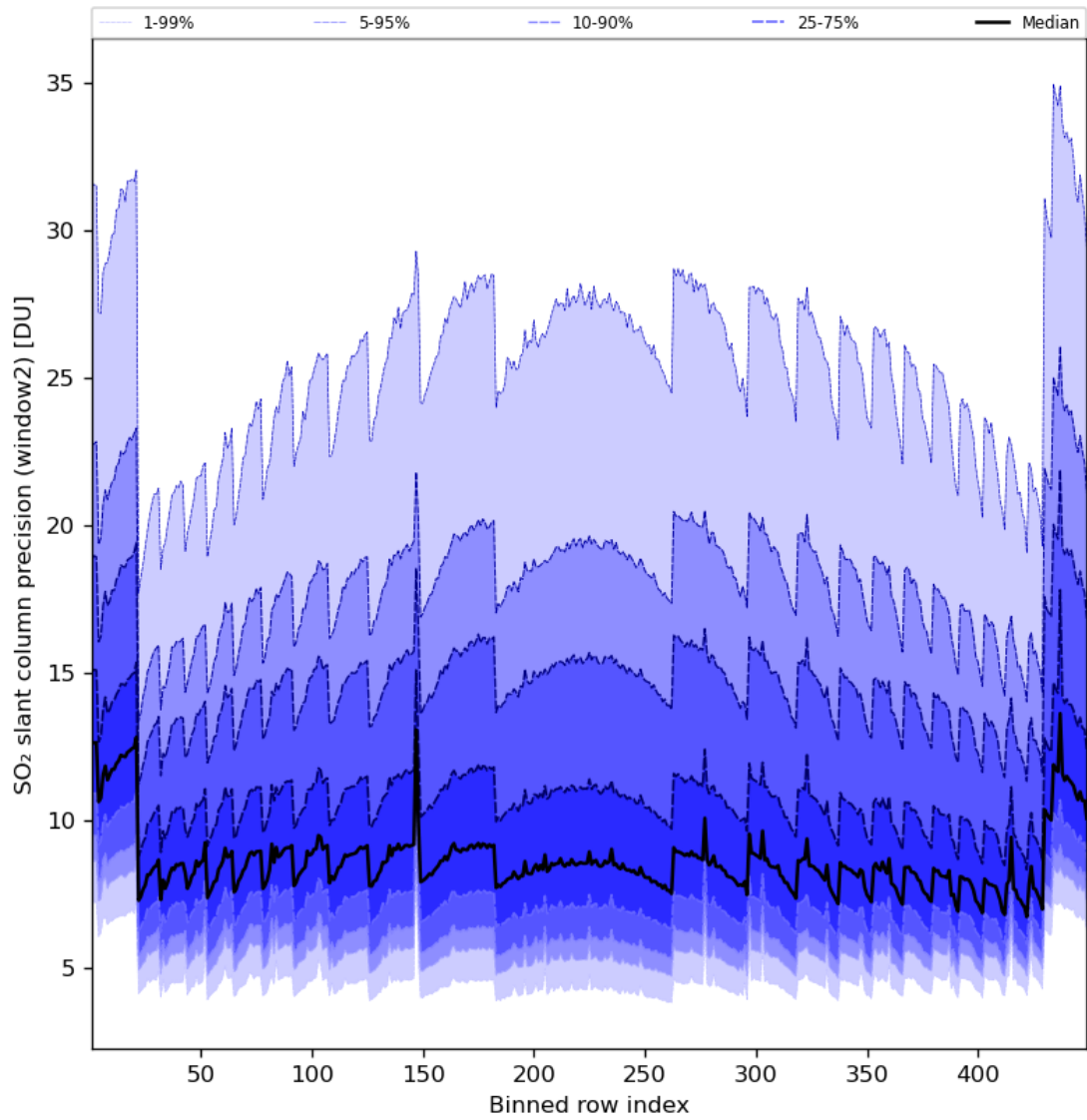


Figure 84: Along track statistics of “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11

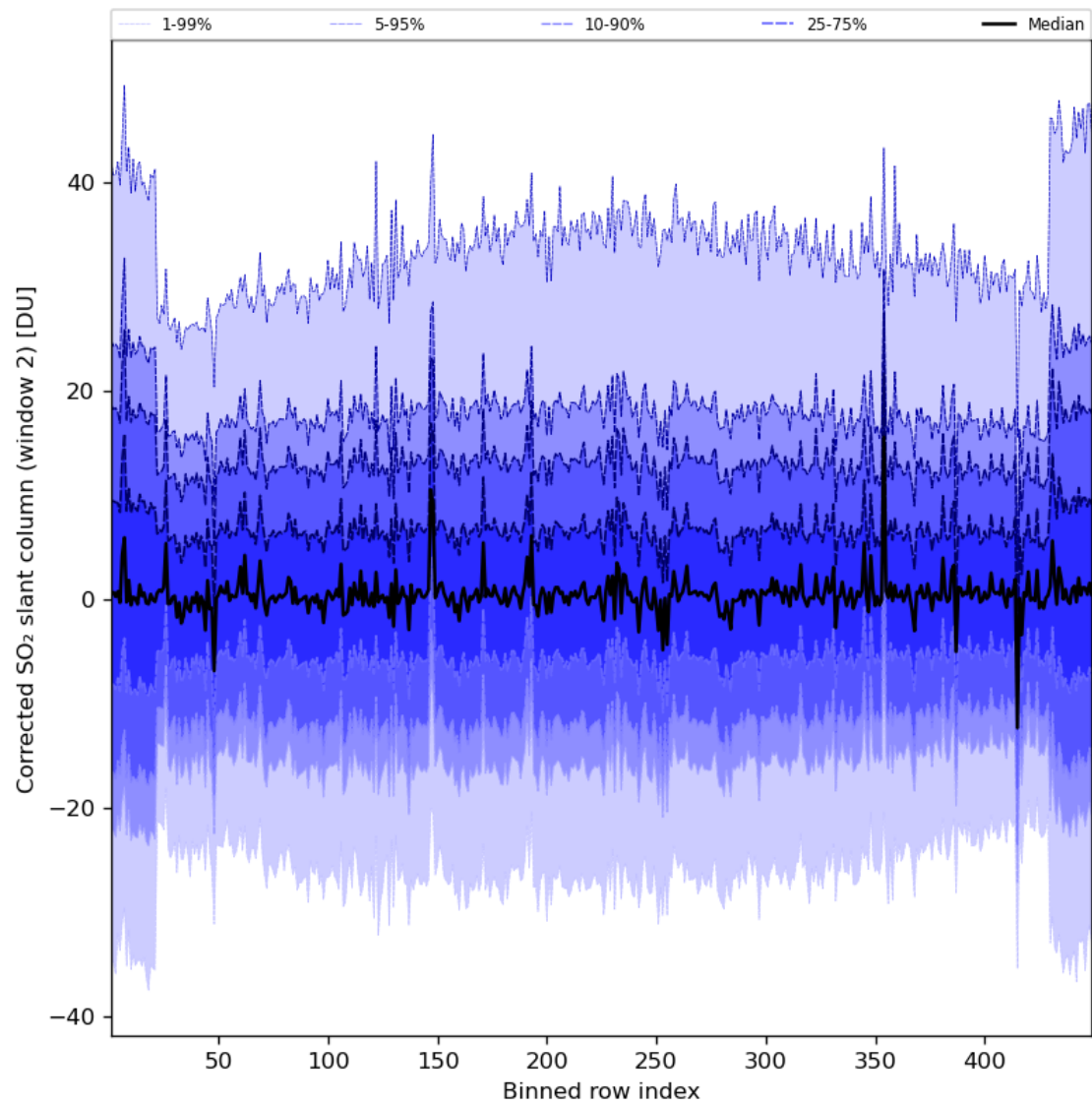


Figure 85: Along track statistics of “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11

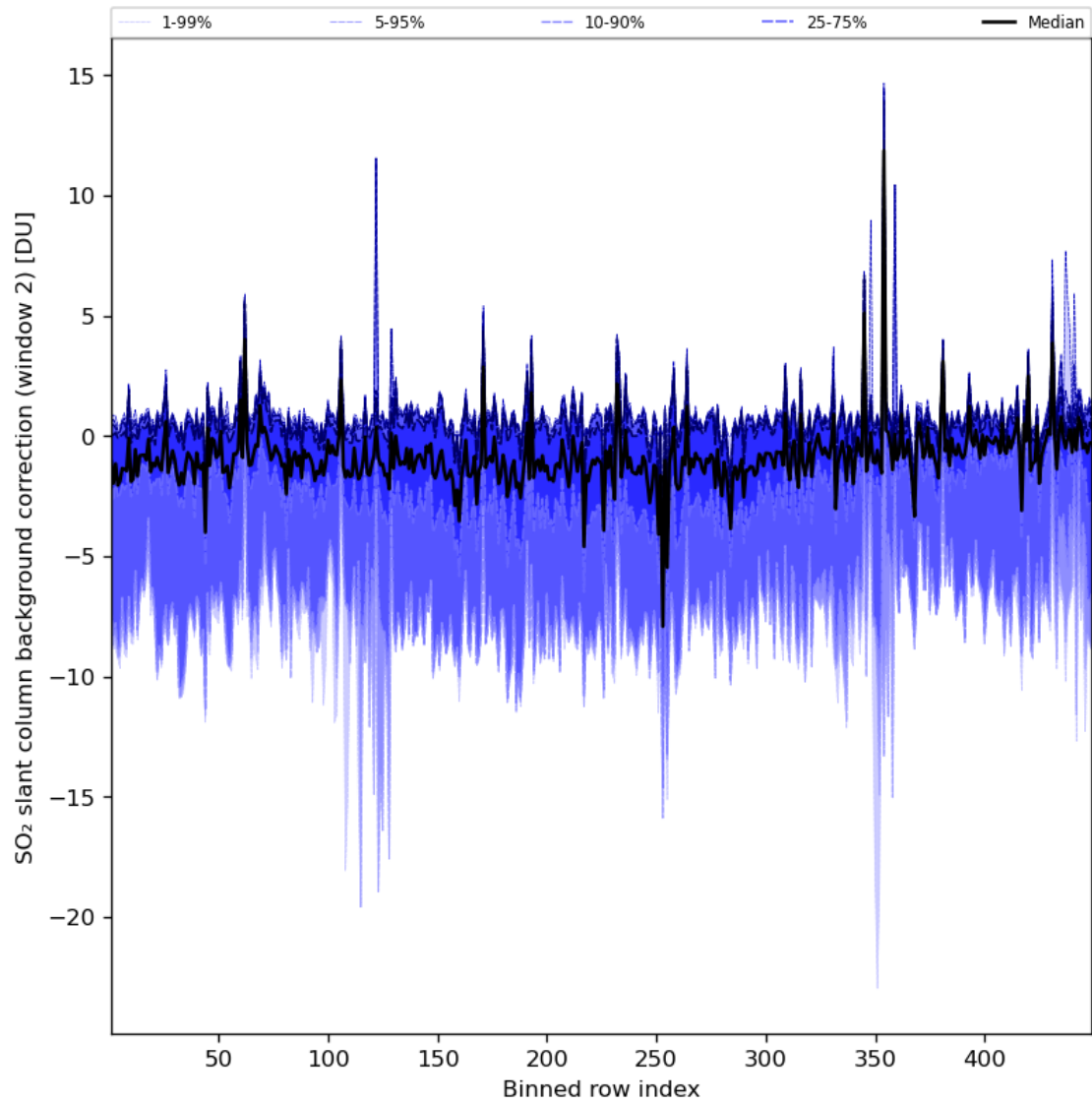


Figure 86: Along track statistics of “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11

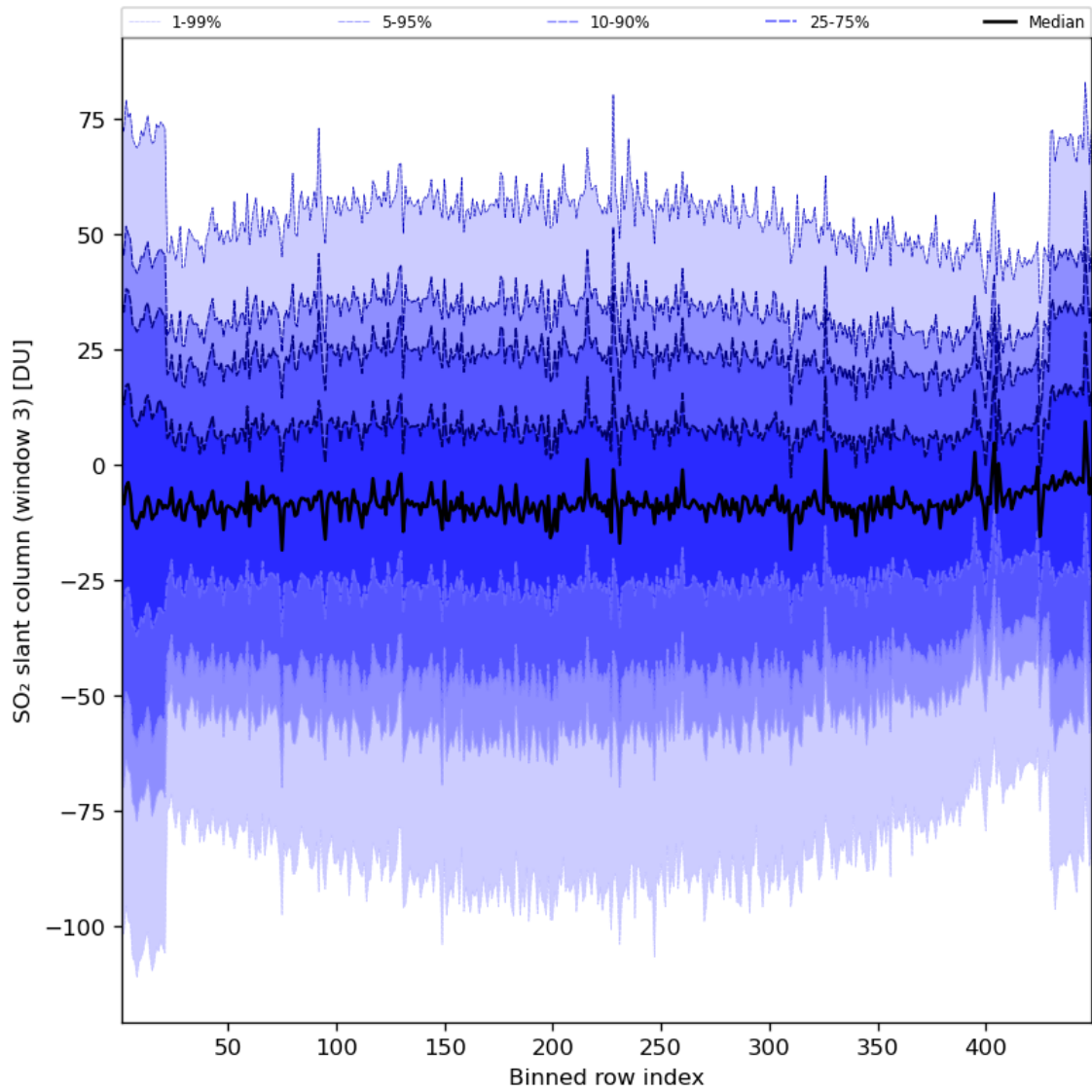


Figure 87: Along track statistics of "SO₂ slant column (window 3)" for 2023-08-09 to 2023-08-11

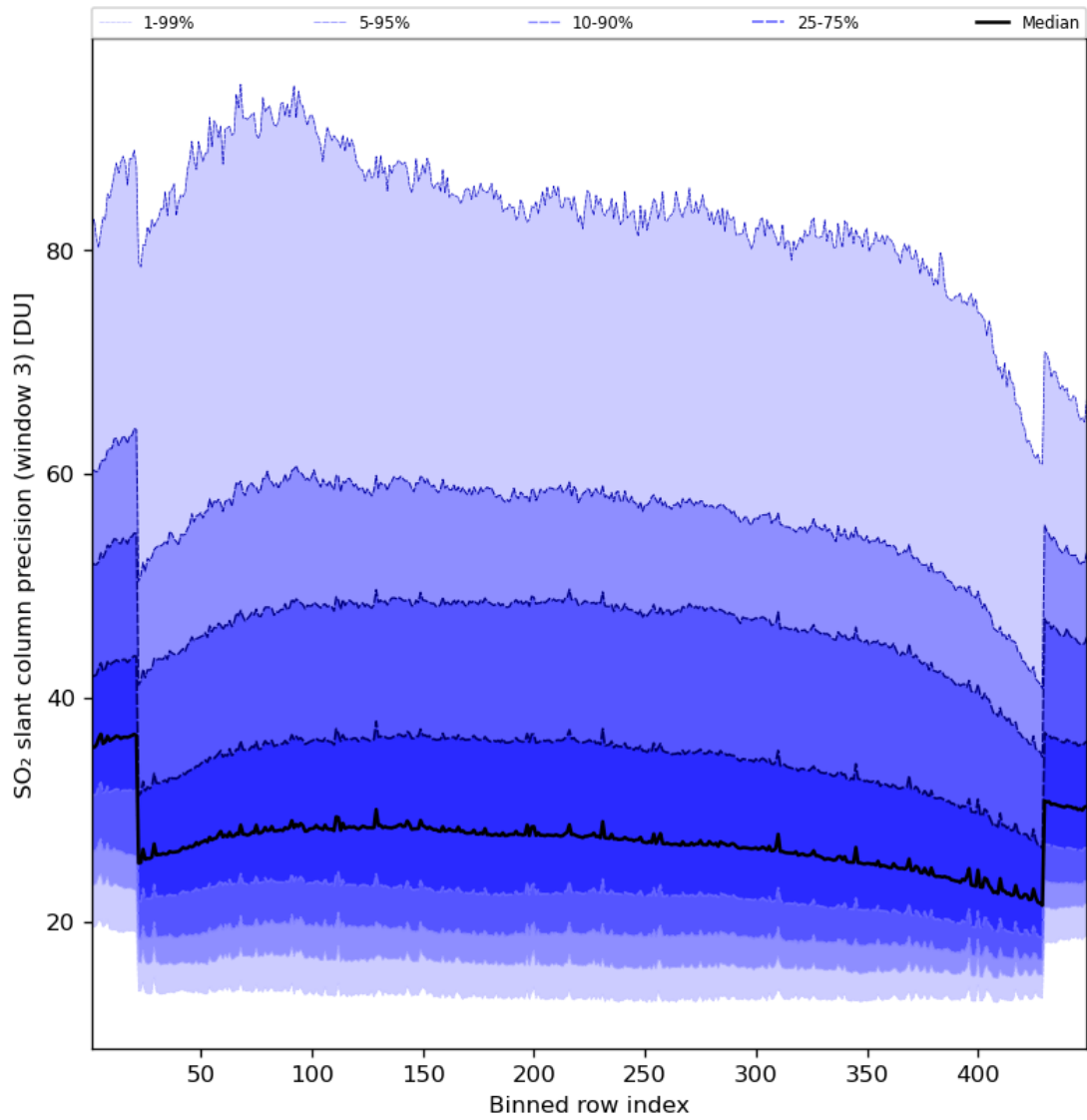


Figure 88: Along track statistics of “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11

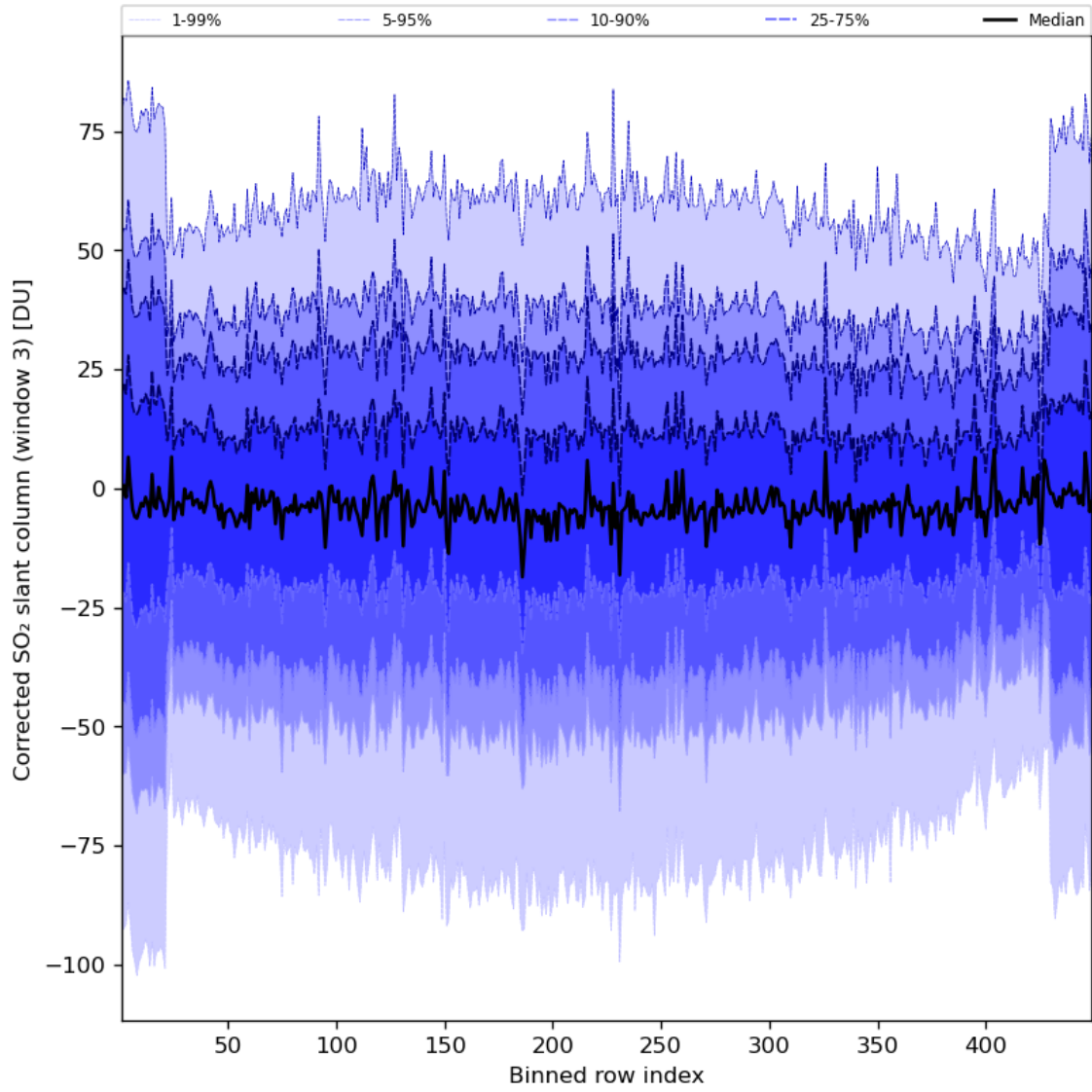


Figure 89: Along track statistics of “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11

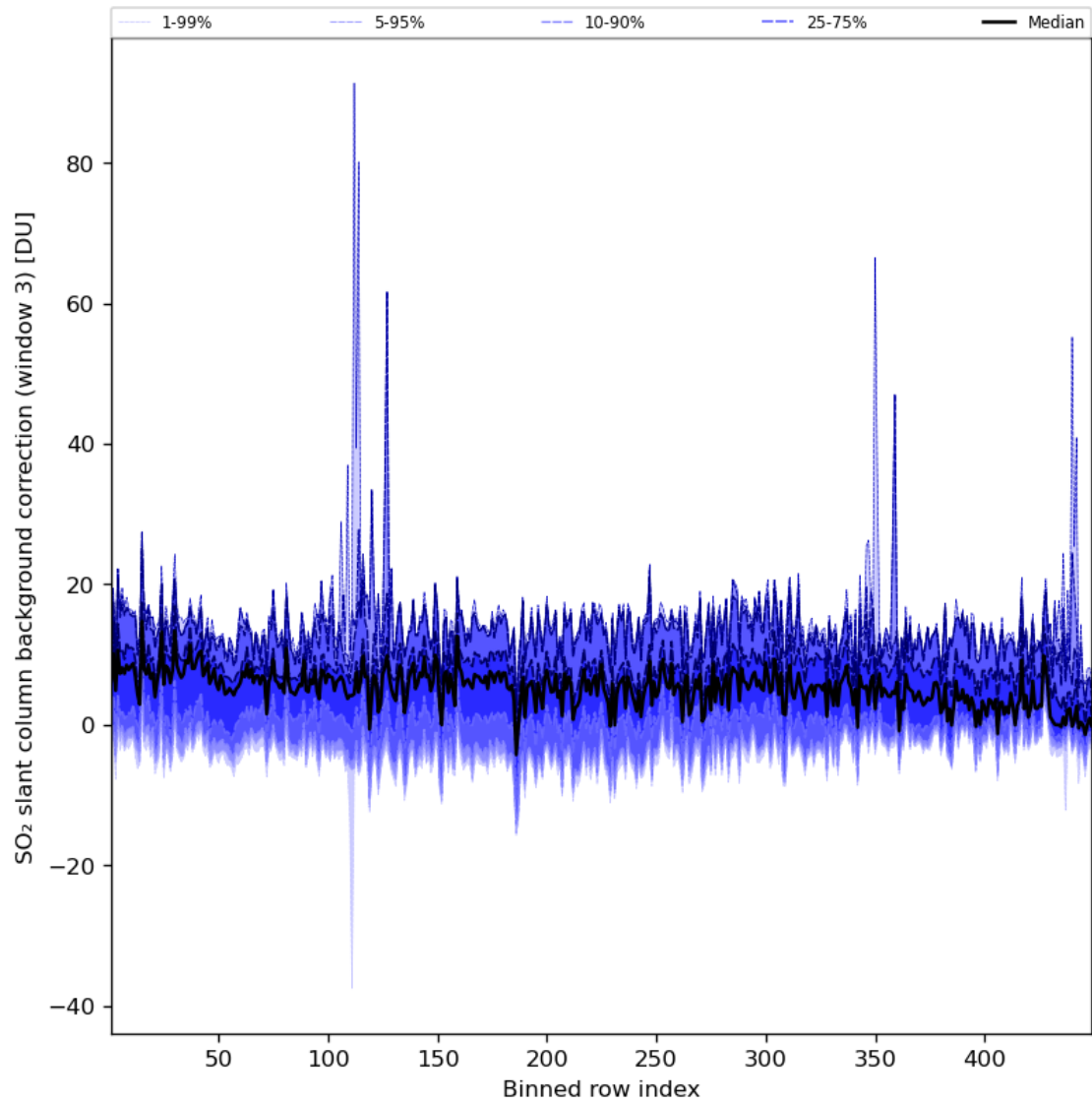


Figure 90: Along track statistics of “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11

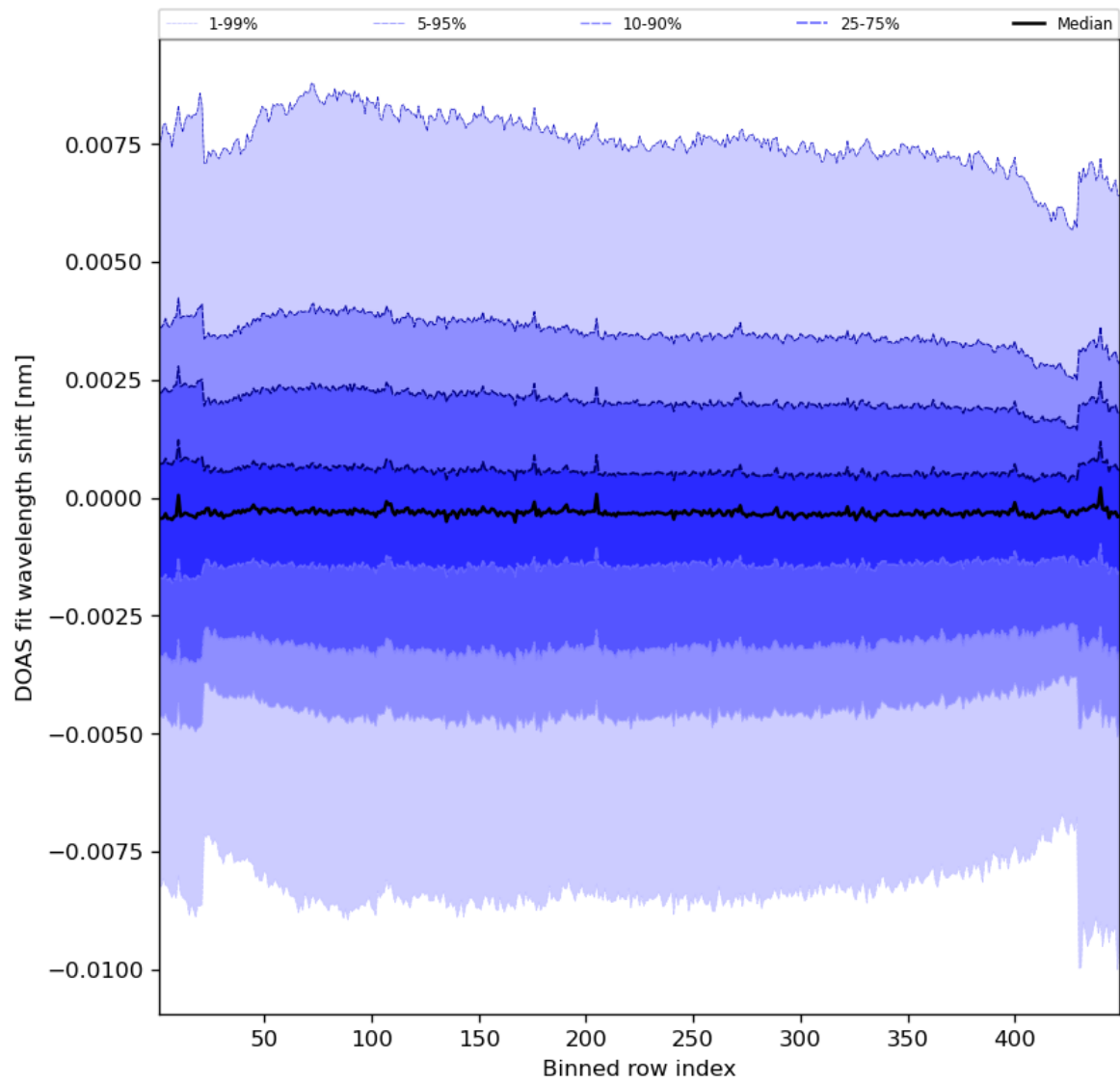


Figure 91: Along track statistics of “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11

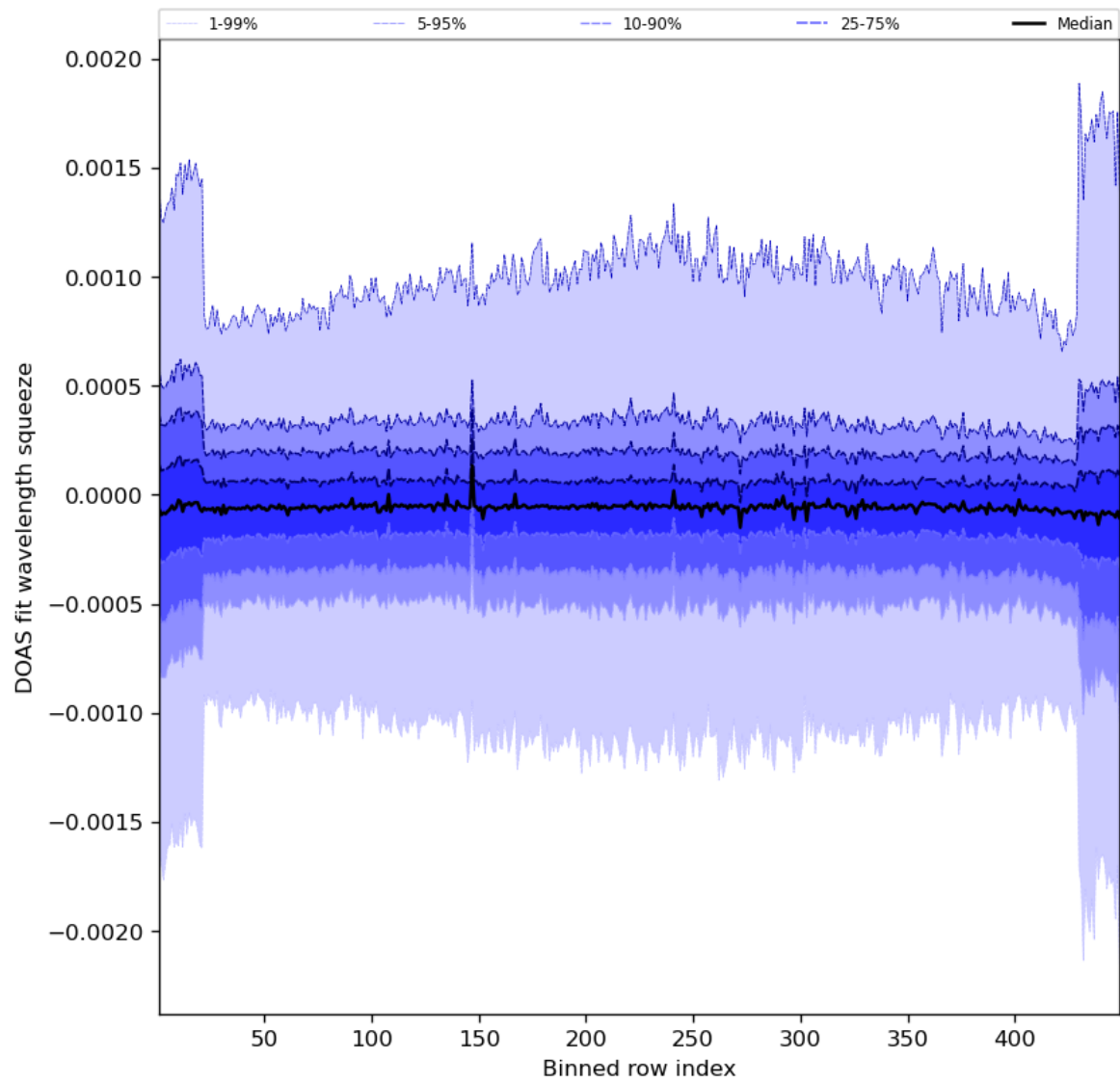


Figure 92: Along track statistics of “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11

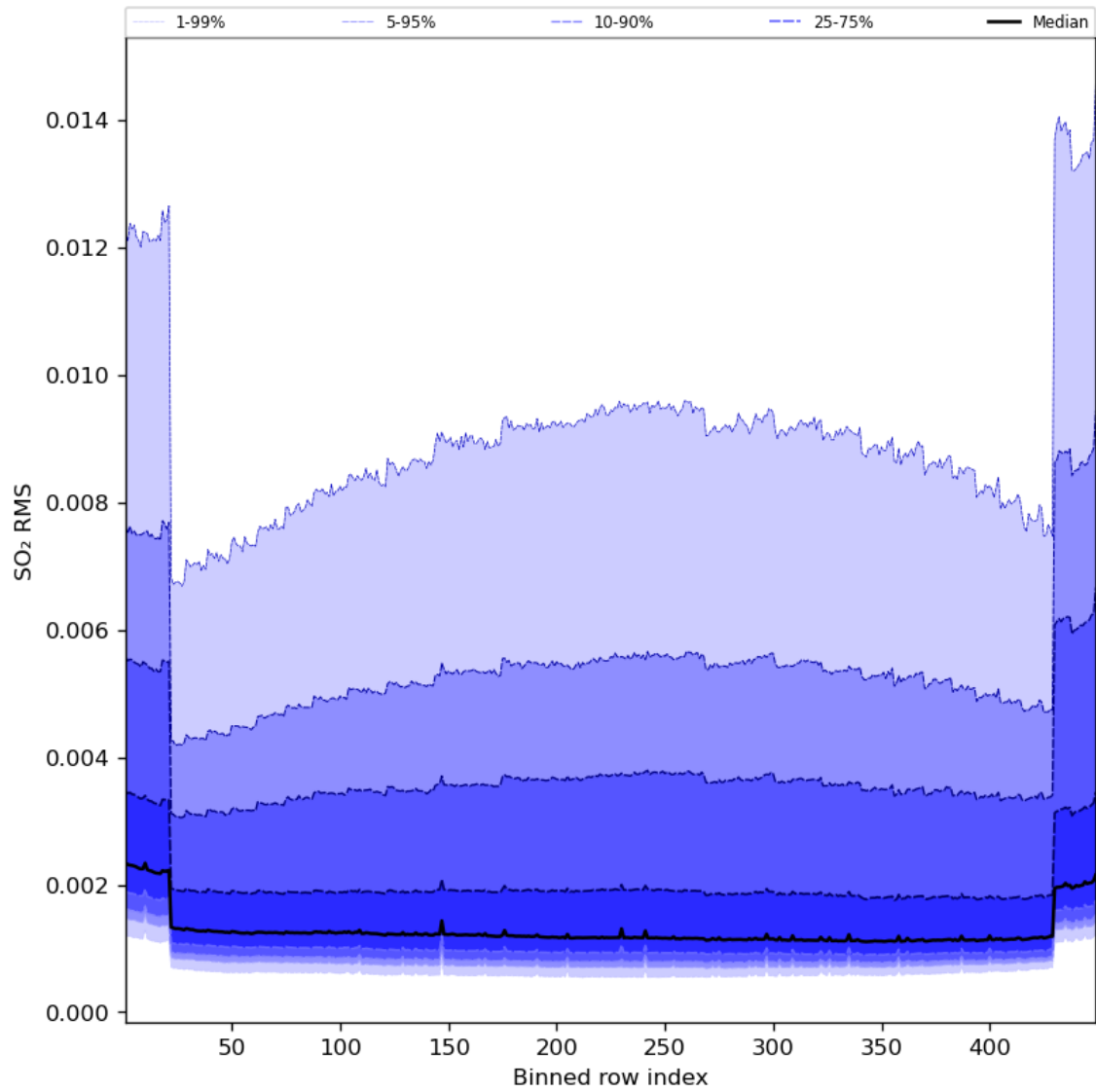


Figure 93: Along track statistics of “SO₂ RMS” for 2023-08-09 to 2023-08-11

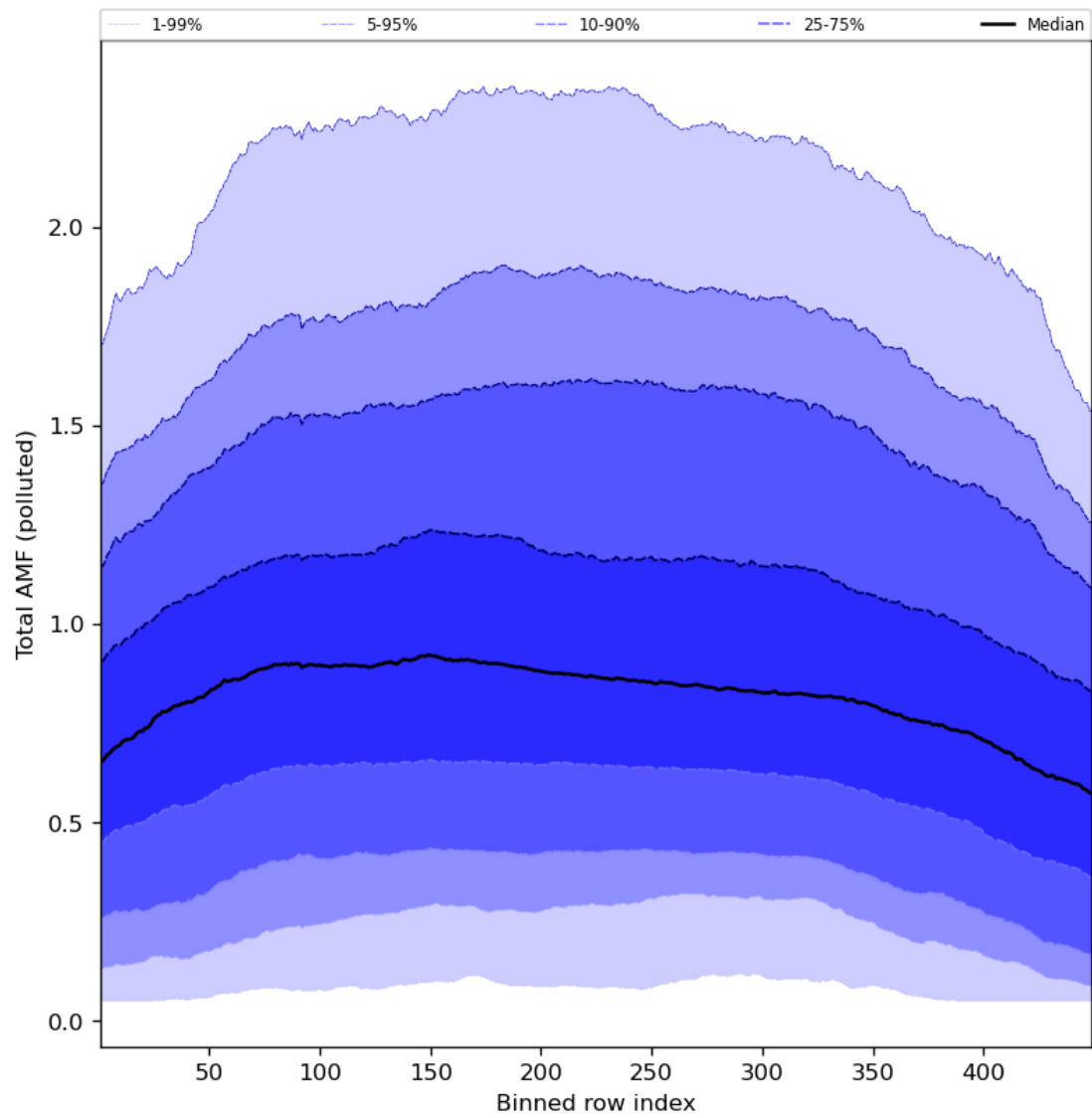


Figure 94: Along track statistics of “Total AMF (polluted)” for 2023-08-09 to 2023-08-11

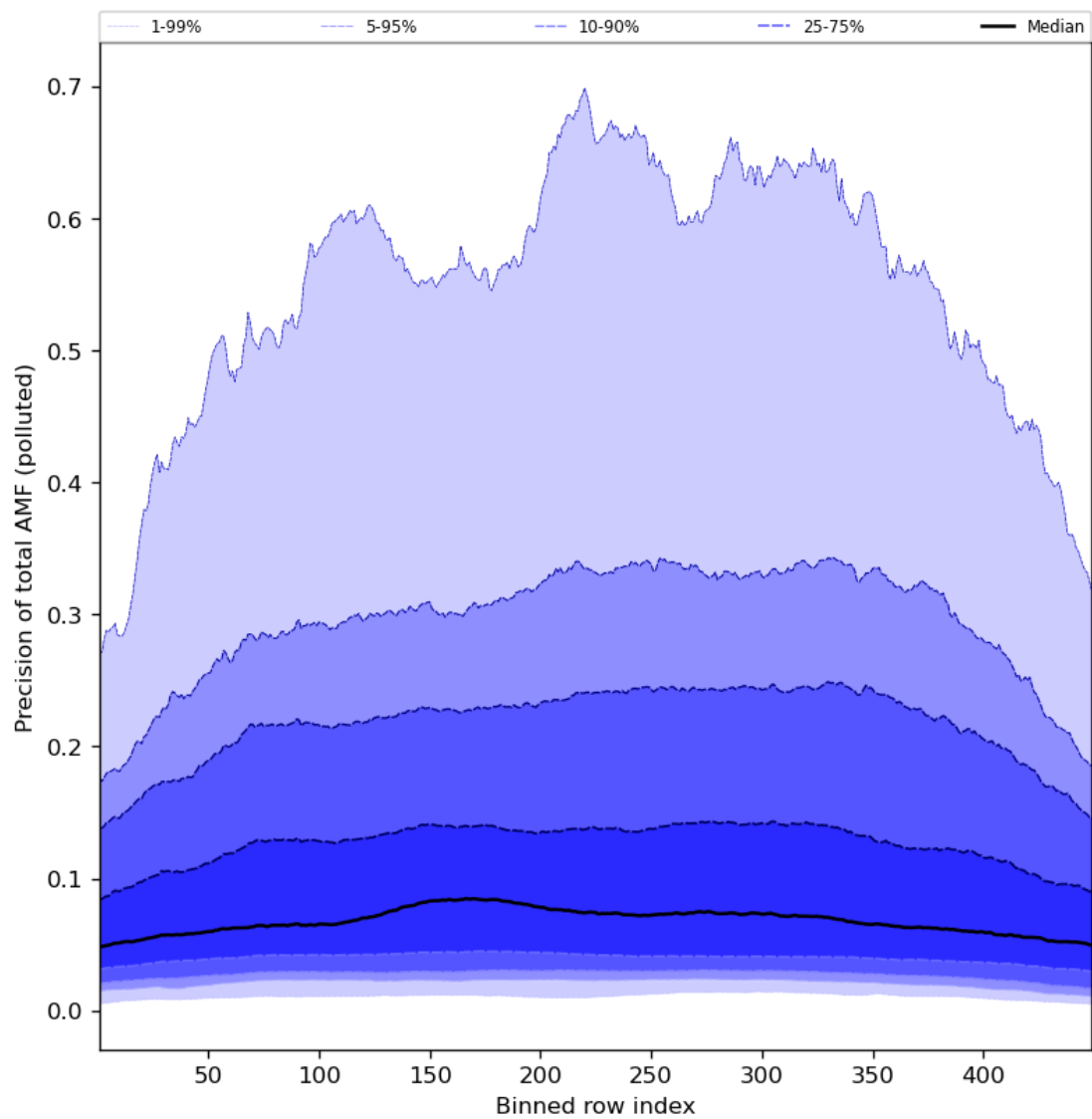


Figure 95: Along track statistics of “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11

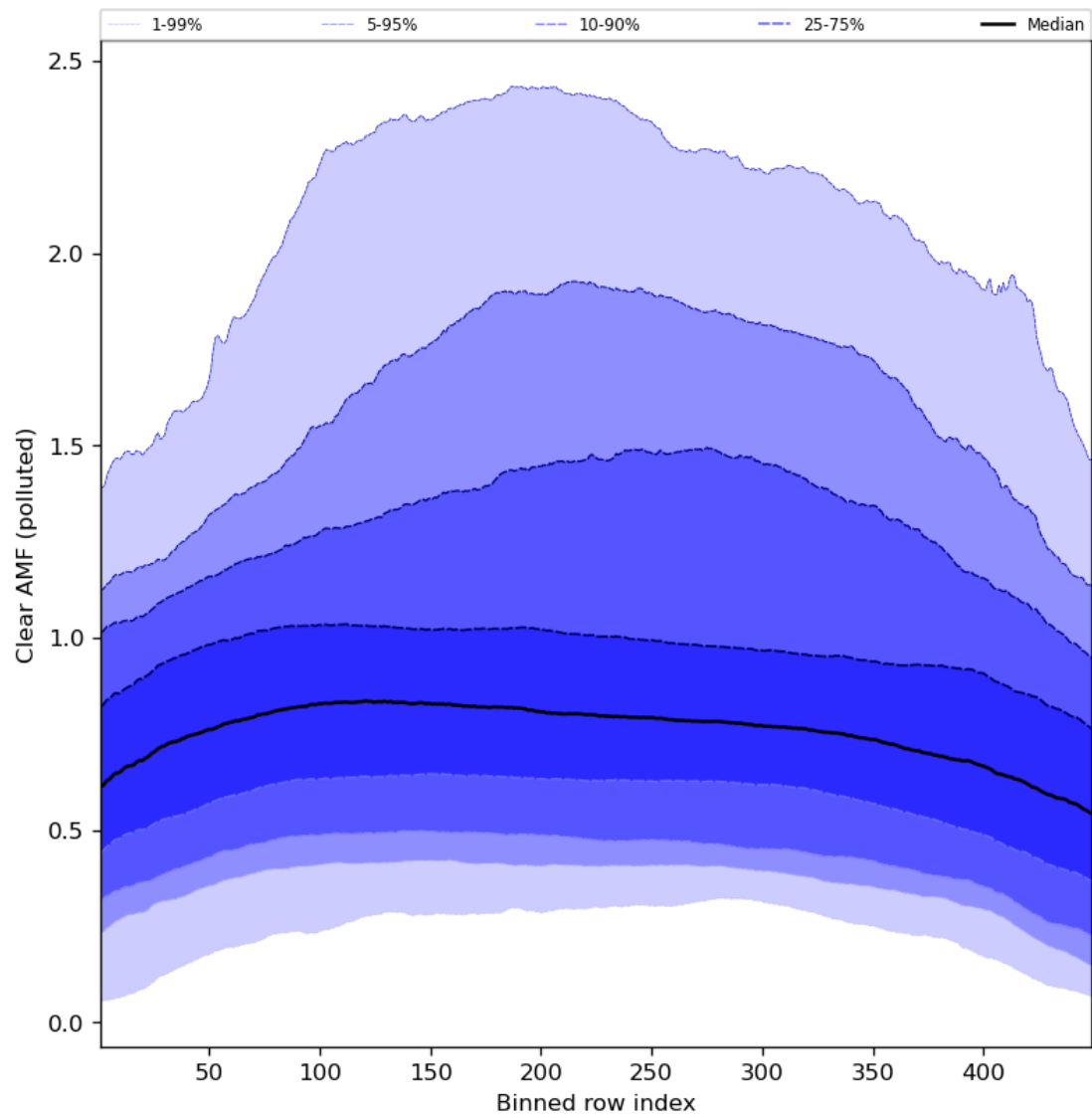


Figure 96: Along track statistics of “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11

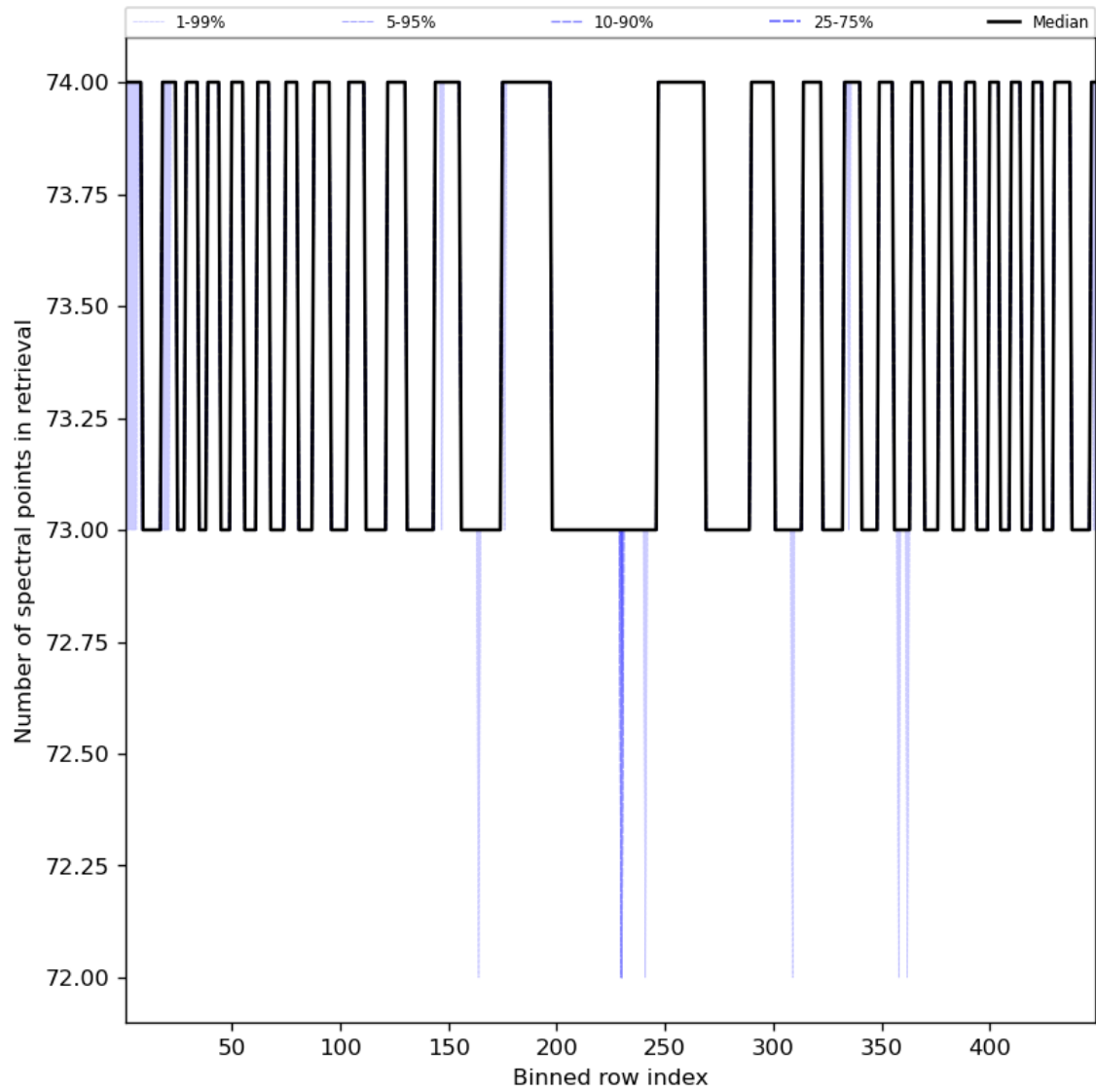


Figure 97: Along track statistics of “Number of spectral points in retrieval” for 2023-08-09 to 2023-08-11

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.

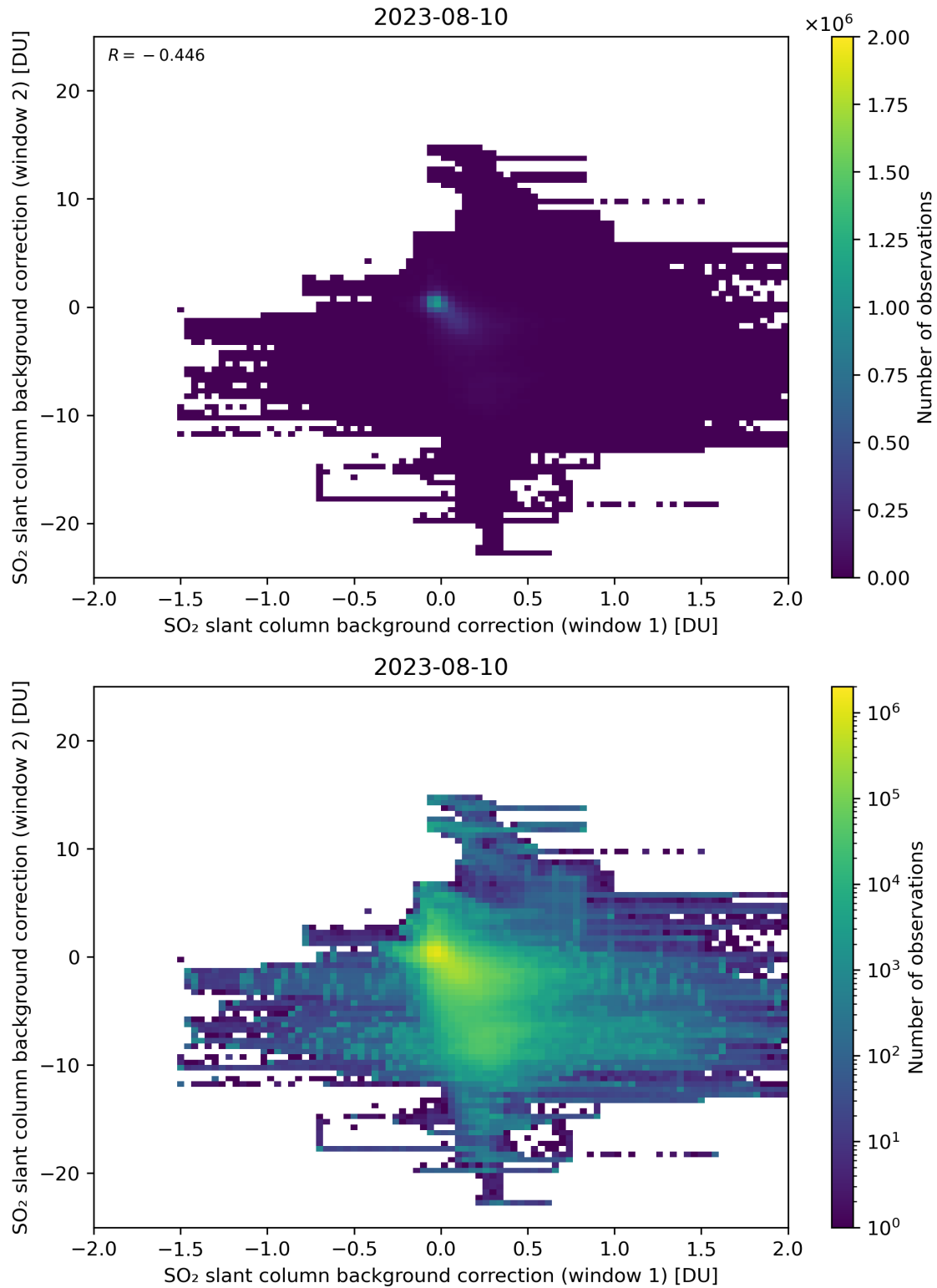


Figure 98: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

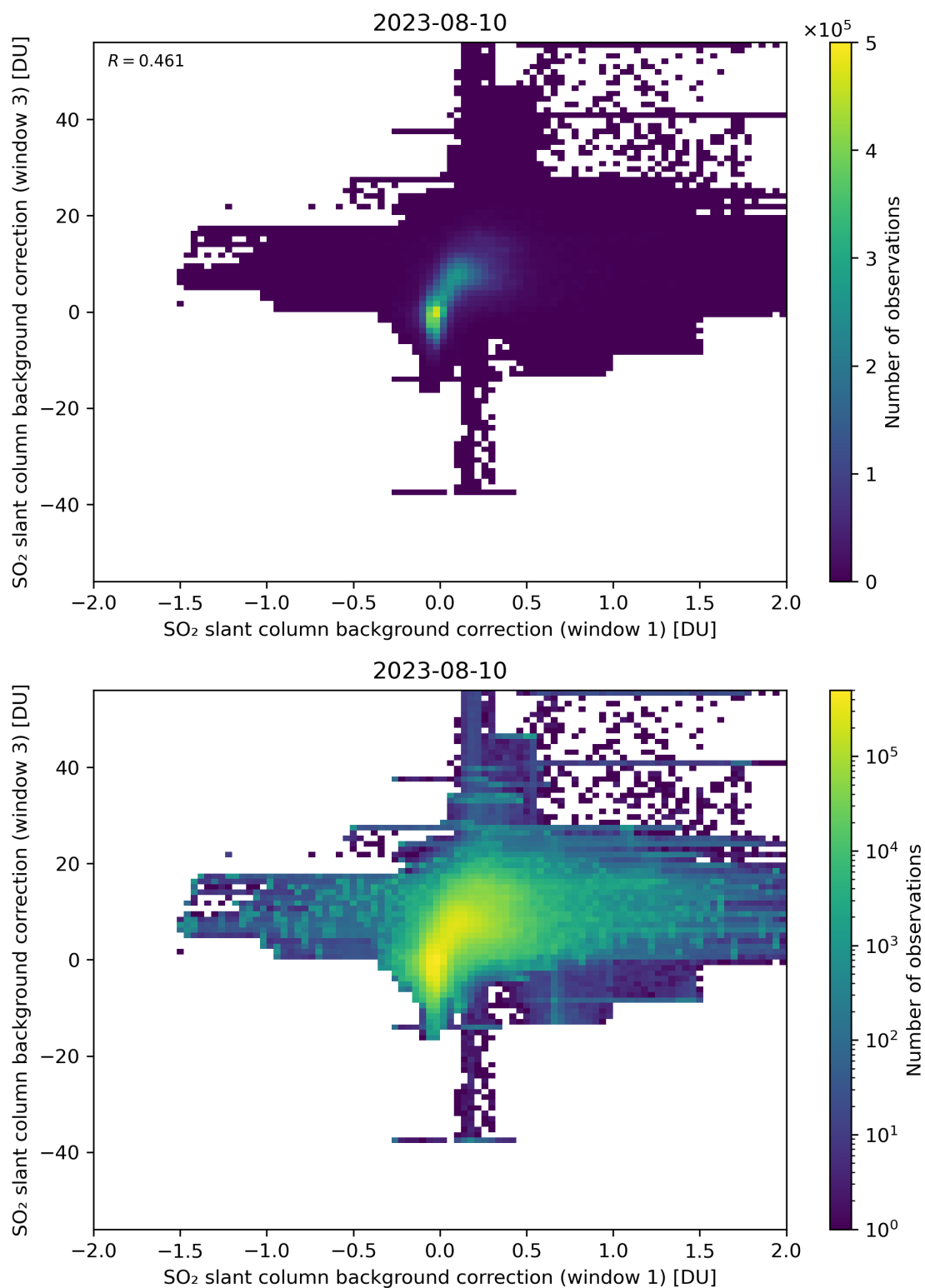


Figure 99: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

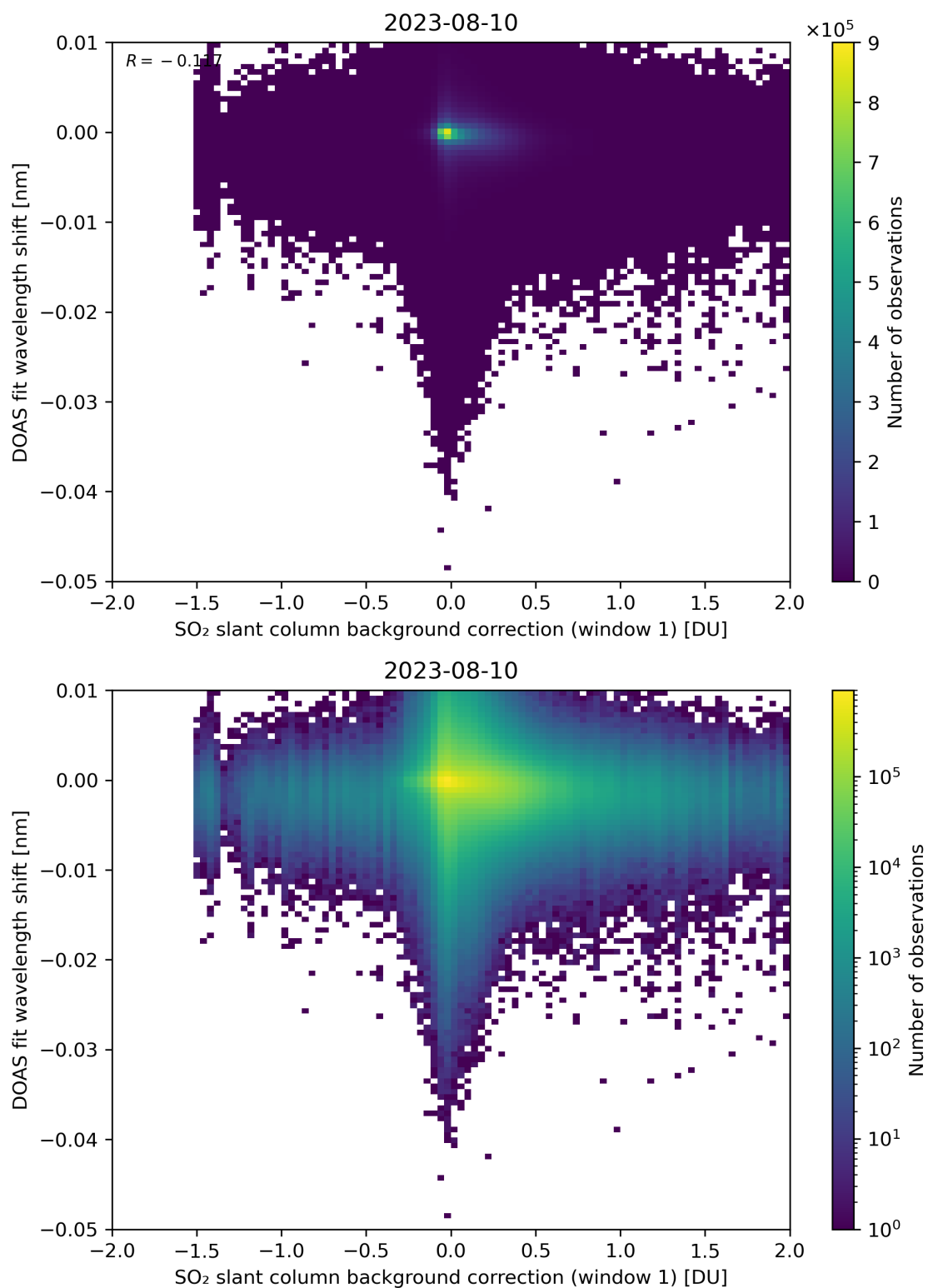


Figure 100: Scatter density plot of “SO₂ slant column background correction (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

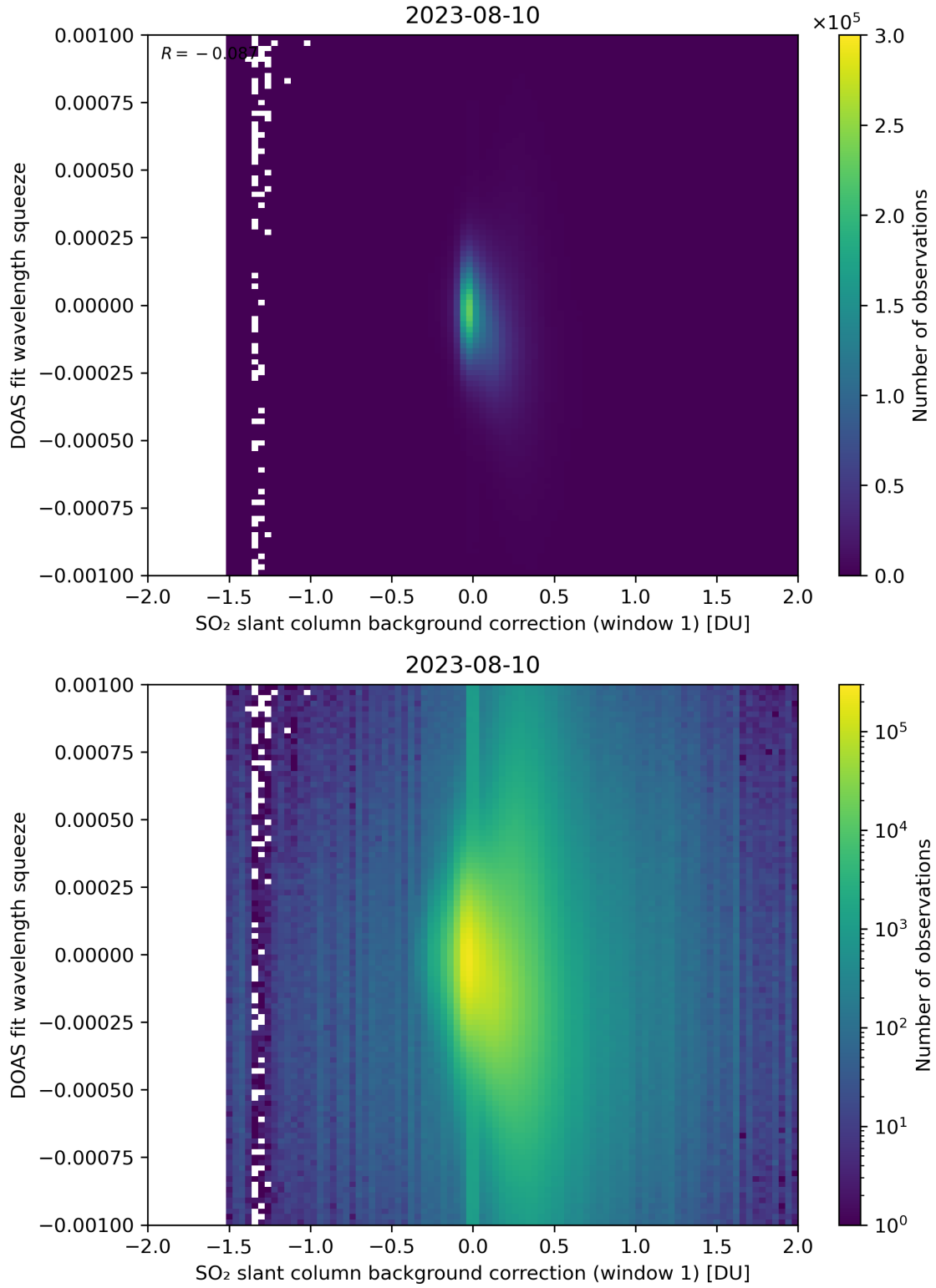


Figure 101: Scatter density plot of “SO₂ slant column background correction (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

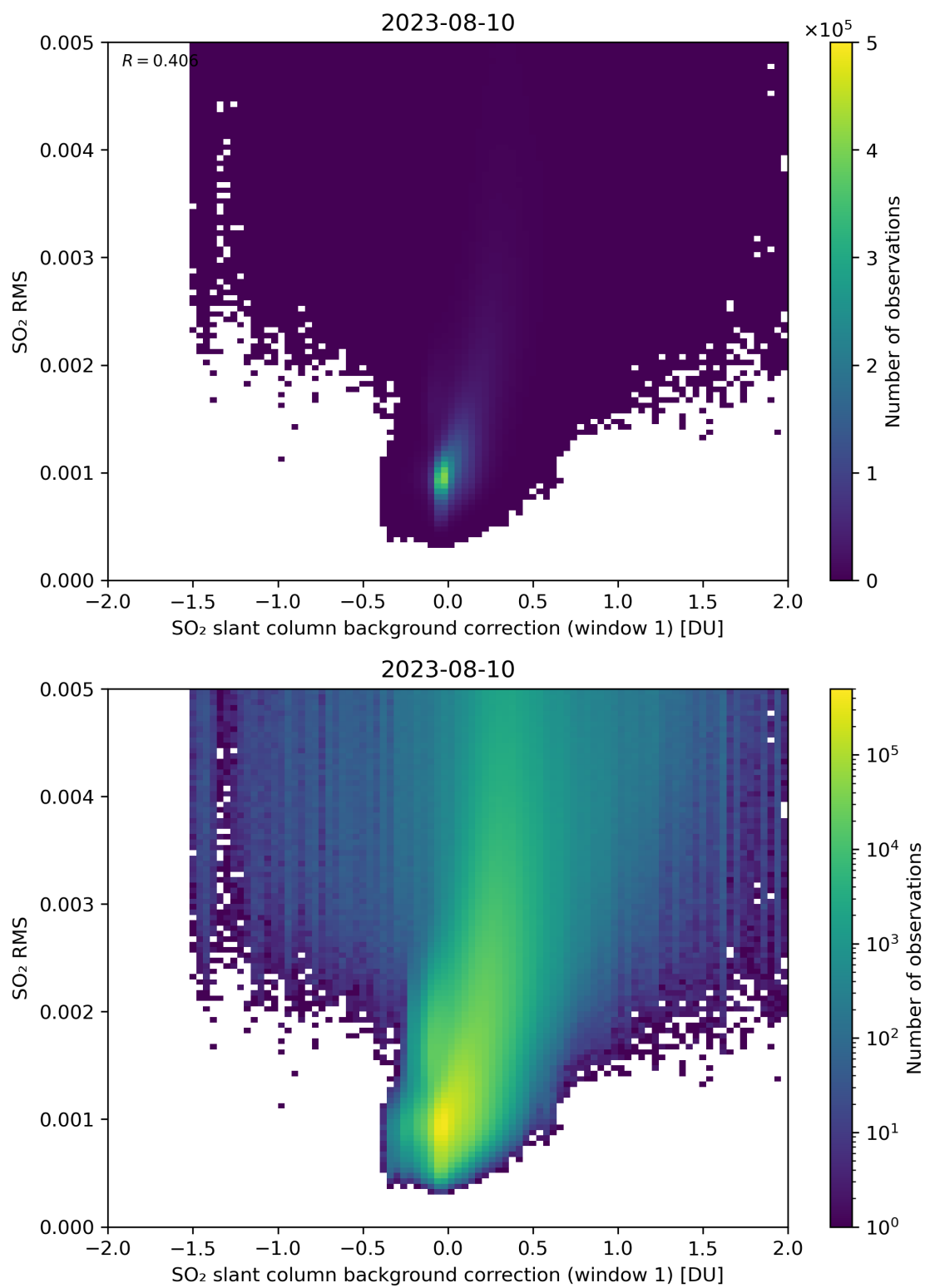


Figure 102: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

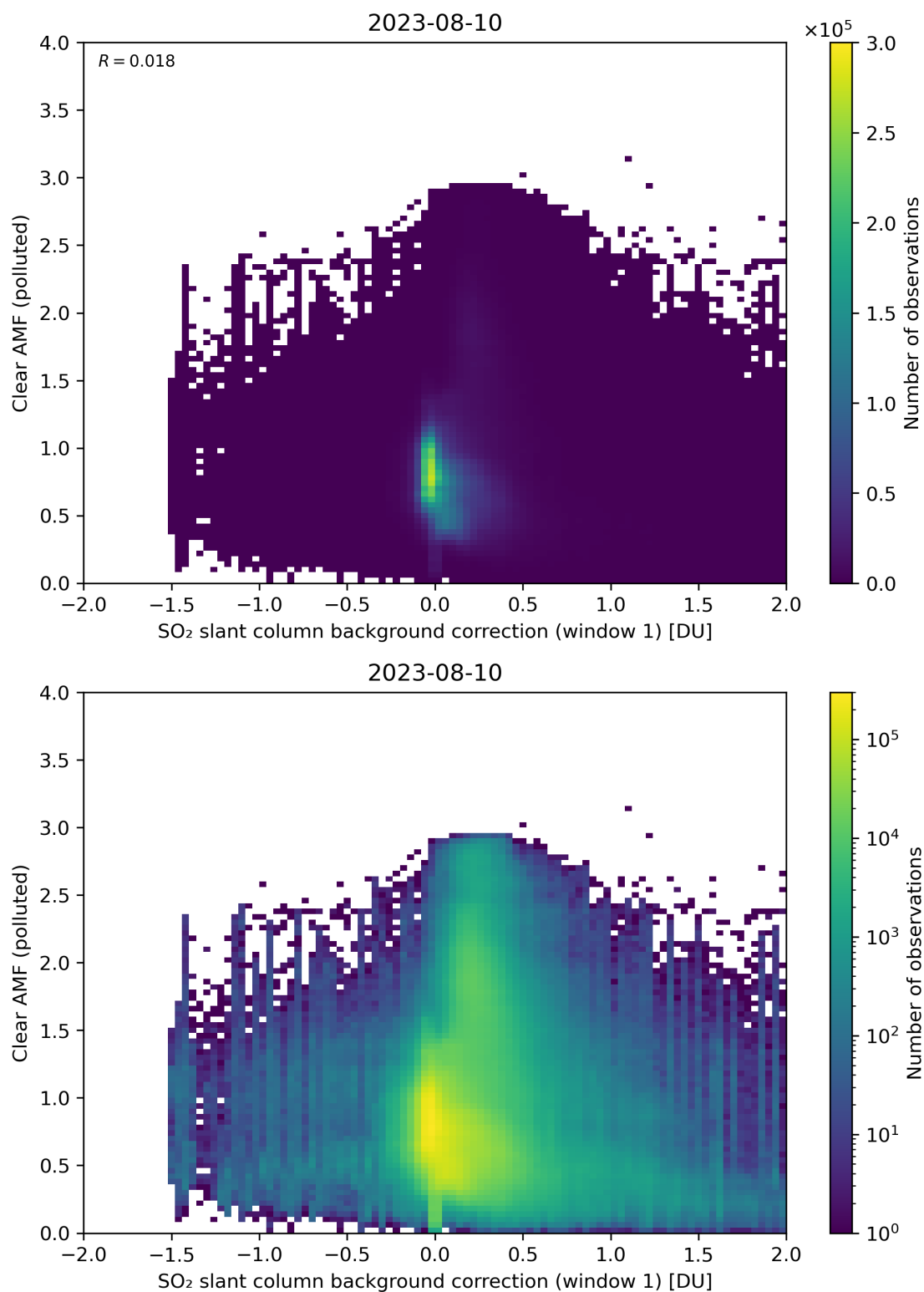


Figure 103: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

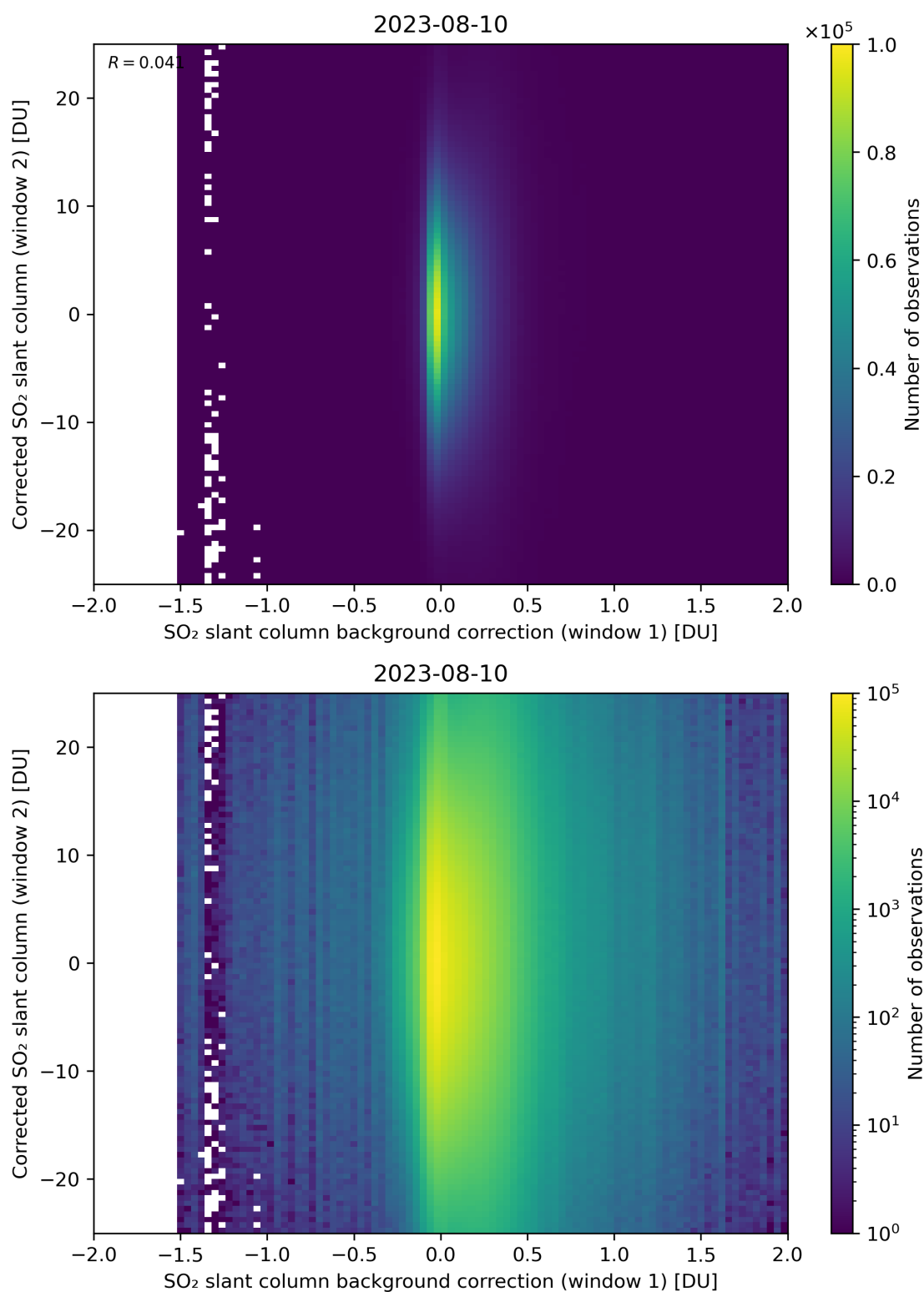


Figure 104: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

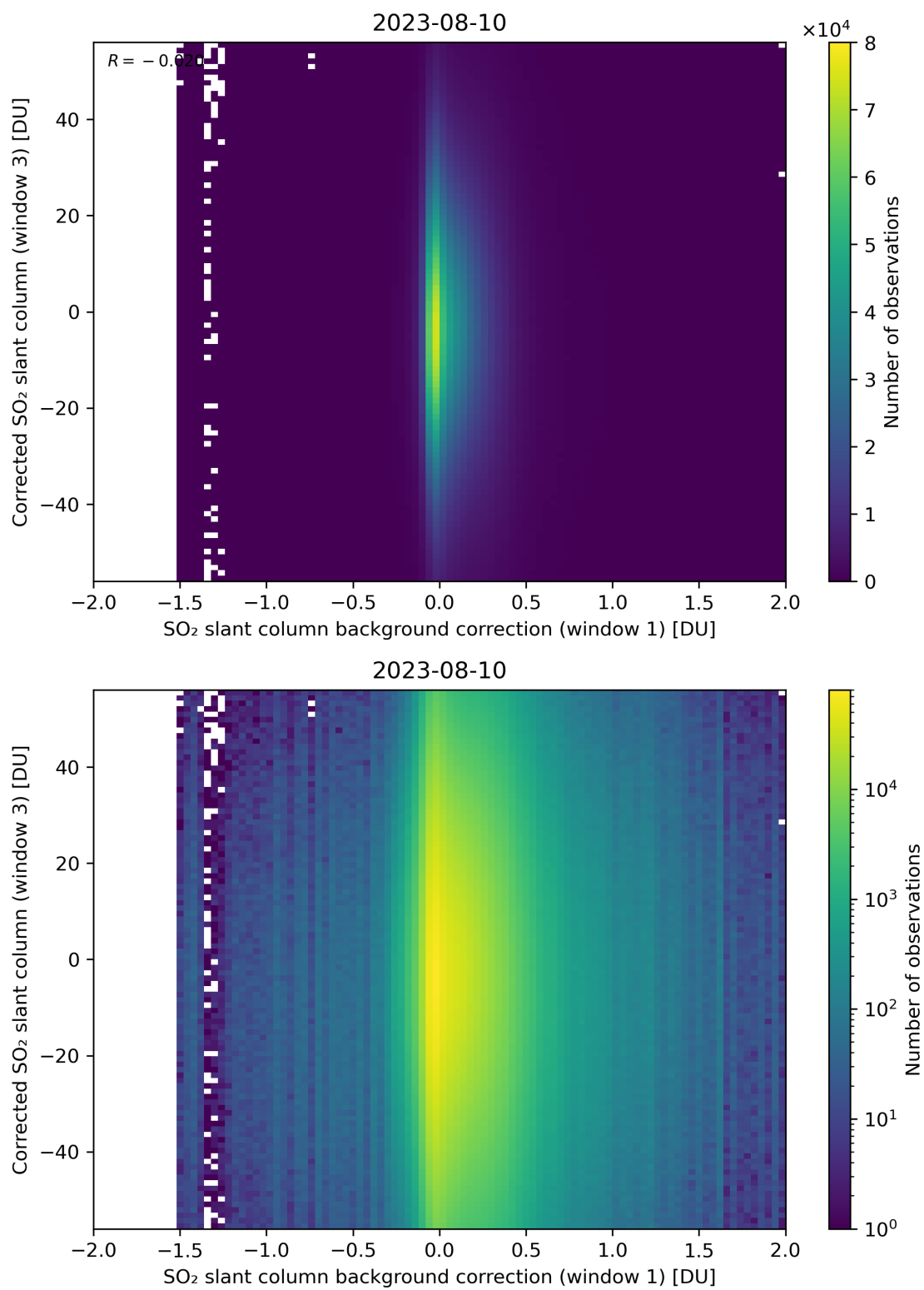


Figure 105: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

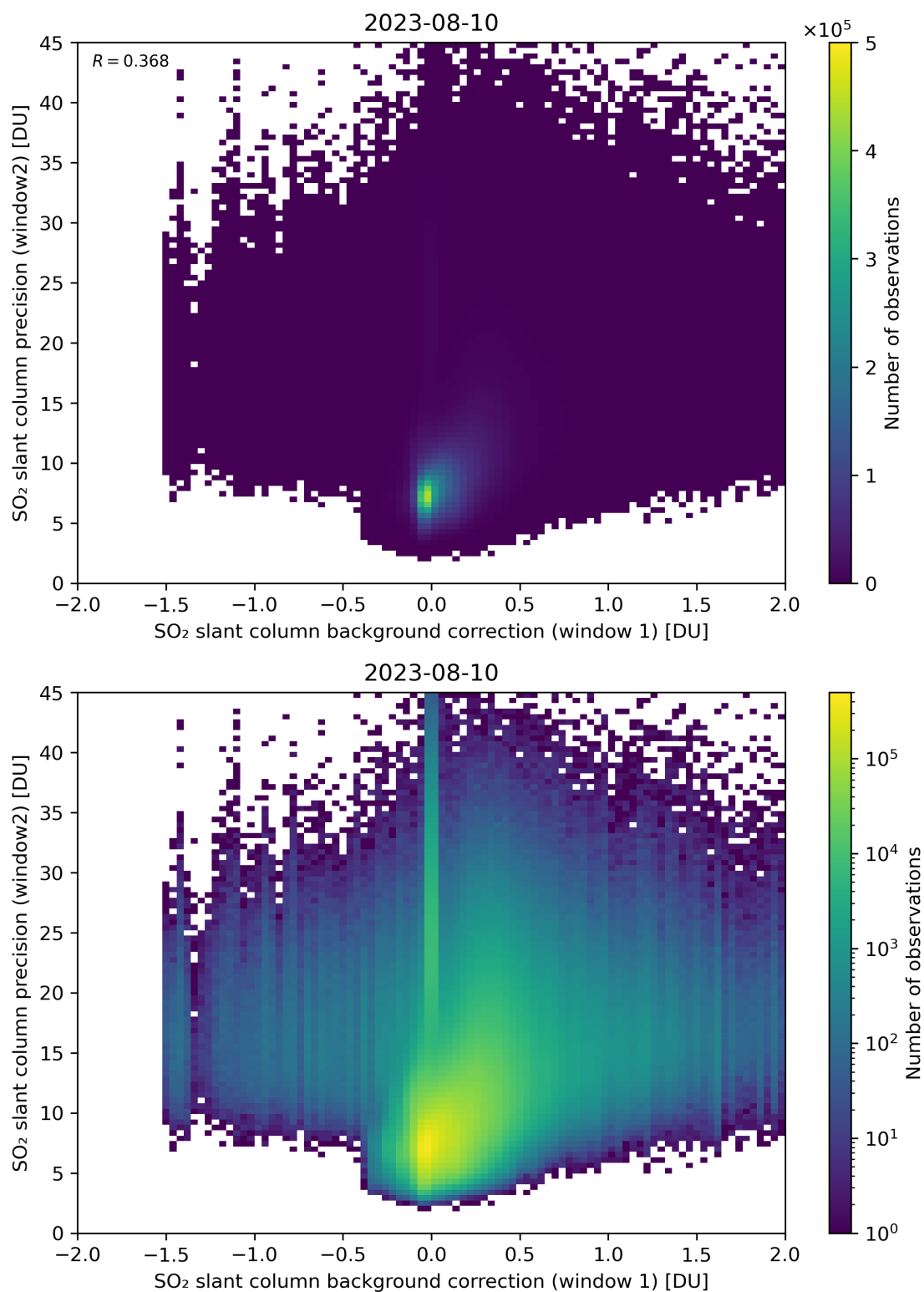


Figure 106: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

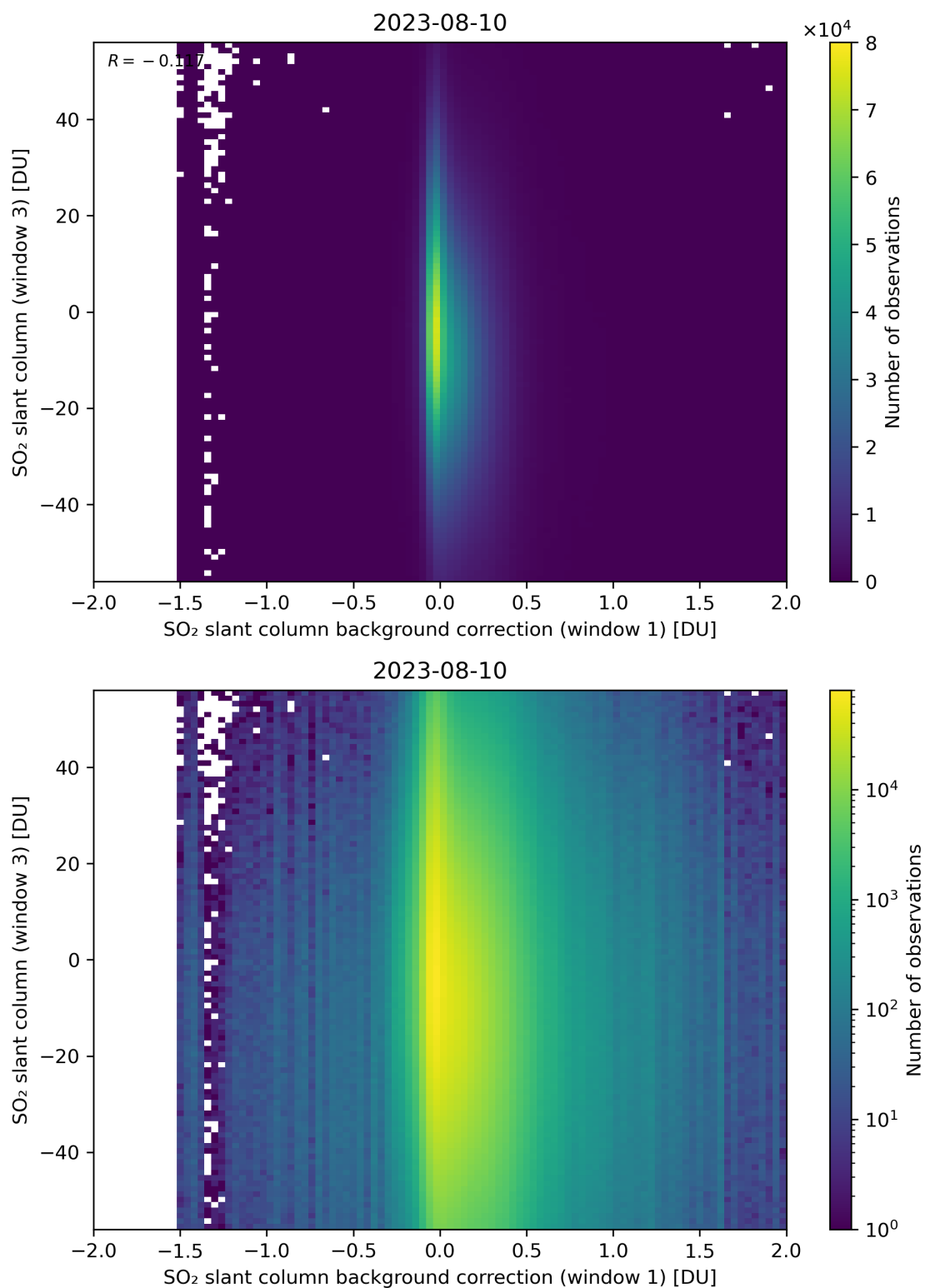


Figure 107: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

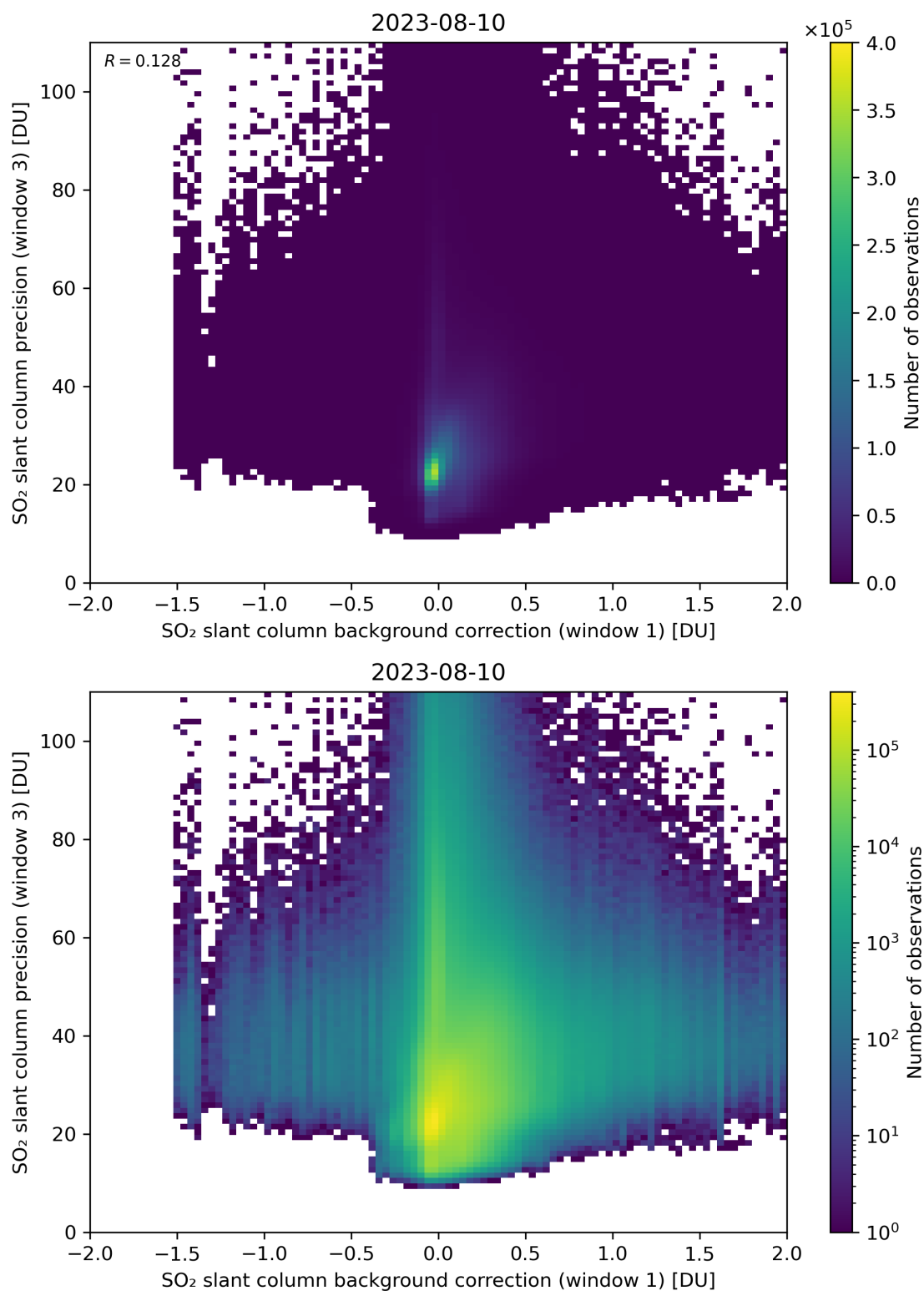


Figure 108: Scatter density plot of “SO₂ slant column background correction (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

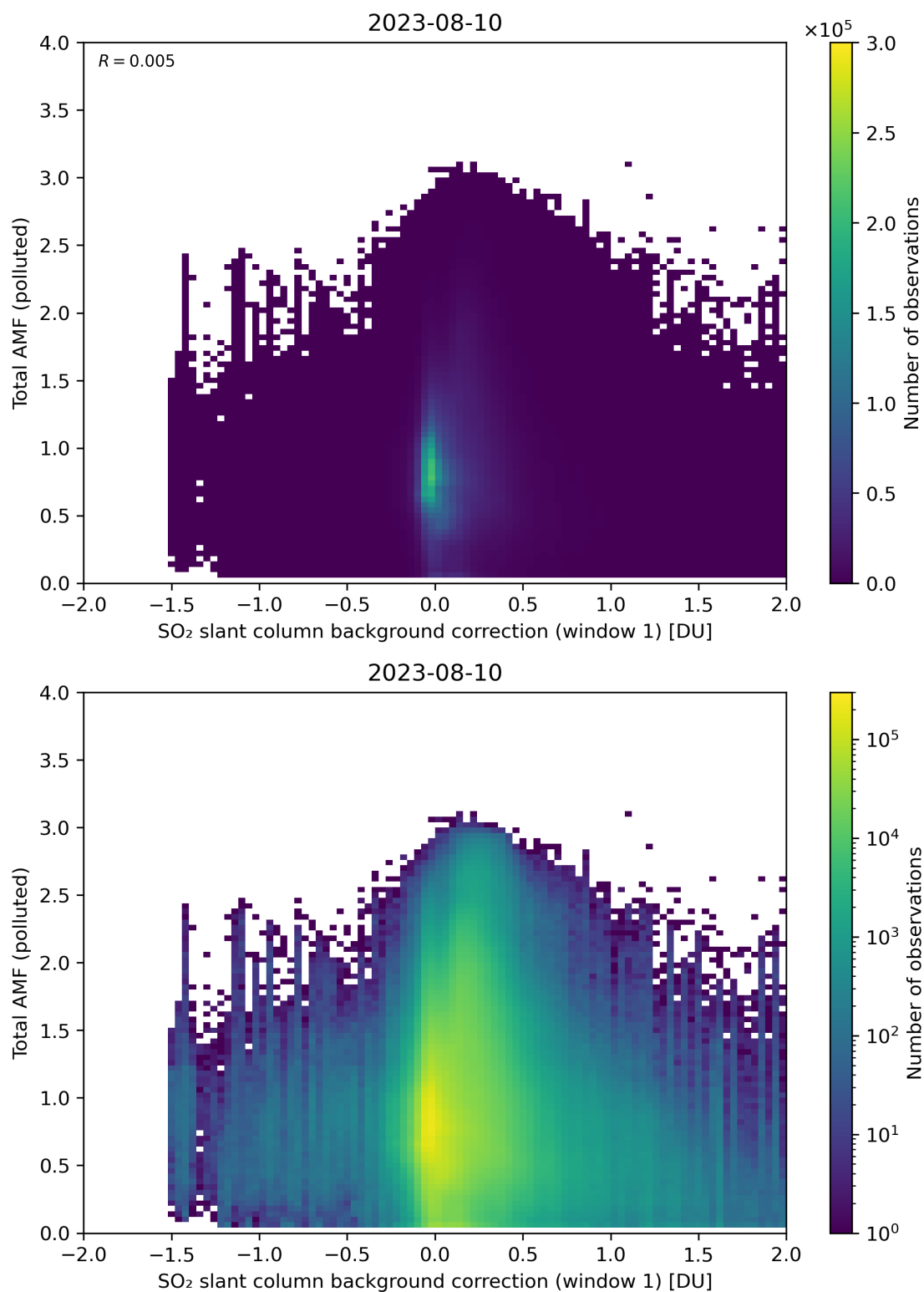


Figure 109: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

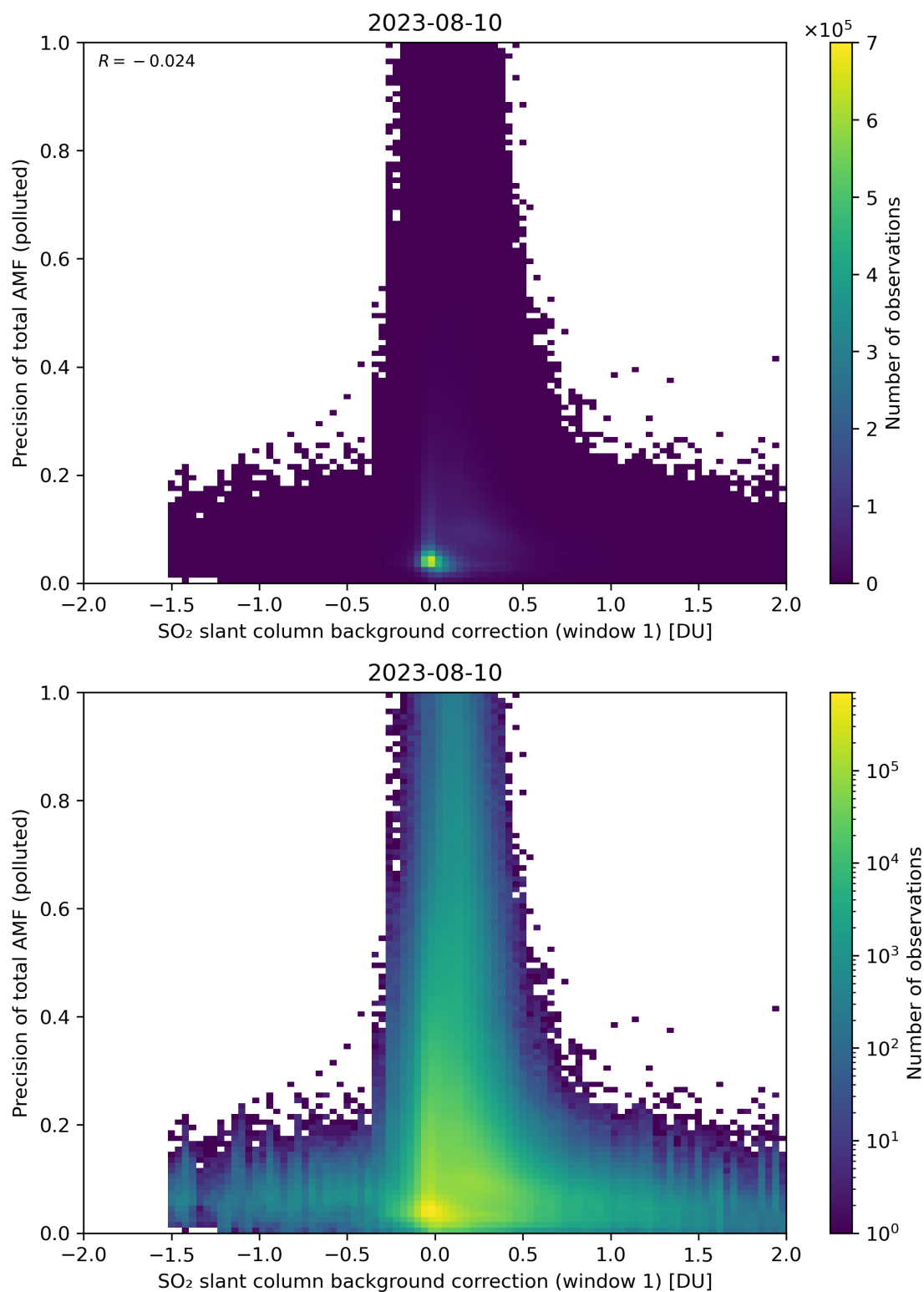


Figure 110: Scatter density plot of “SO₂ slant column background correction (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

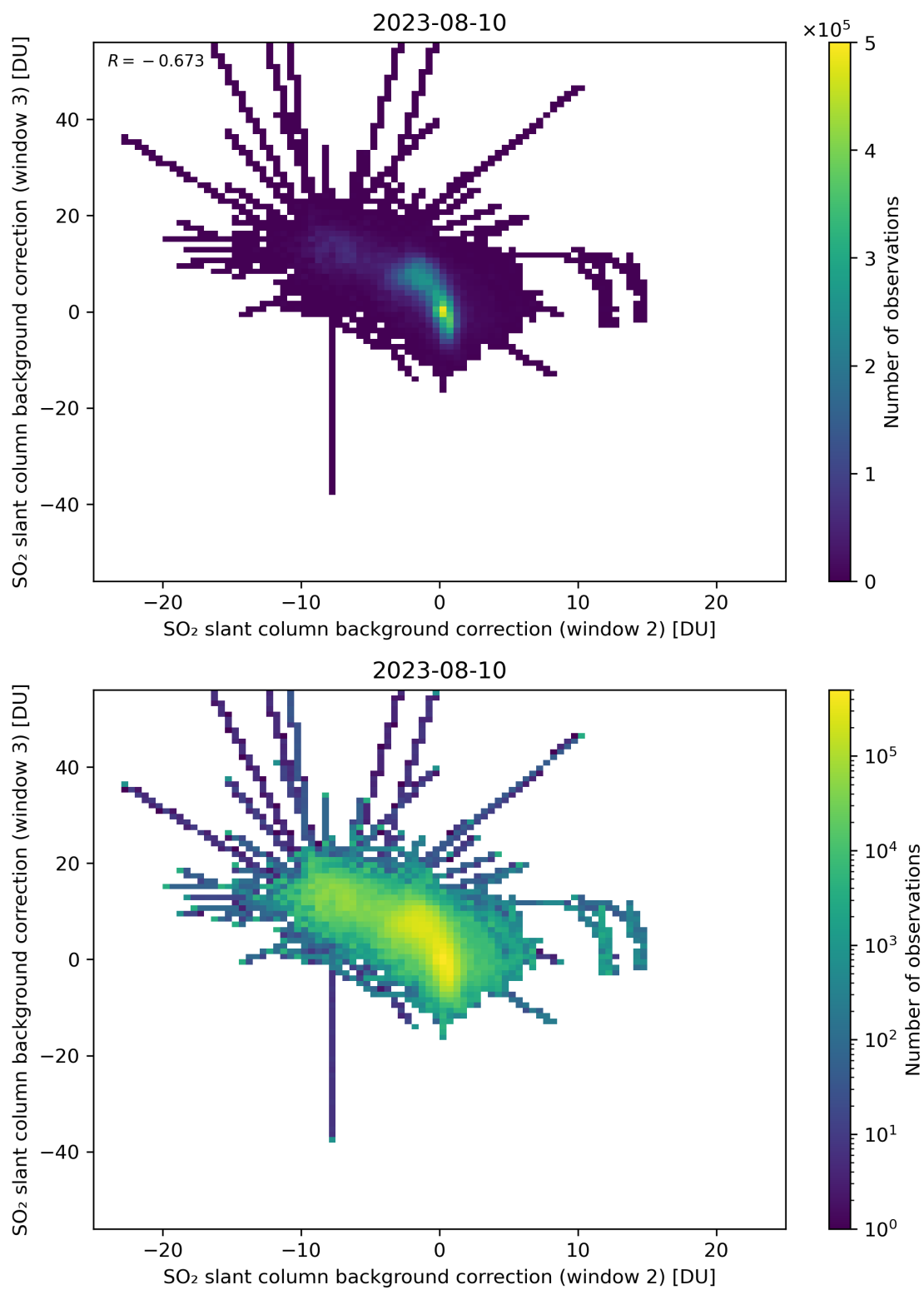


Figure 111: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

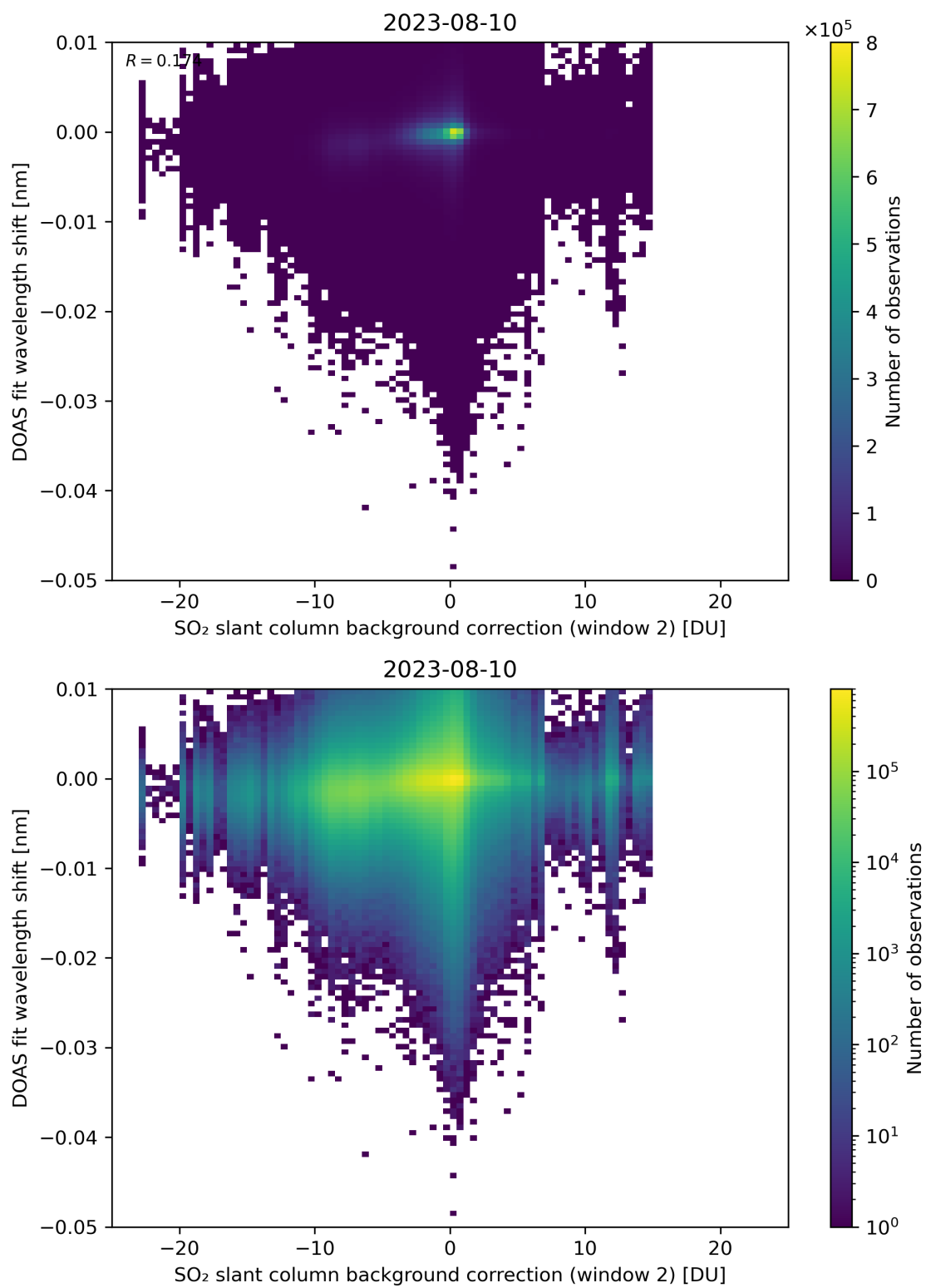


Figure 112: Scatter density plot of “SO₂ slant column background correction (window 2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

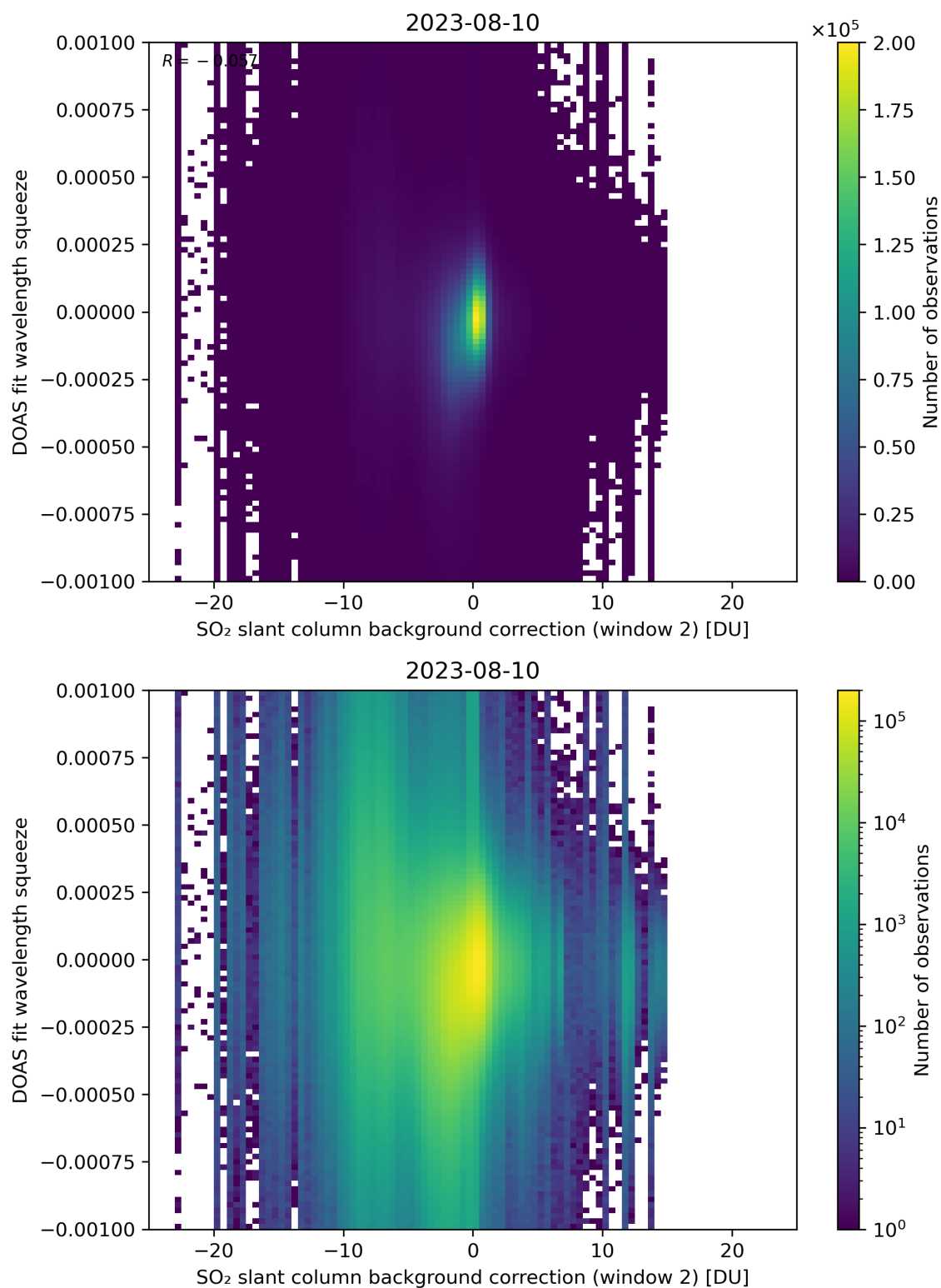


Figure 113: Scatter density plot of “SO₂ slant column background correction (window 2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

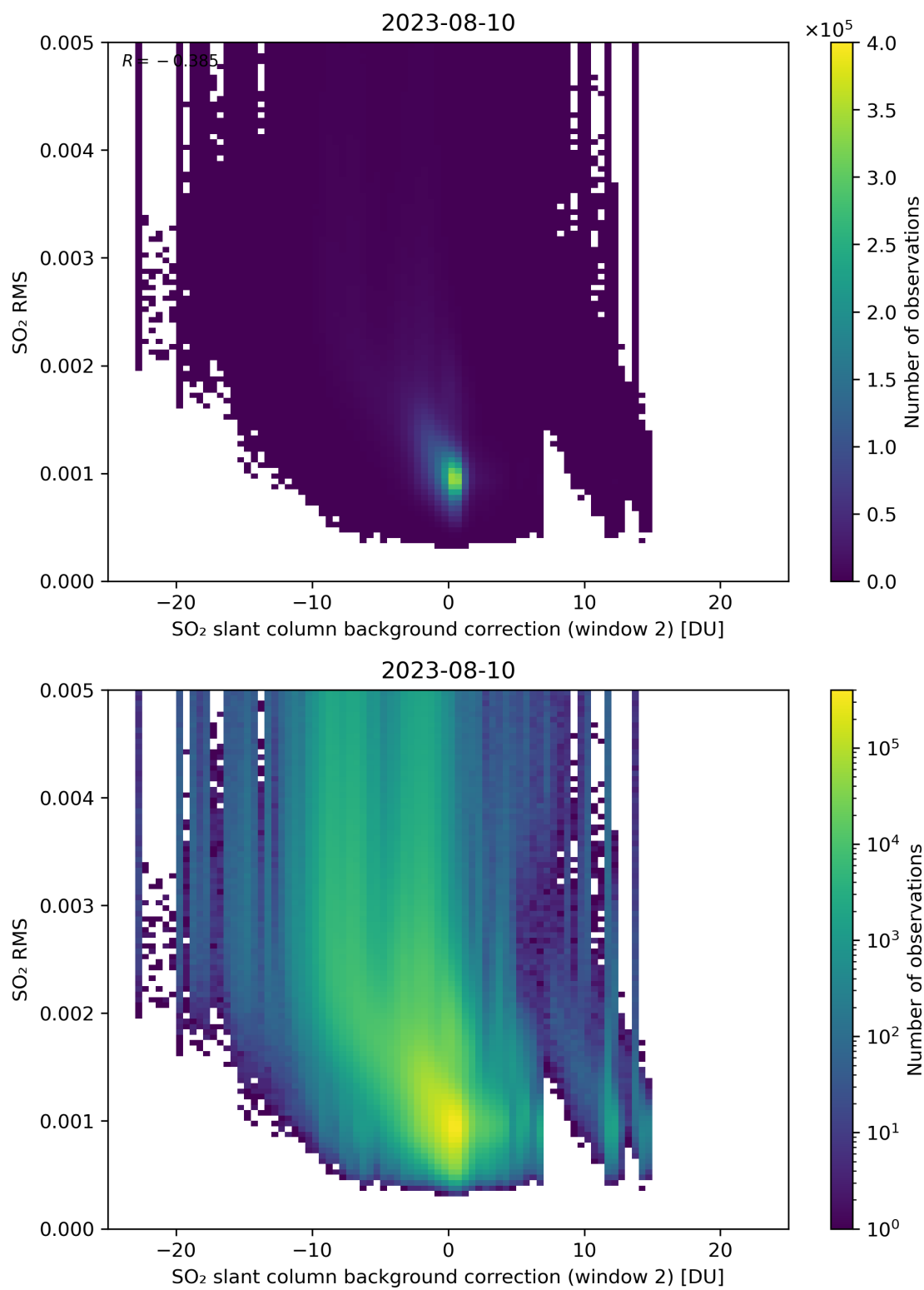


Figure 114: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

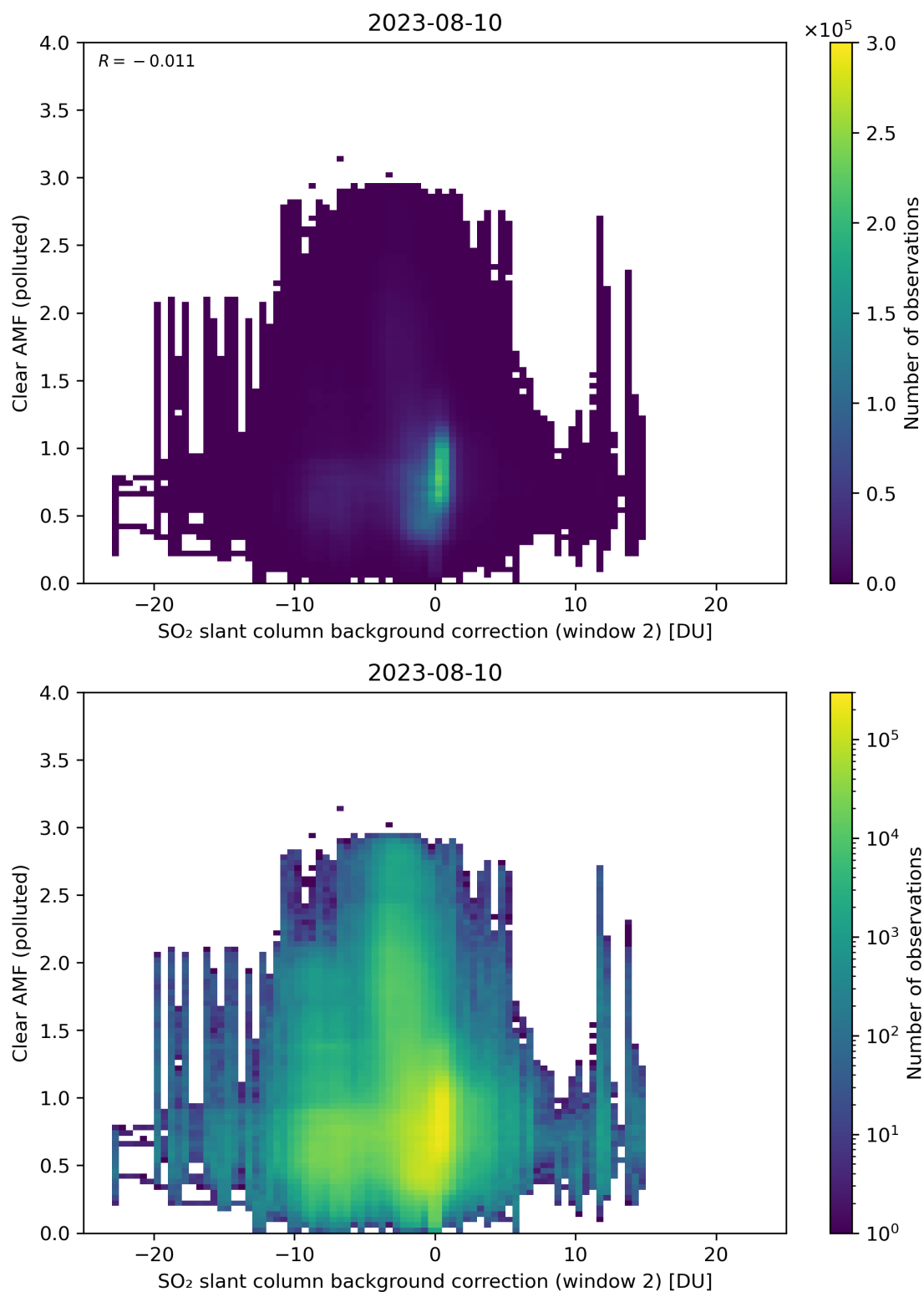


Figure 115: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

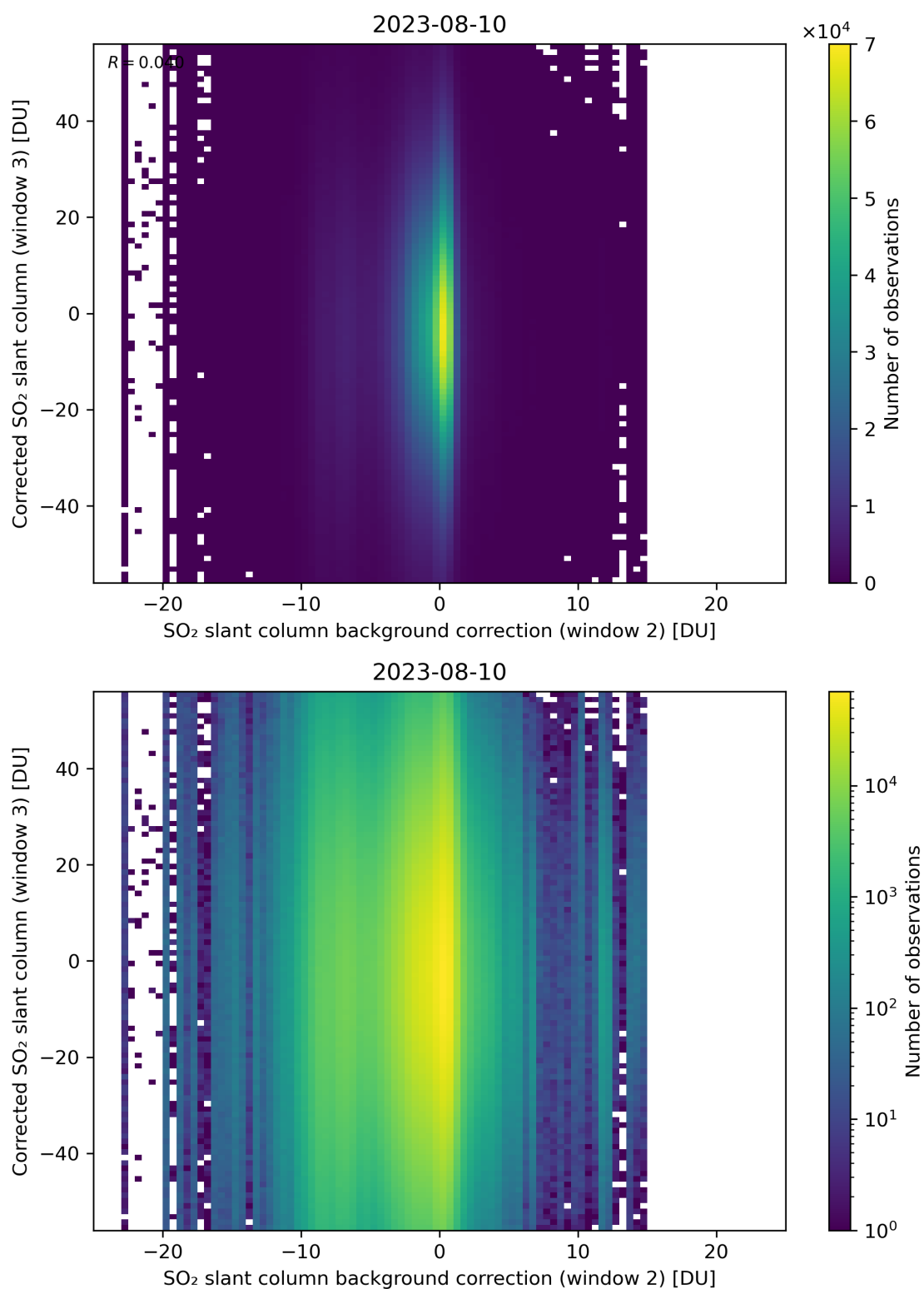


Figure 116: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

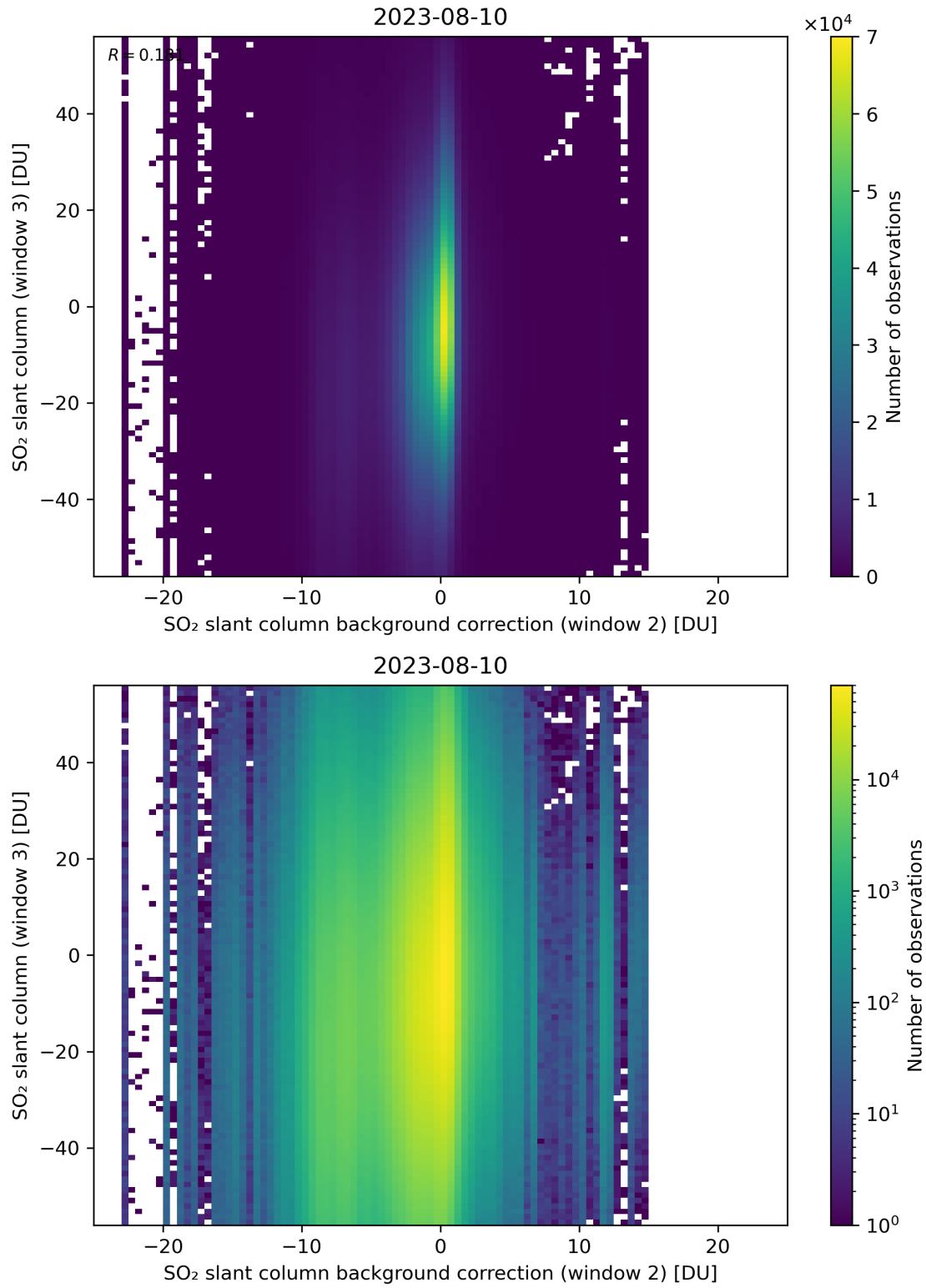


Figure 117: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

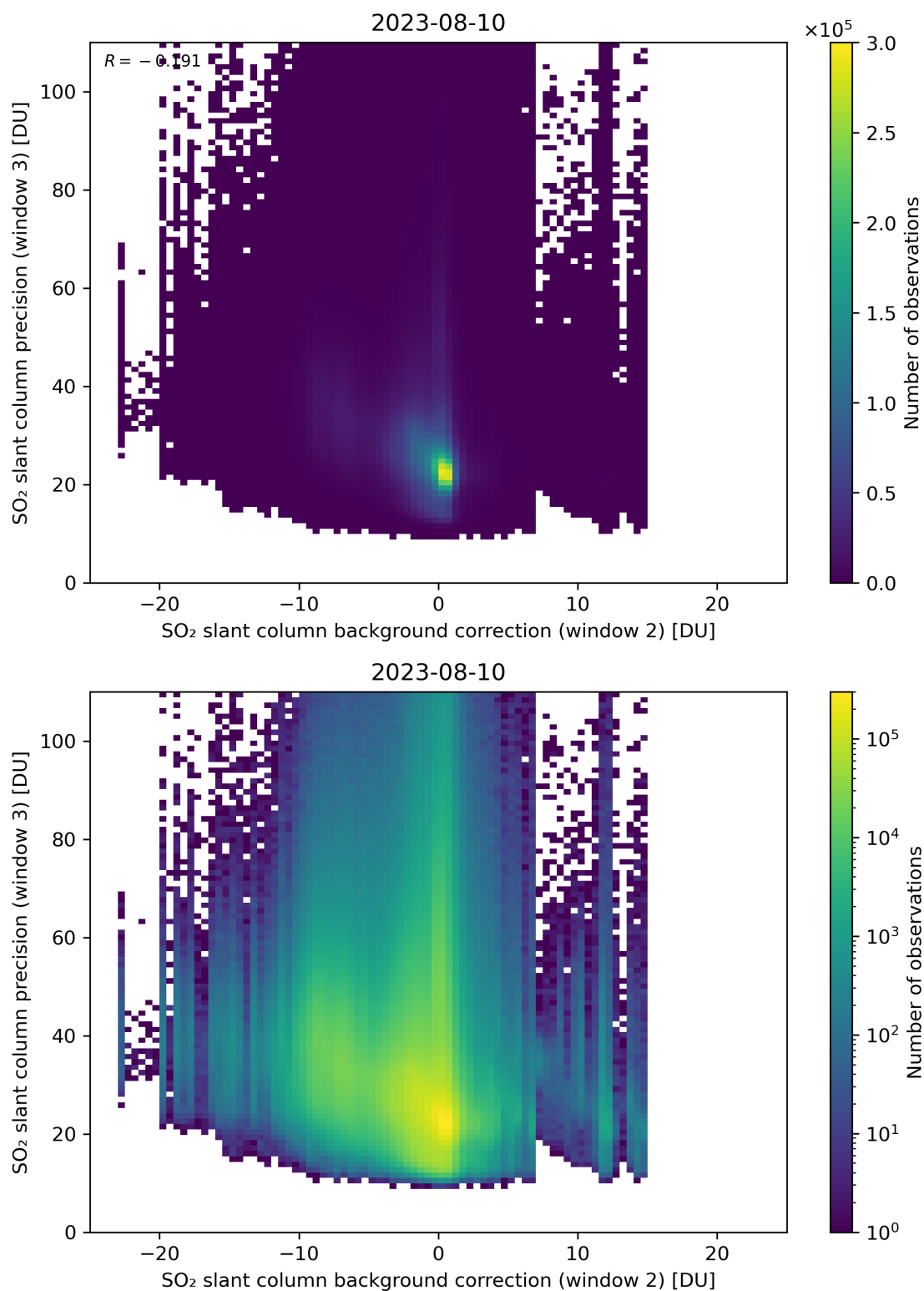


Figure 118: Scatter density plot of “SO₂ slant column background correction (window 2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

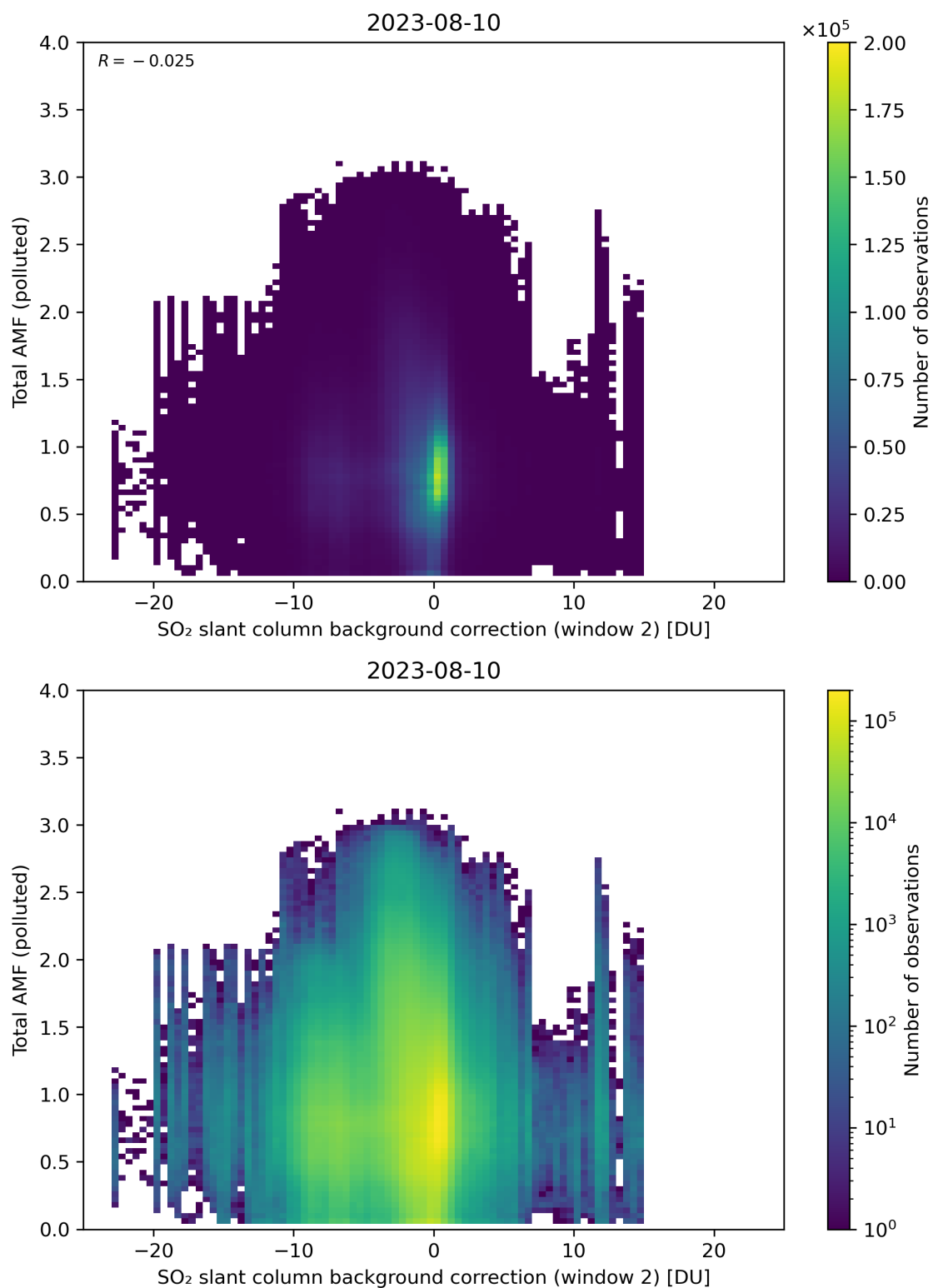


Figure 119: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

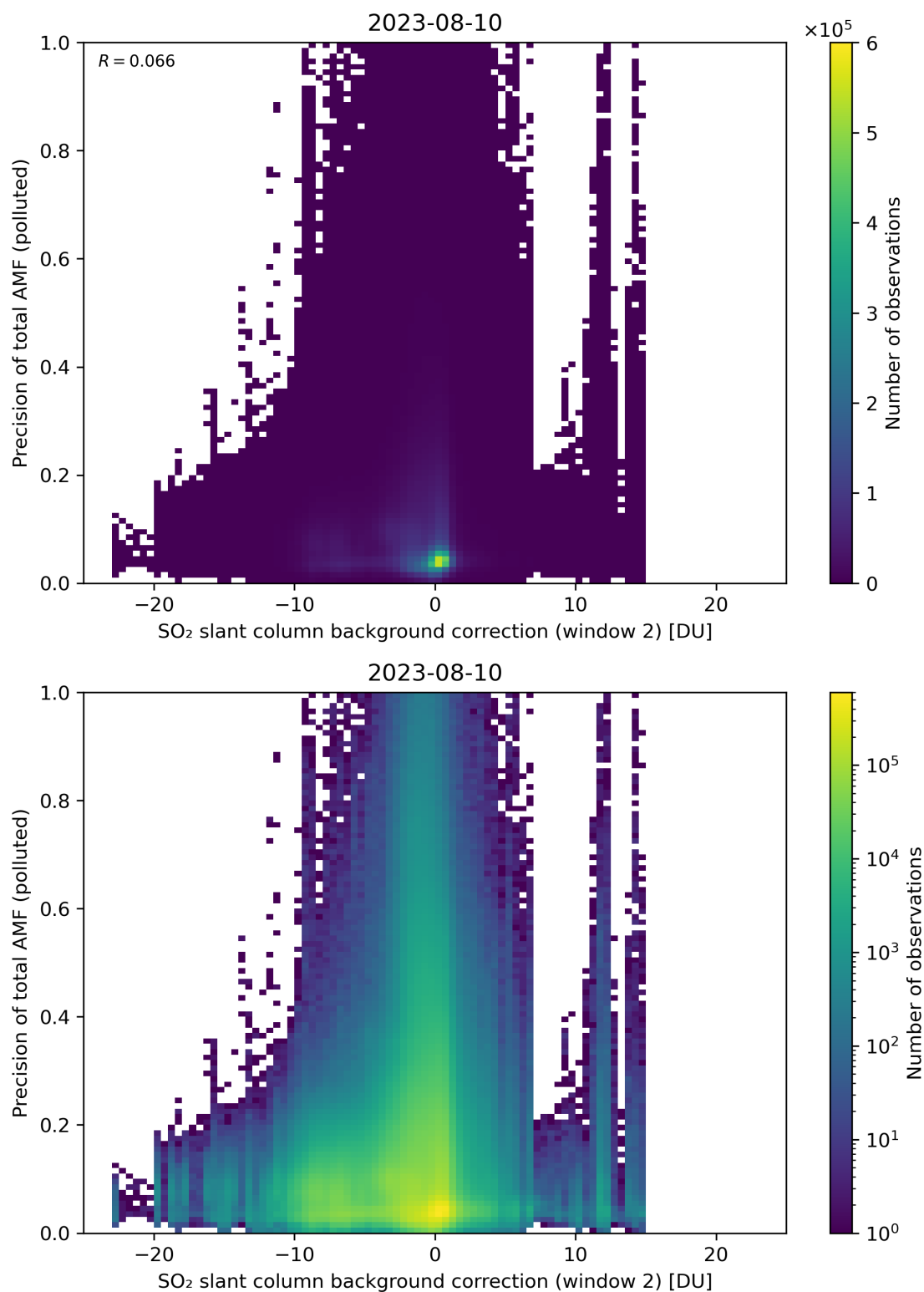


Figure 120: Scatter density plot of “SO₂ slant column background correction (window 2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

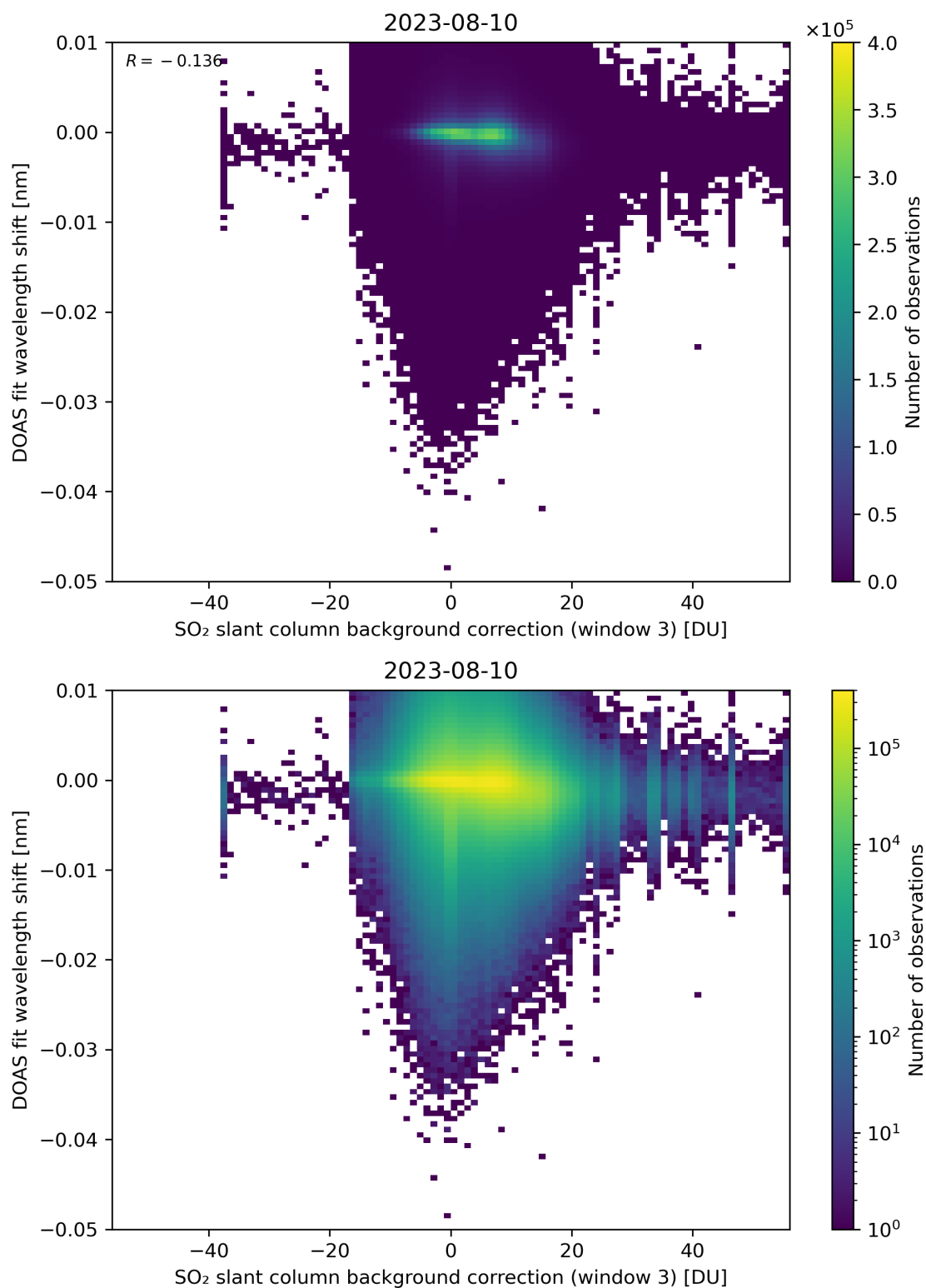


Figure 121: Scatter density plot of “SO₂ slant column background correction (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

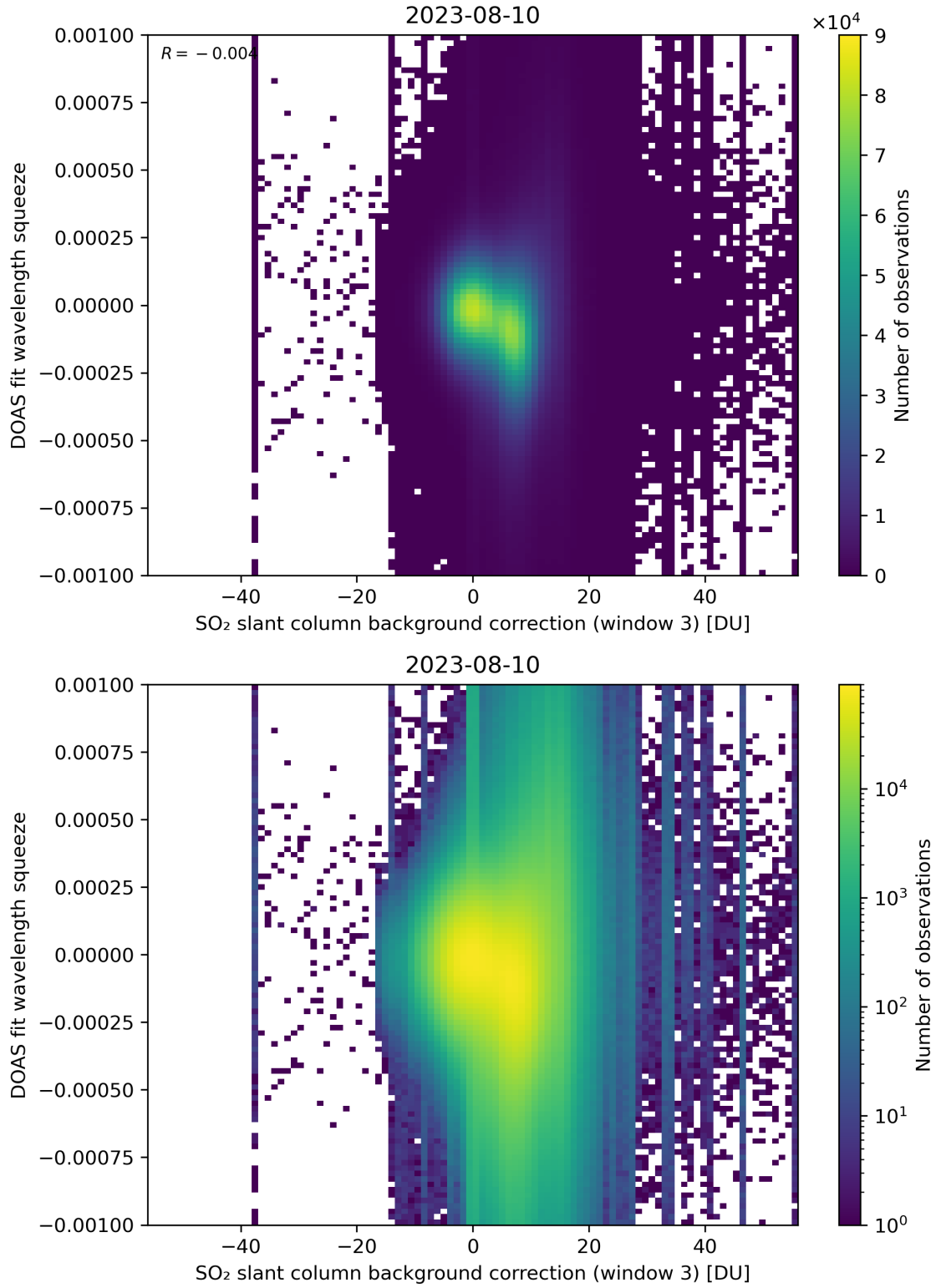


Figure 122: Scatter density plot of “SO₂ slant column background correction (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

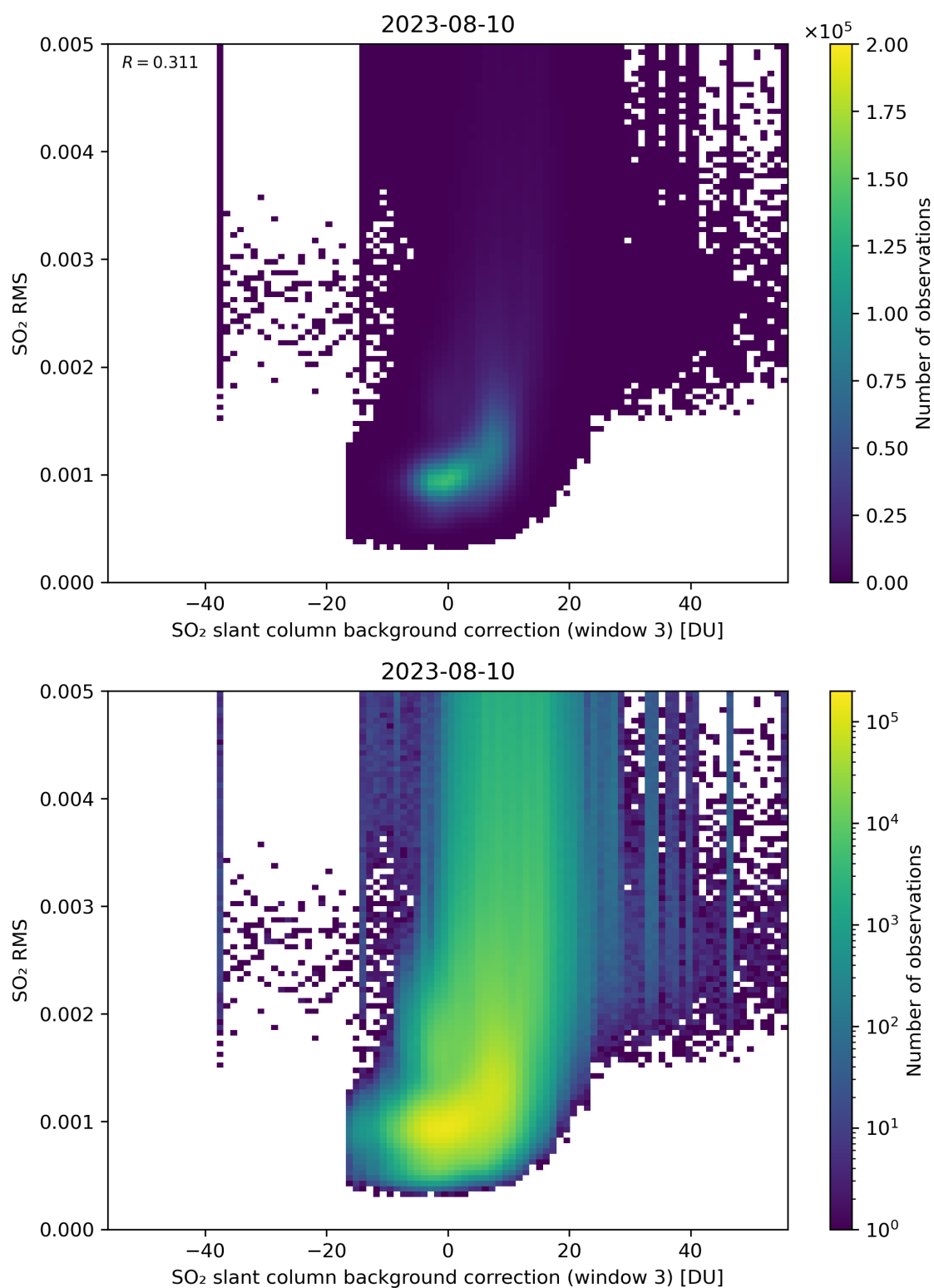


Figure 123: Scatter density plot of “SO₂ slant column background correction (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

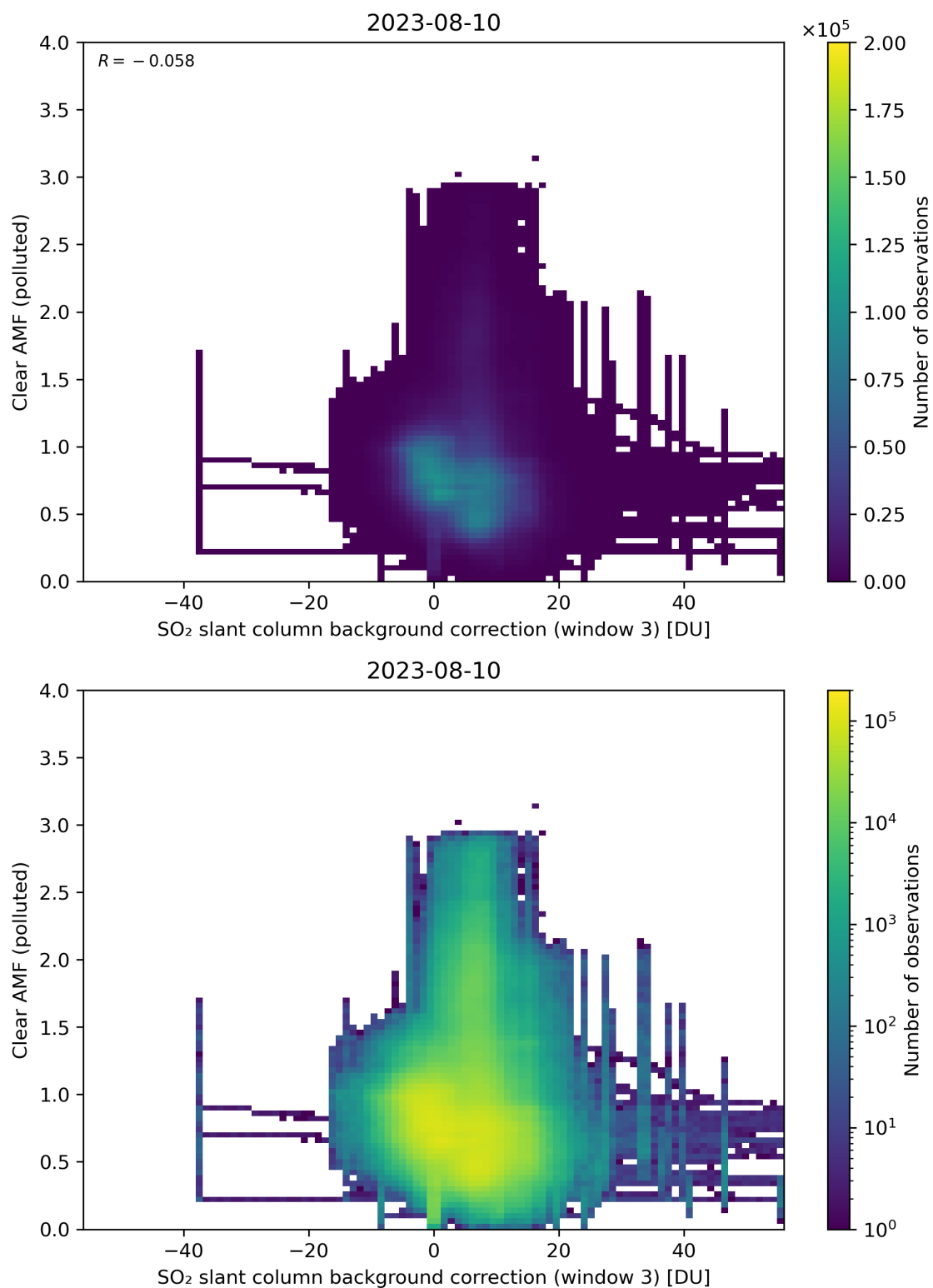


Figure 124: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

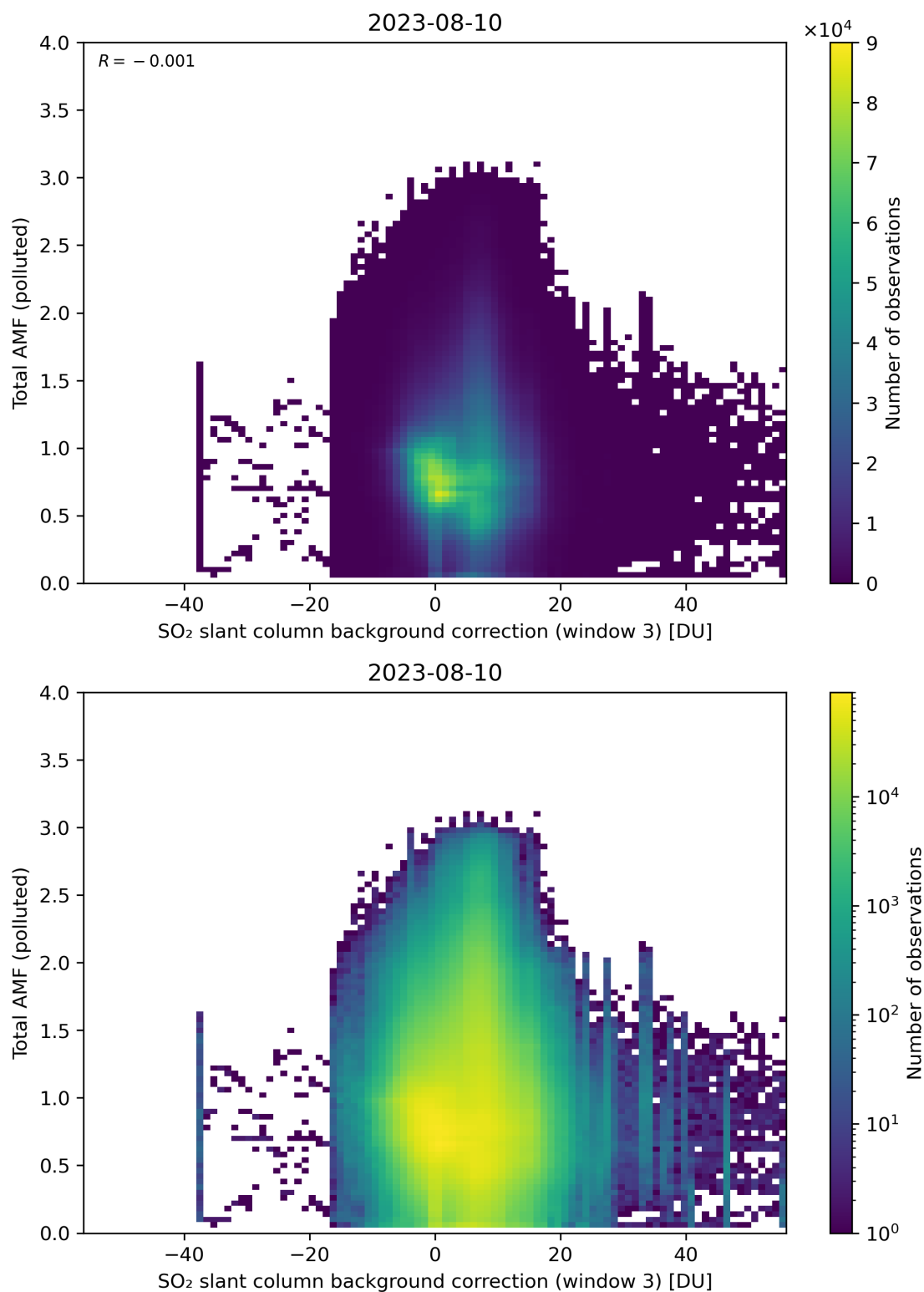


Figure 125: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

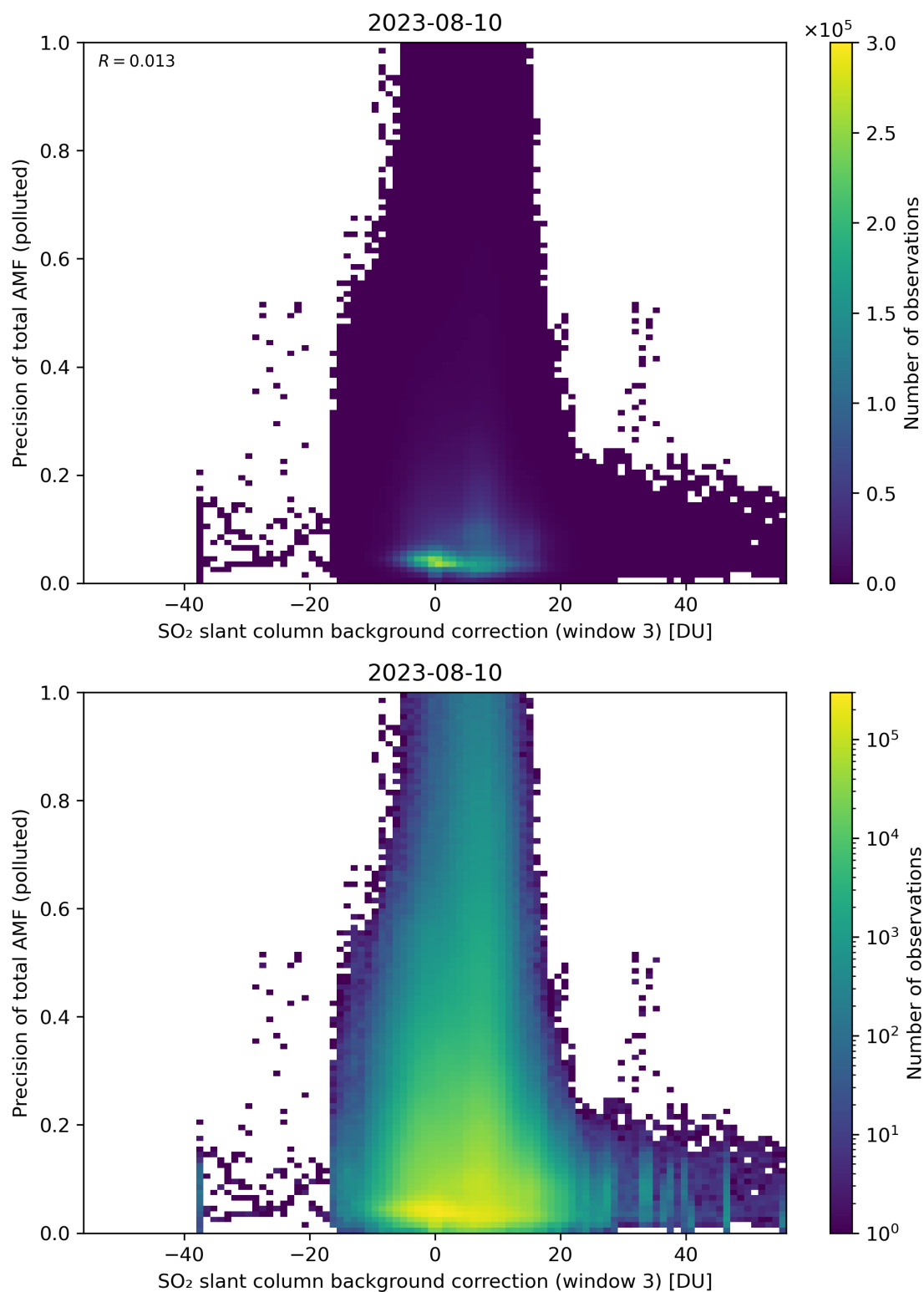


Figure 126: Scatter density plot of “SO₂ slant column background correction (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

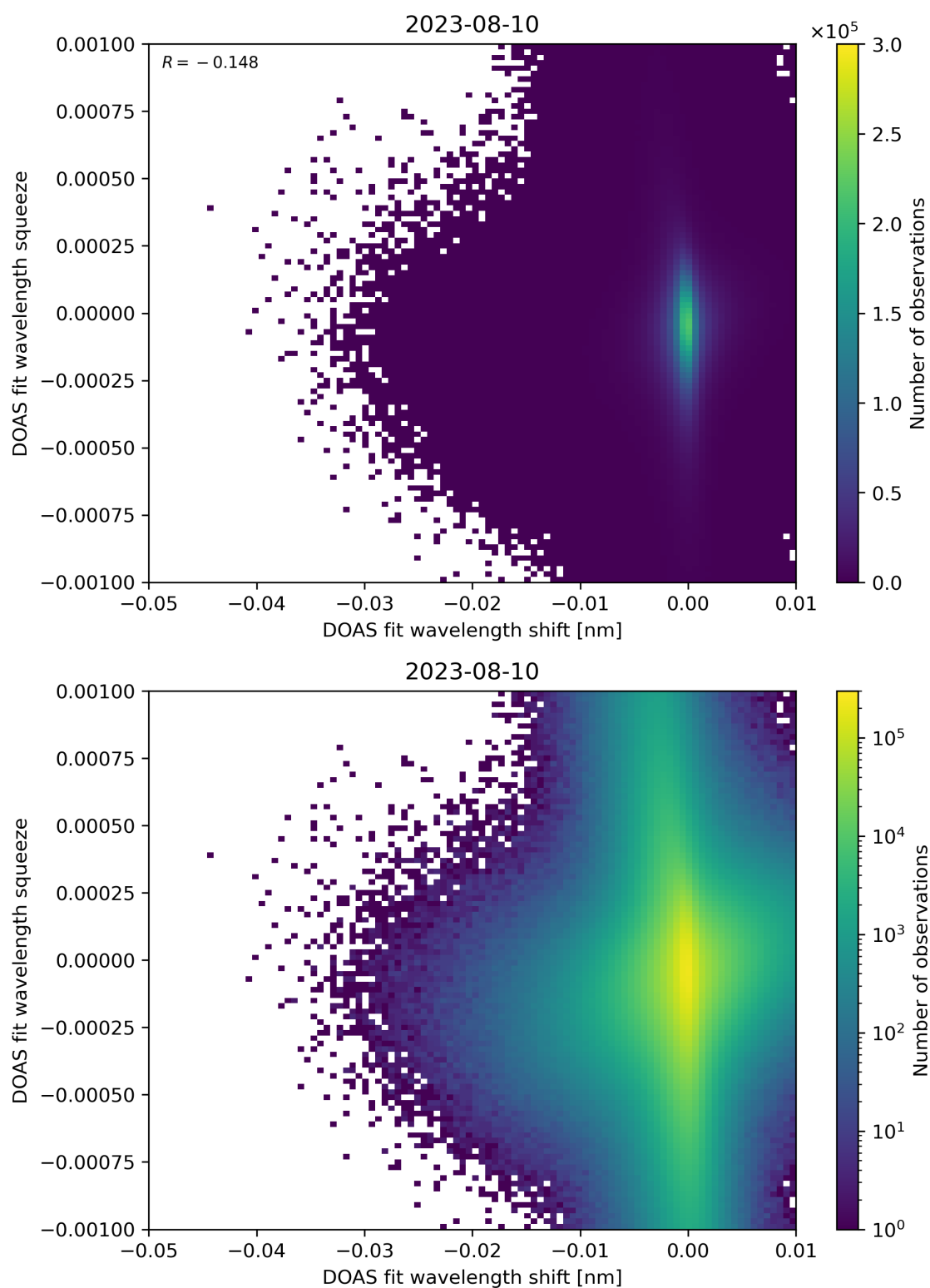


Figure 127: Scatter density plot of “DOAS fit wavelength shift” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

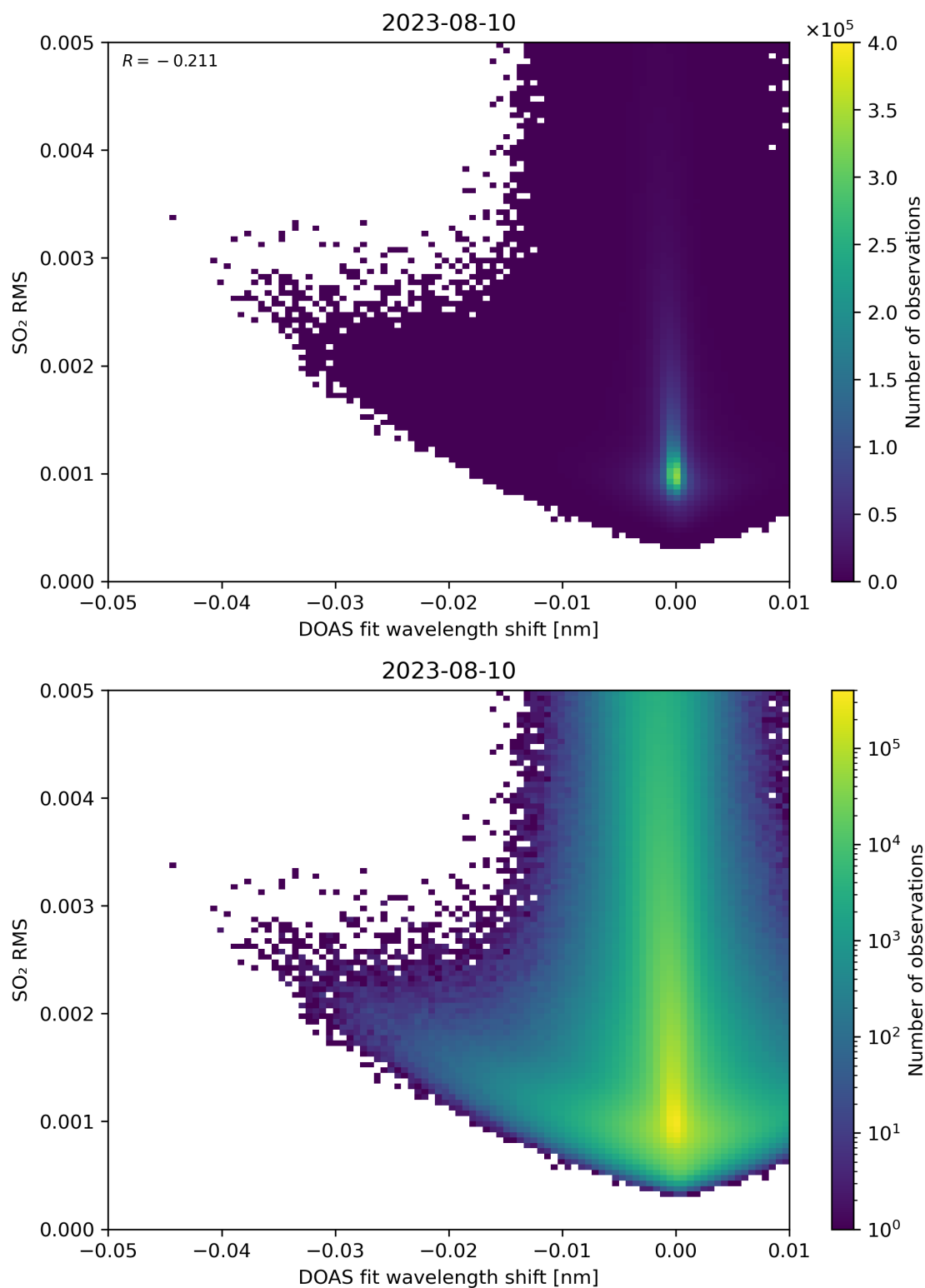


Figure 128: Scatter density plot of “DOAS fit wavelength shift” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

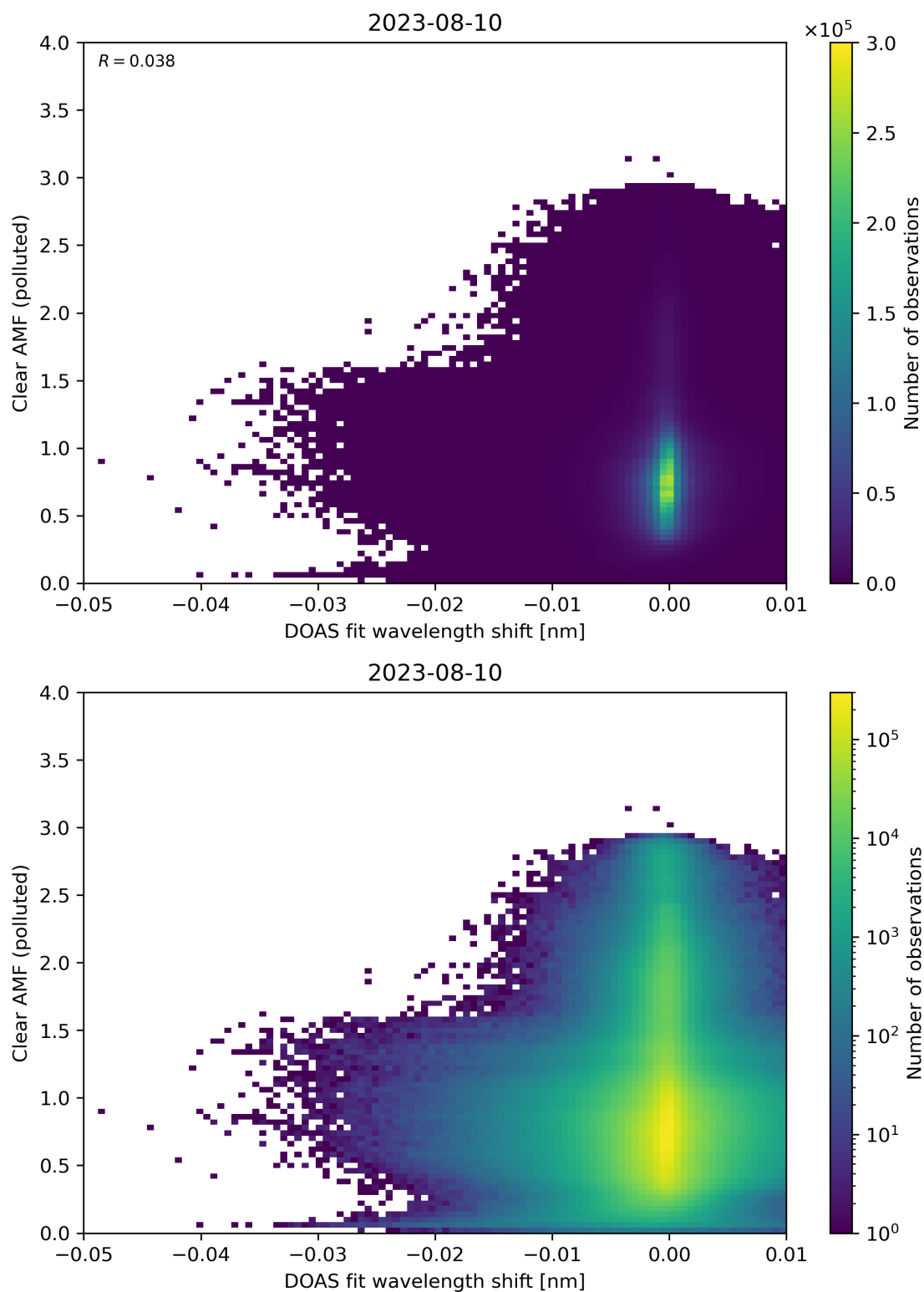


Figure 129: Scatter density plot of “DOAS fit wavelength shift” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

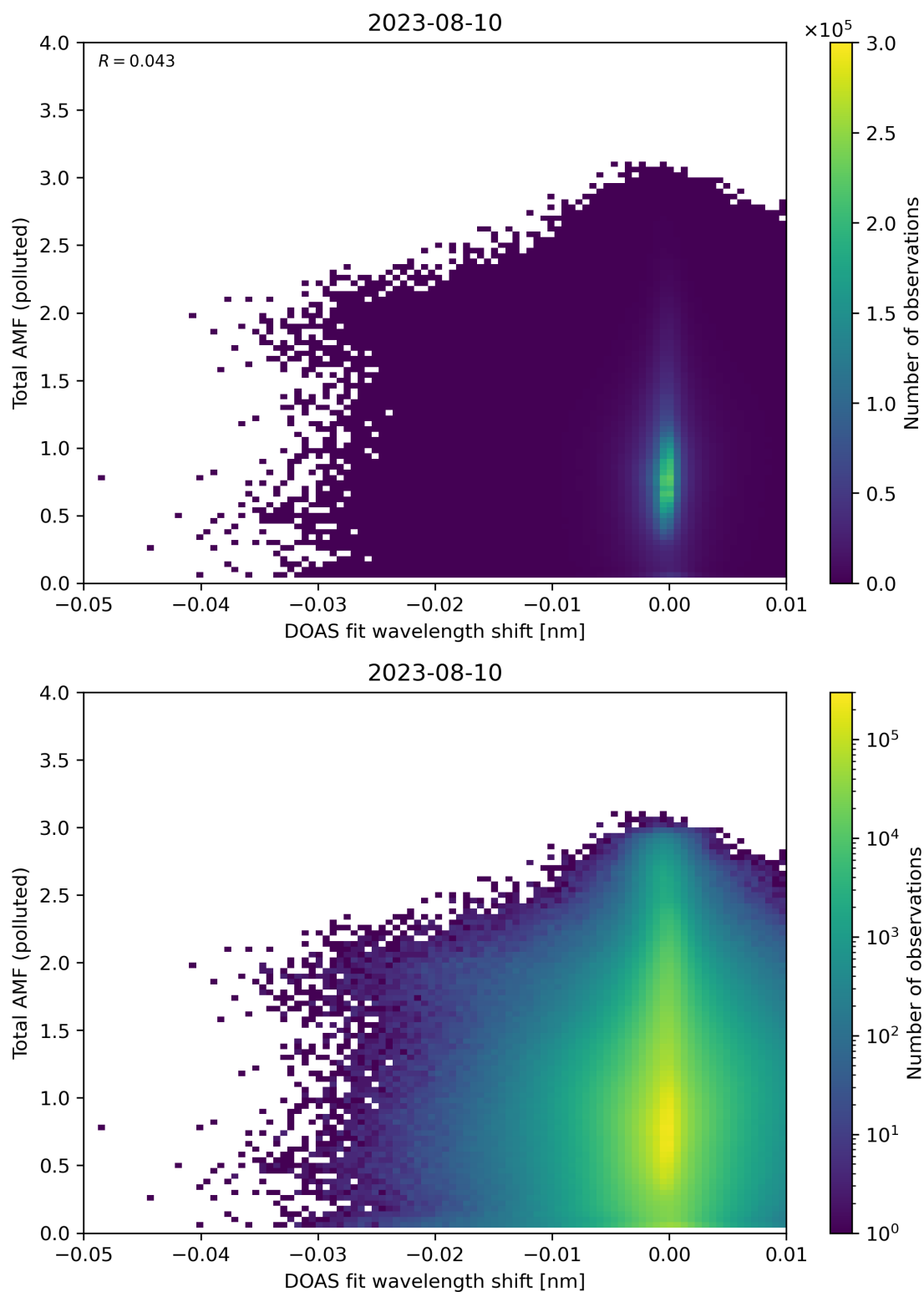


Figure 130: Scatter density plot of “DOAS fit wavelength shift” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

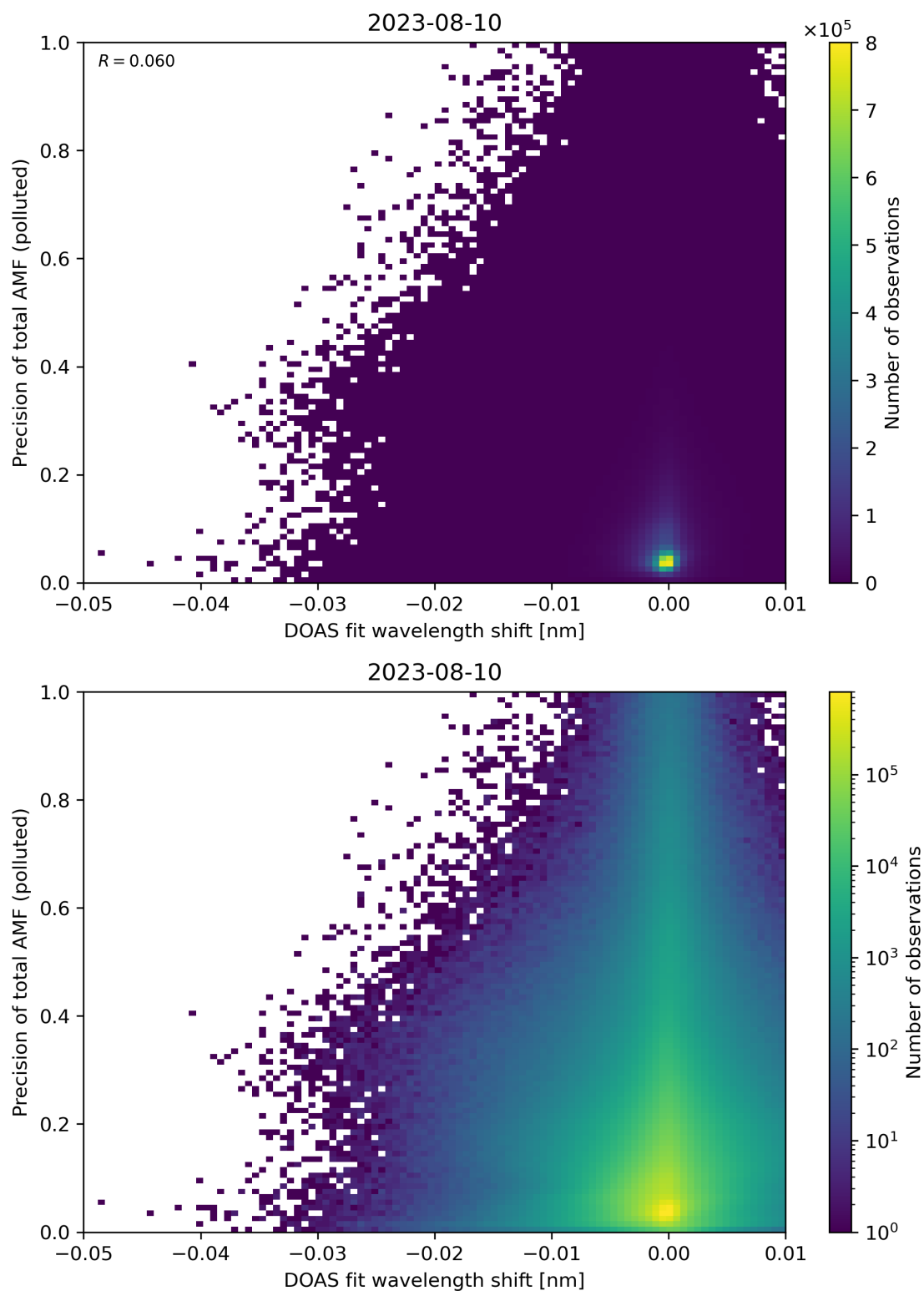


Figure 131: Scatter density plot of “DOAS fit wavelength shift” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

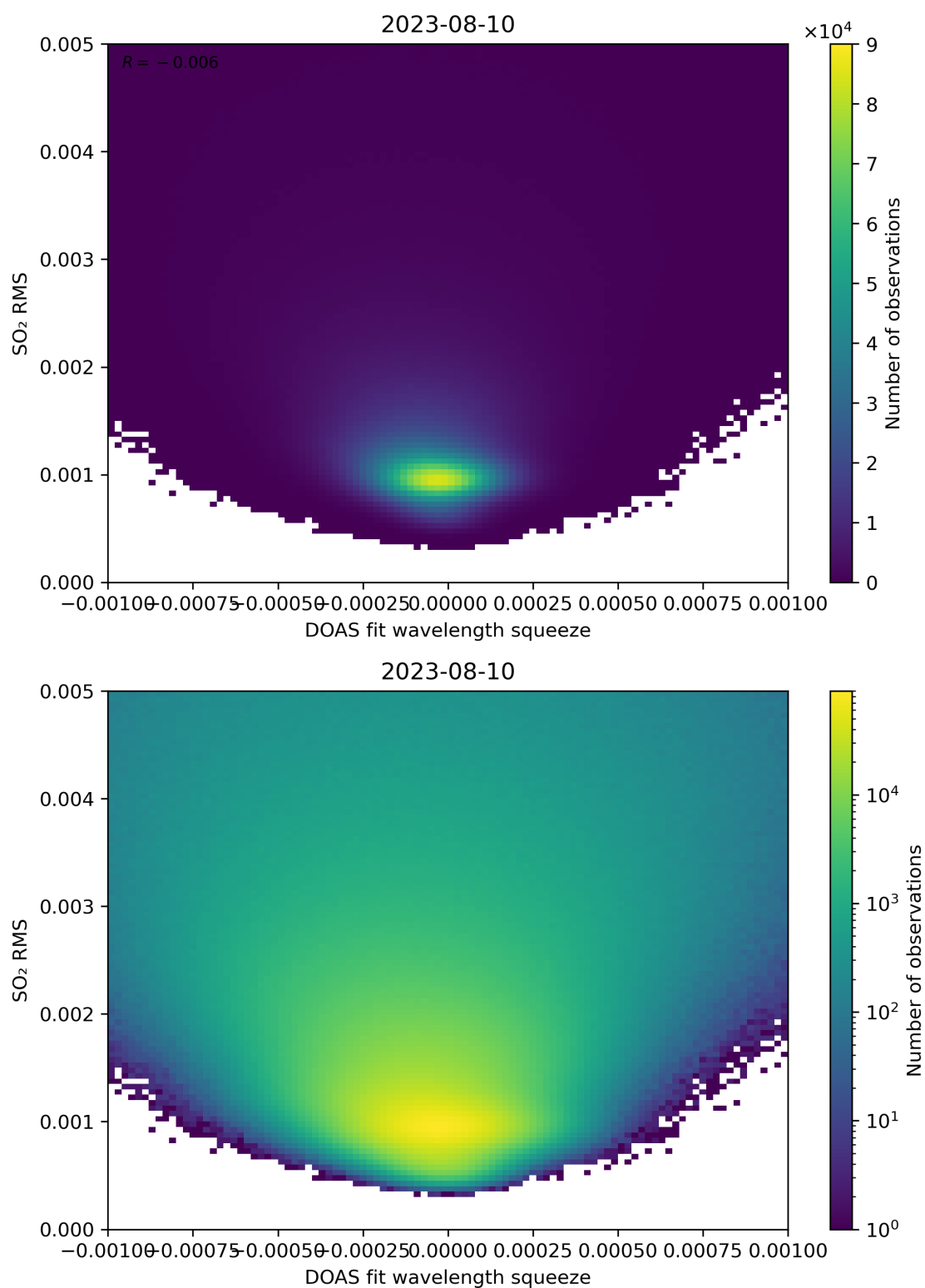


Figure 132: Scatter density plot of “DOAS fit wavelength squeeze” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

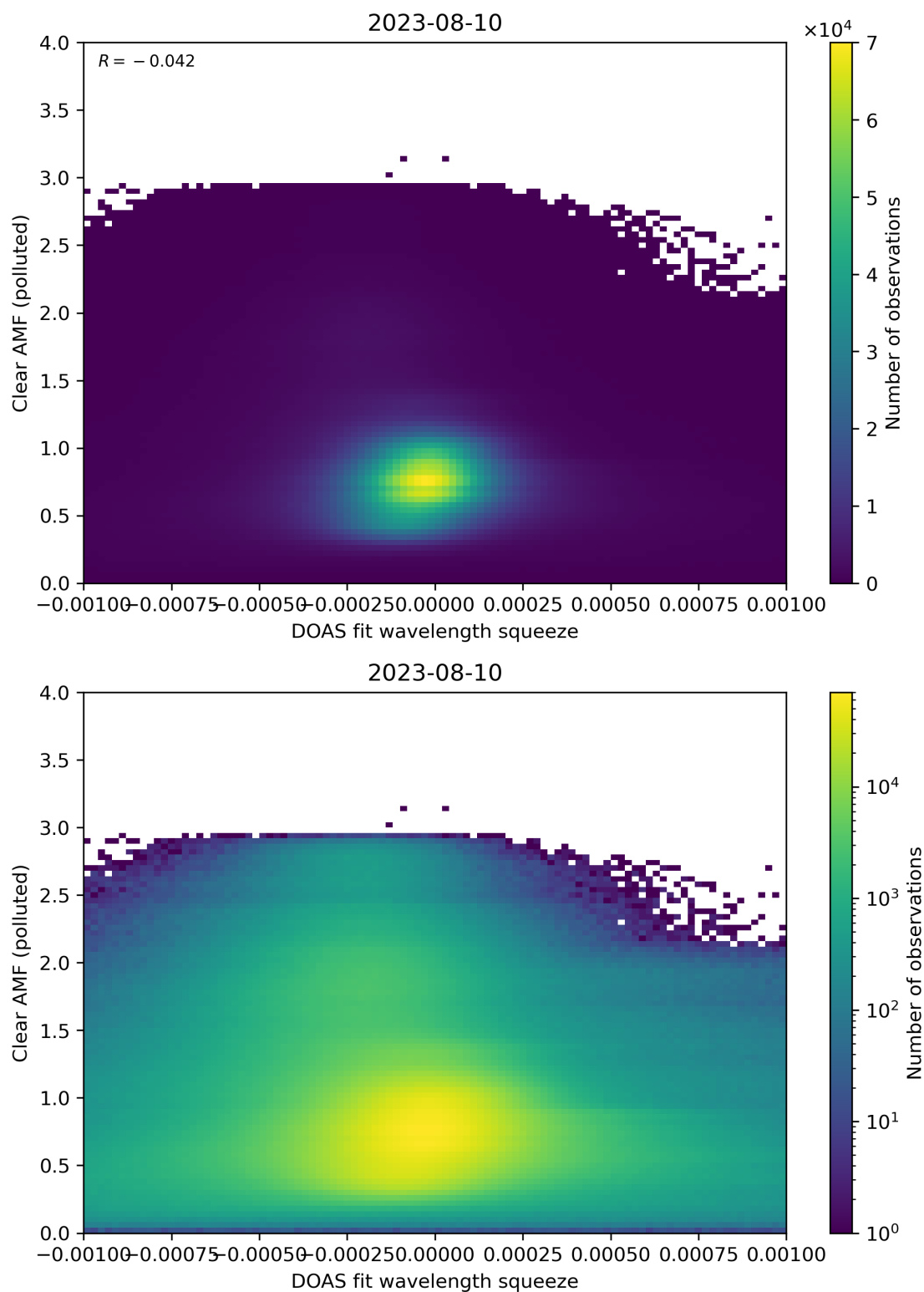


Figure 133: Scatter density plot of “DOAS fit wavelength squeeze” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

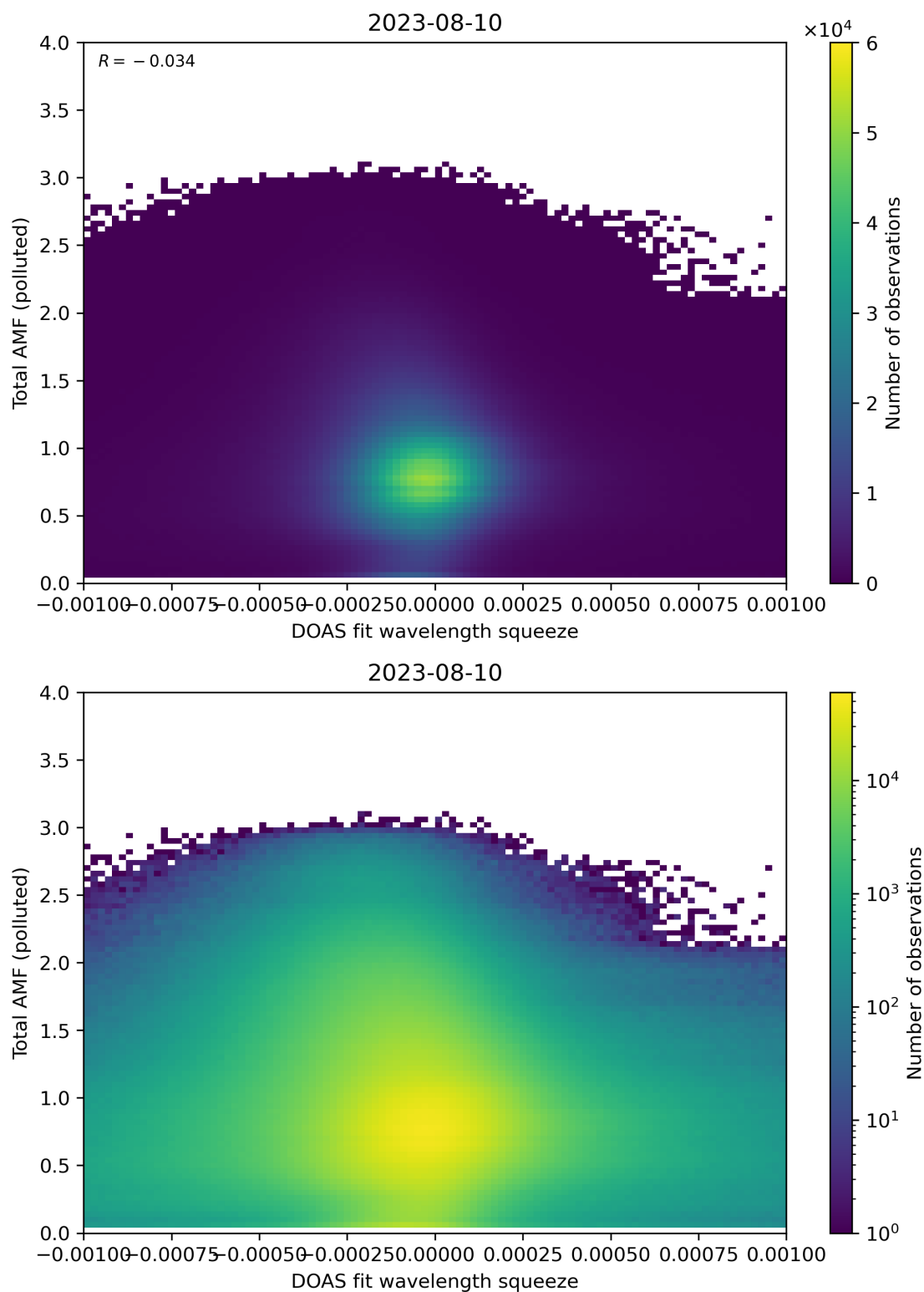


Figure 134: Scatter density plot of “DOAS fit wavelength squeeze” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

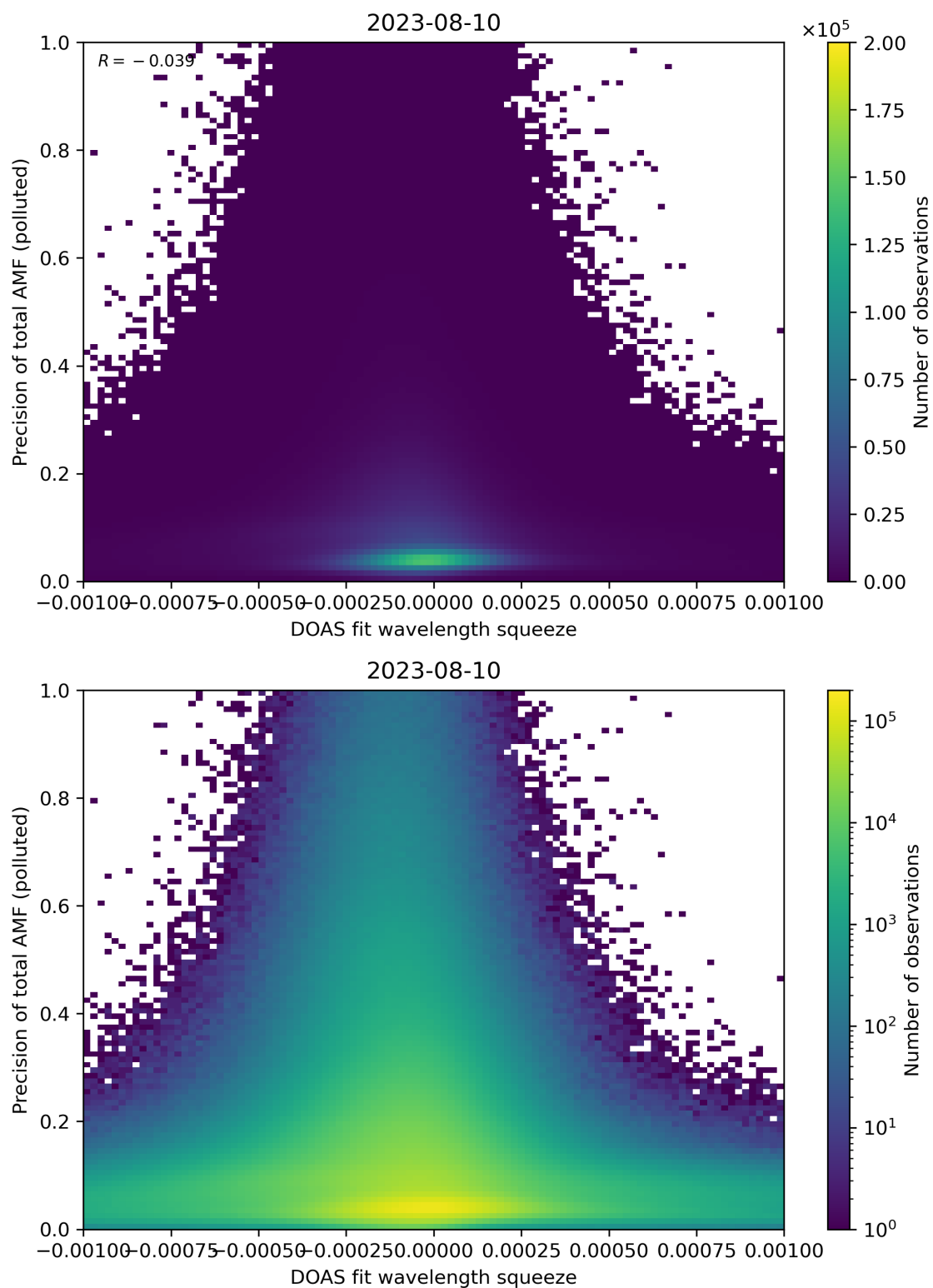


Figure 135: Scatter density plot of “DOAS fit wavelength squeeze” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

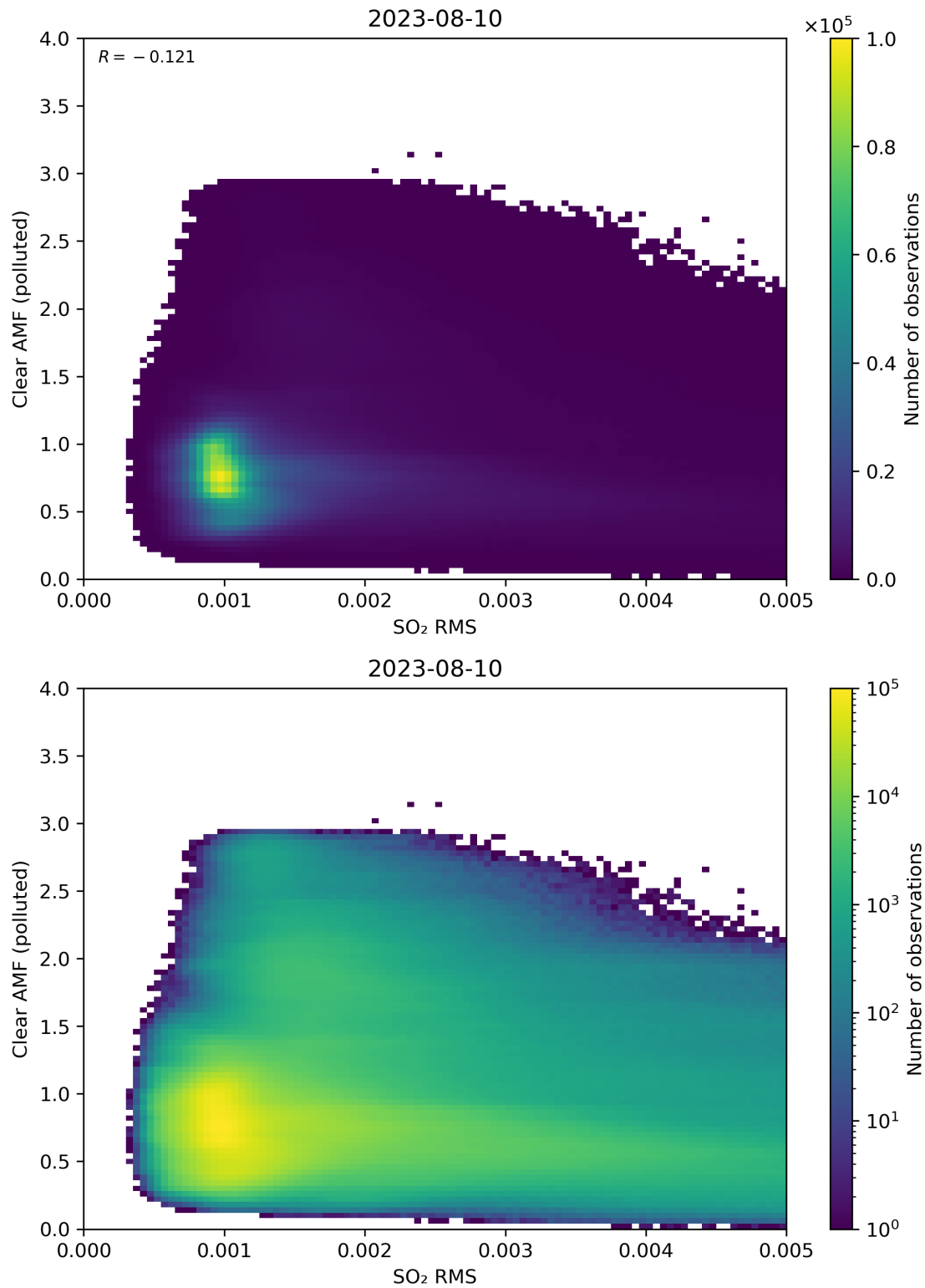


Figure 136: Scatter density plot of “SO₂ RMS” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

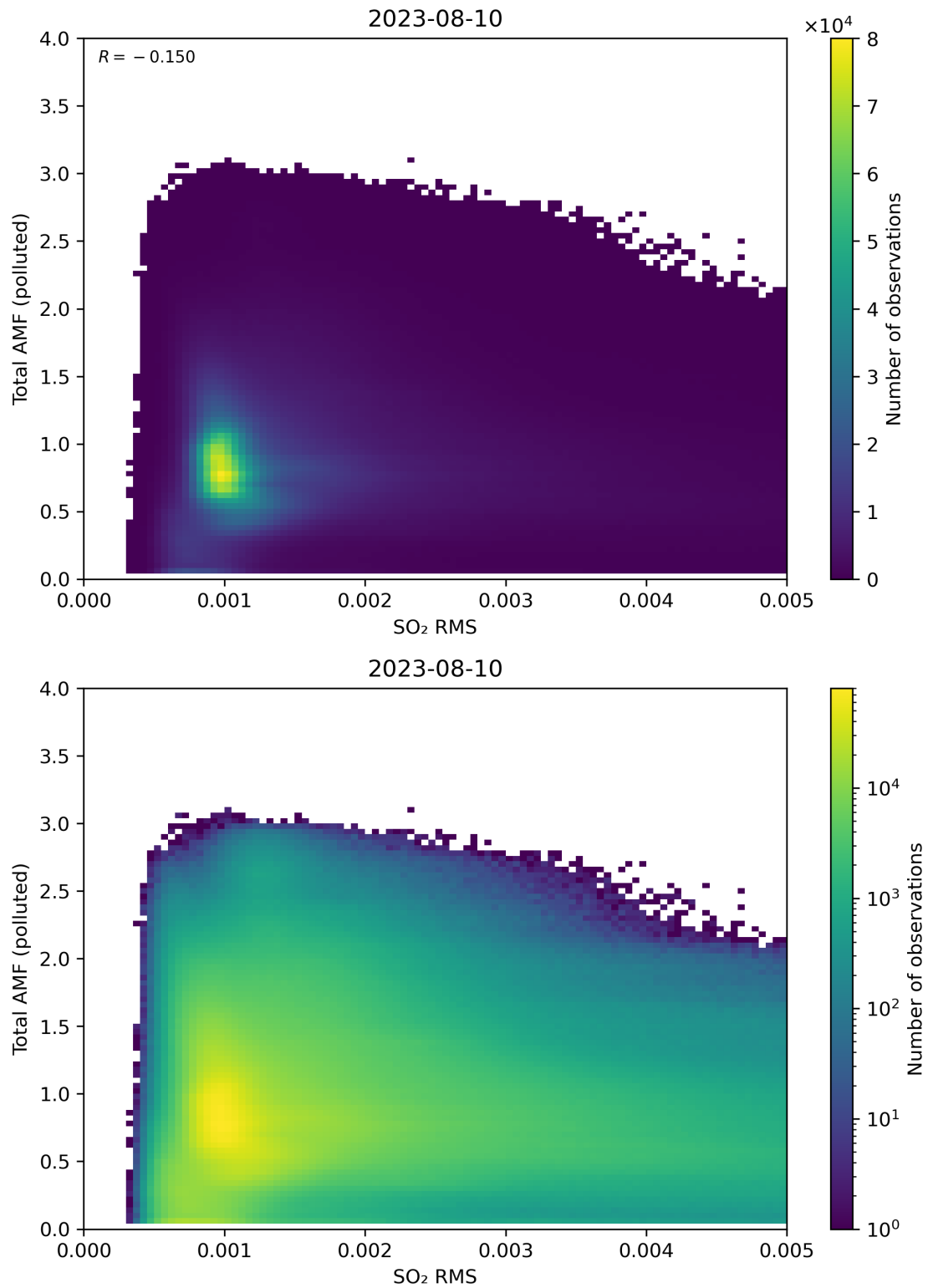


Figure 137: Scatter density plot of “SO₂ RMS” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

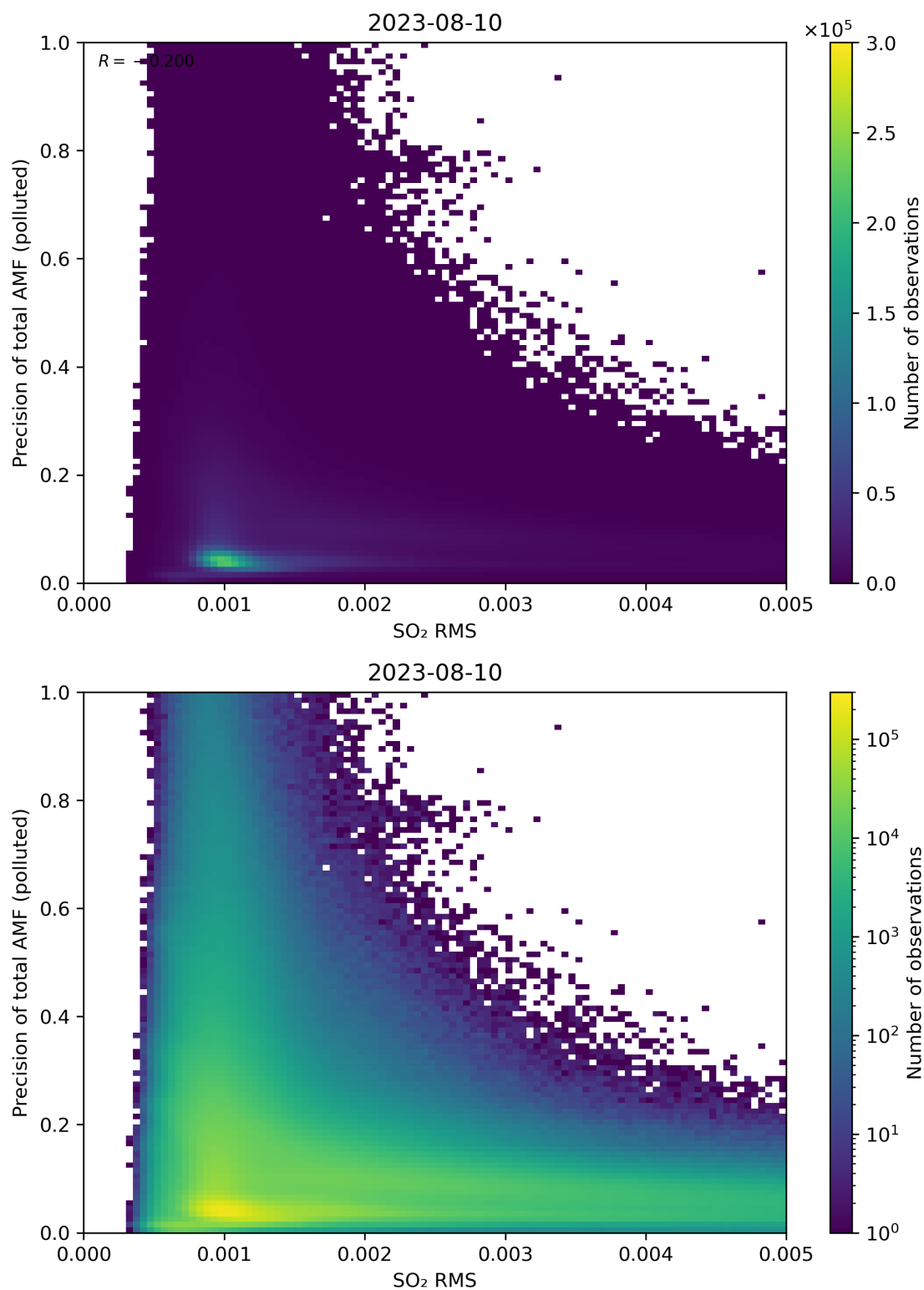


Figure 138: Scatter density plot of “SO₂ RMS” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

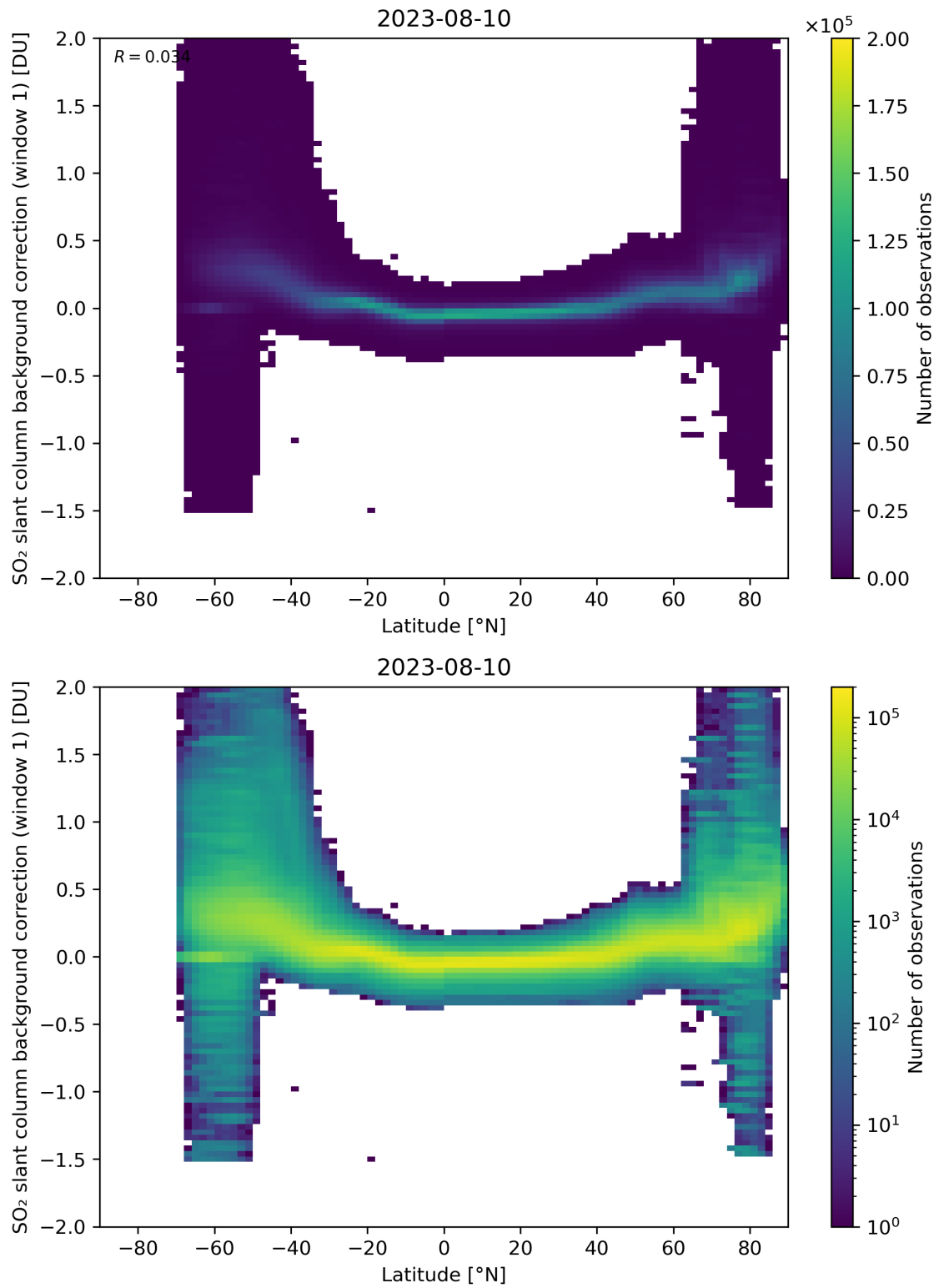


Figure 139: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

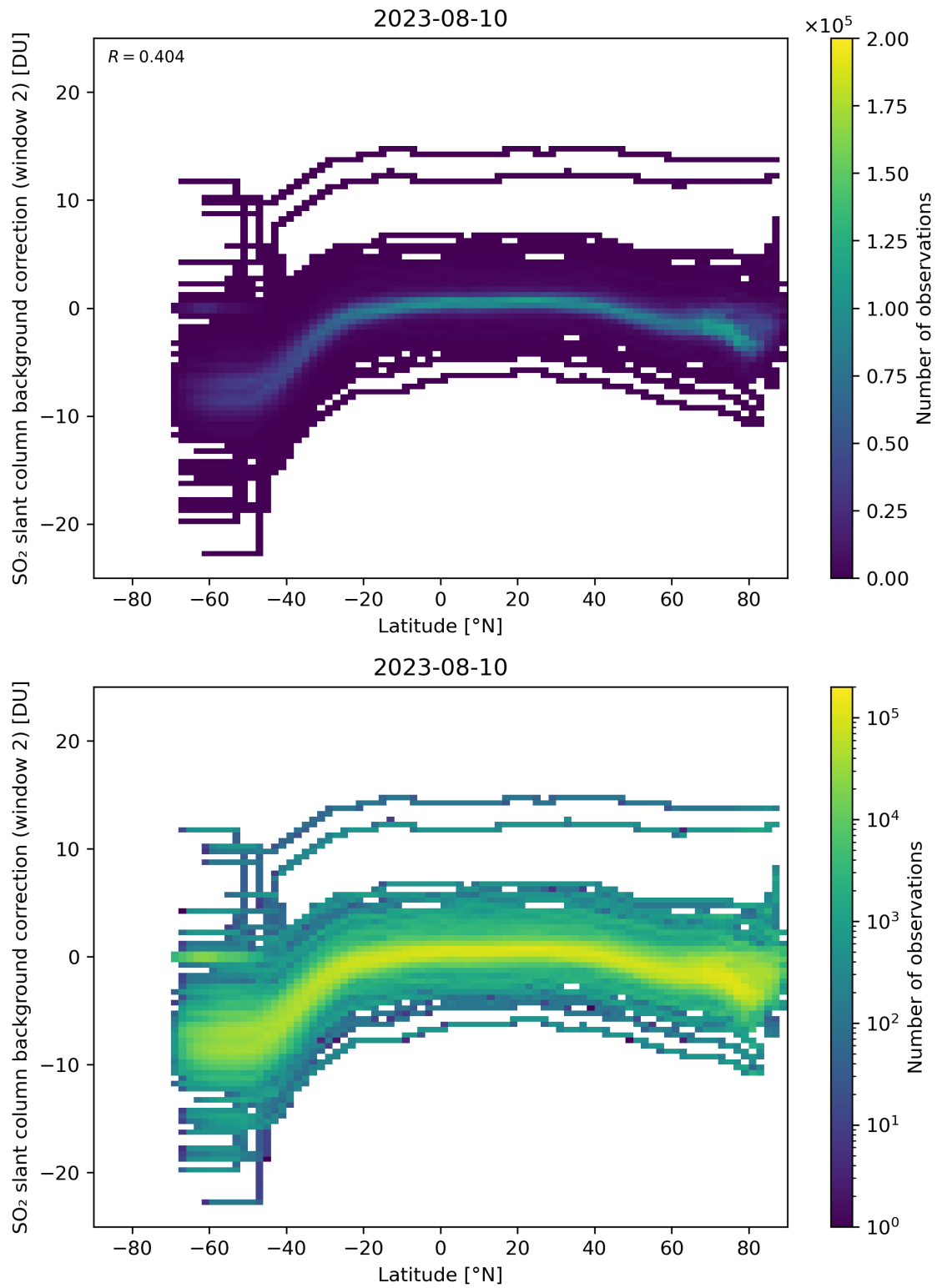


Figure 140: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

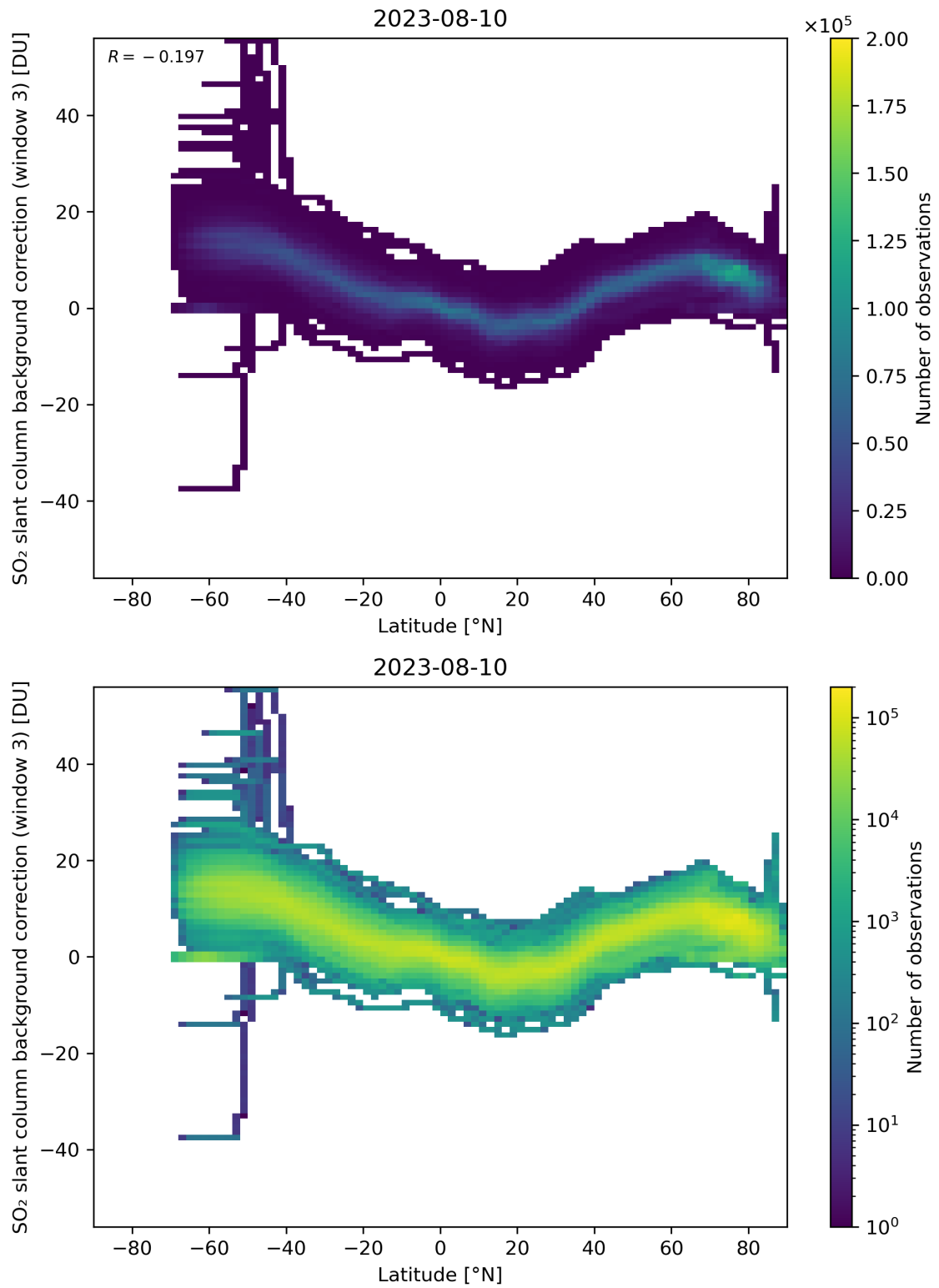


Figure 141: Scatter density plot of “Latitude” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

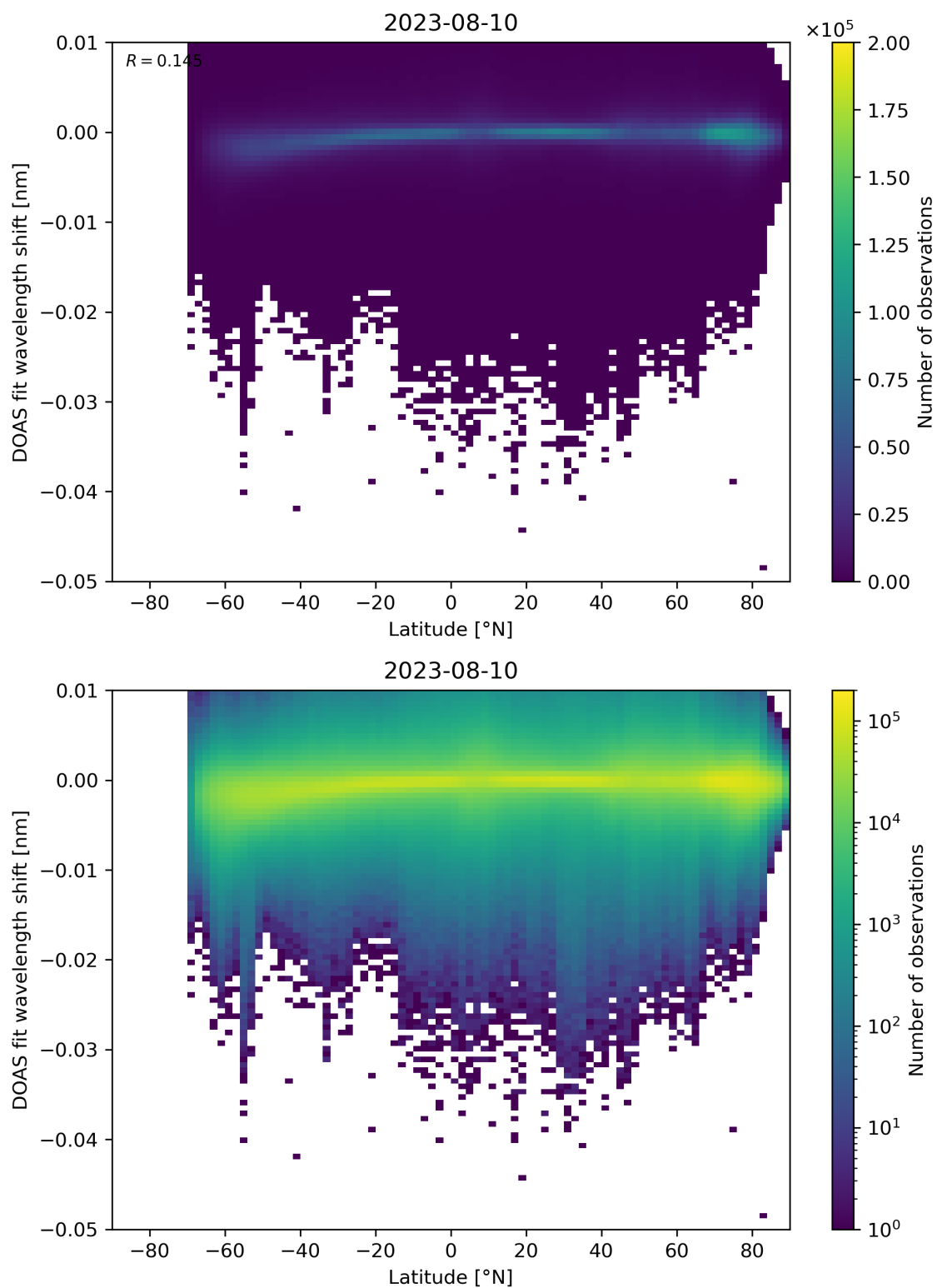


Figure 142: Scatter density plot of “Latitude” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

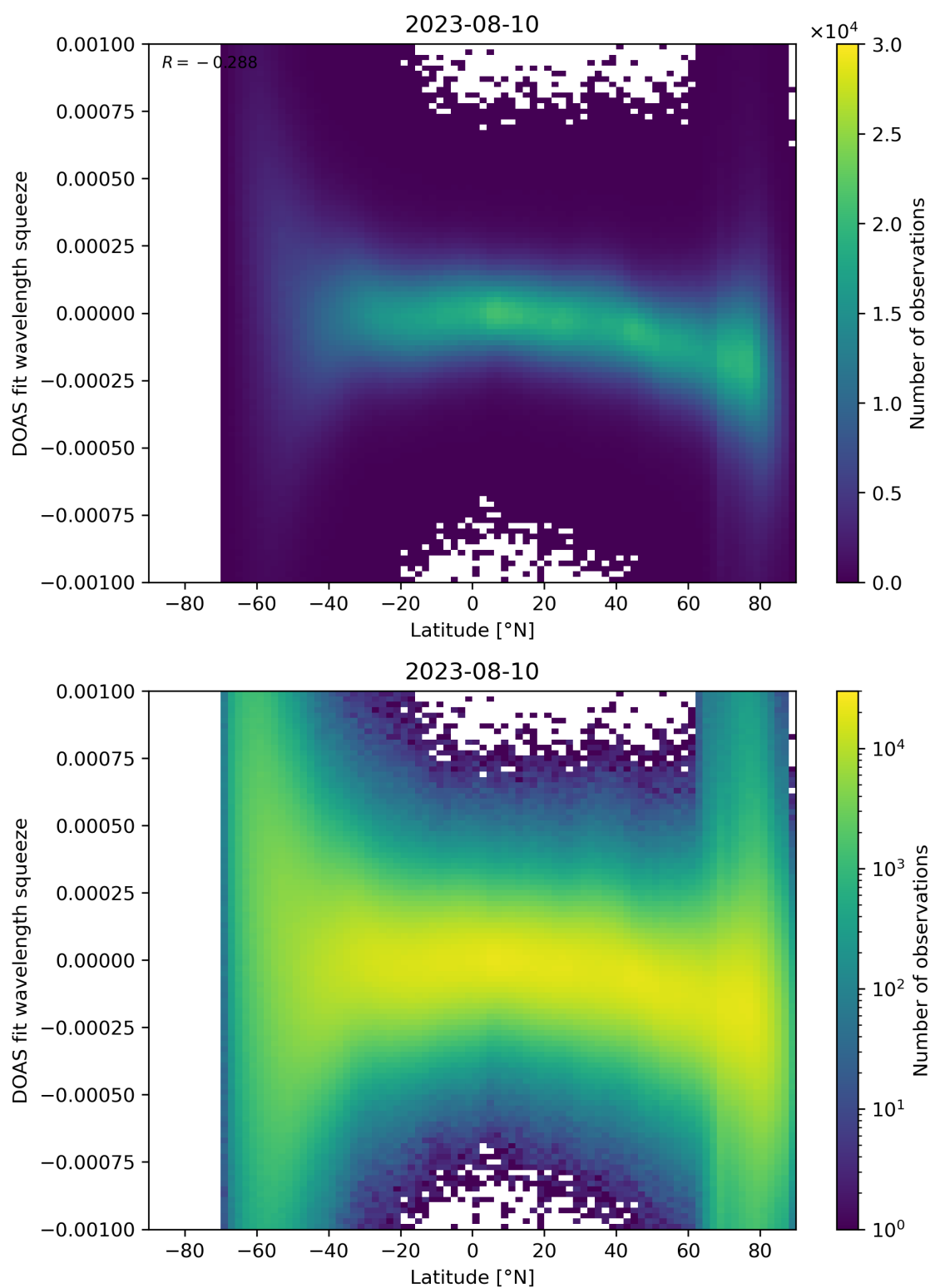


Figure 143: Scatter density plot of “Latitude” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

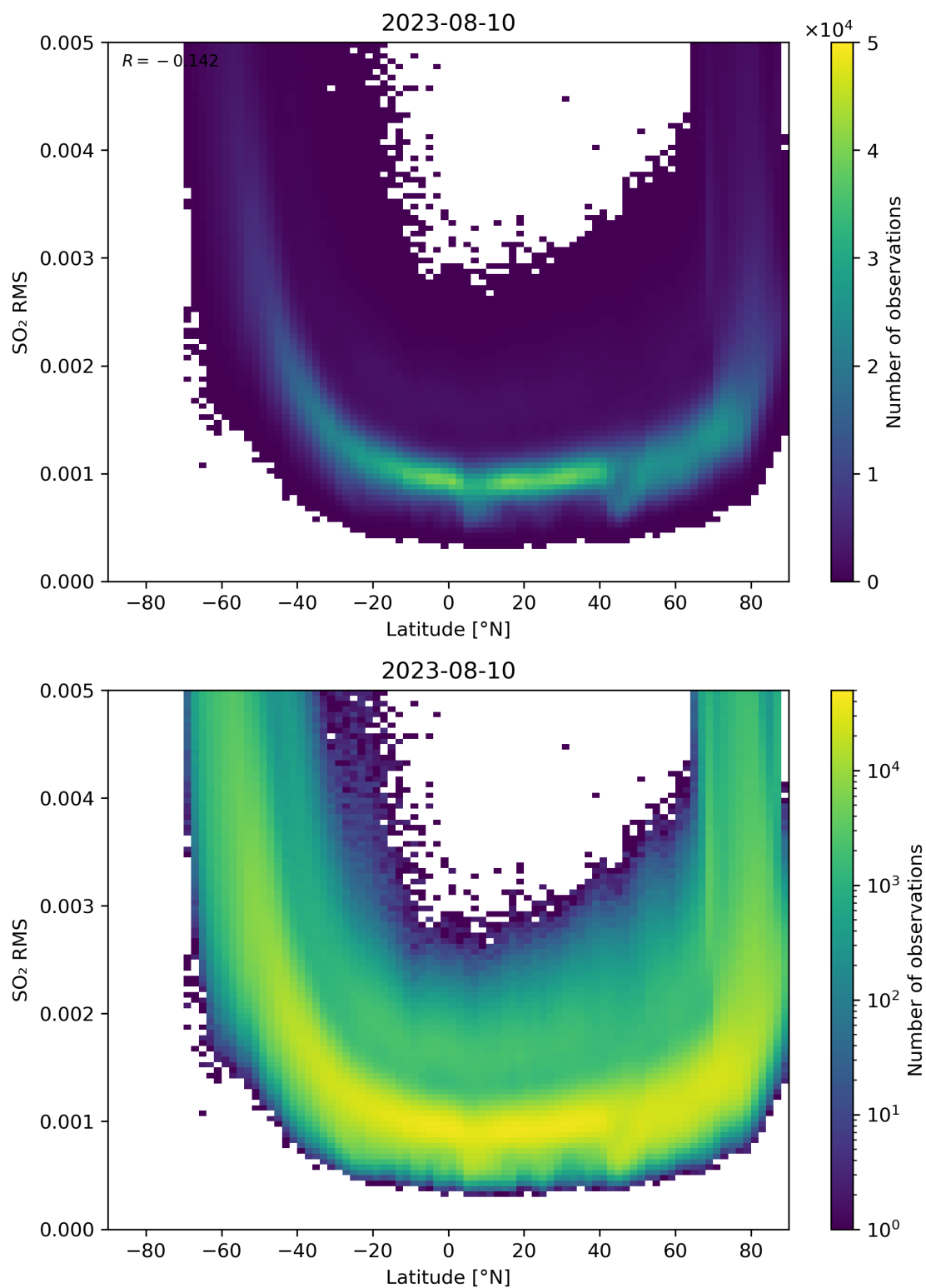


Figure 144: Scatter density plot of “Latitude” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

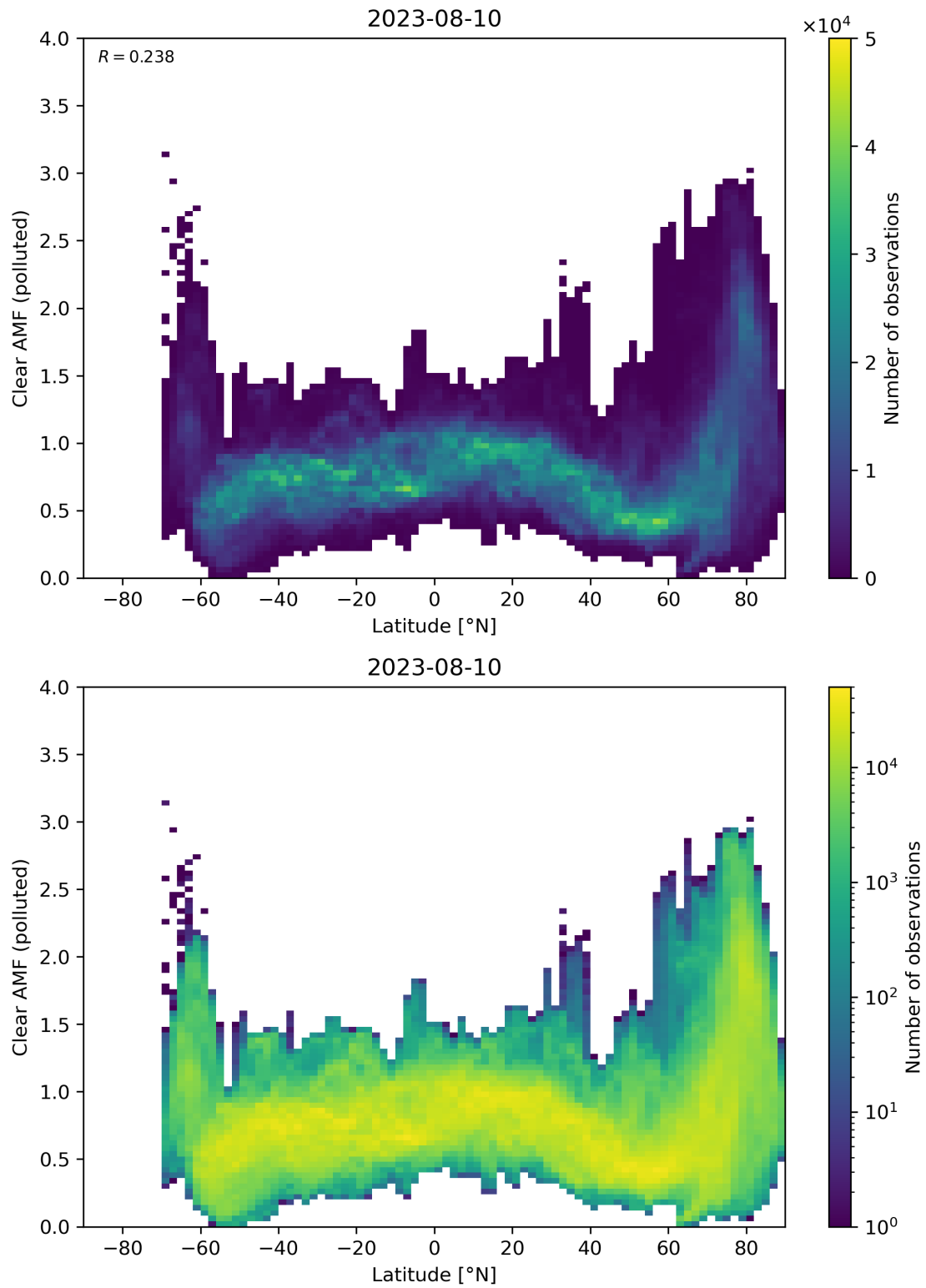


Figure 145: Scatter density plot of “Latitude” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

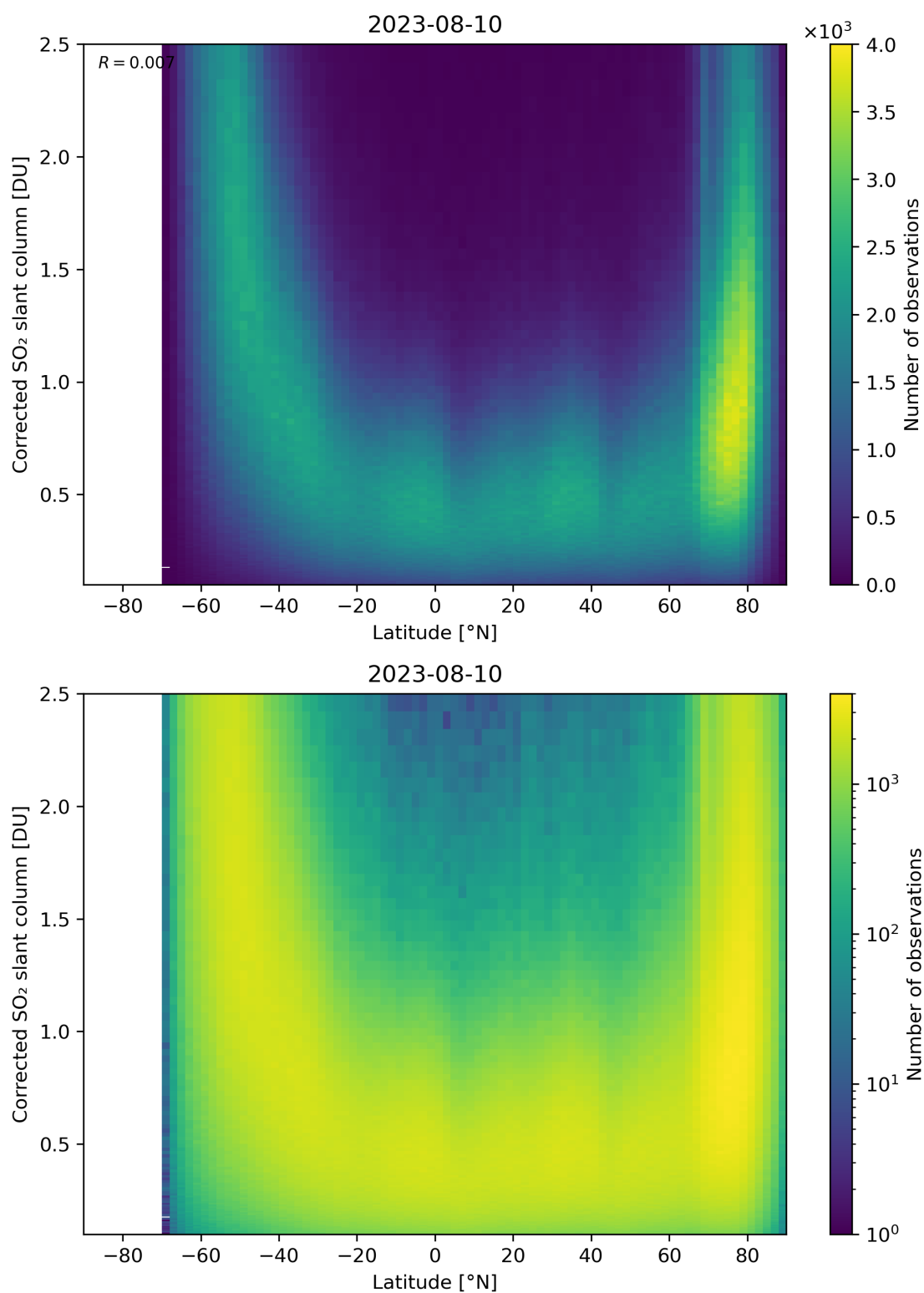


Figure 146: Scatter density plot of “Latitude” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

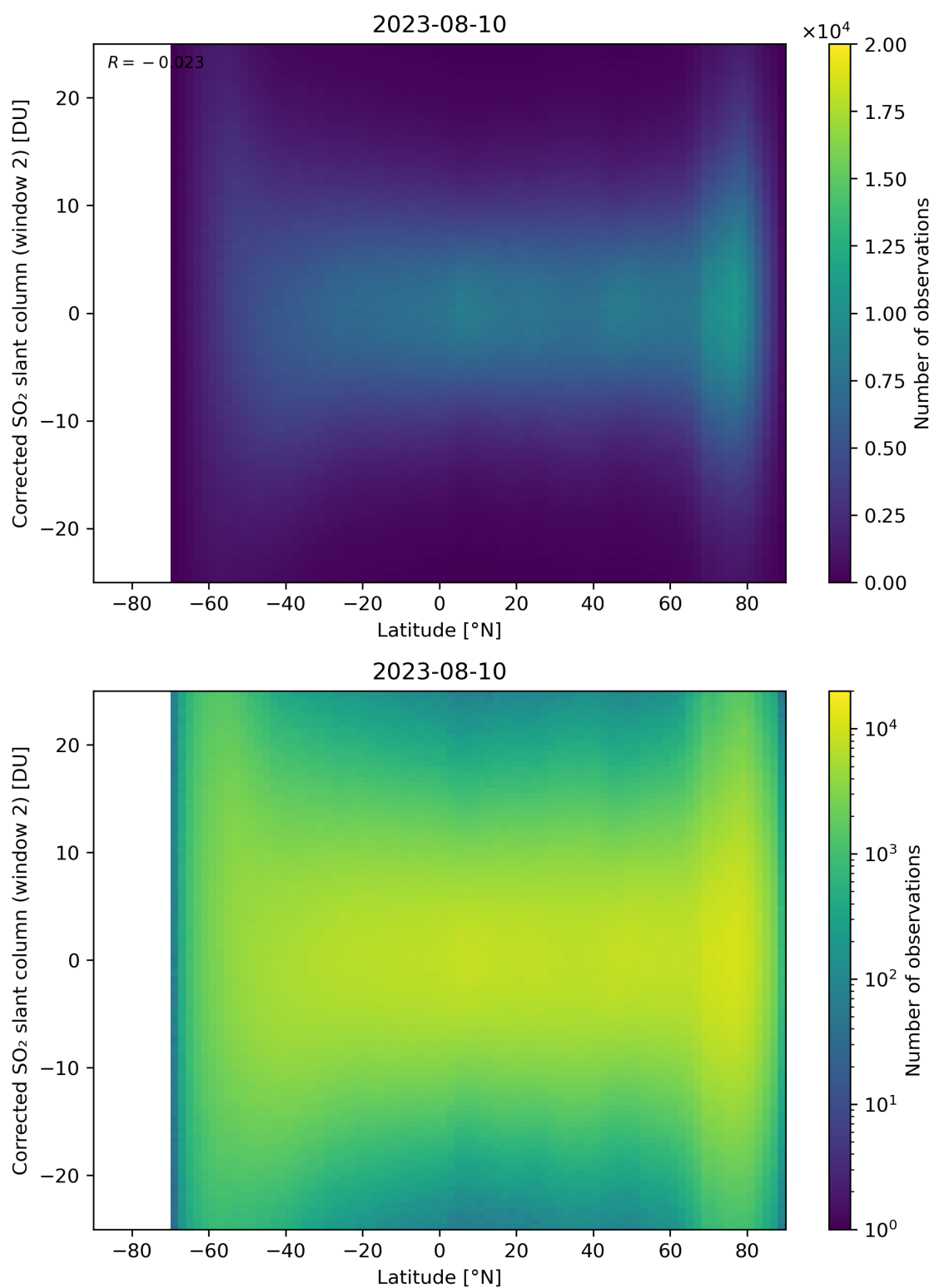


Figure 147: Scatter density plot of “Latitude” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

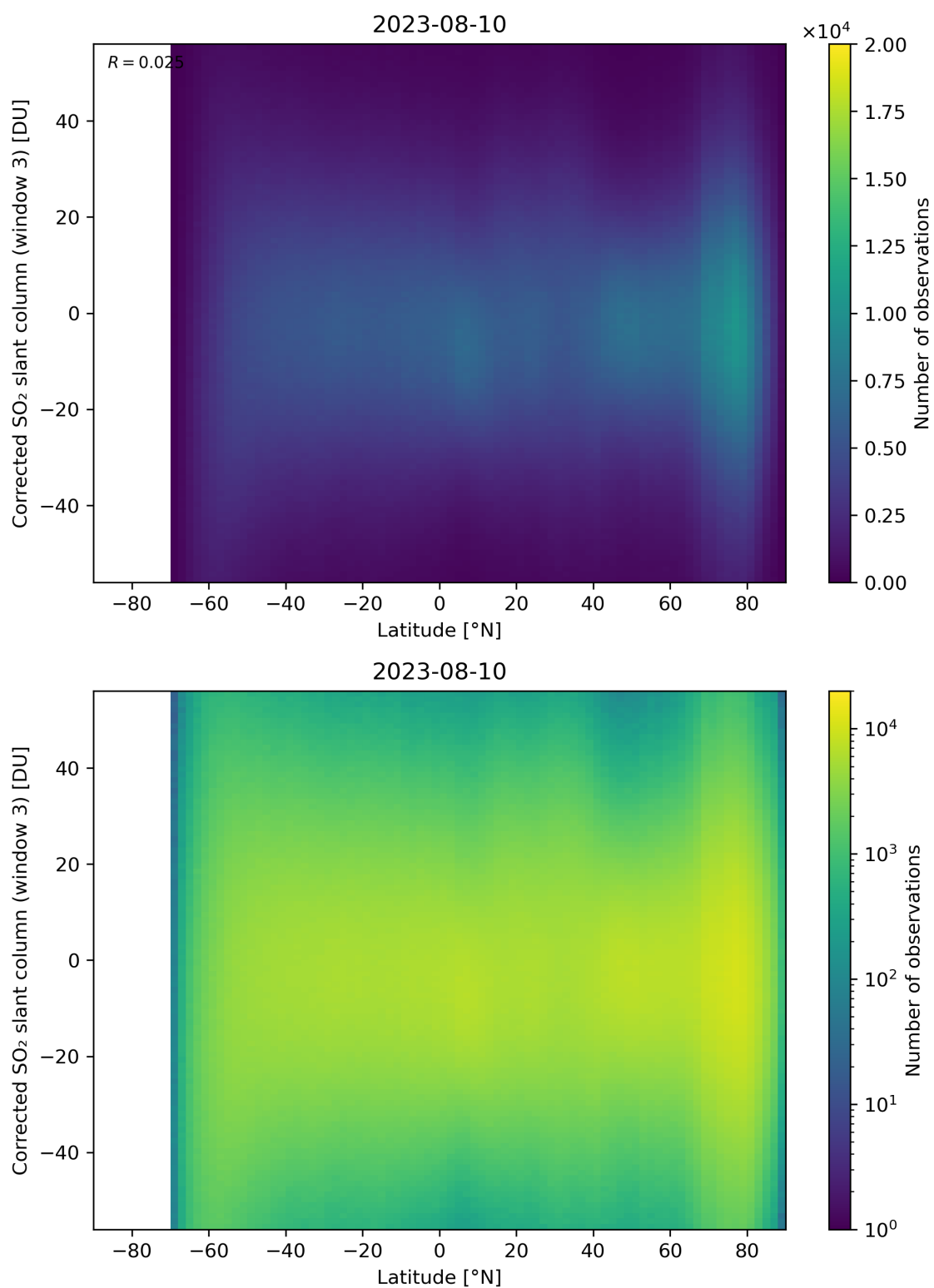


Figure 148: Scatter density plot of “Latitude” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

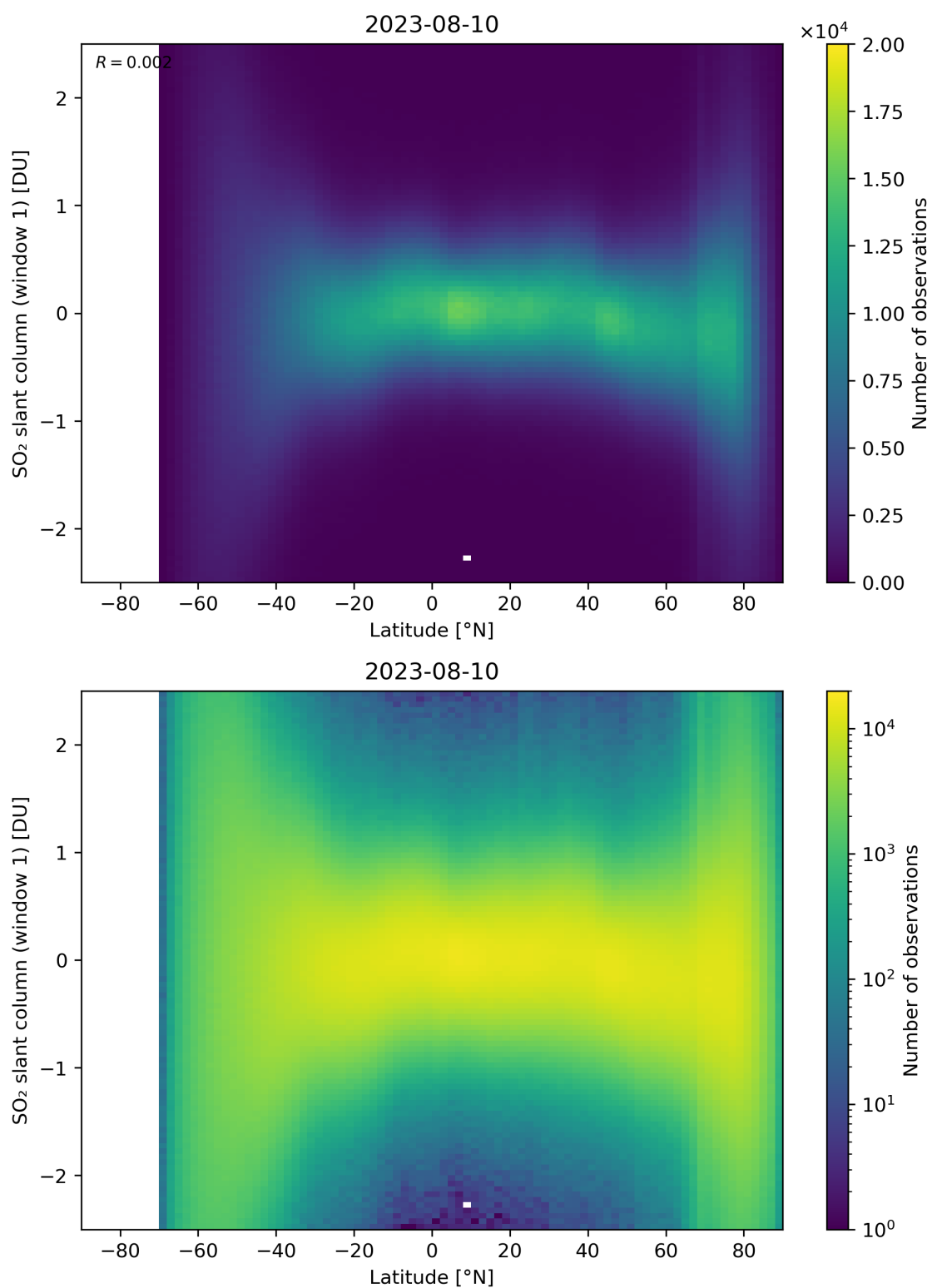


Figure 149: Scatter density plot of “Latitude” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

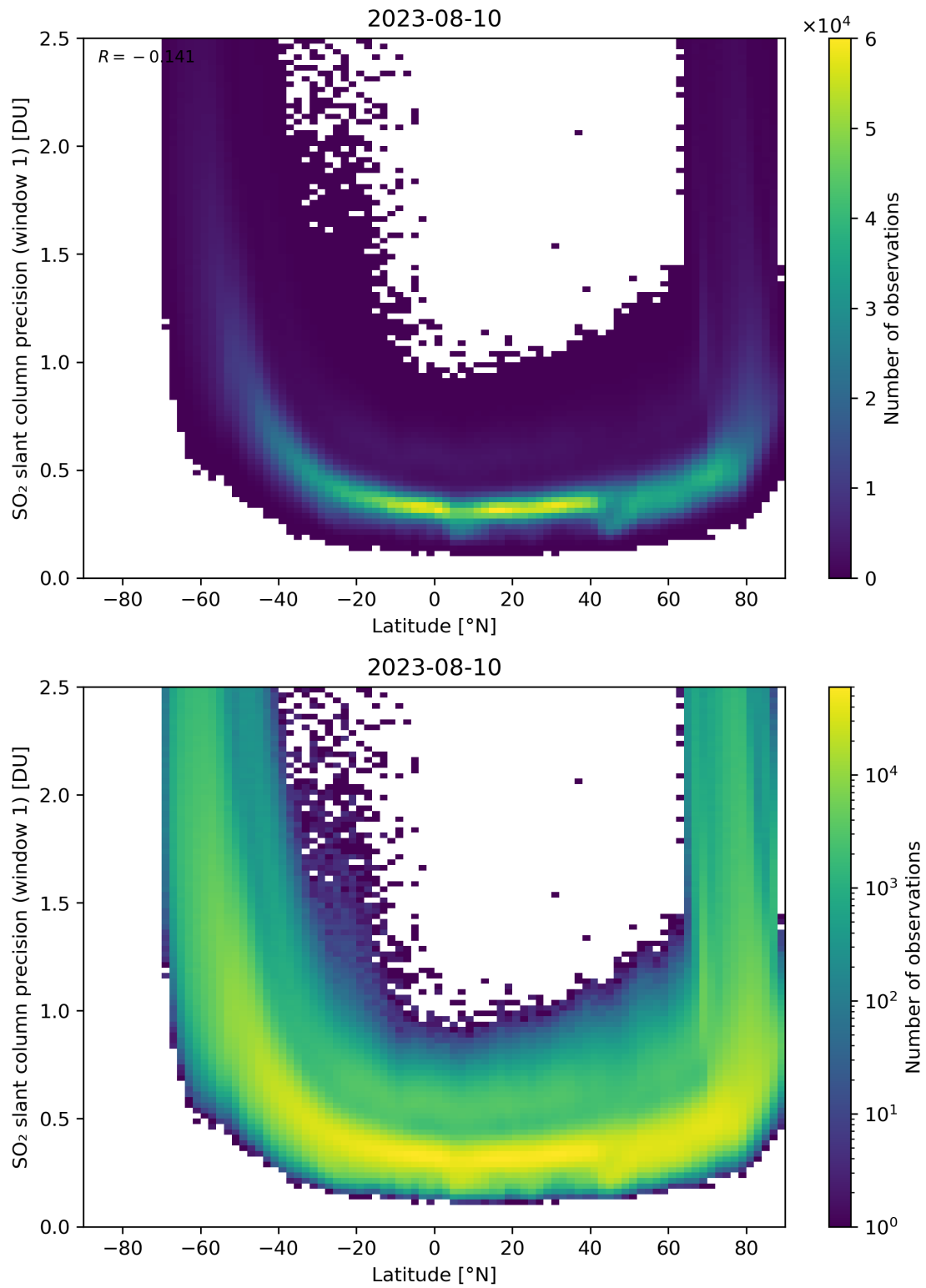


Figure 150: Scatter density plot of “Latitude” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

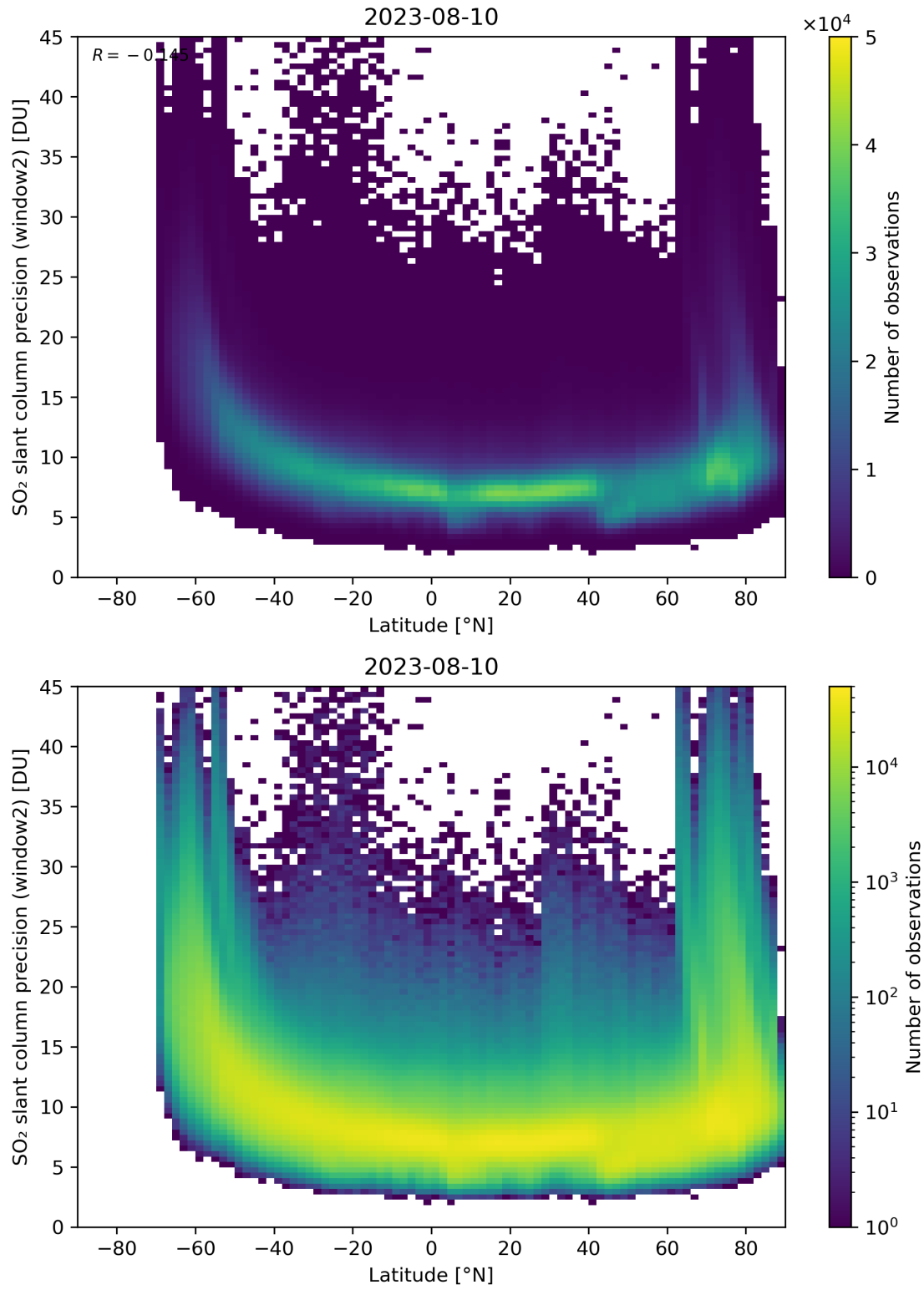


Figure 151: Scatter density plot of “Latitude” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

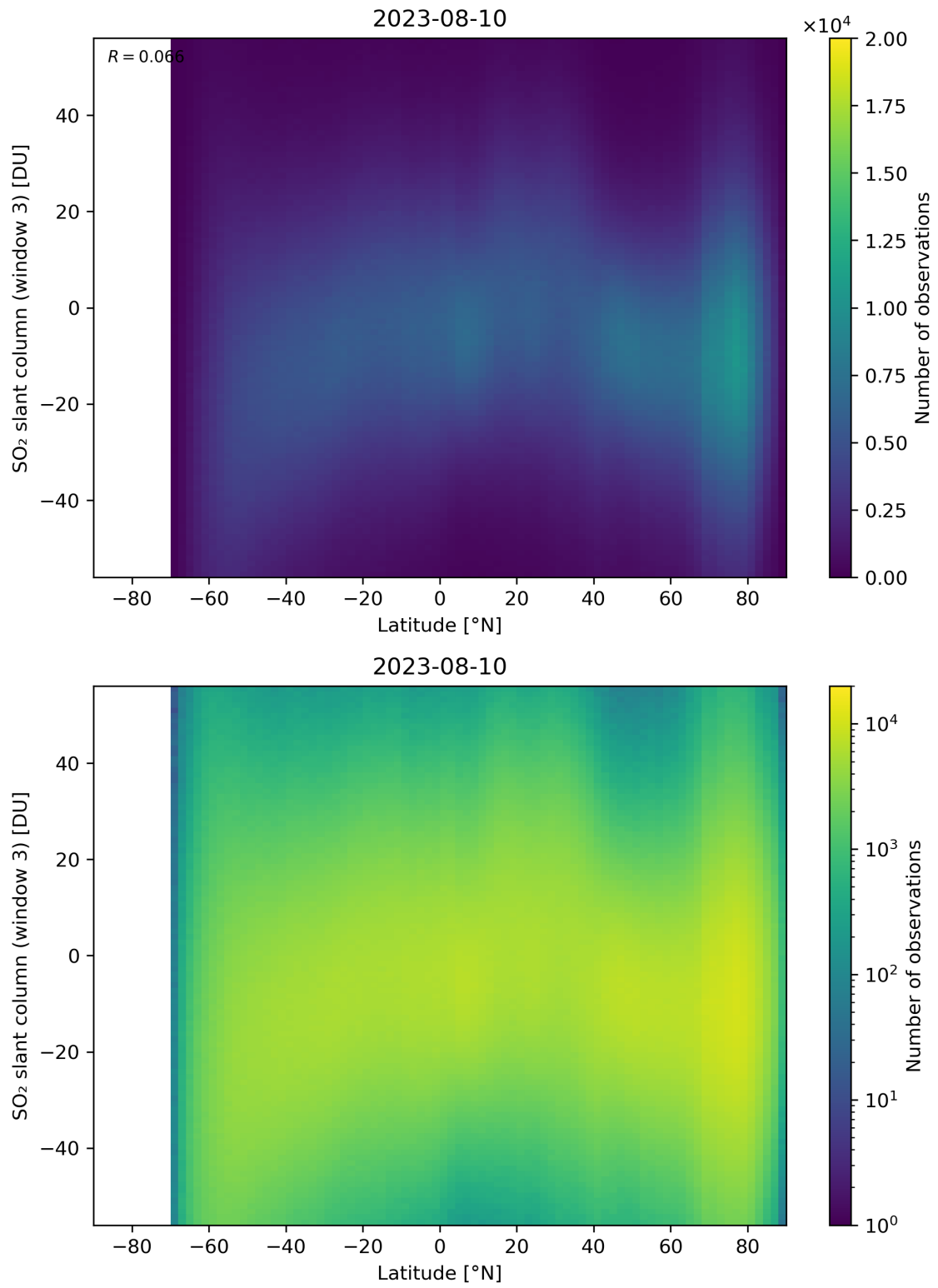


Figure 152: Scatter density plot of “Latitude” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

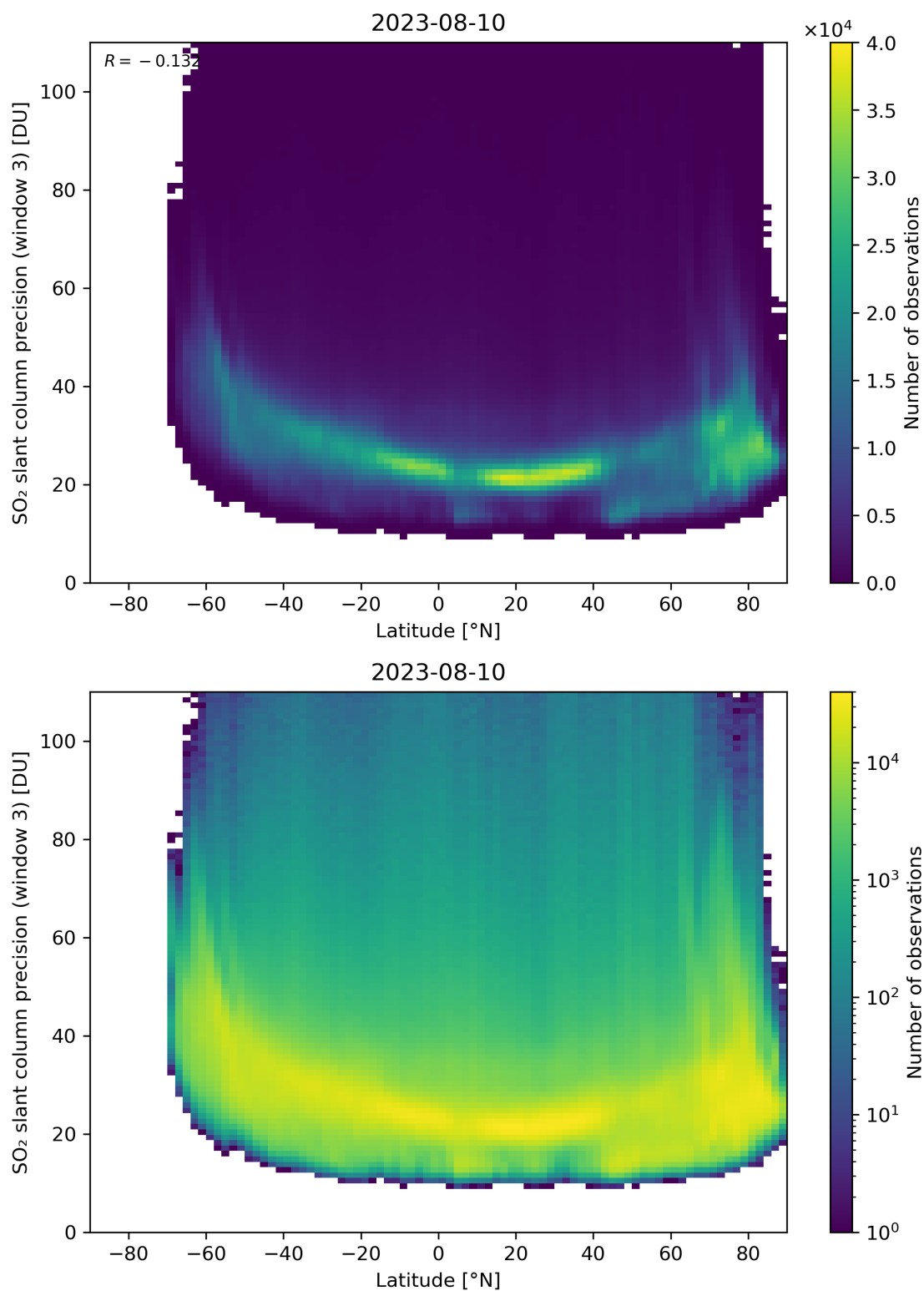


Figure 153: Scatter density plot of “Latitude” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

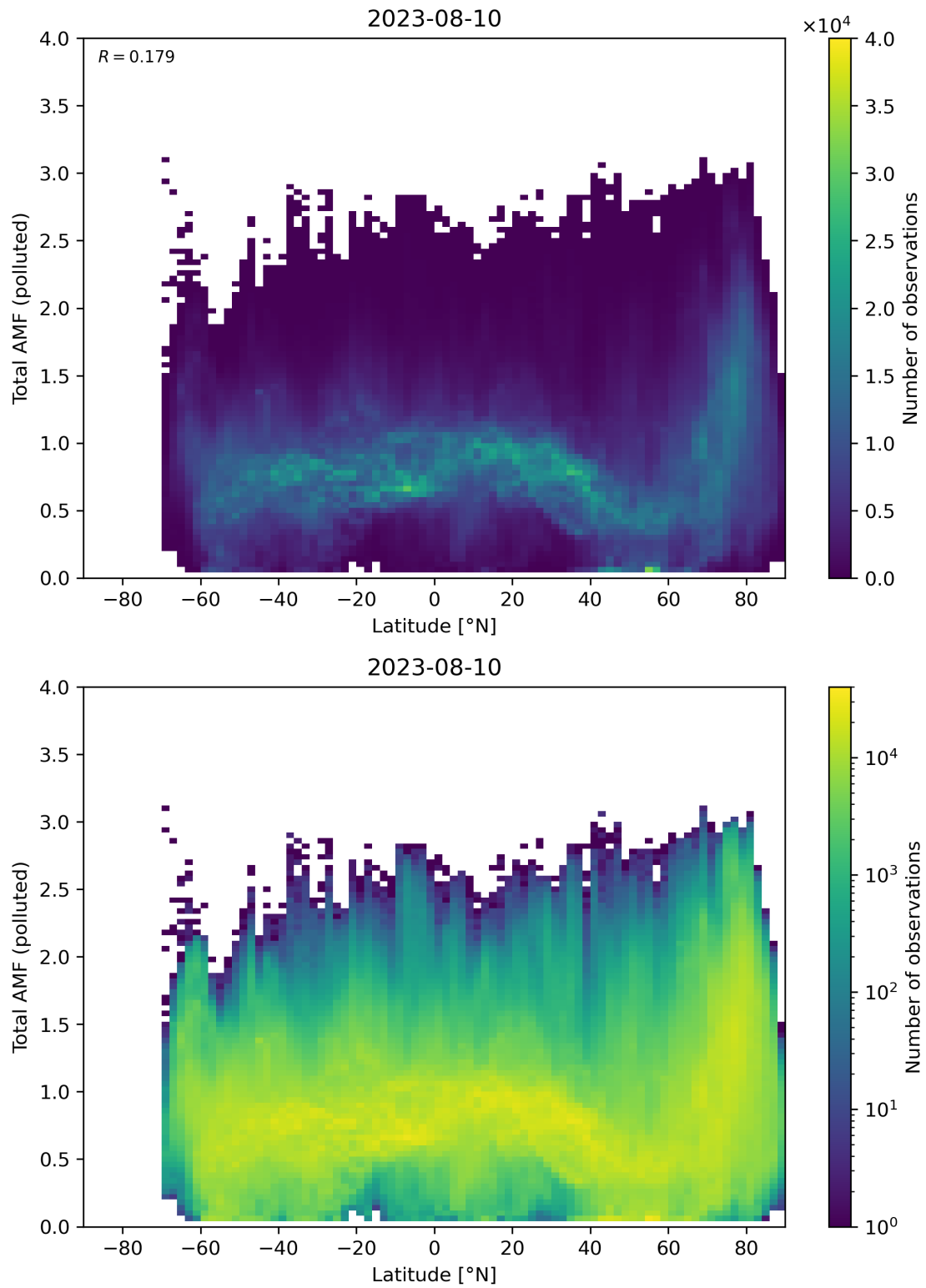


Figure 154: Scatter density plot of “Latitude” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

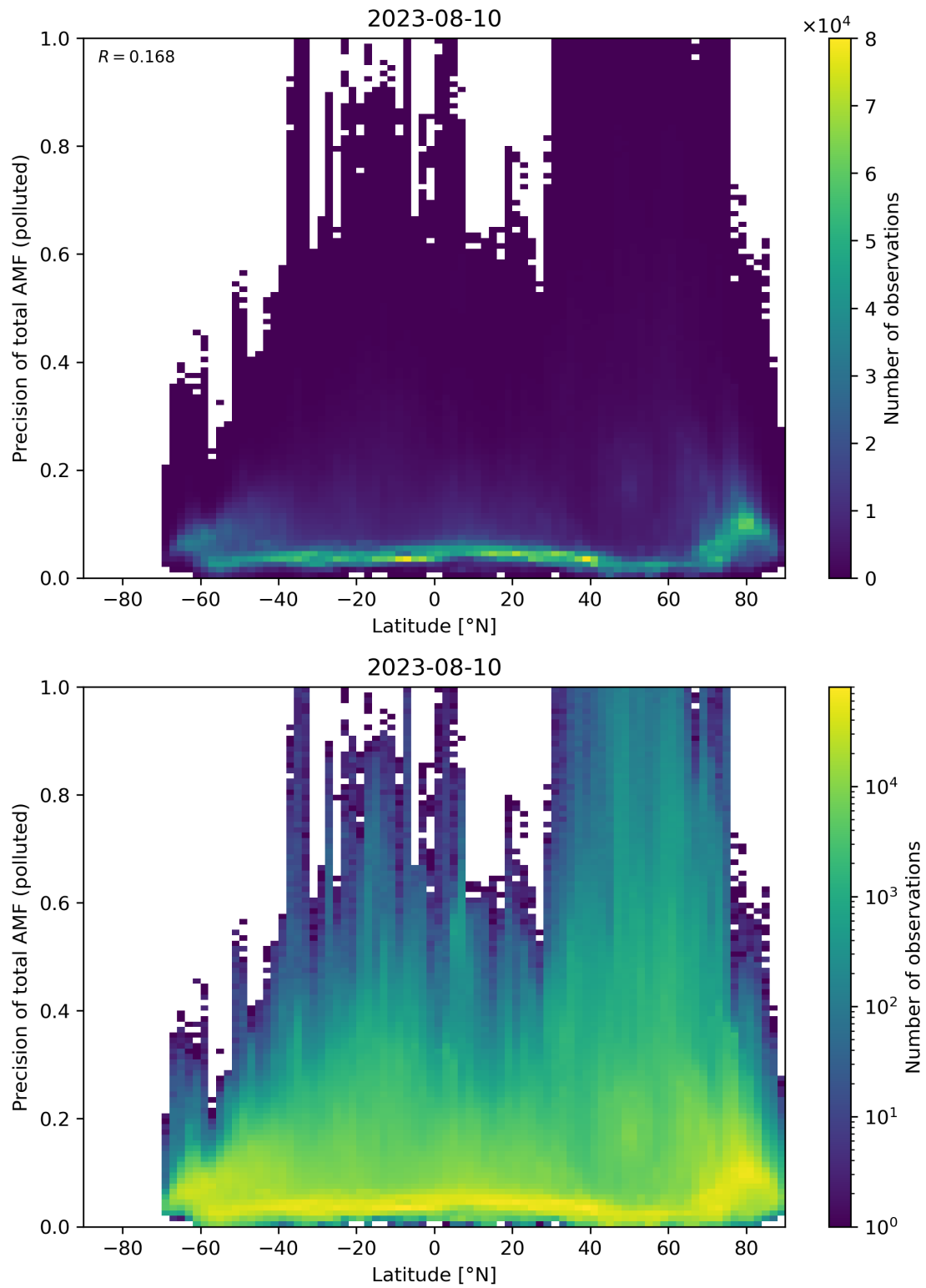


Figure 155: Scatter density plot of “Latitude” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

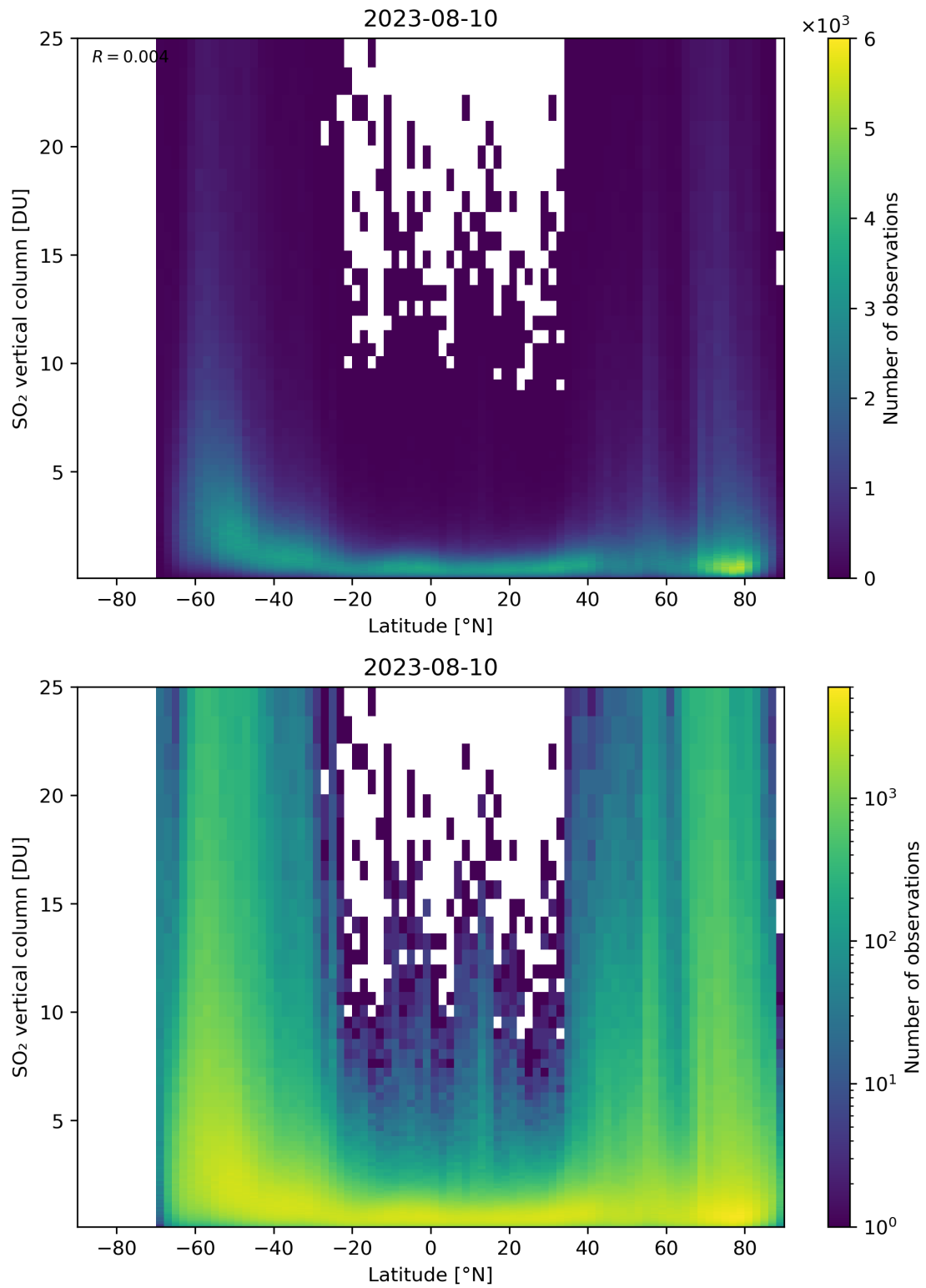


Figure 156: Scatter density plot of “Latitude” against “SO₂ vertical column” for 2023-08-09 to 2023-08-11.

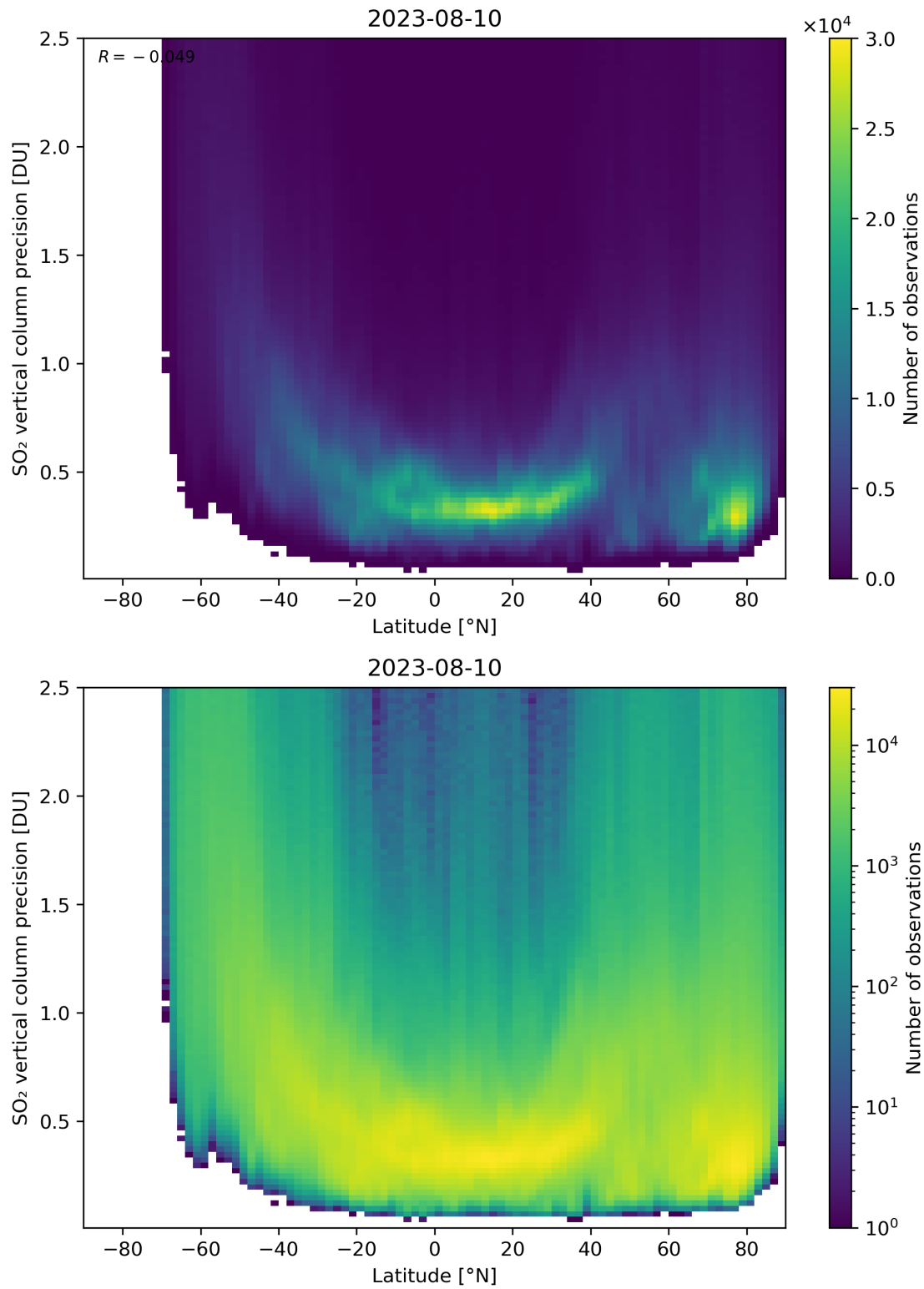


Figure 157: Scatter density plot of “Latitude” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11.

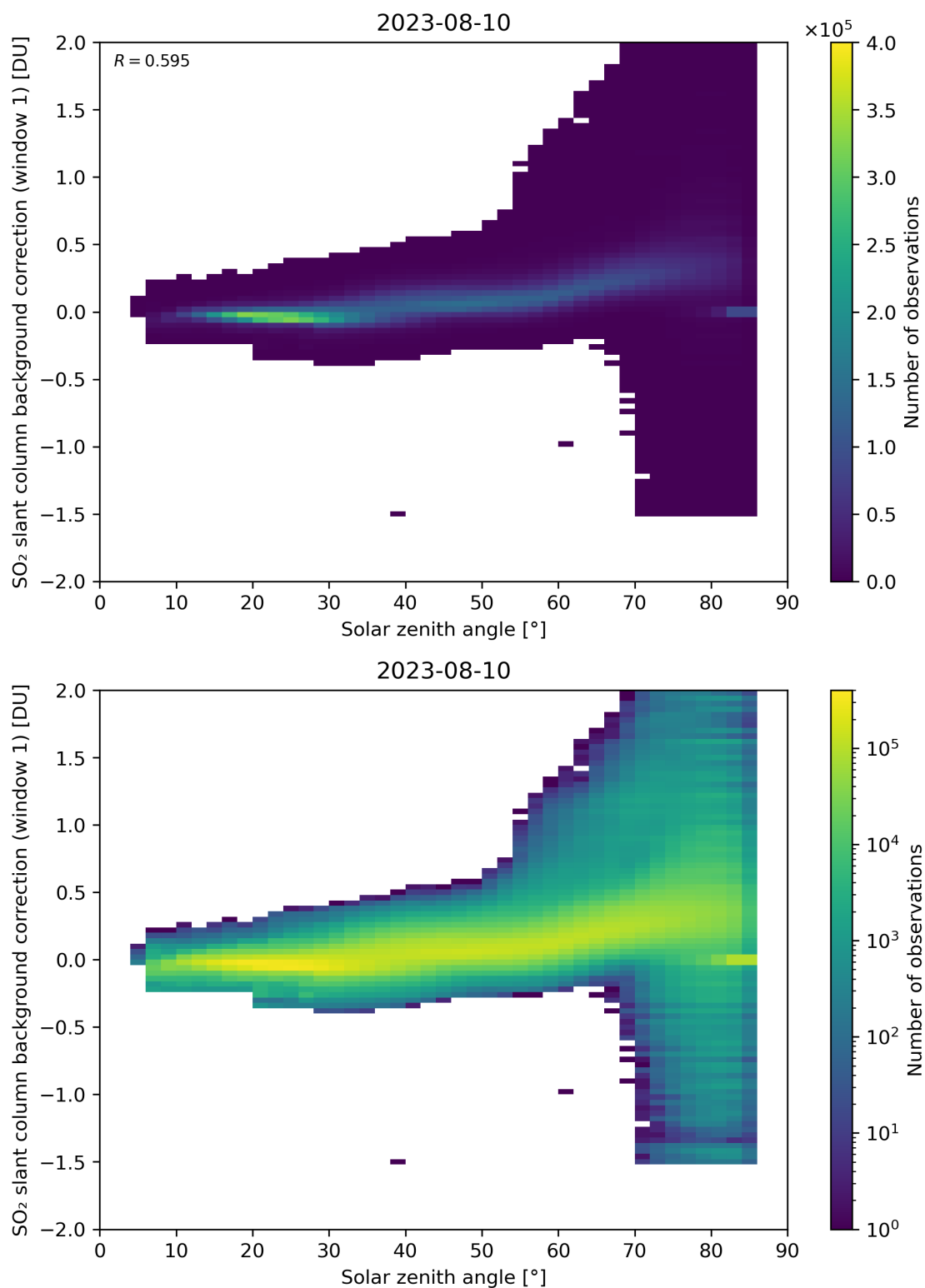


Figure 158: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

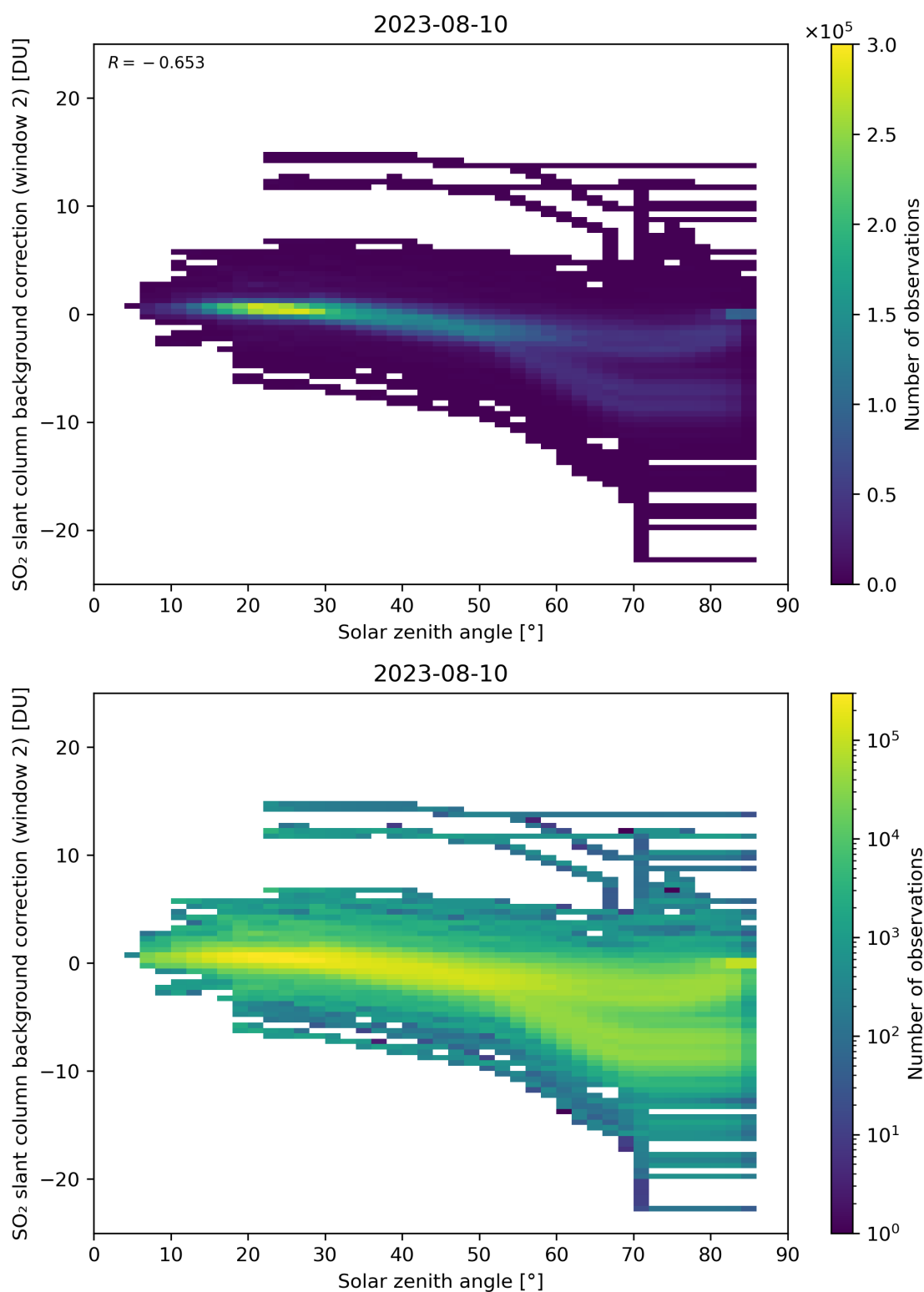


Figure 159: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

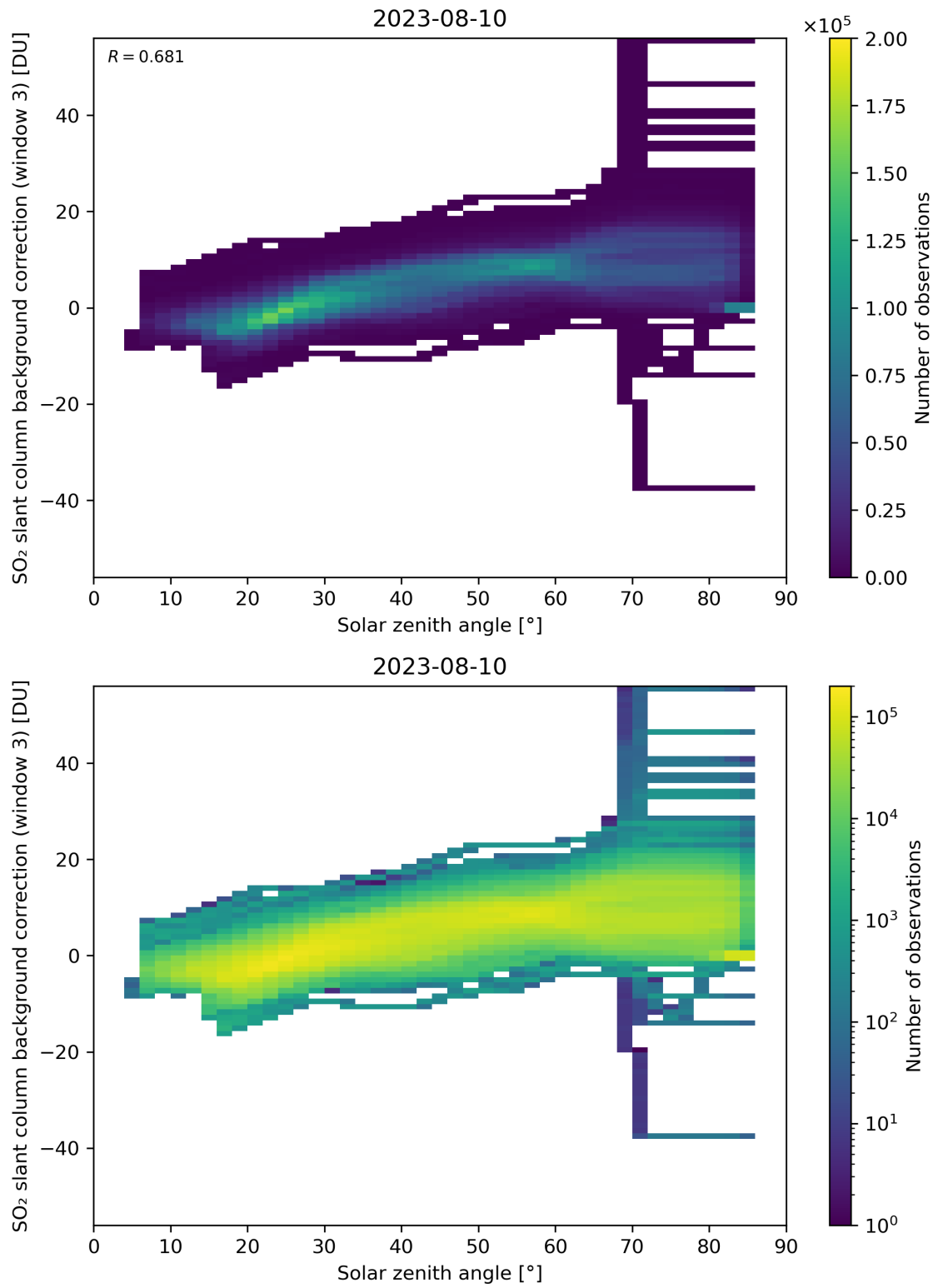


Figure 160: Scatter density plot of “Solar zenith angle” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

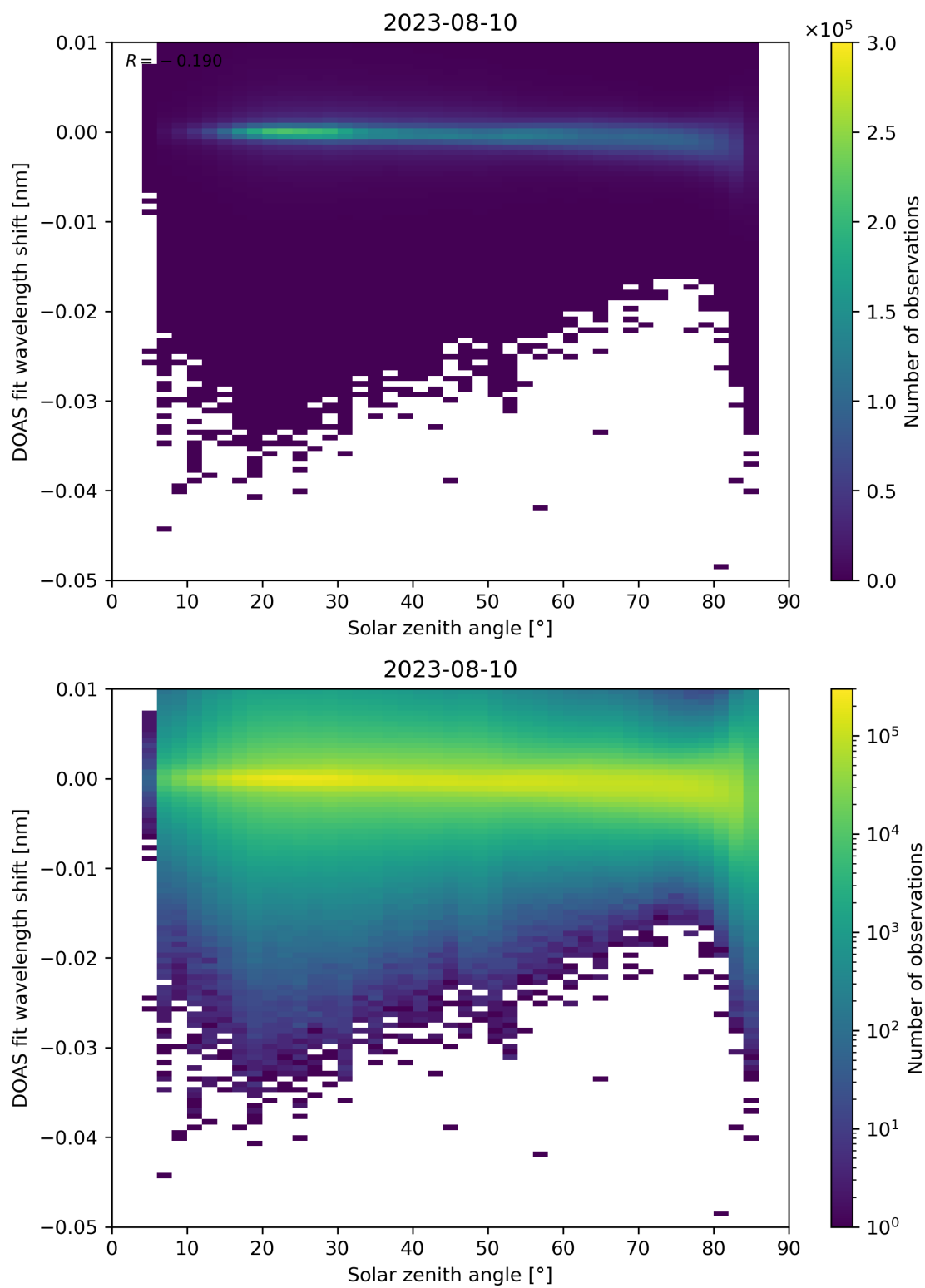


Figure 161: Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

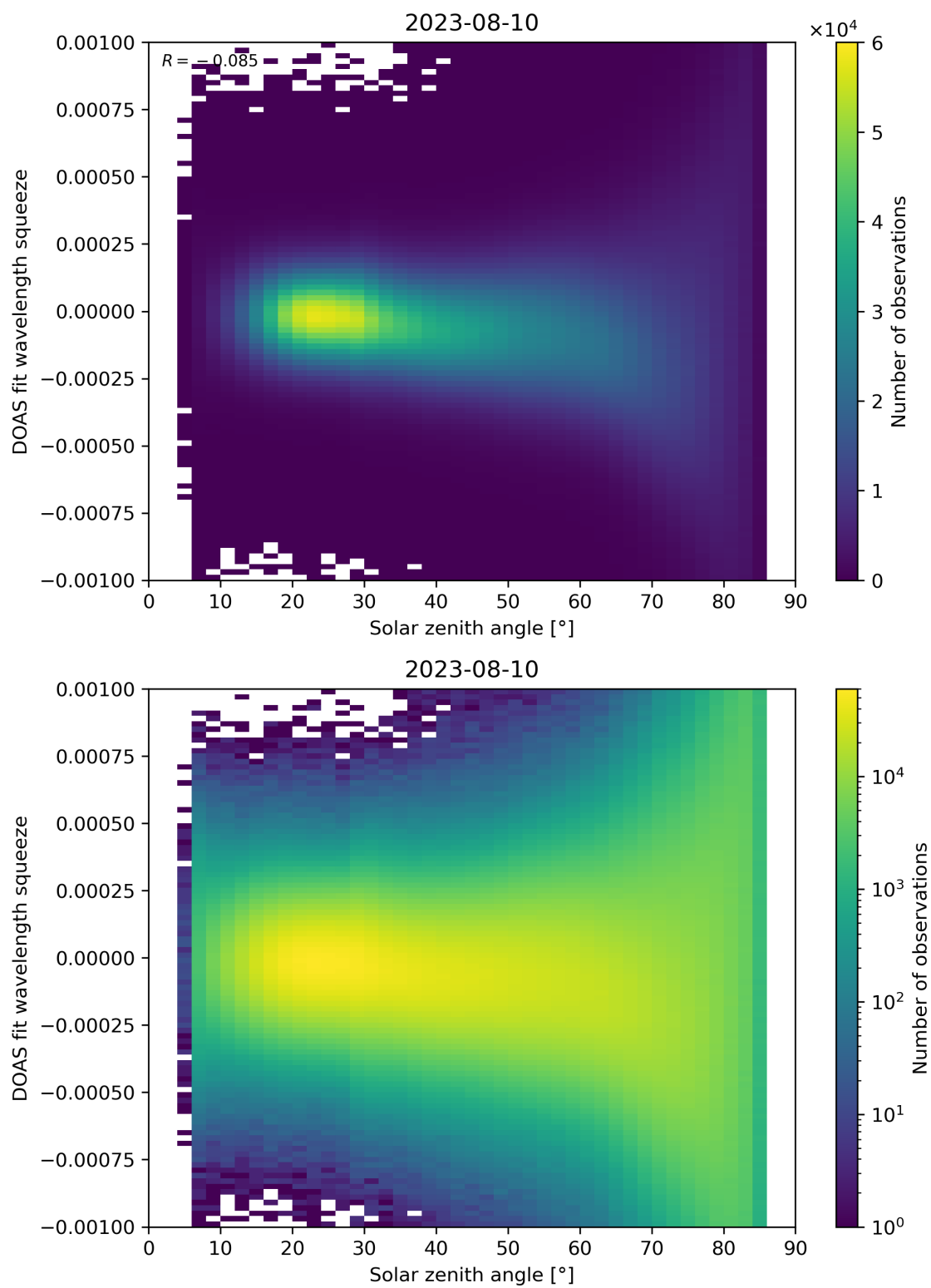


Figure 162: Scatter density plot of “Solar zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

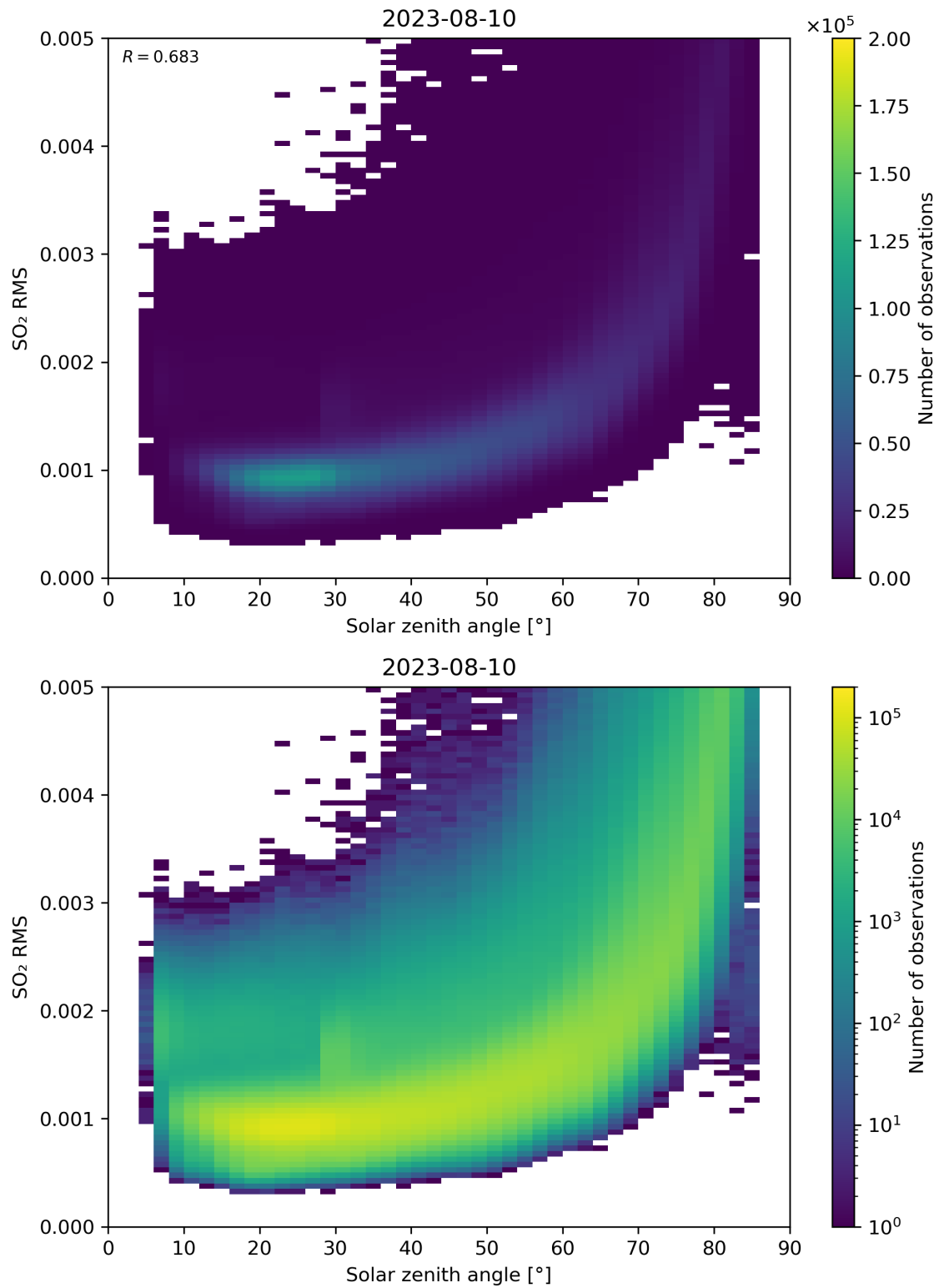


Figure 163: Scatter density plot of “Solar zenith angle” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

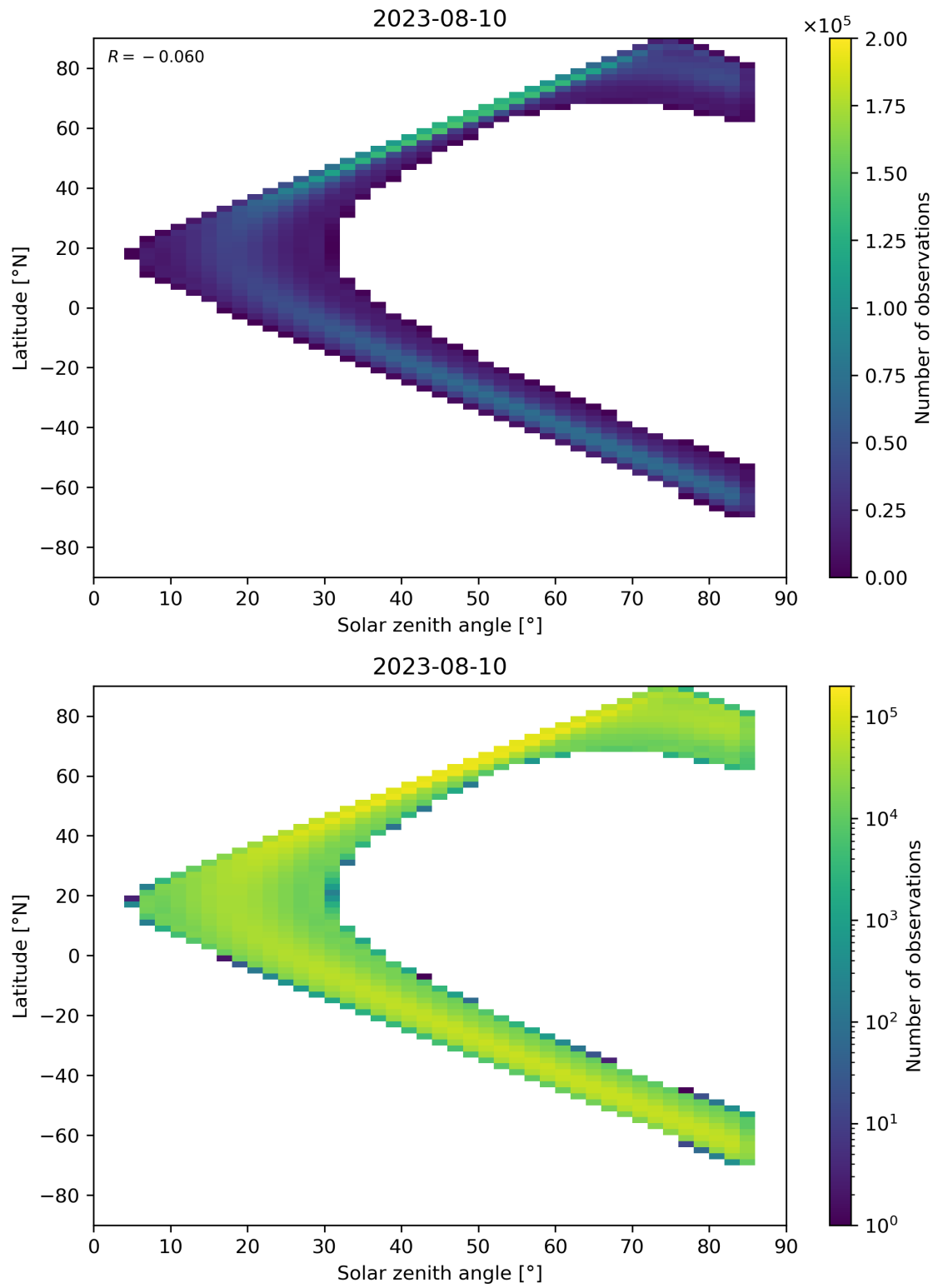


Figure 164: Scatter density plot of “Solar zenith angle” against “Latitude” for 2023-08-09 to 2023-08-11.

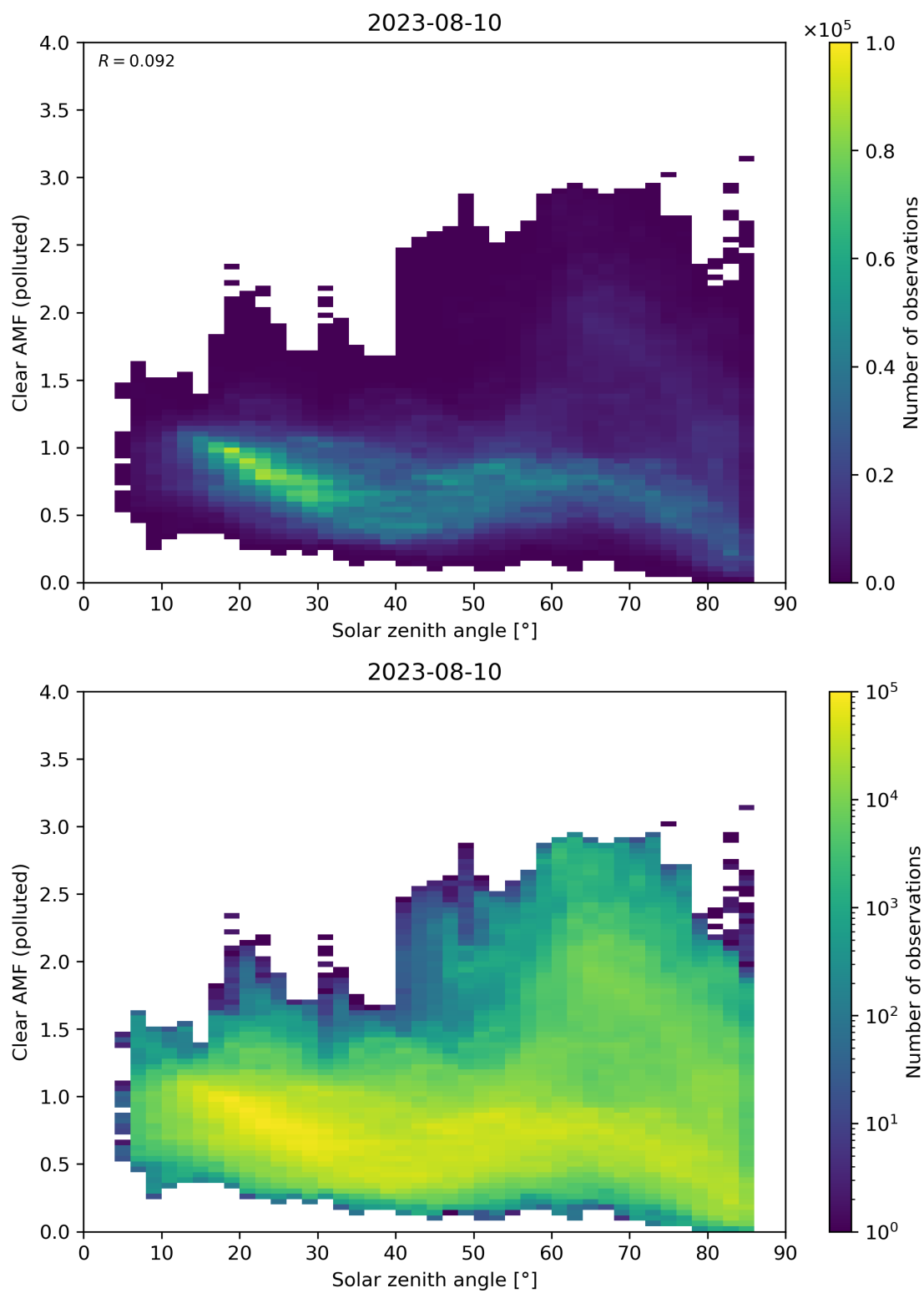


Figure 165: Scatter density plot of “Solar zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

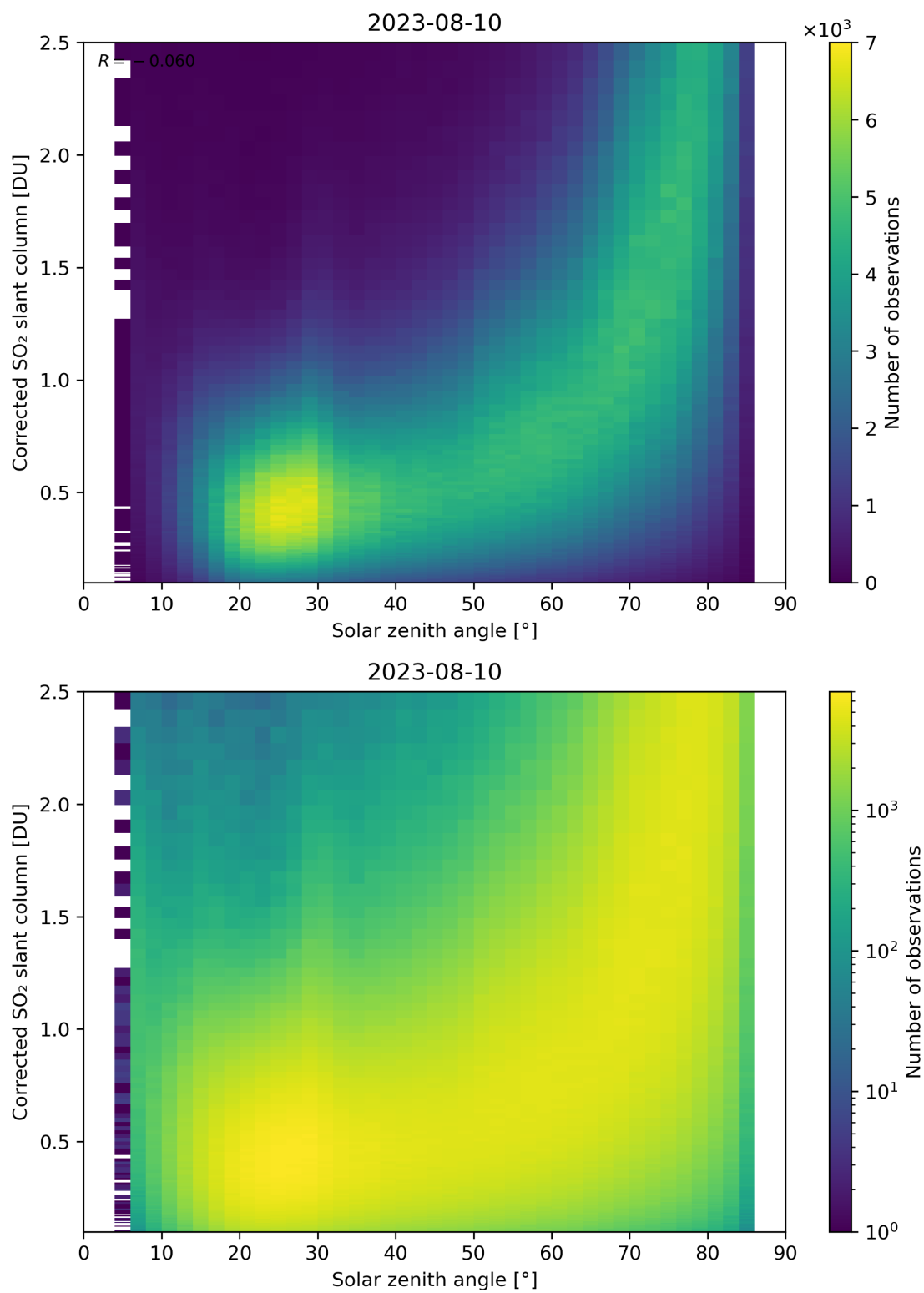


Figure 166: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

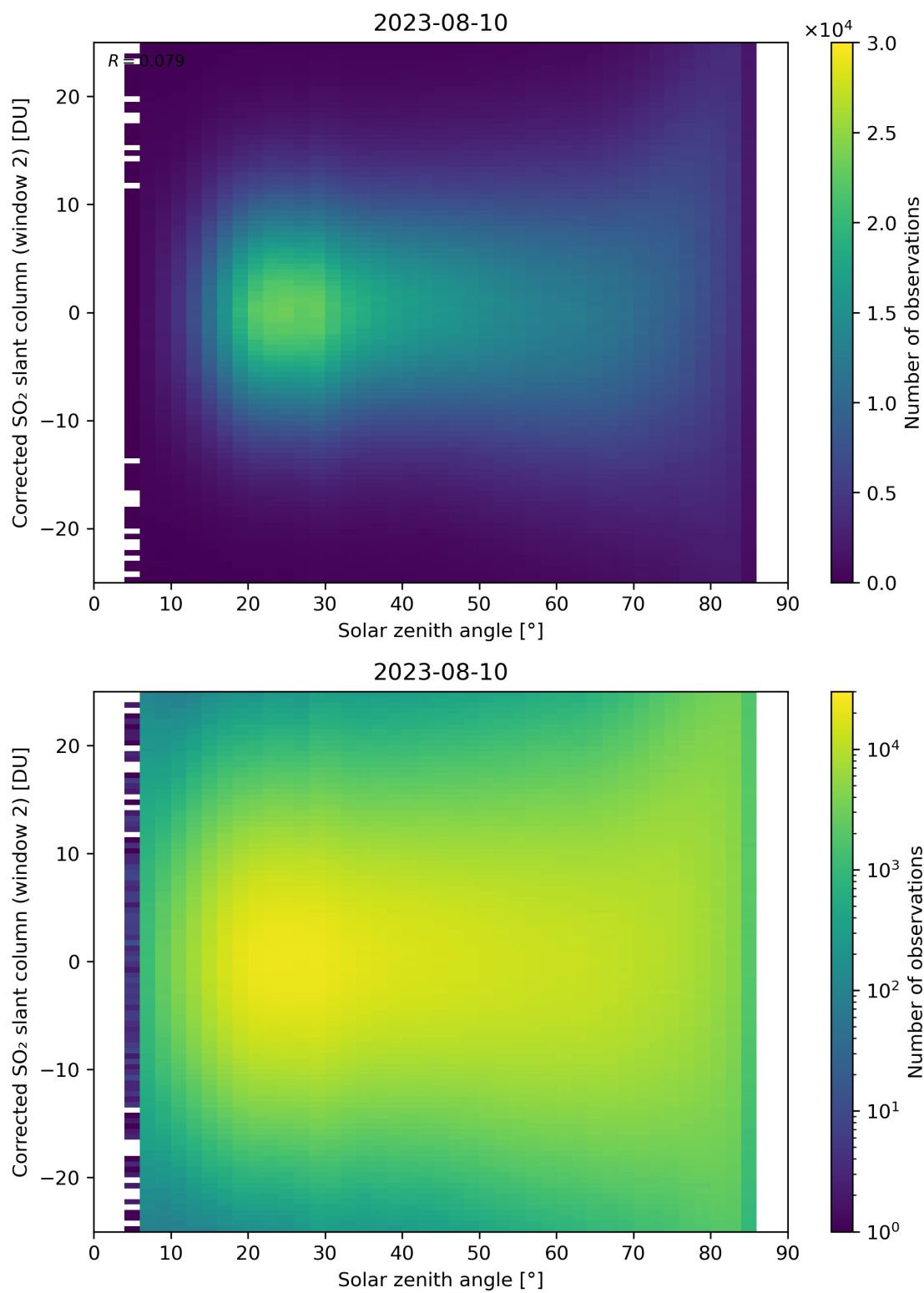


Figure 167: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

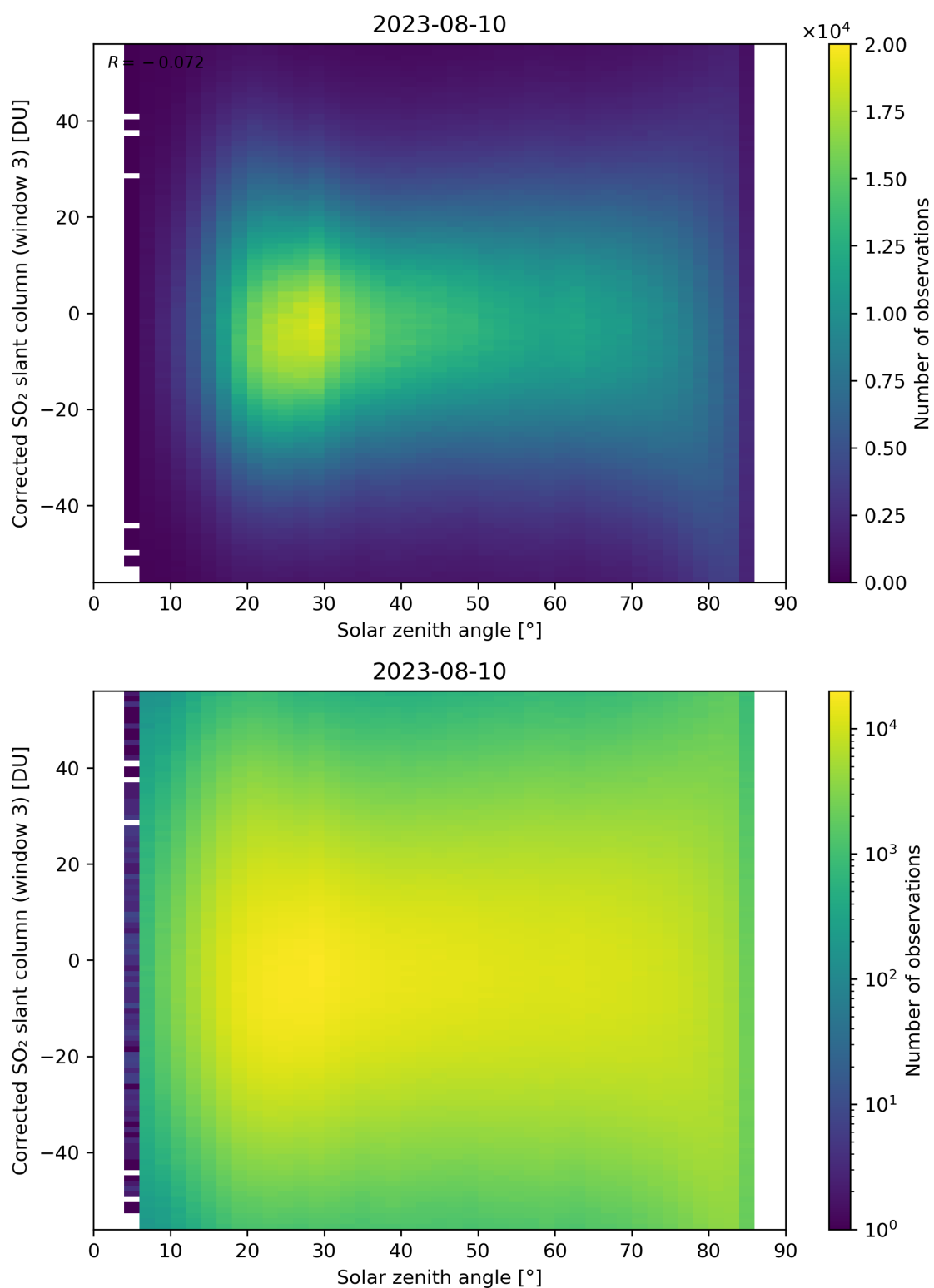


Figure 168: Scatter density plot of “Solar zenith angle” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

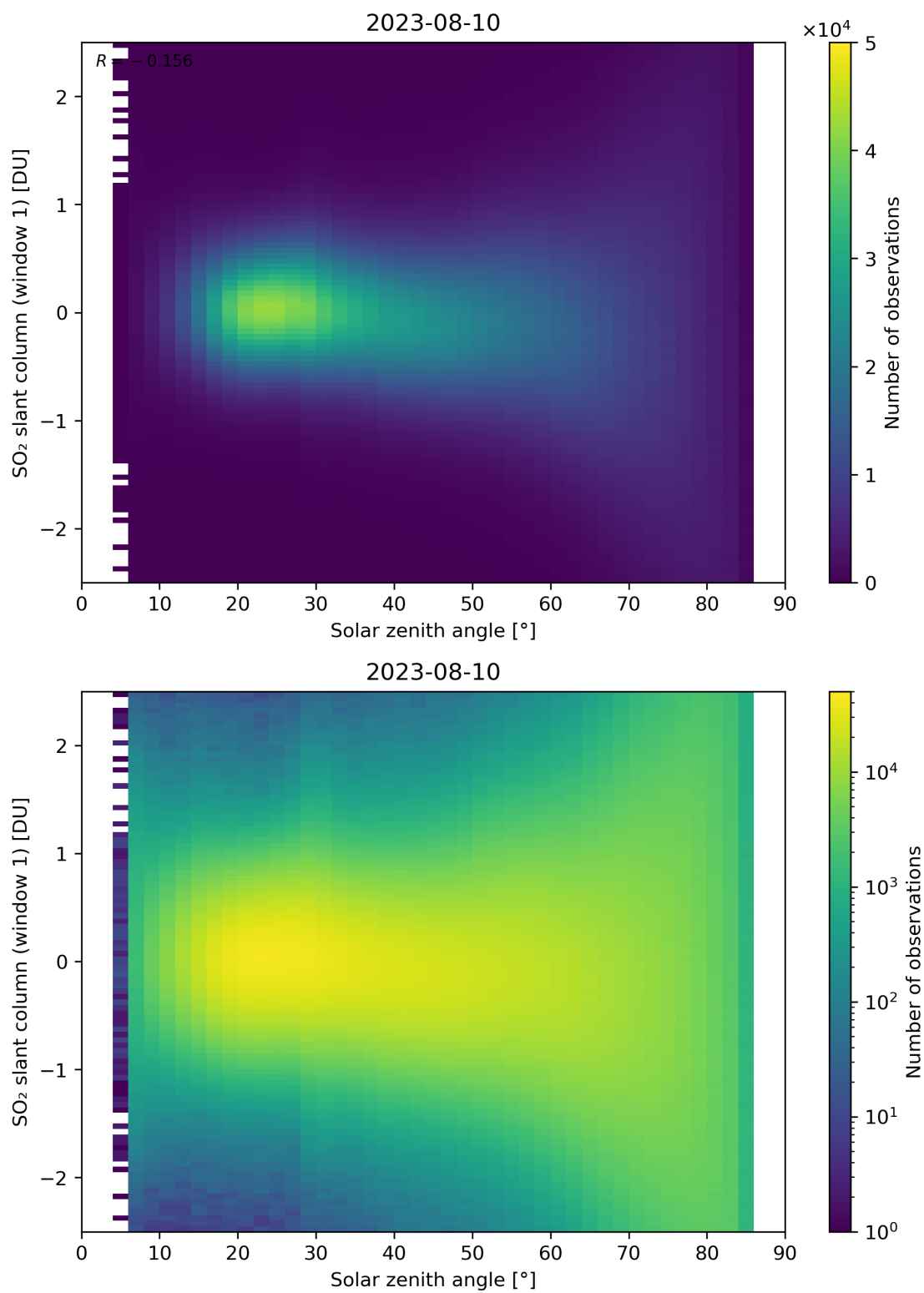


Figure 169: Scatter density plot of “Solar zenith angle” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

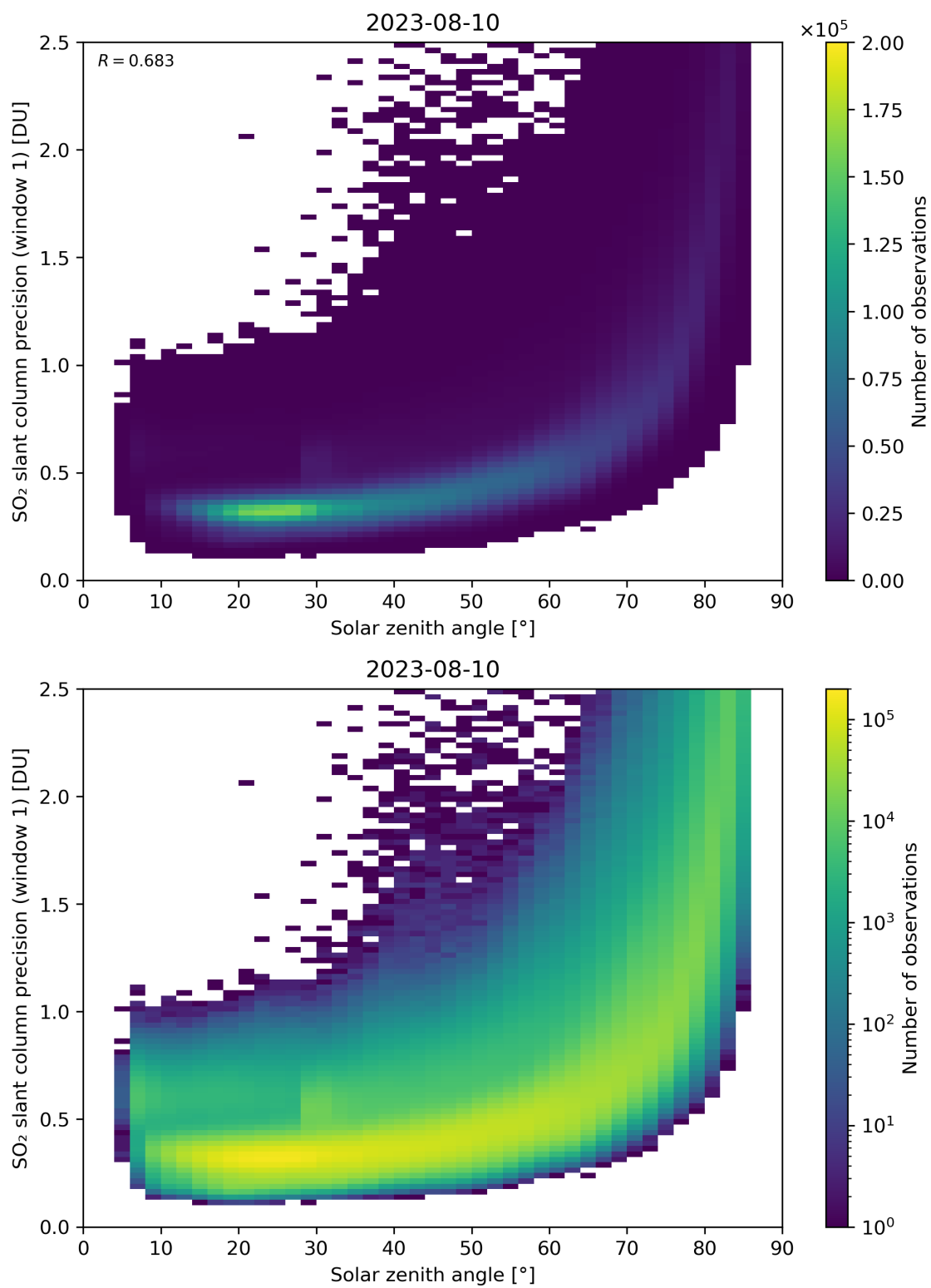


Figure 170: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

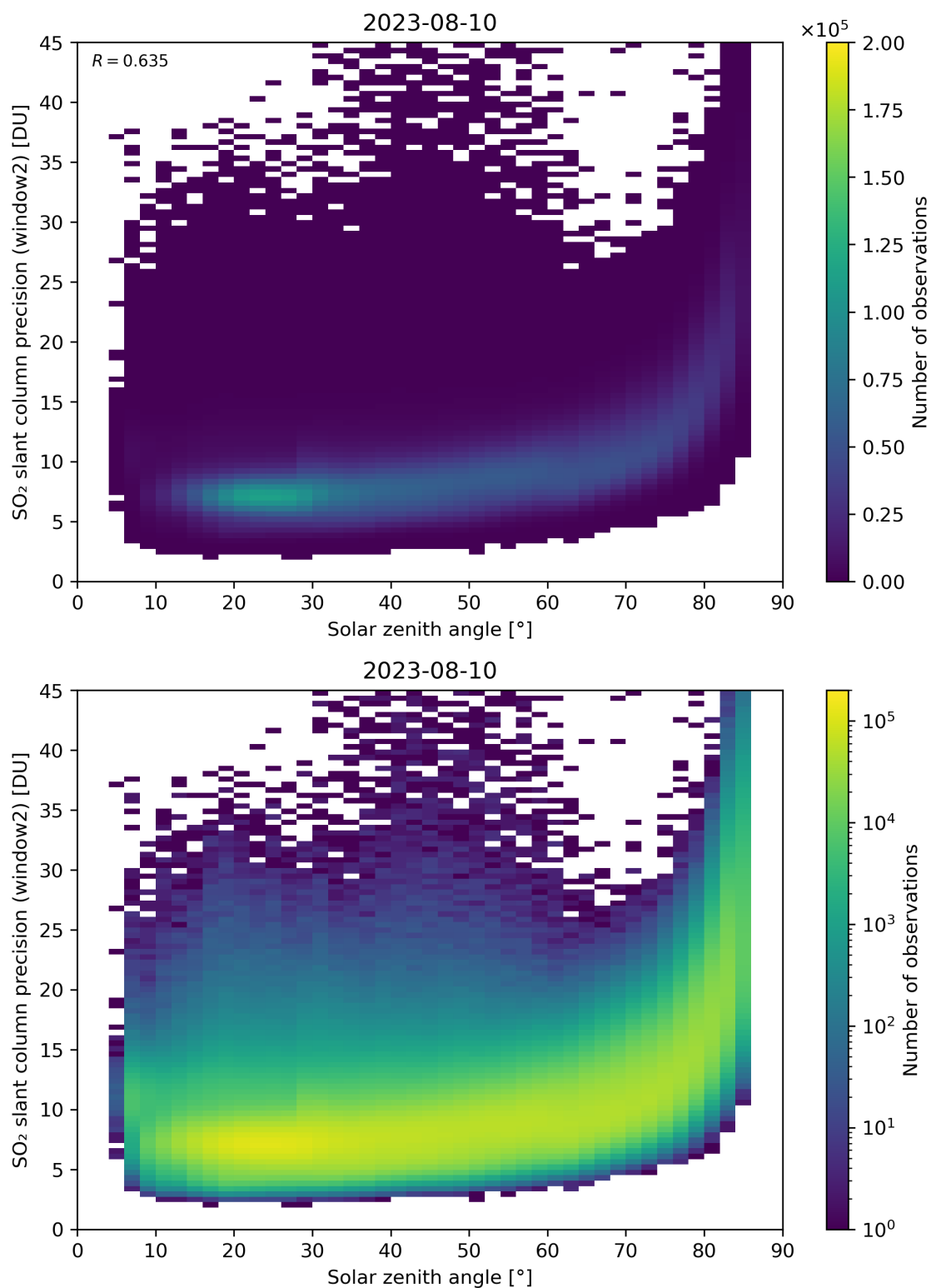


Figure 171: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

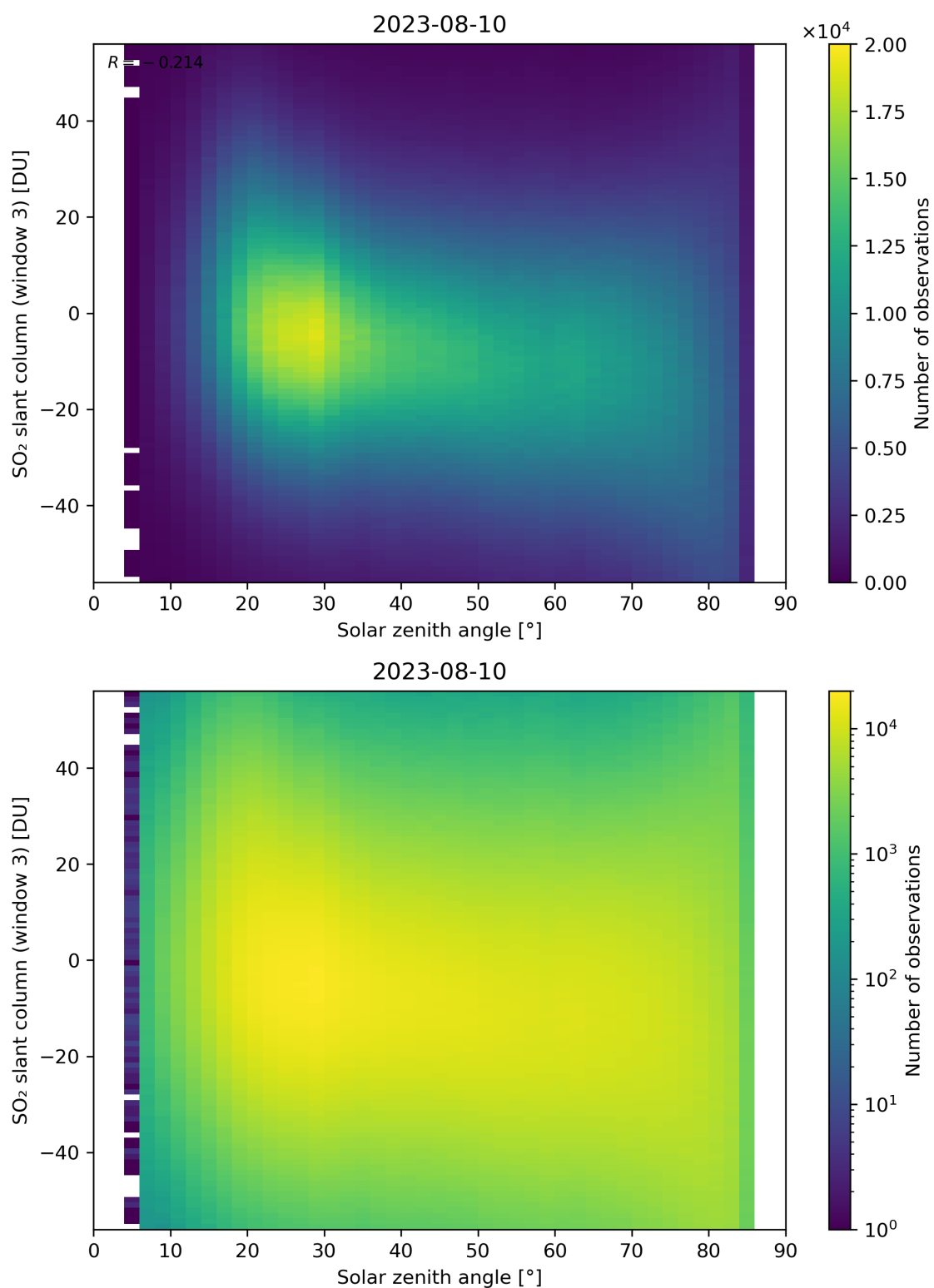


Figure 172: Scatter density plot of “Solar zenith angle” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

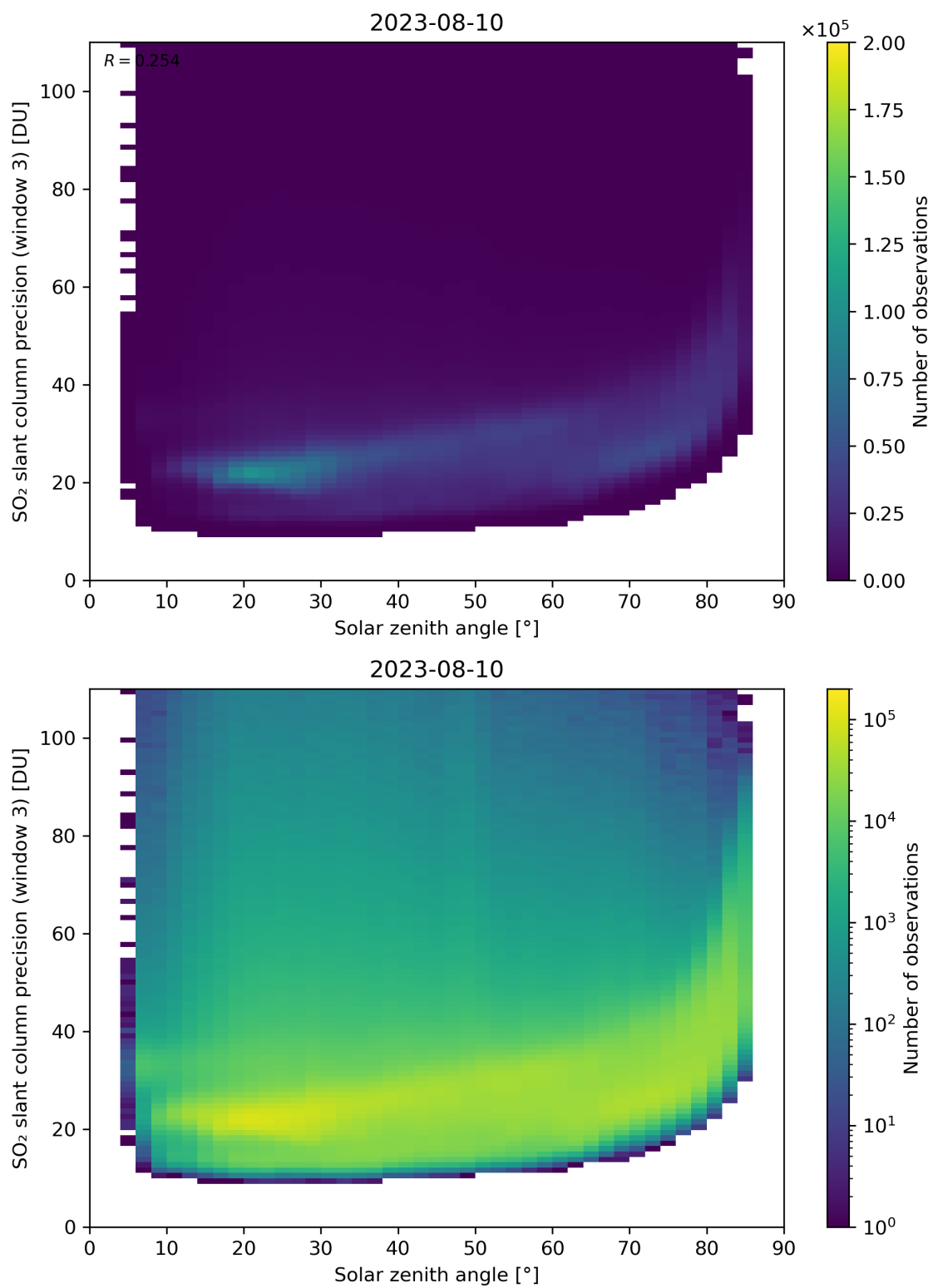


Figure 173: Scatter density plot of “Solar zenith angle” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

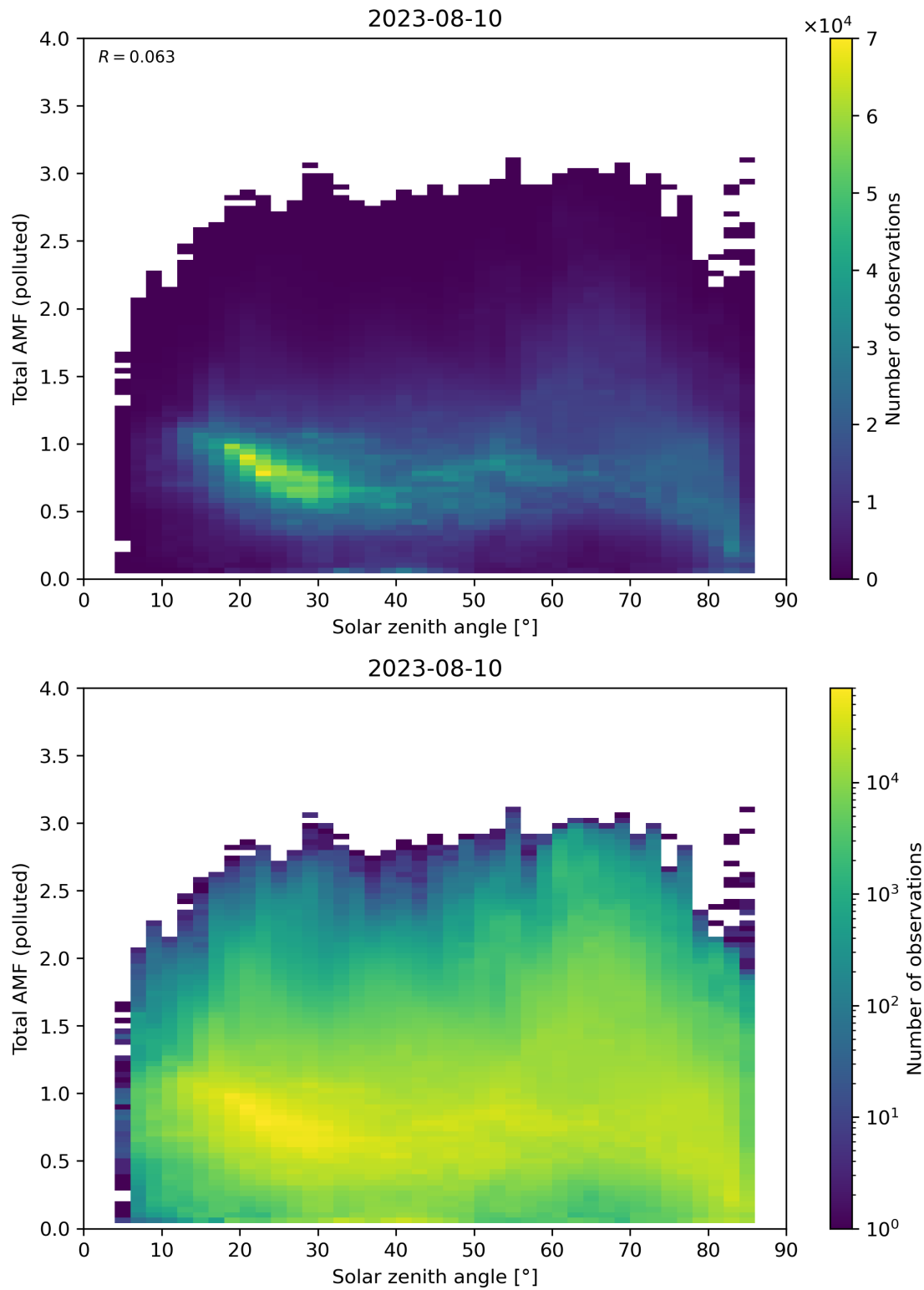


Figure 174: Scatter density plot of “Solar zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

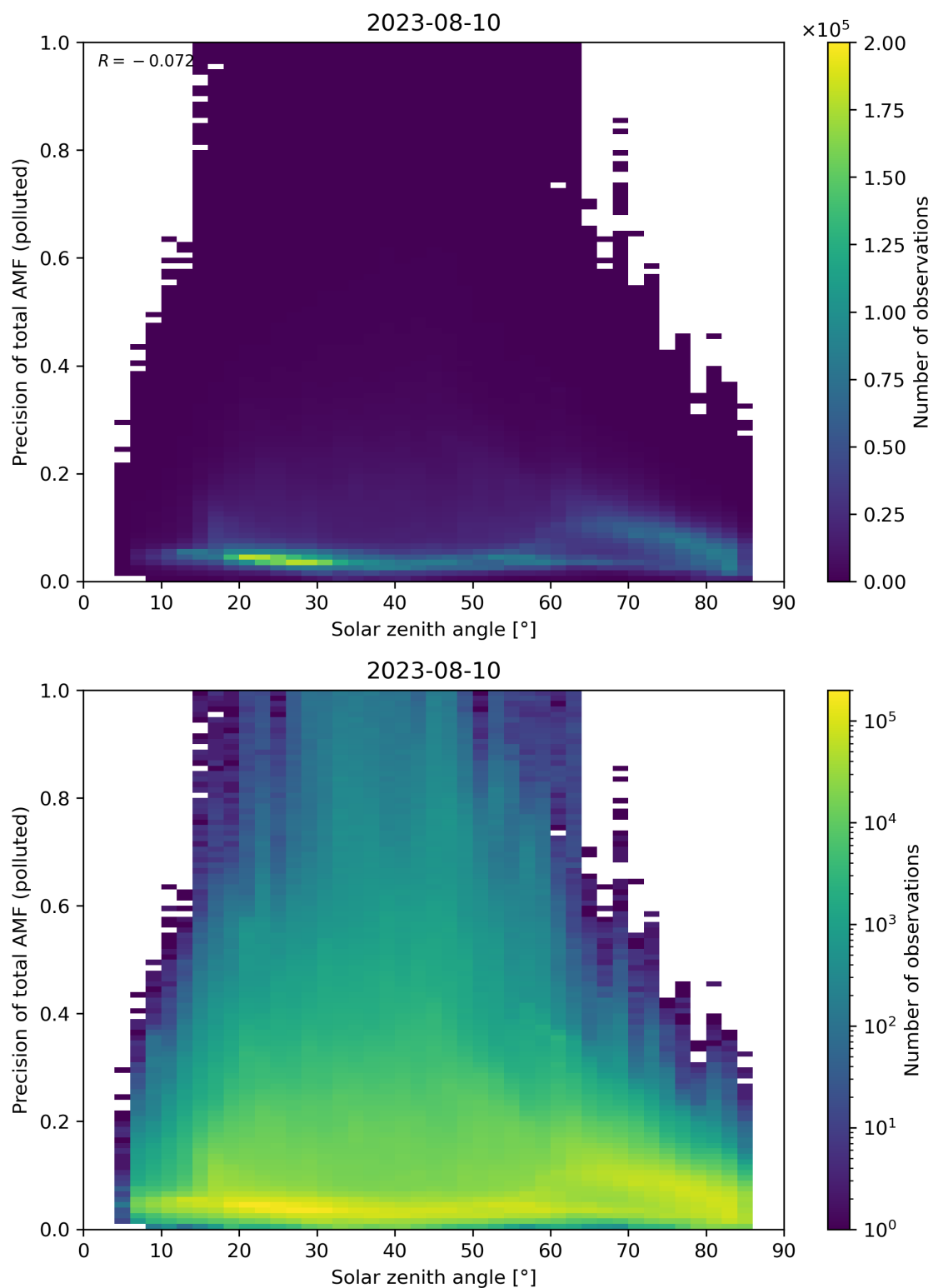


Figure 175: Scatter density plot of “Solar zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

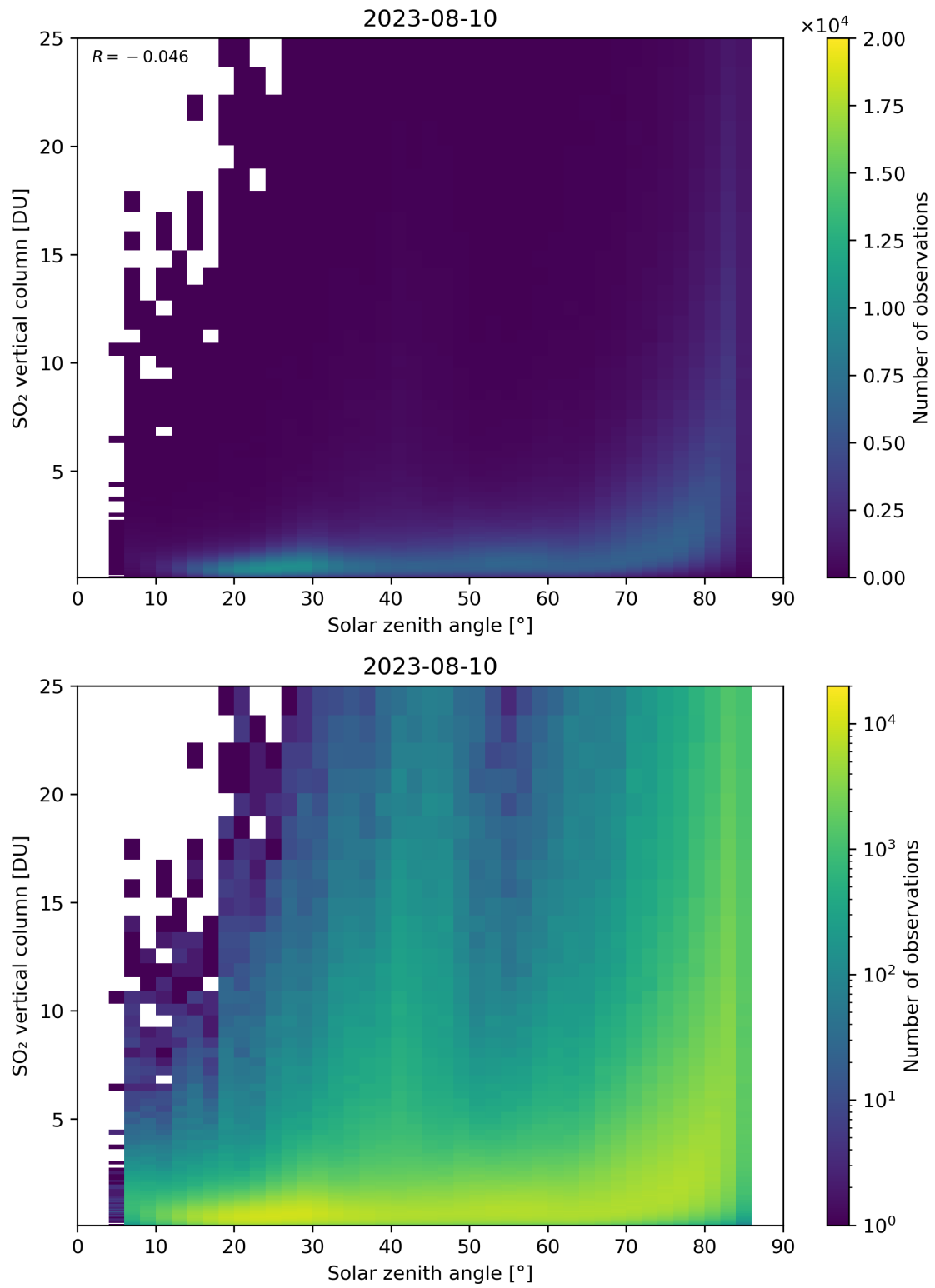


Figure 176: Scatter density plot of “Solar zenith angle” against “SO₂ vertical column” for 2023-08-09 to 2023-08-11.

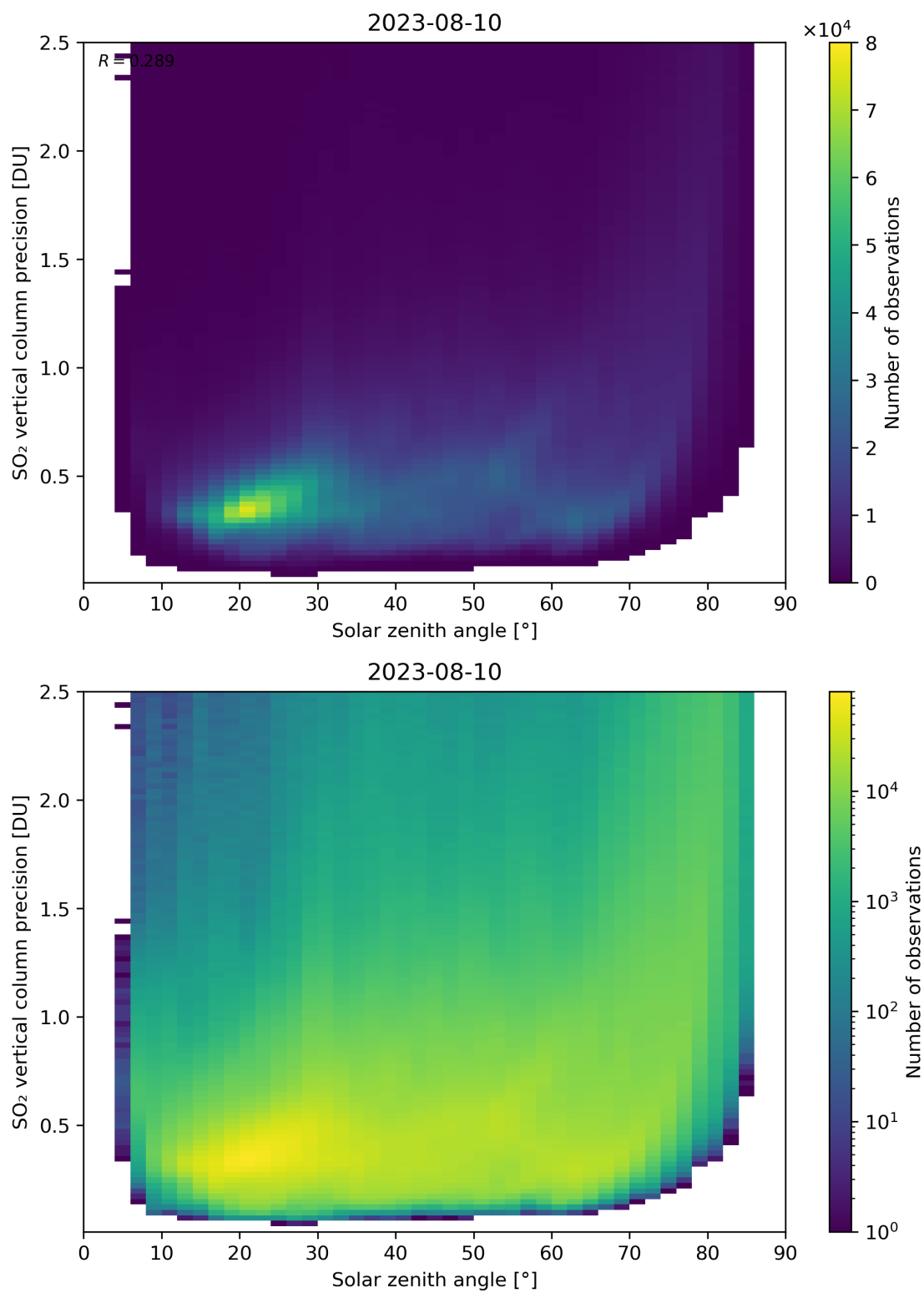


Figure 177: Scatter density plot of “Solar zenith angle” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11.

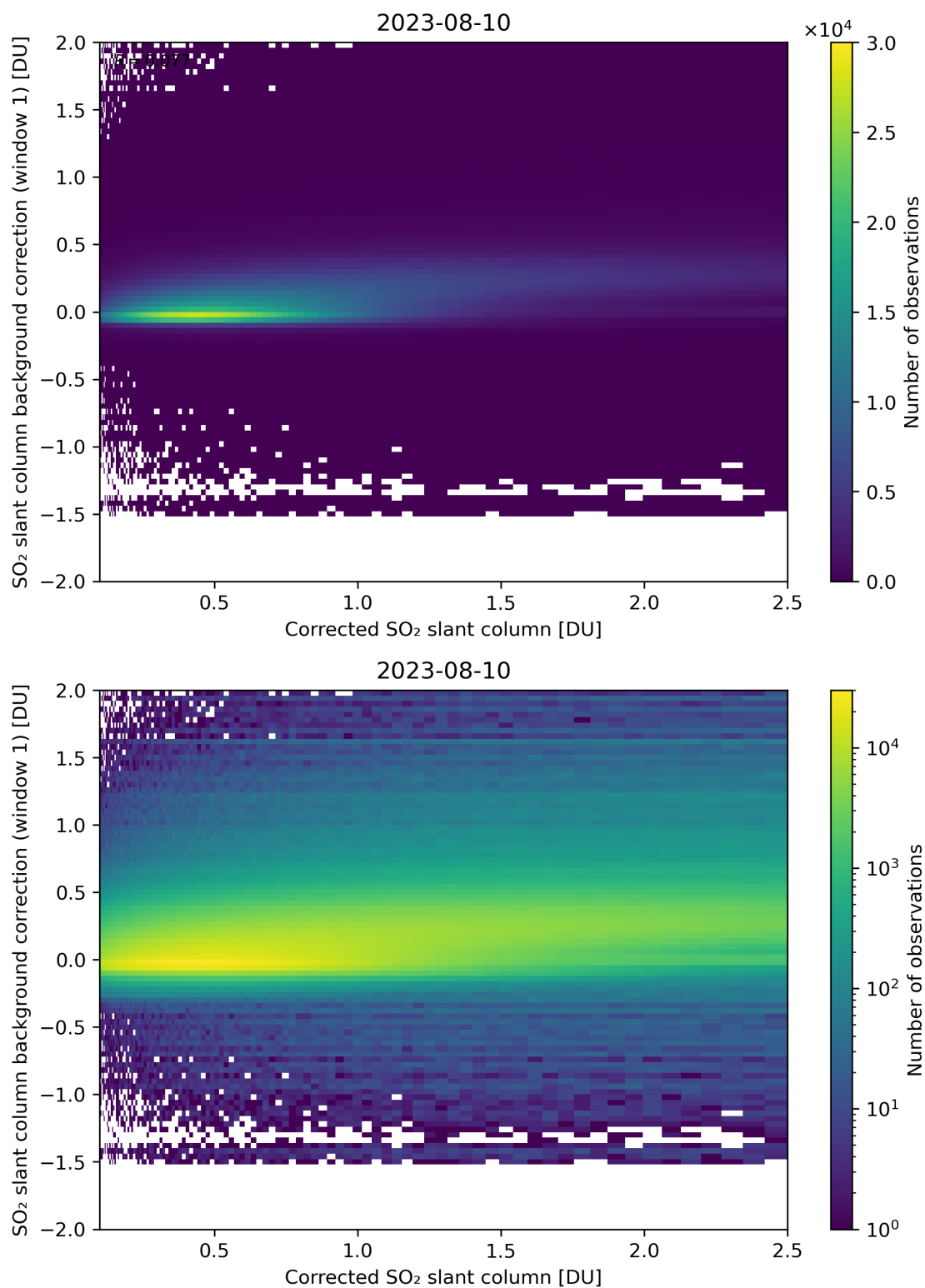


Figure 178: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

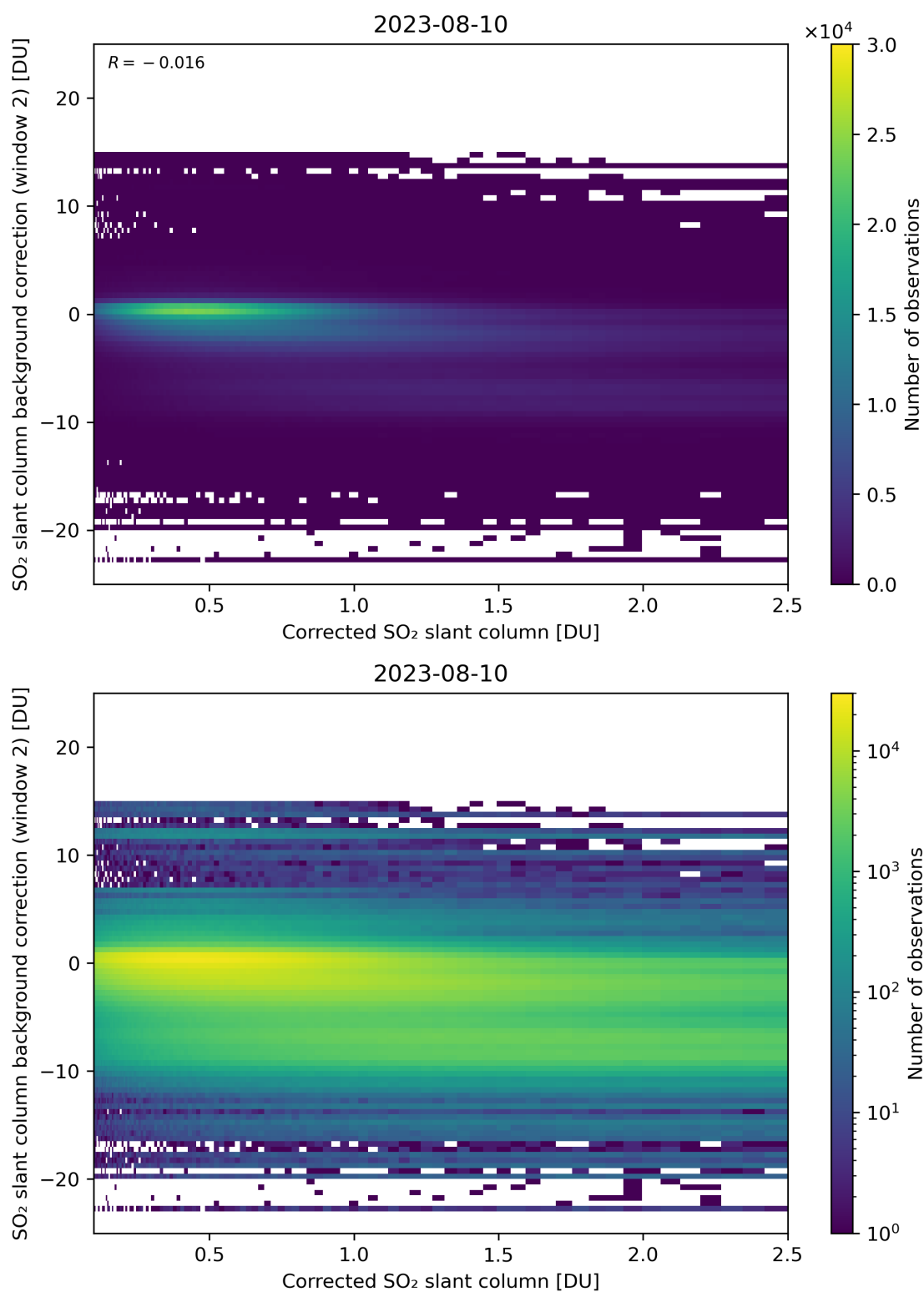


Figure 179: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

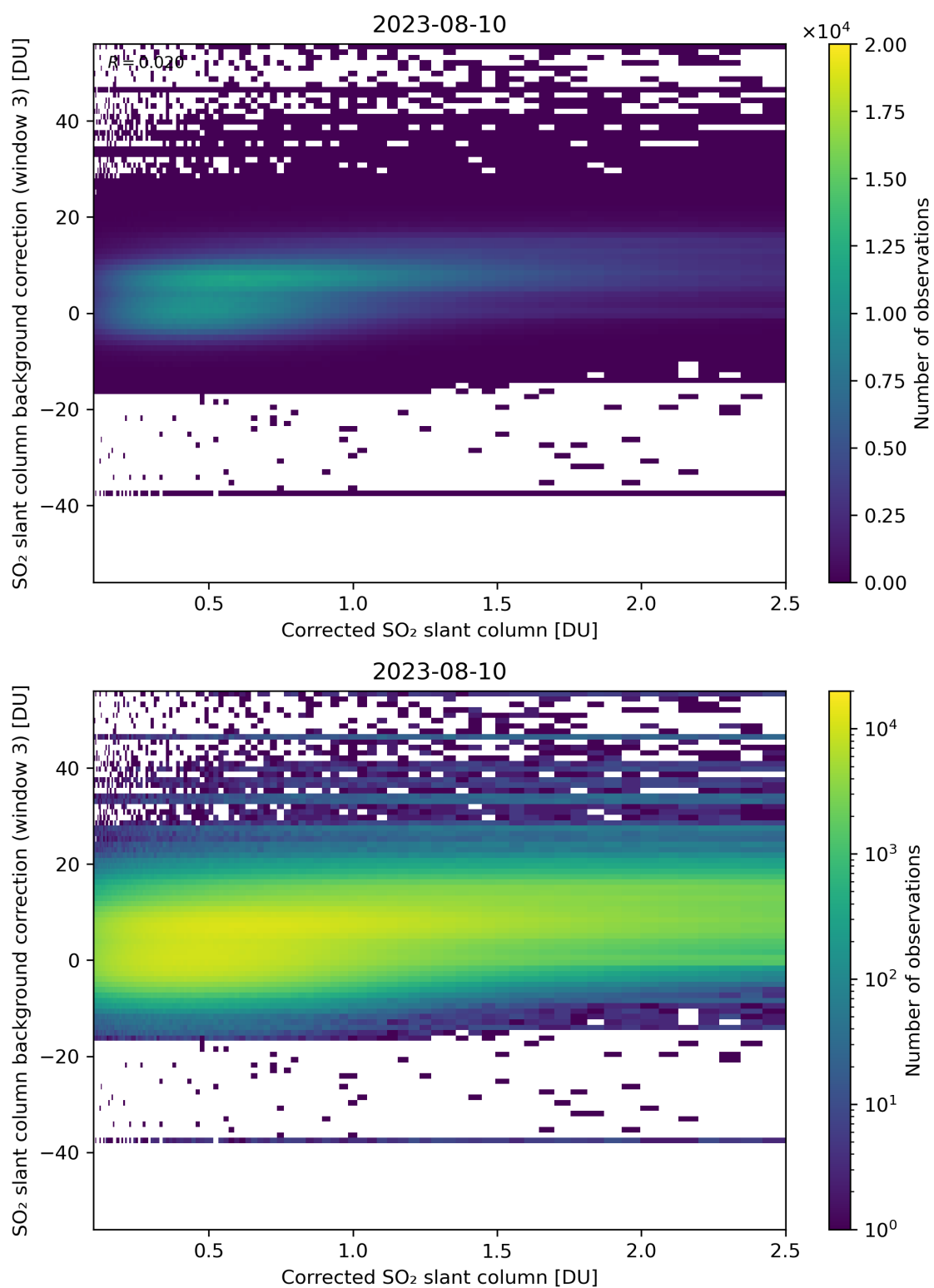


Figure 180: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

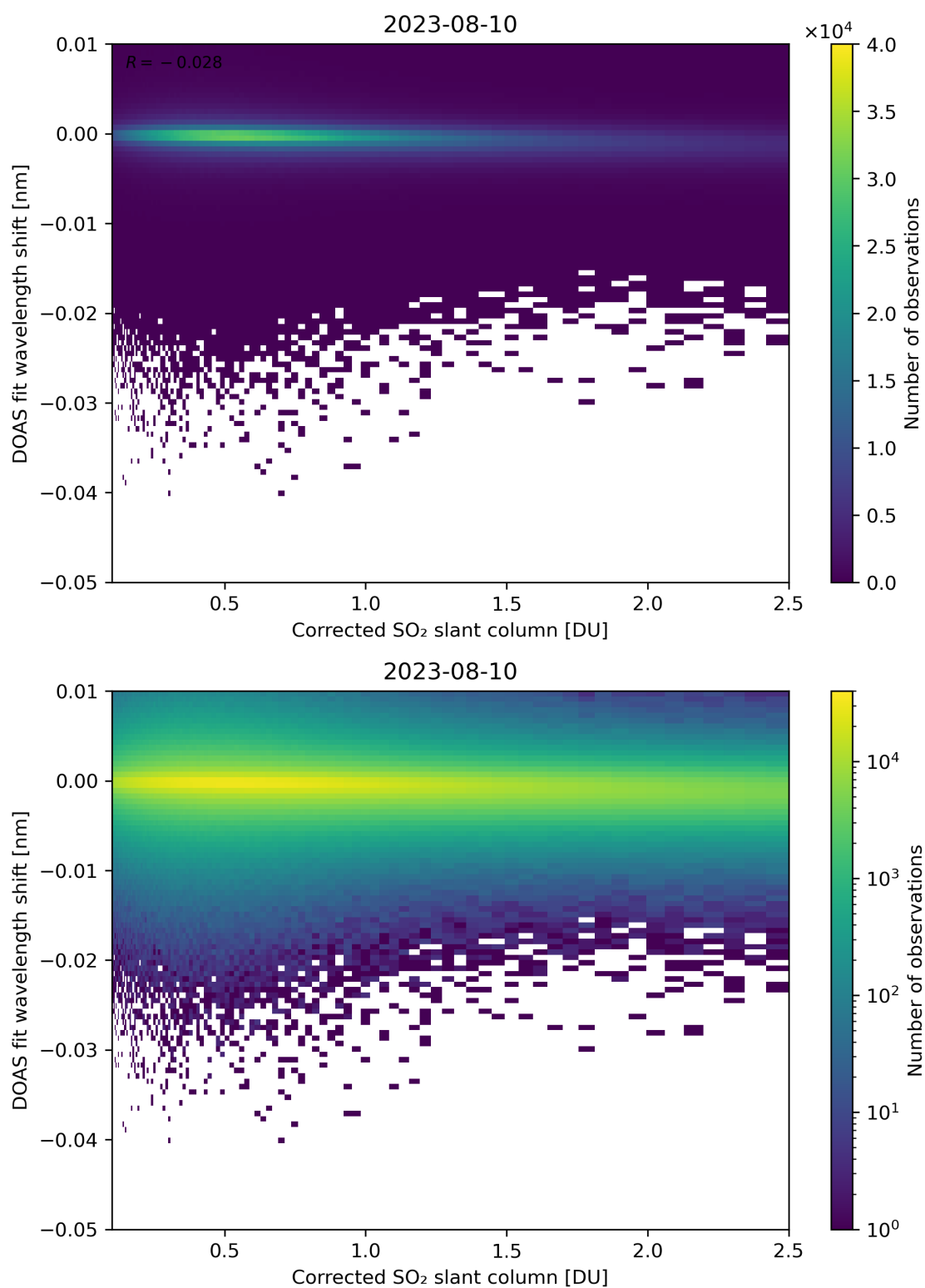


Figure 181: Scatter density plot of “Corrected SO₂ slant column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

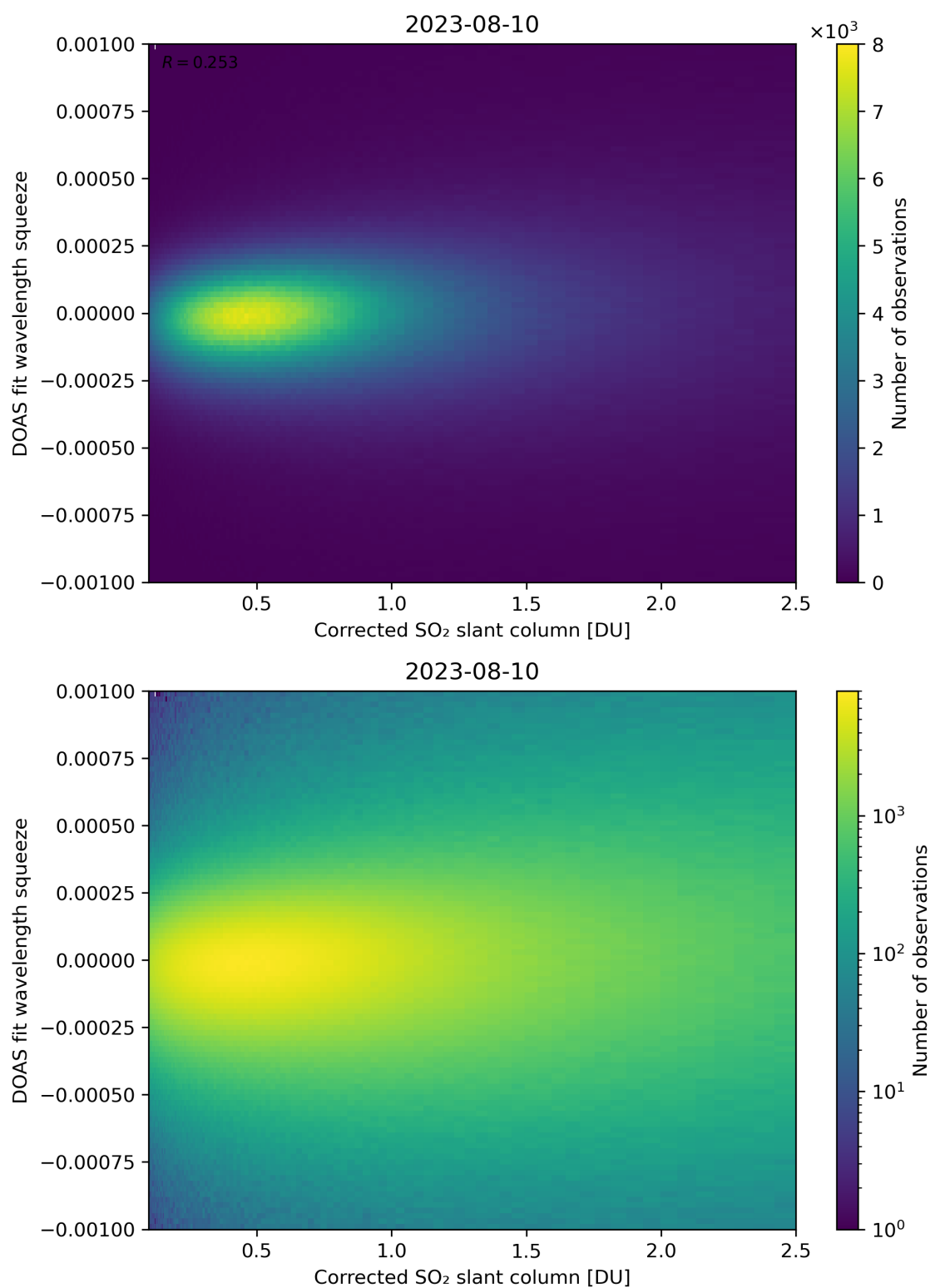


Figure 182: Scatter density plot of “Corrected SO₂ slant column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

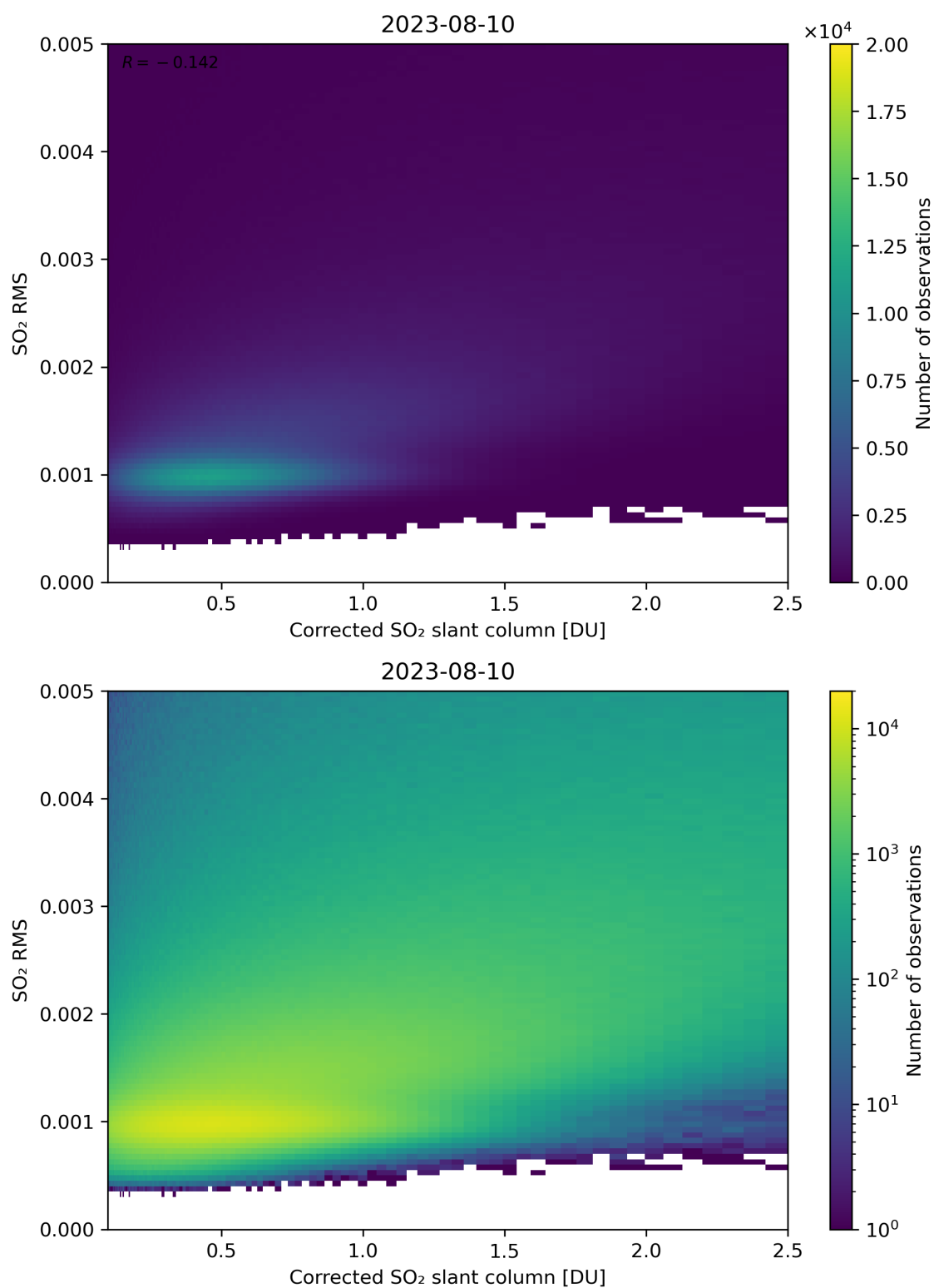


Figure 183: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

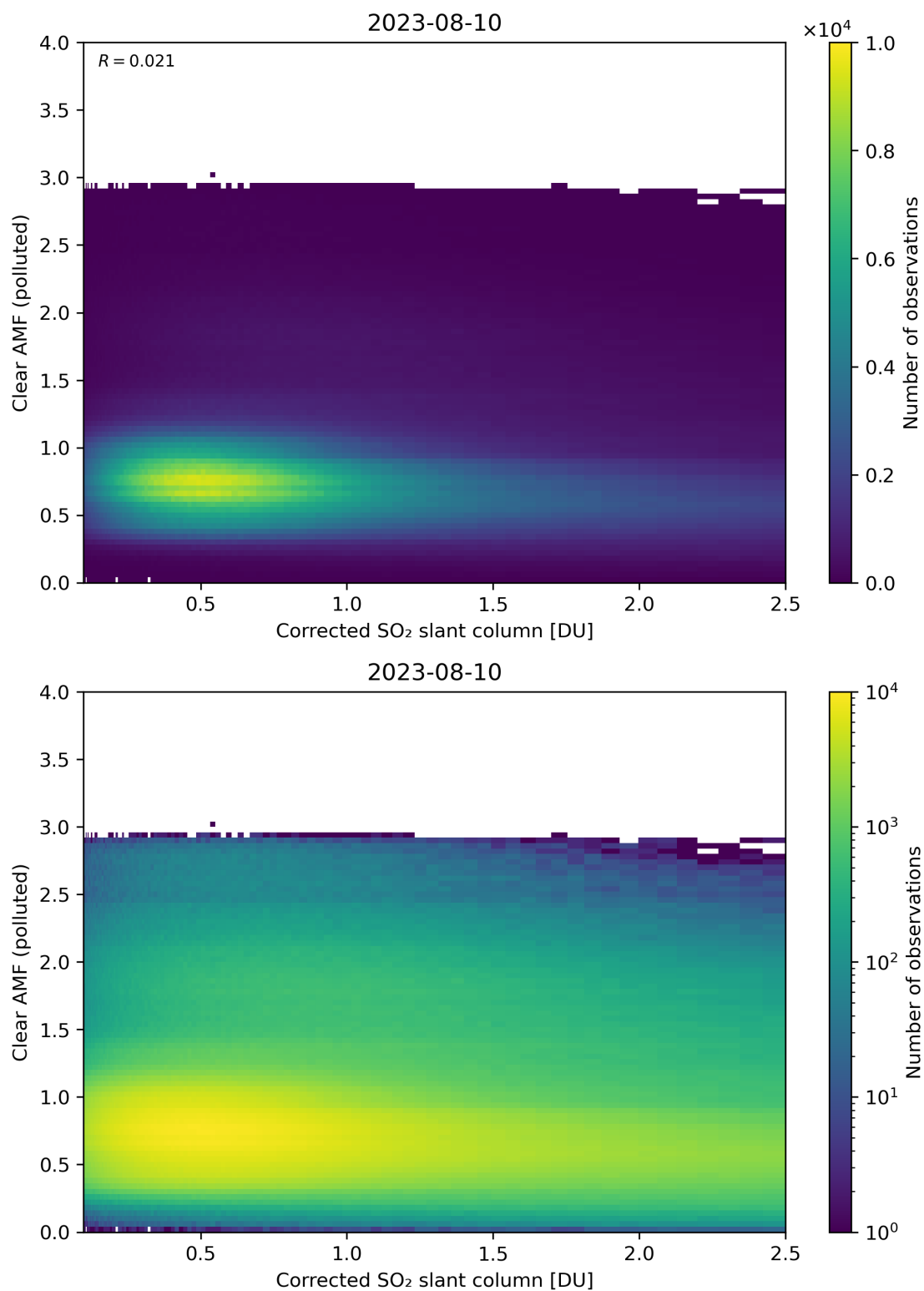


Figure 184: Scatter density plot of “Corrected SO₂ slant column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

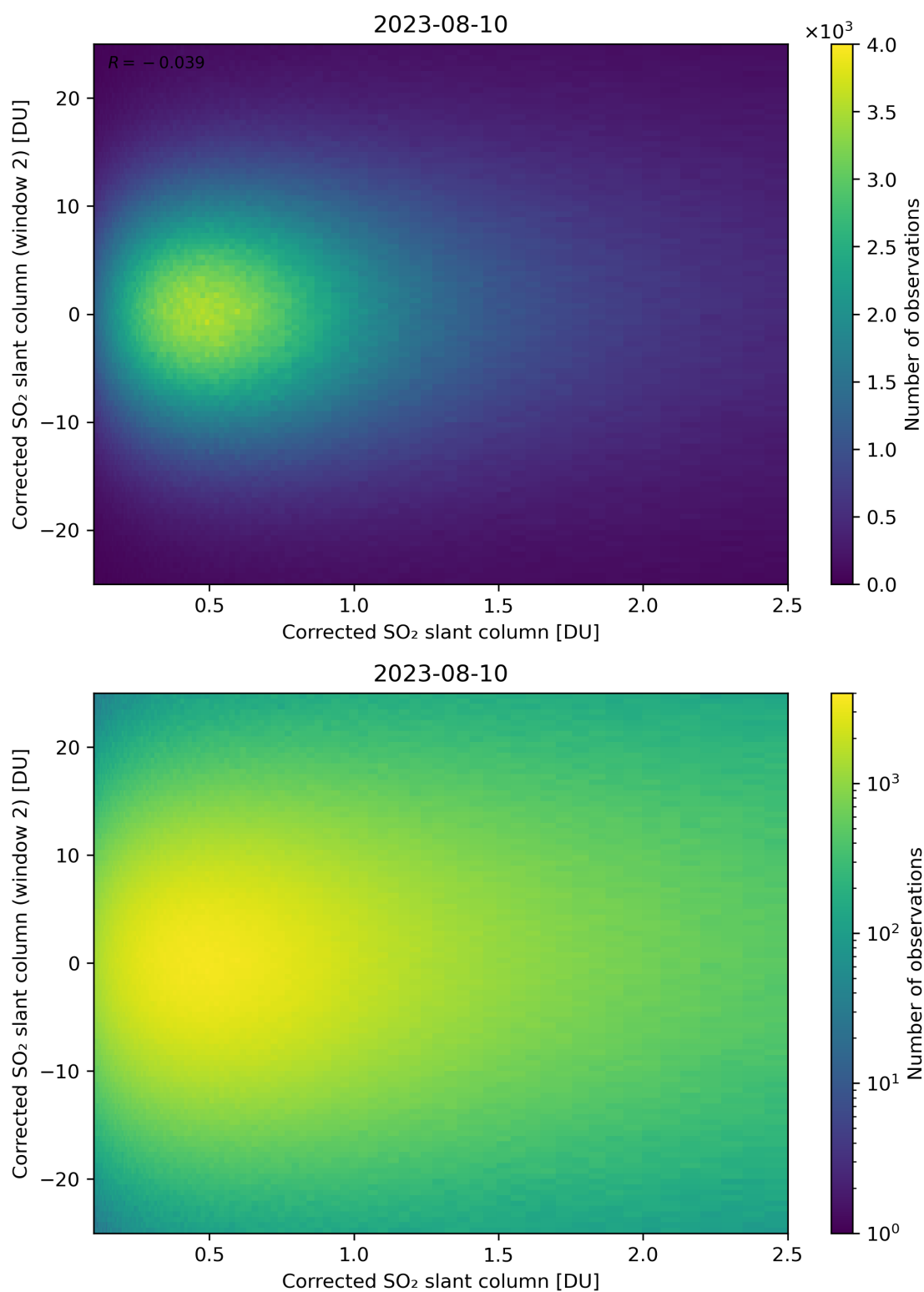


Figure 185: Scatter density plot of “Corrected SO₂ slant column” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

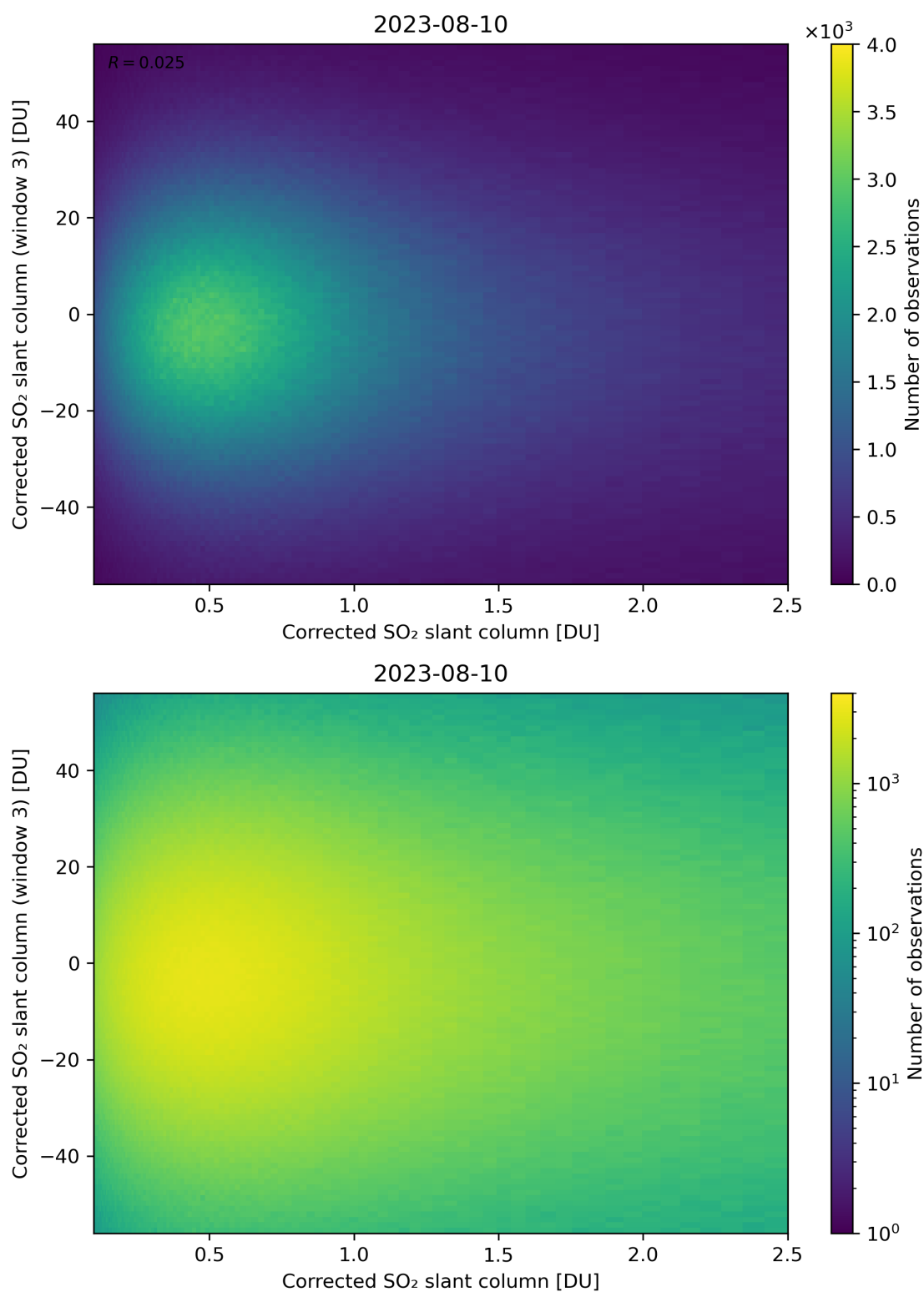


Figure 186: Scatter density plot of “Corrected SO₂ slant column” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

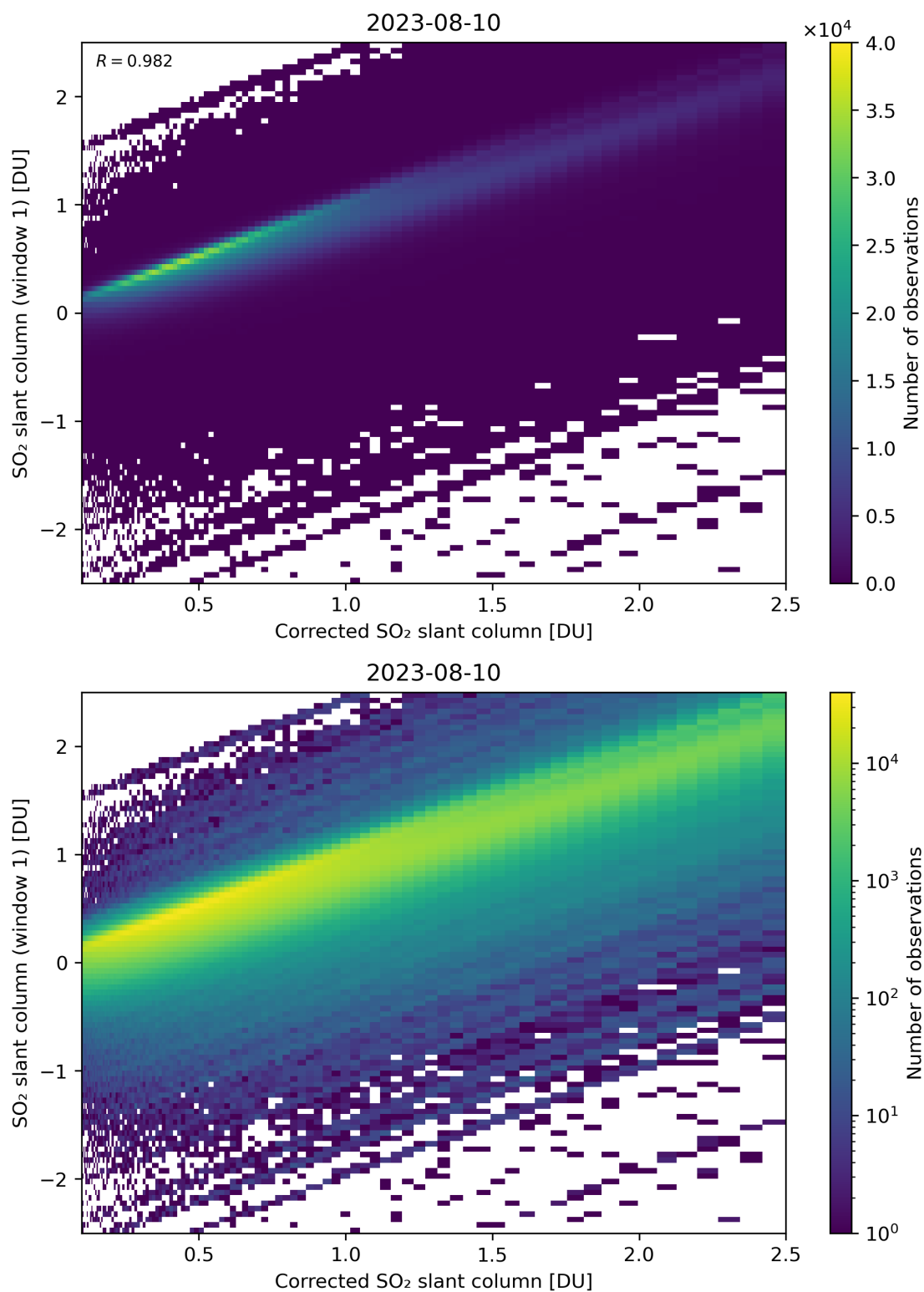


Figure 187: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

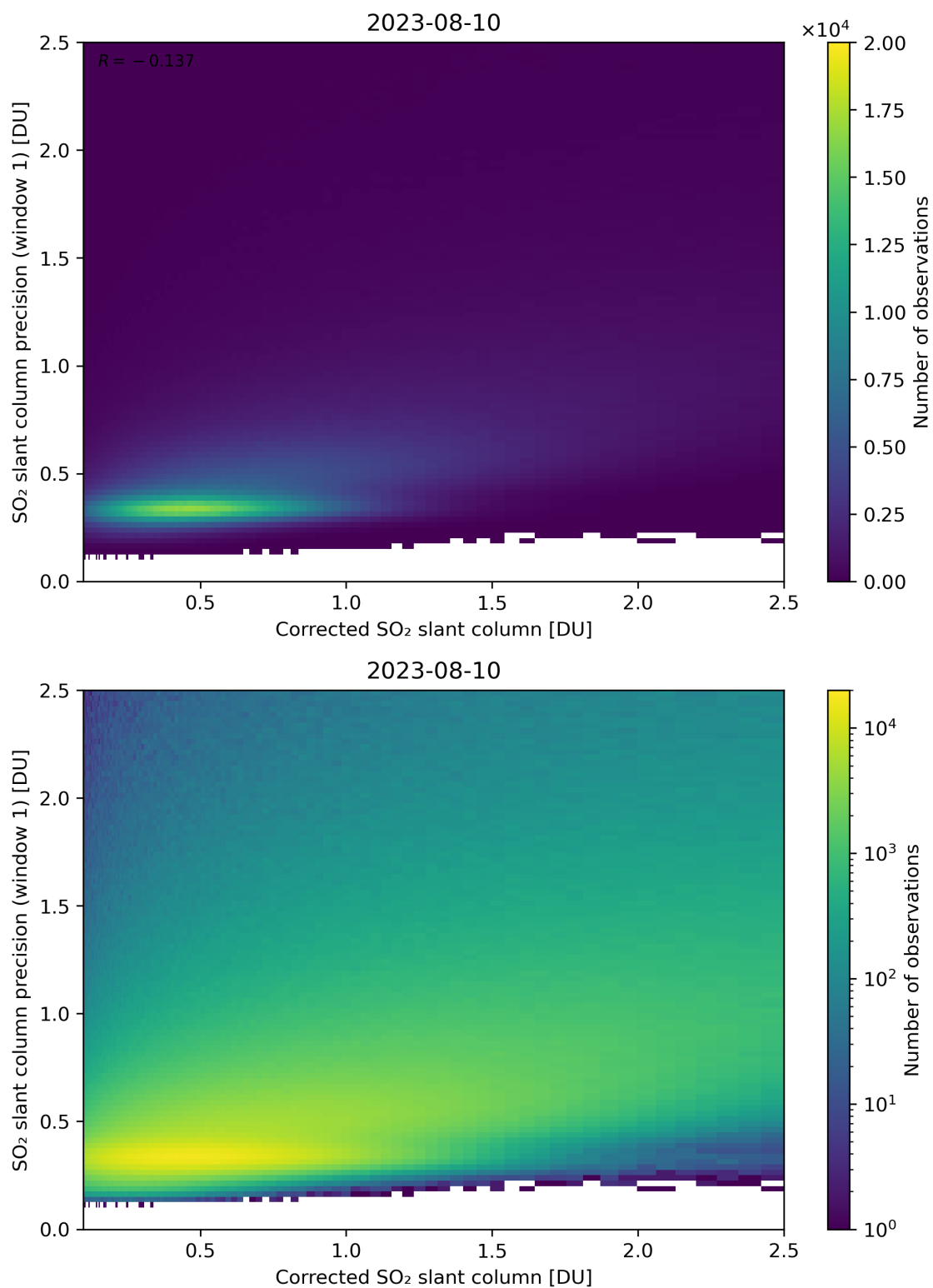


Figure 188: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

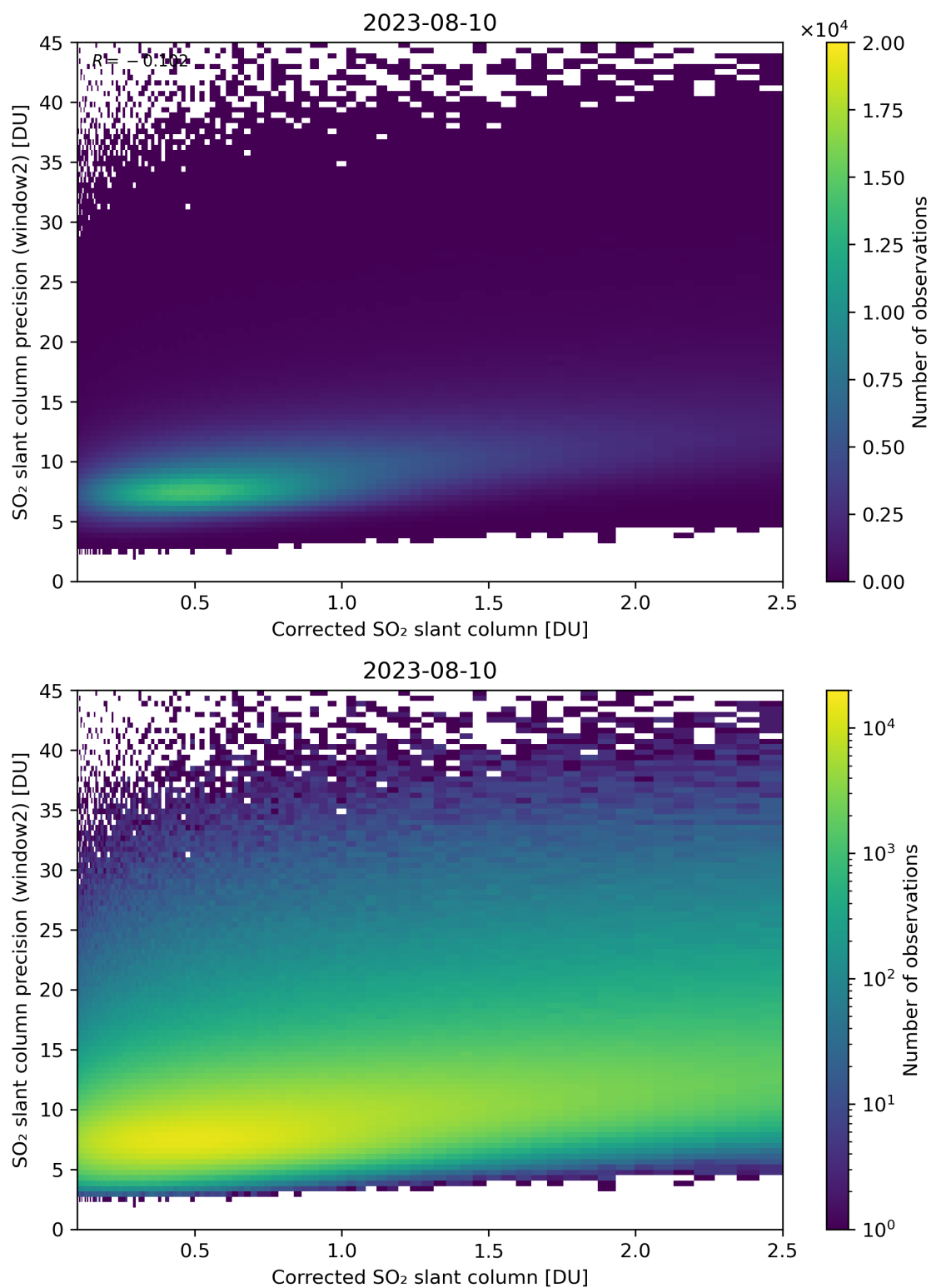


Figure 189: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

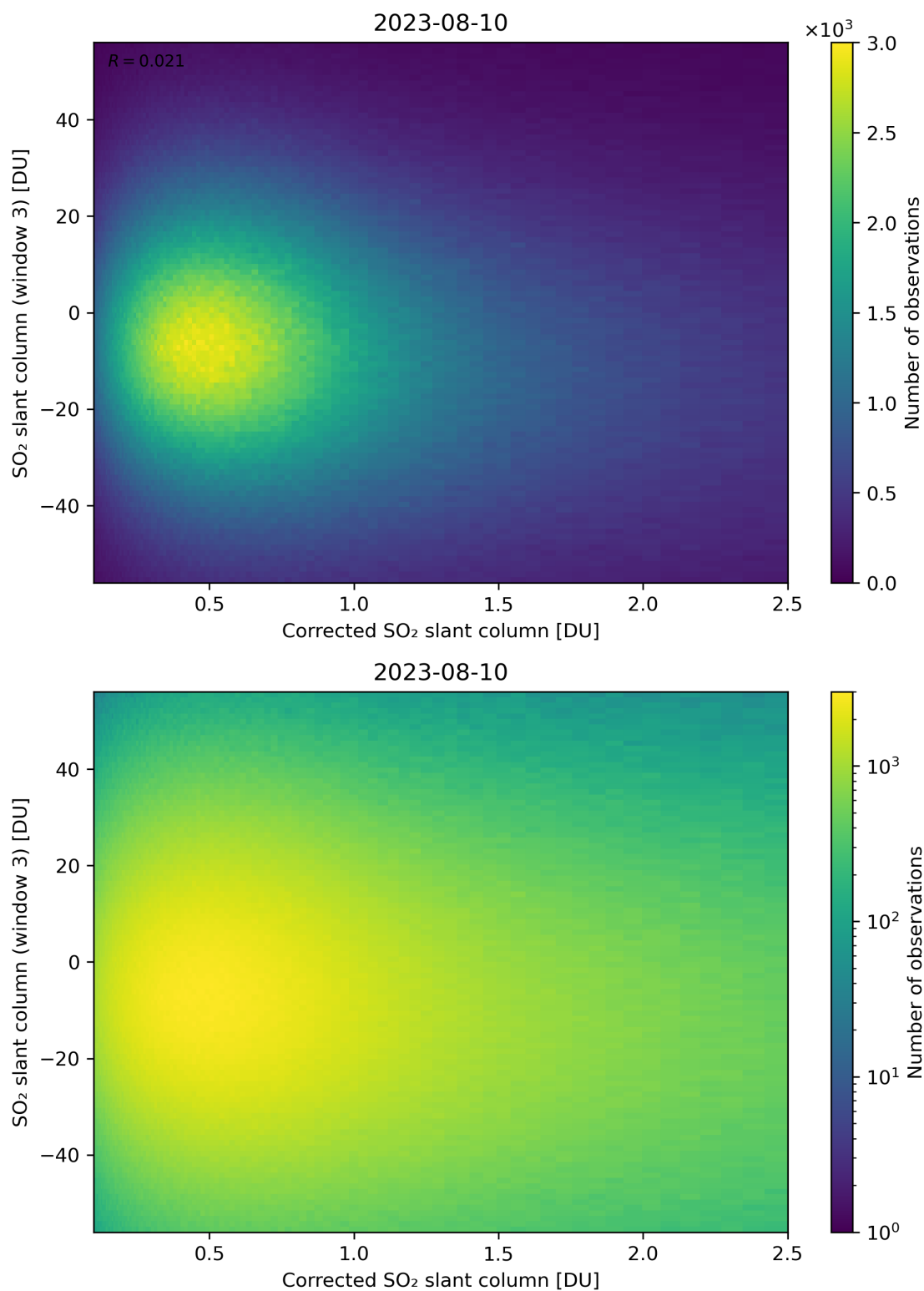


Figure 190: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

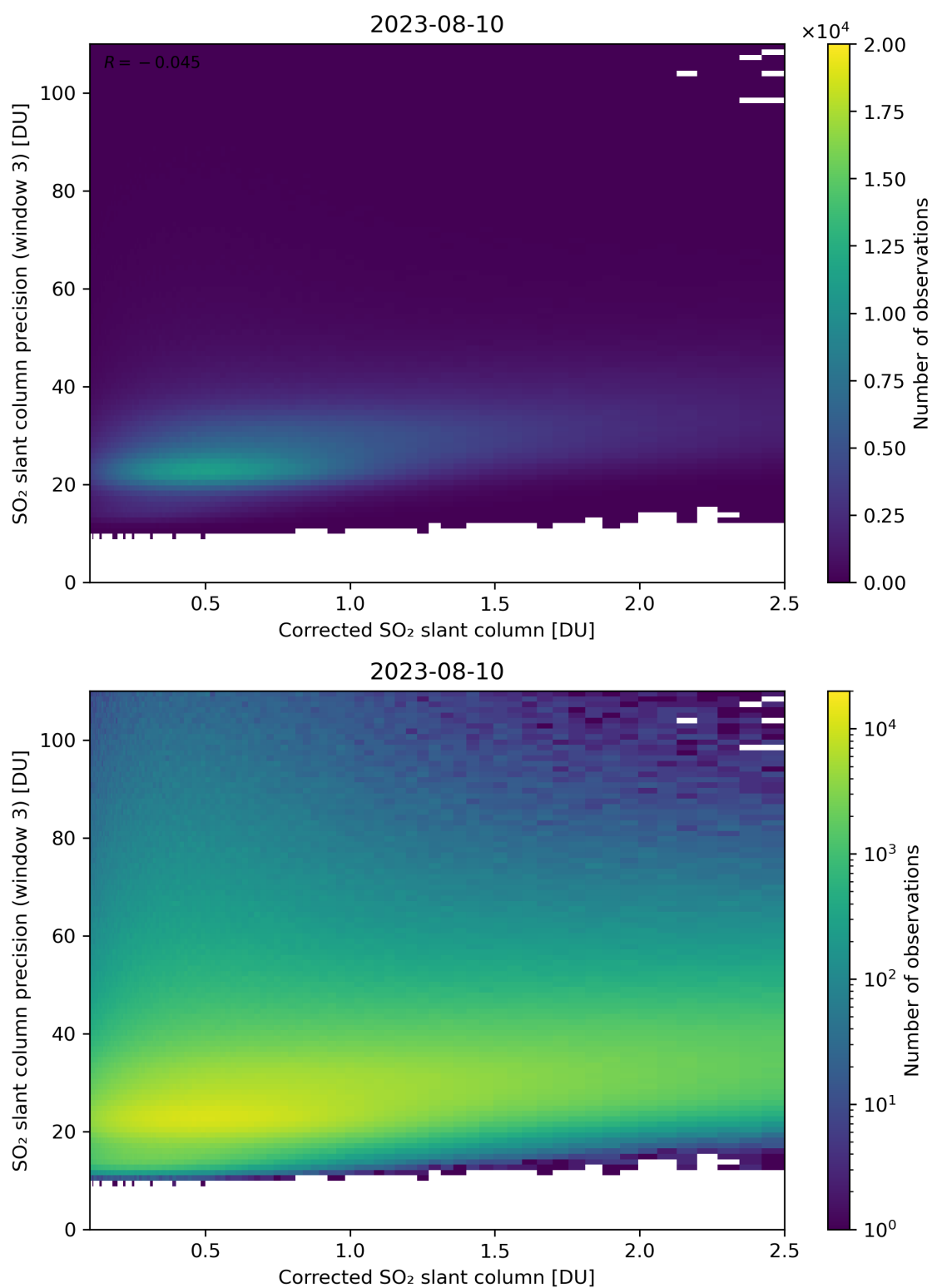


Figure 191: Scatter density plot of “Corrected SO₂ slant column” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

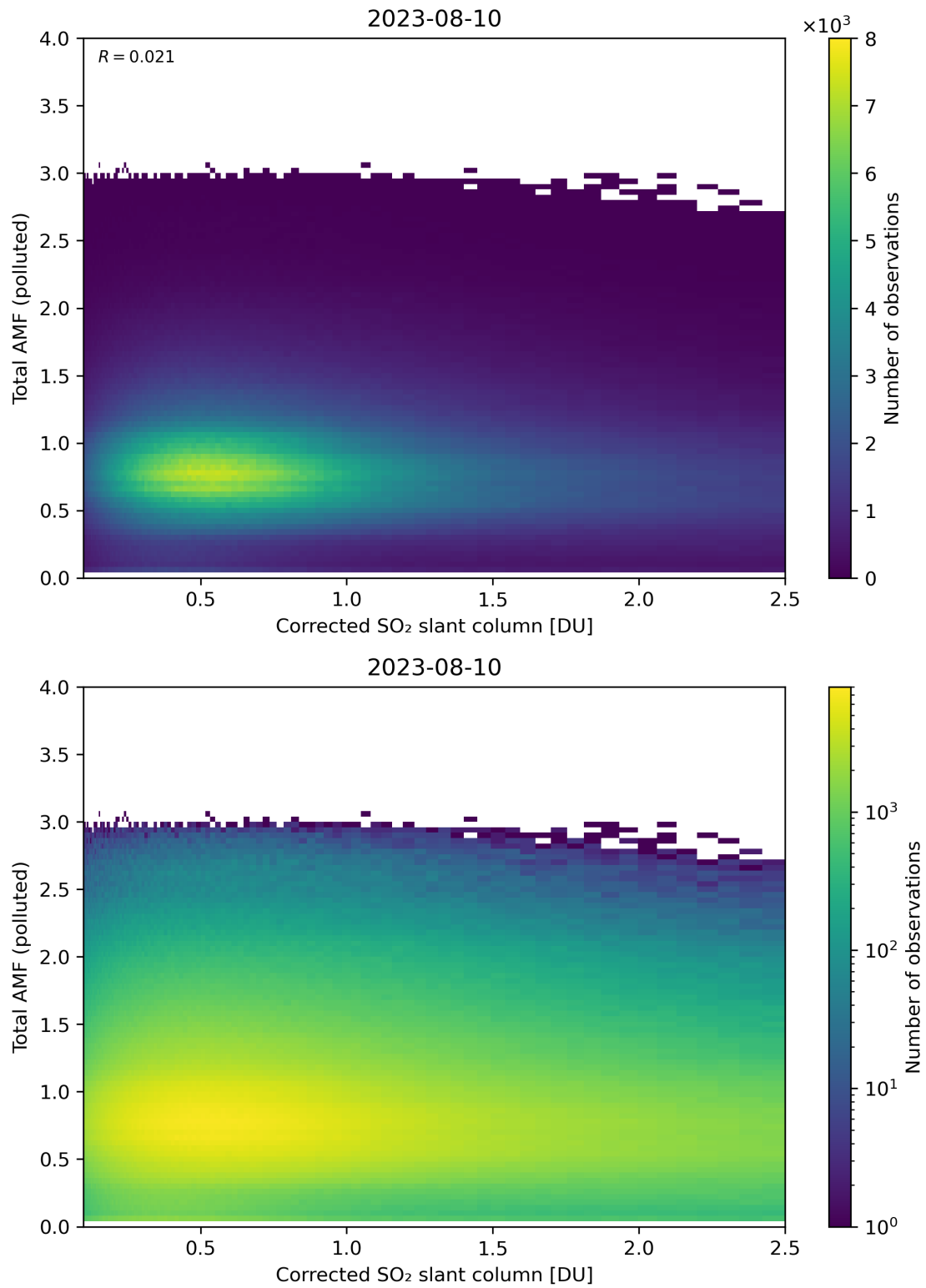


Figure 192: Scatter density plot of “Corrected SO₂ slant column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

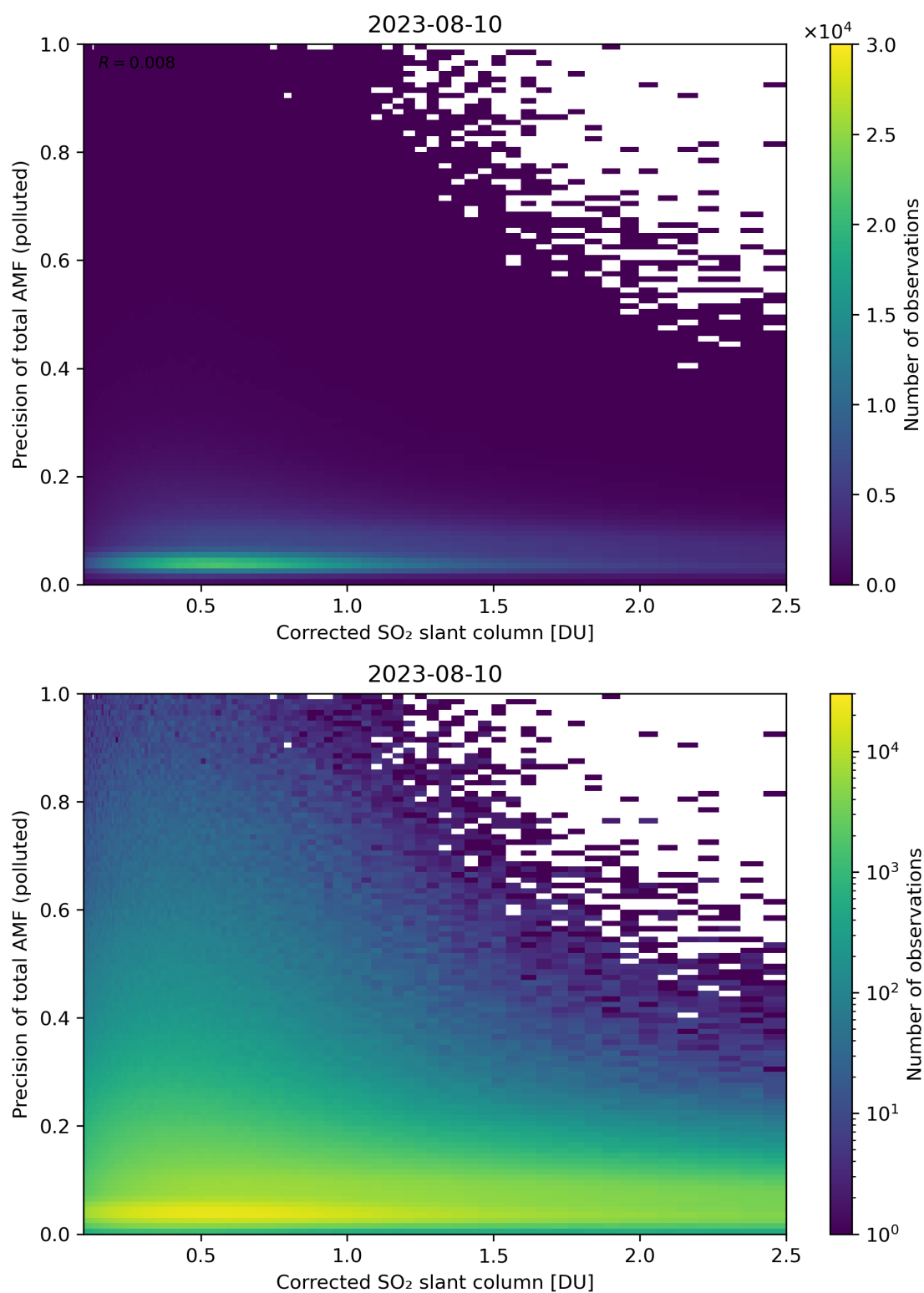


Figure 193: Scatter density plot of “Corrected SO₂ slant column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

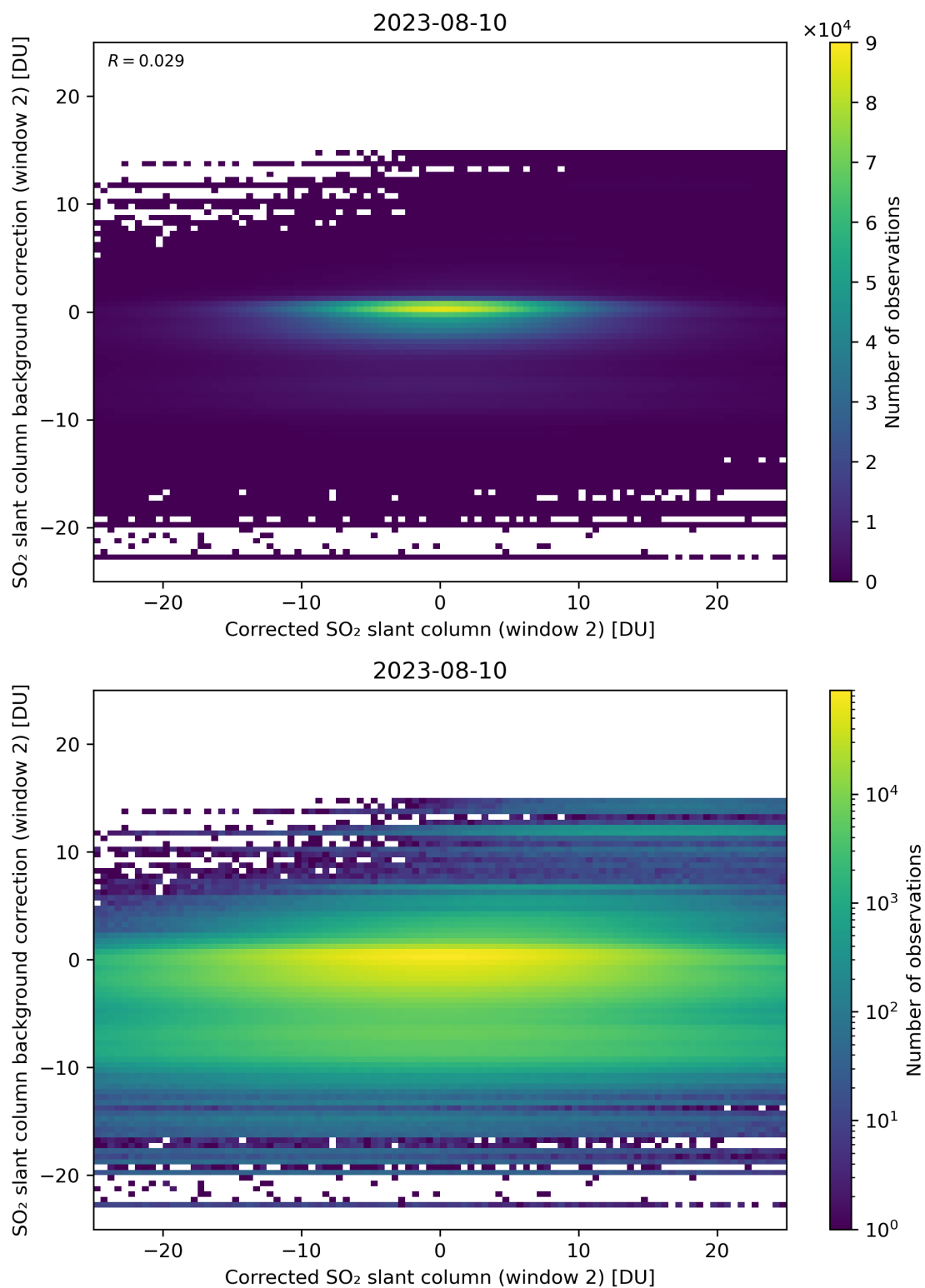


Figure 194: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

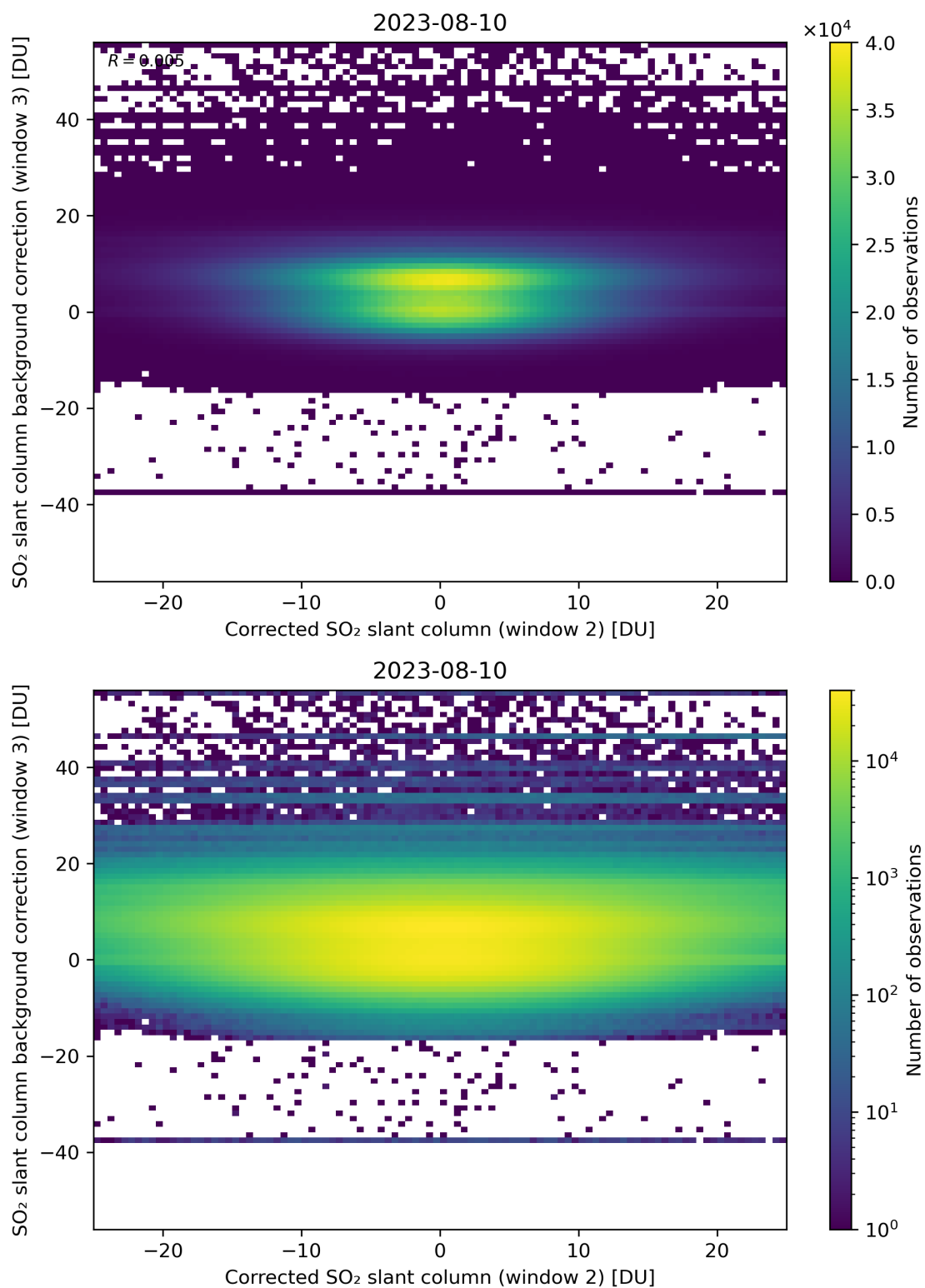


Figure 195: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

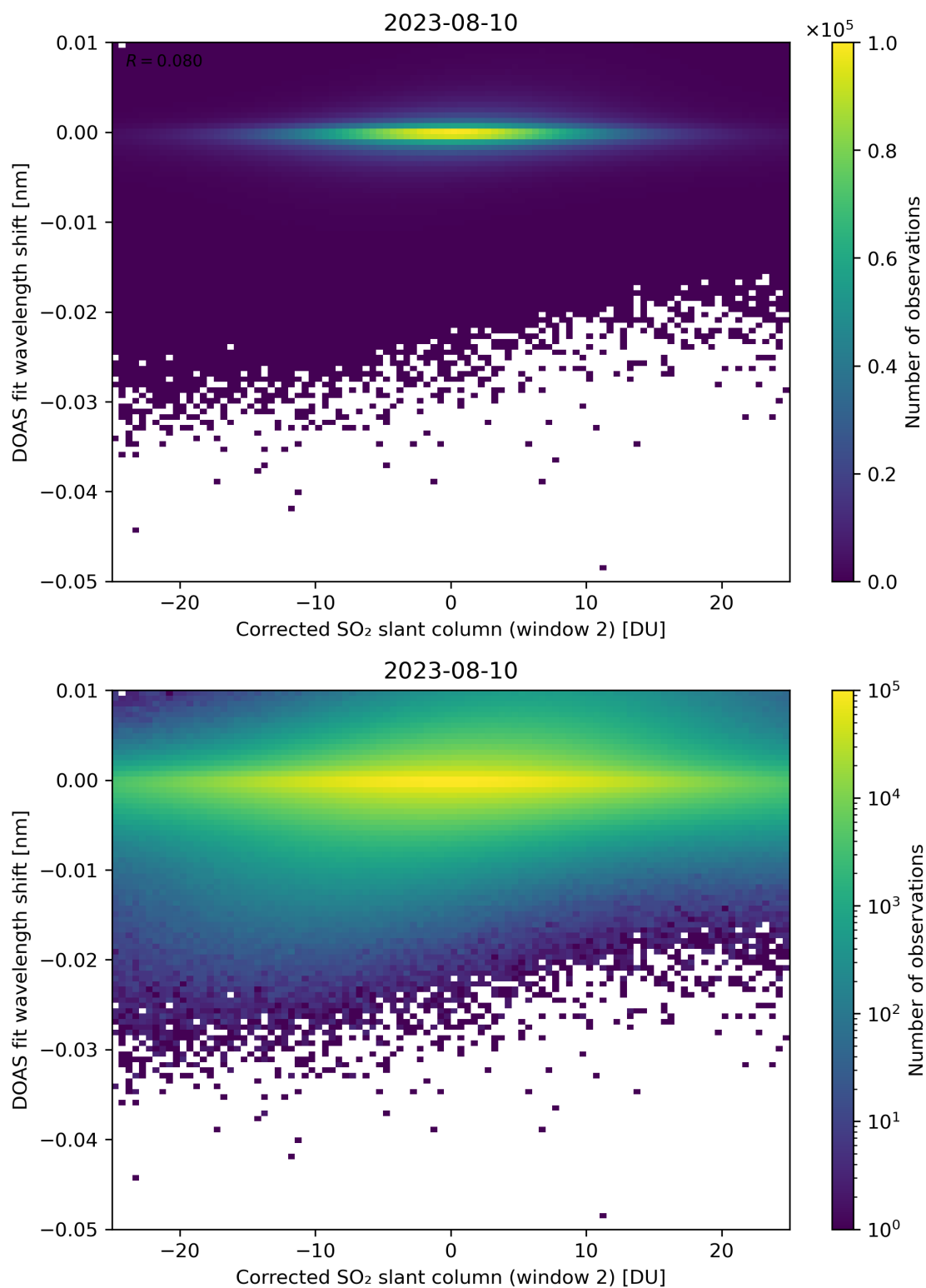


Figure 196: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

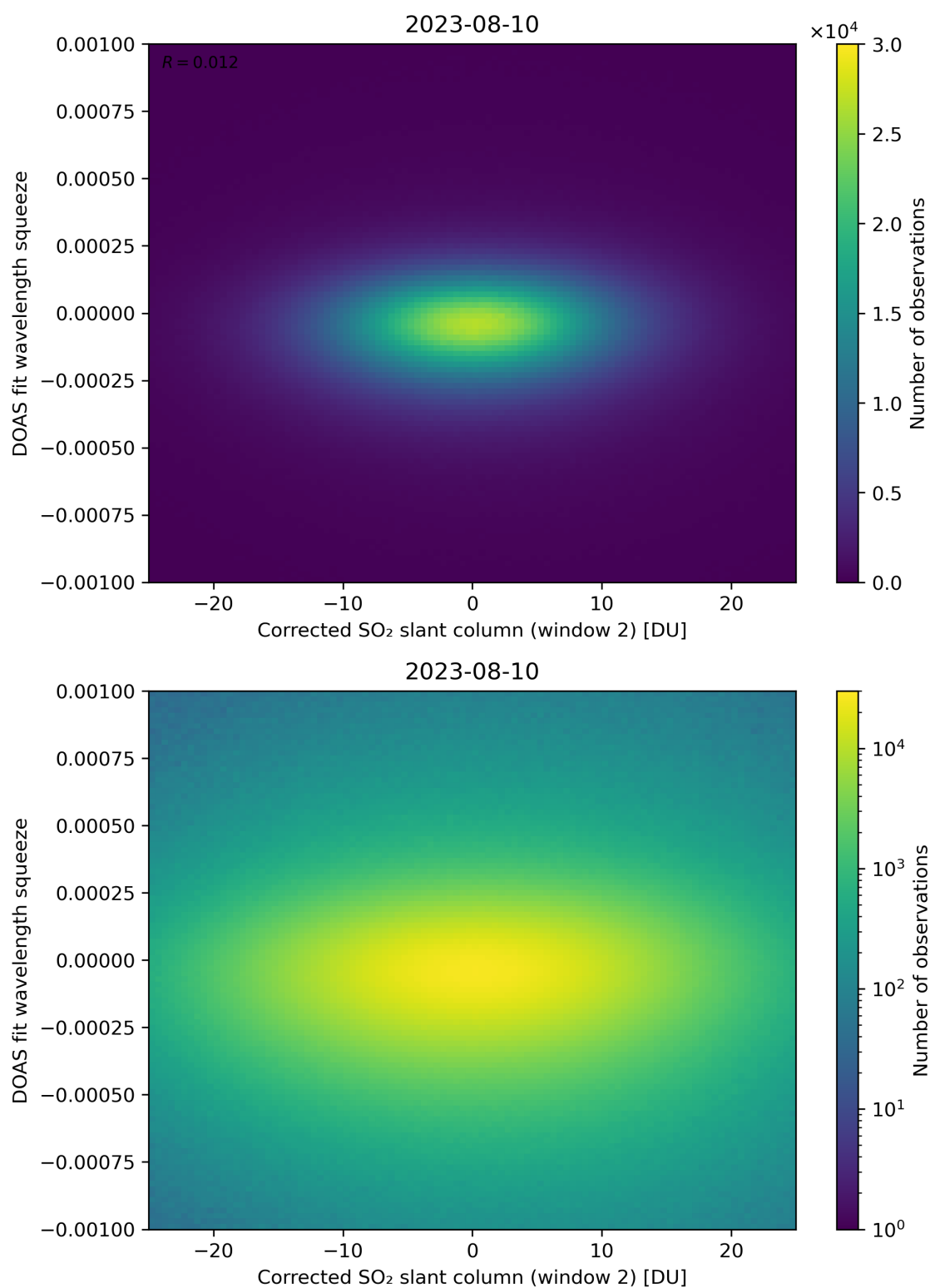


Figure 197: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

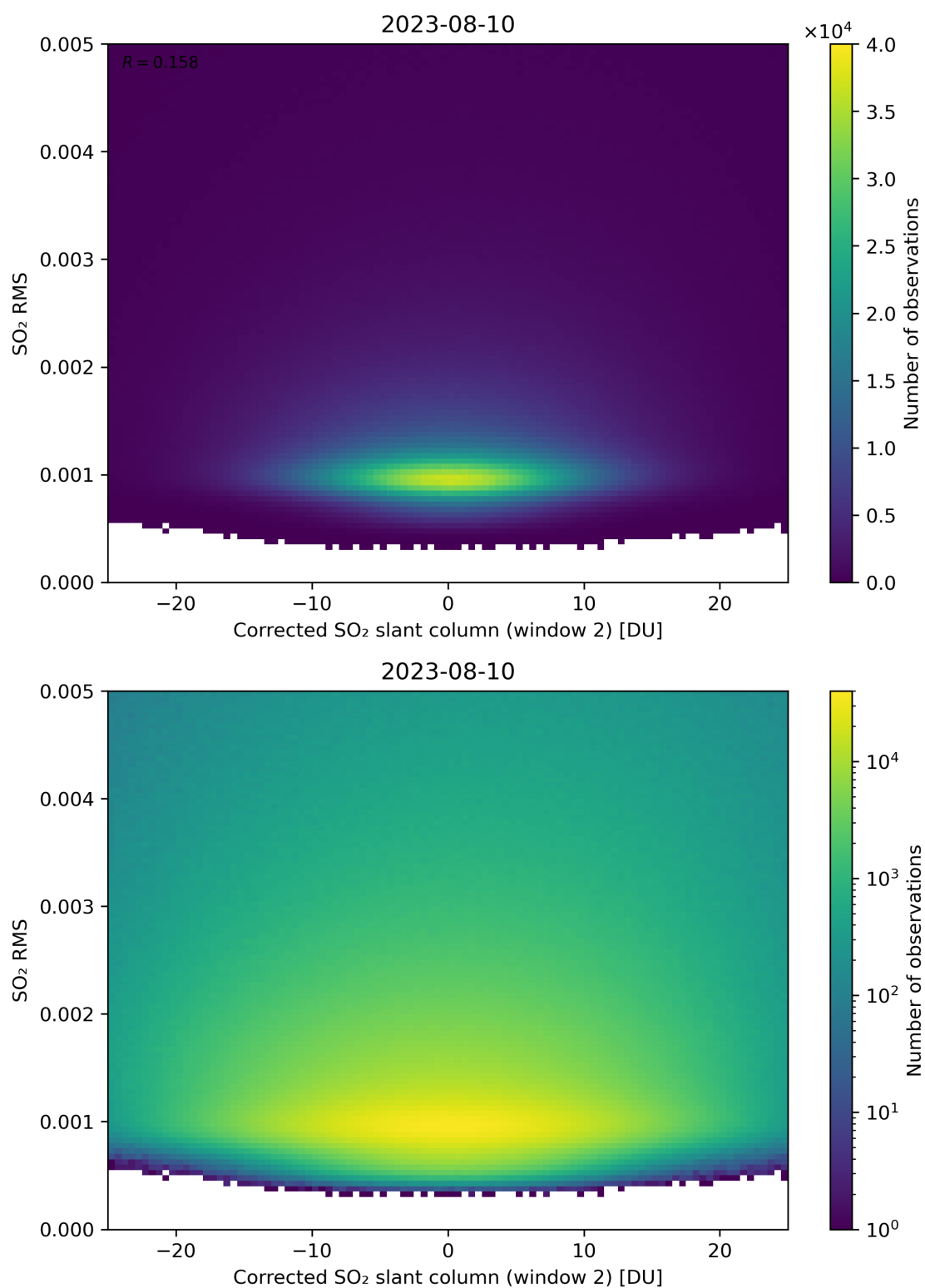


Figure 198: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

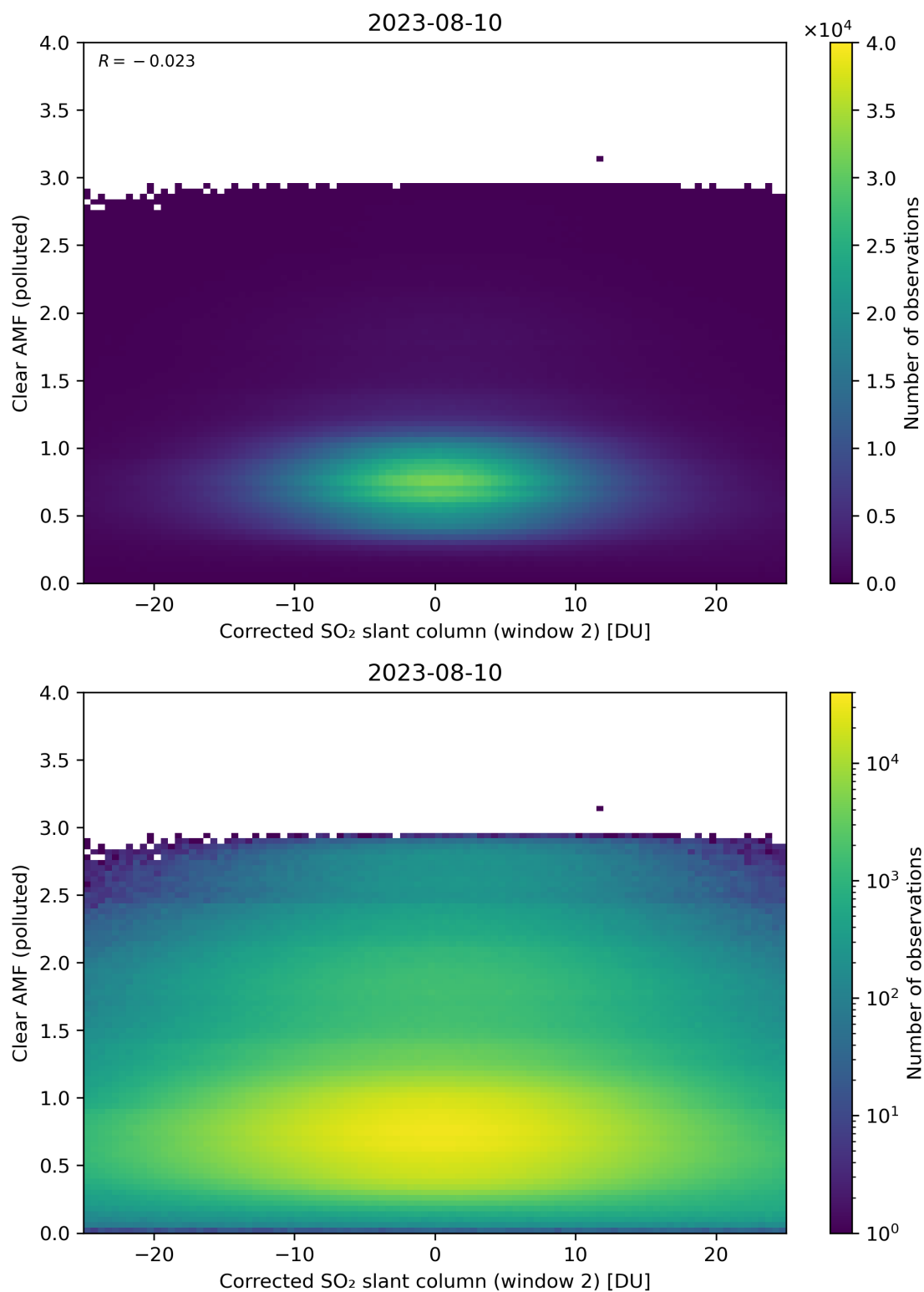


Figure 199: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

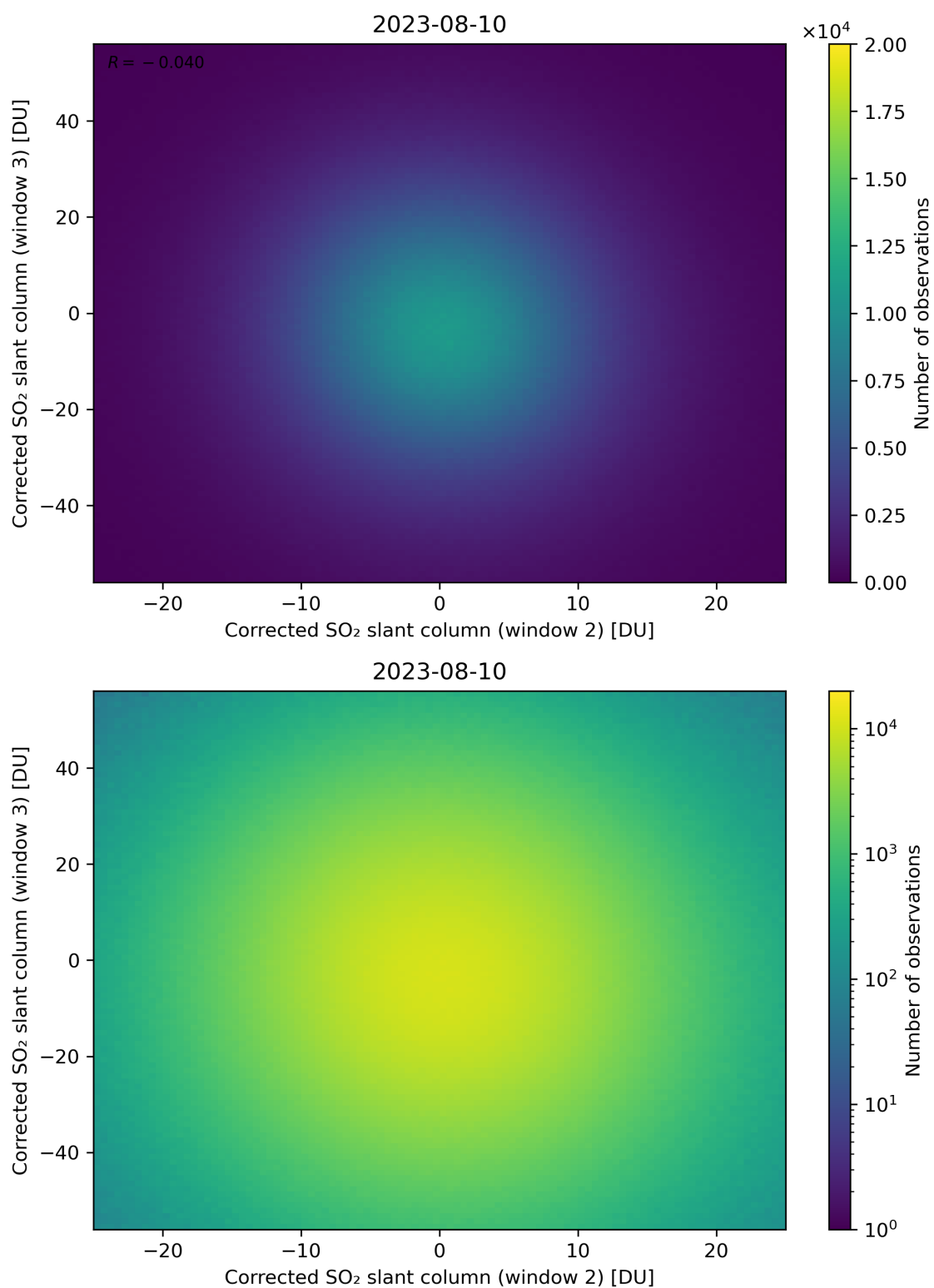


Figure 200: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

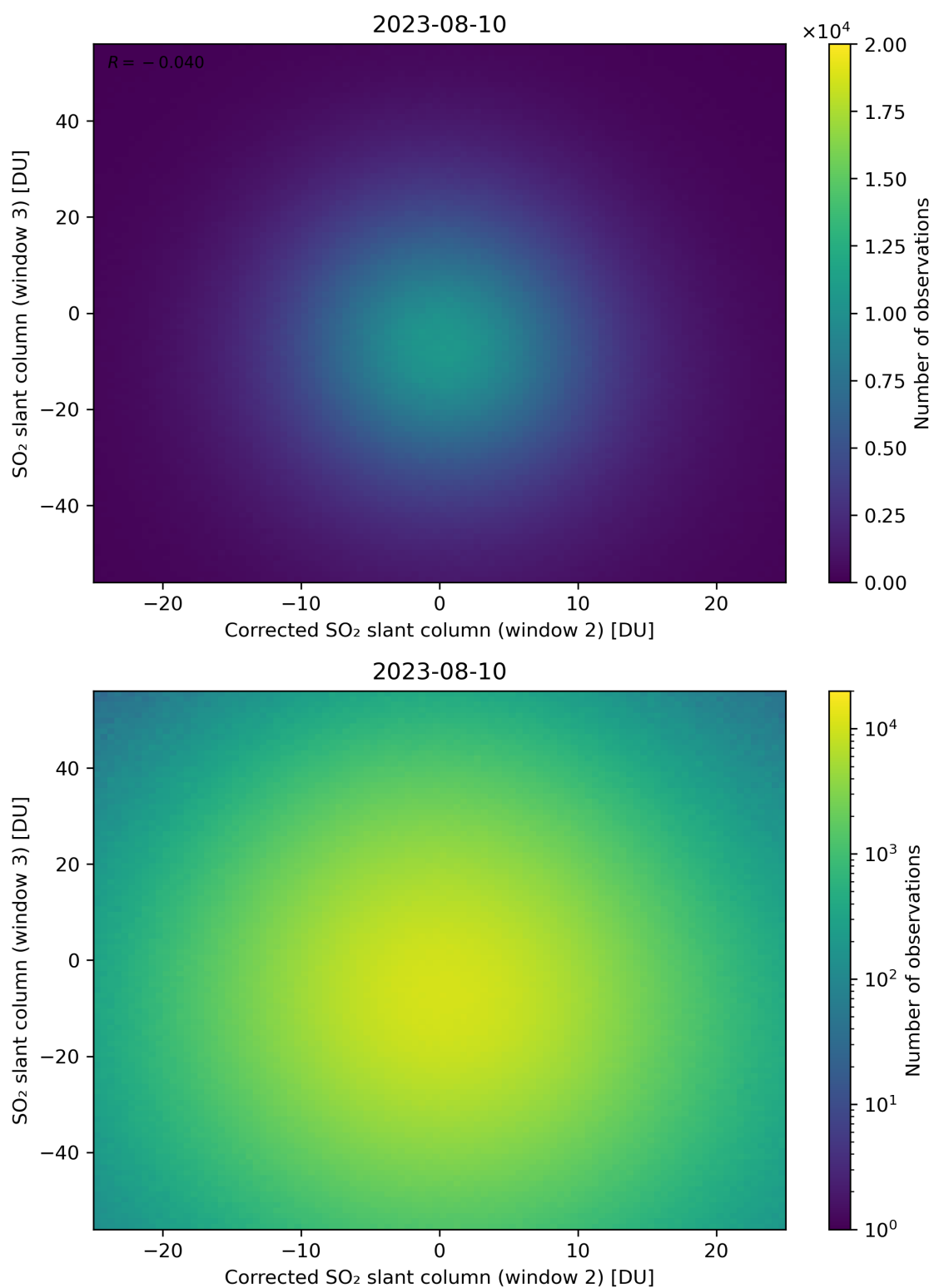


Figure 201: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

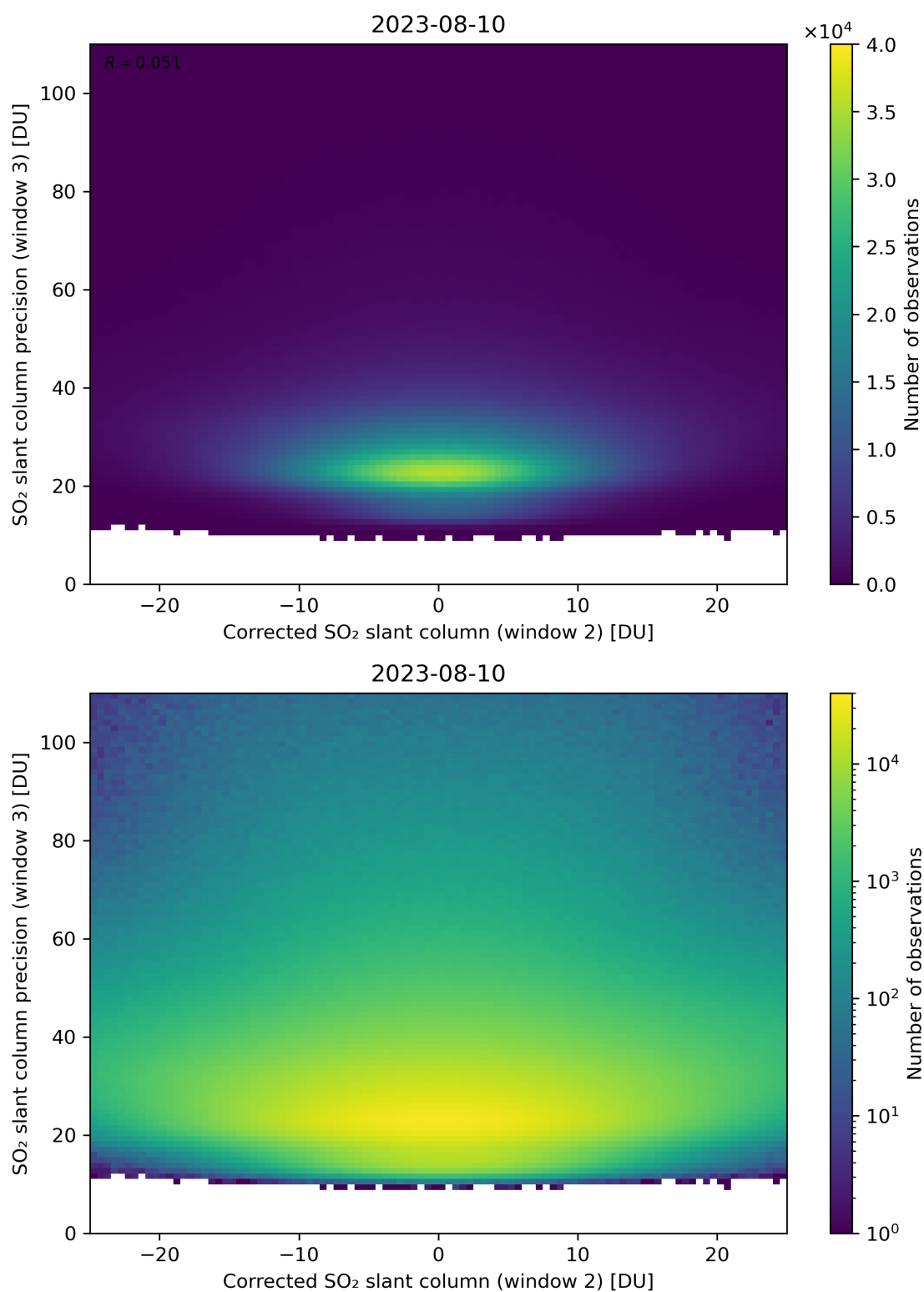


Figure 202: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

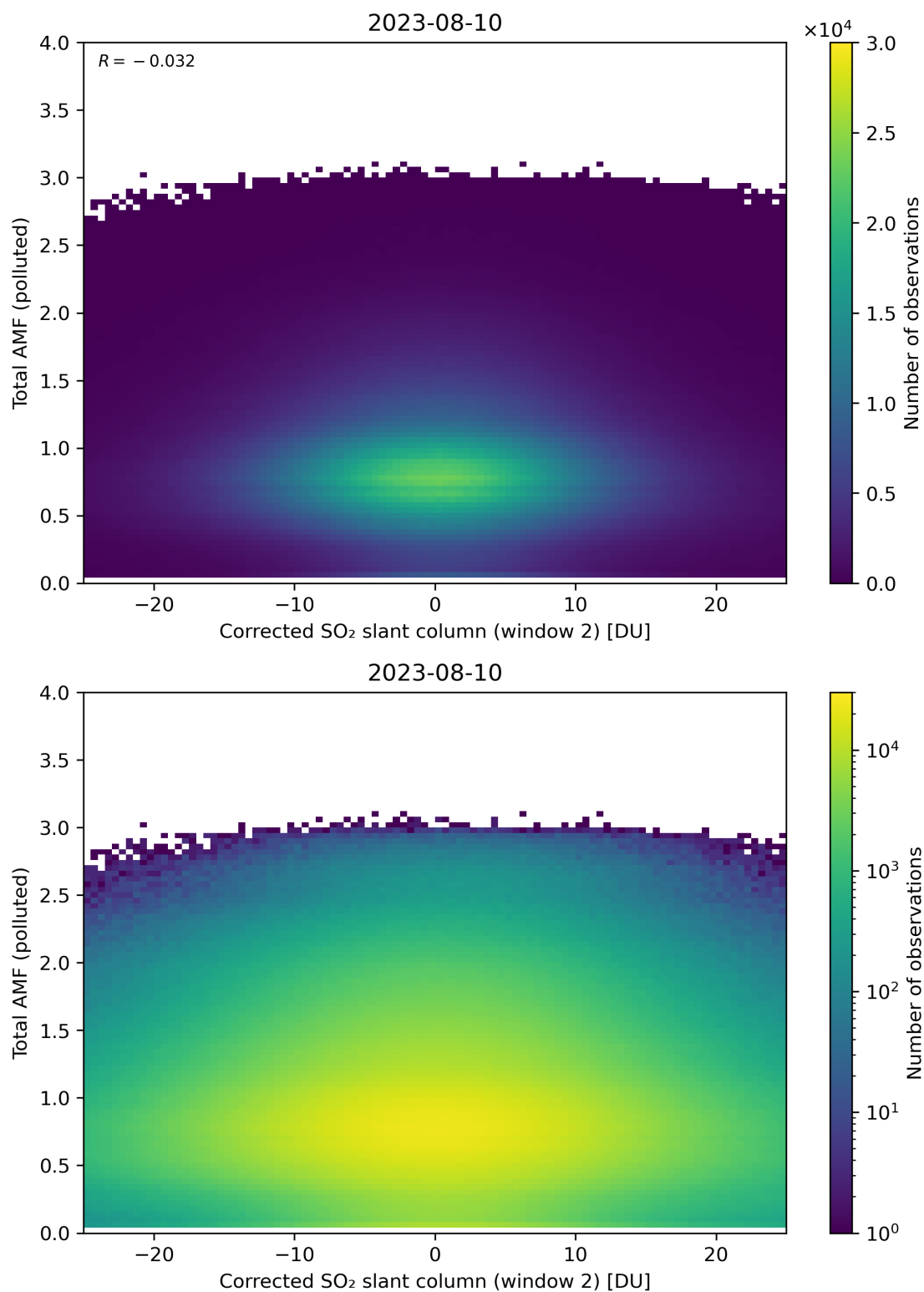


Figure 203: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

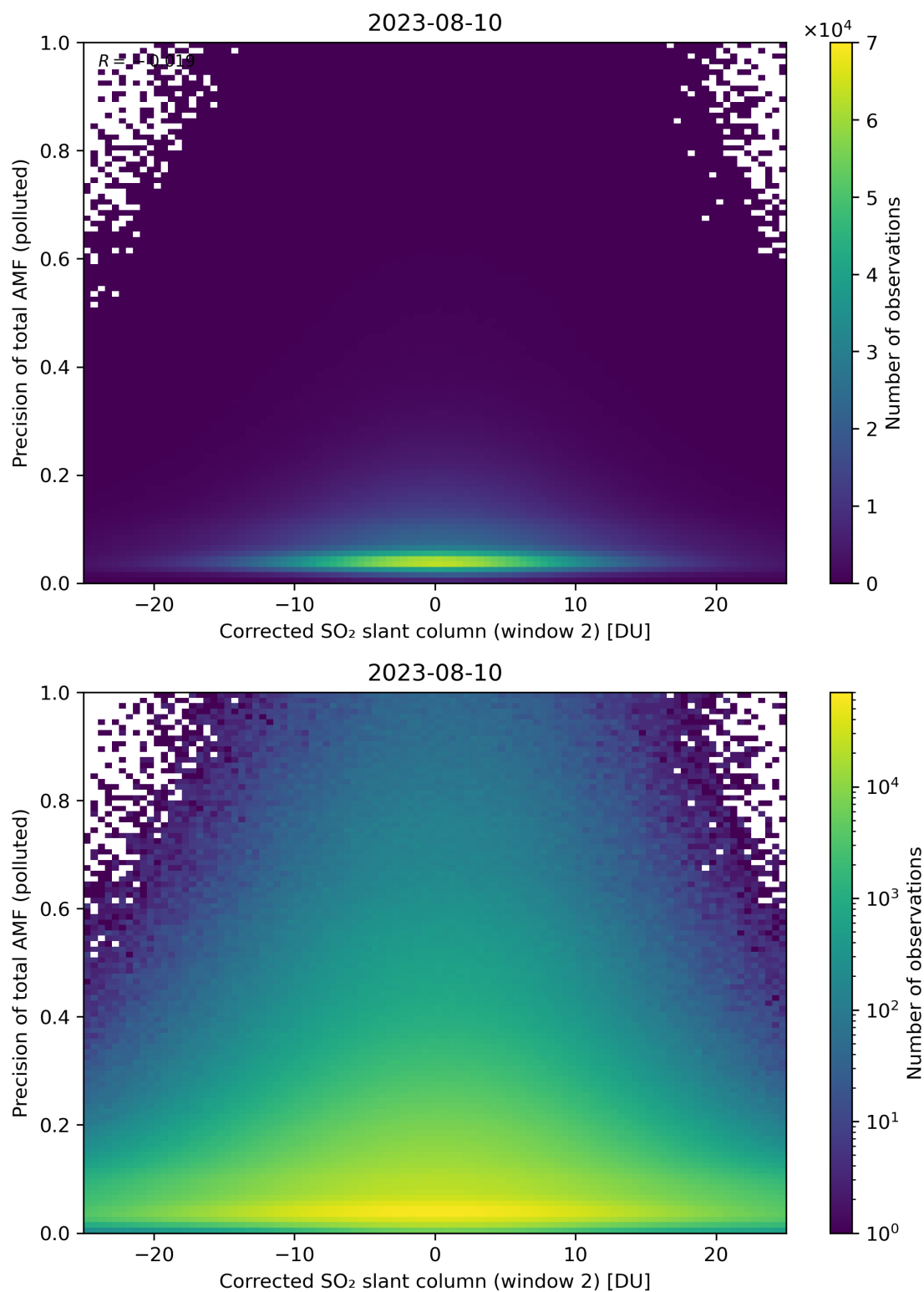


Figure 204: Scatter density plot of “Corrected SO₂ slant column (window 2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

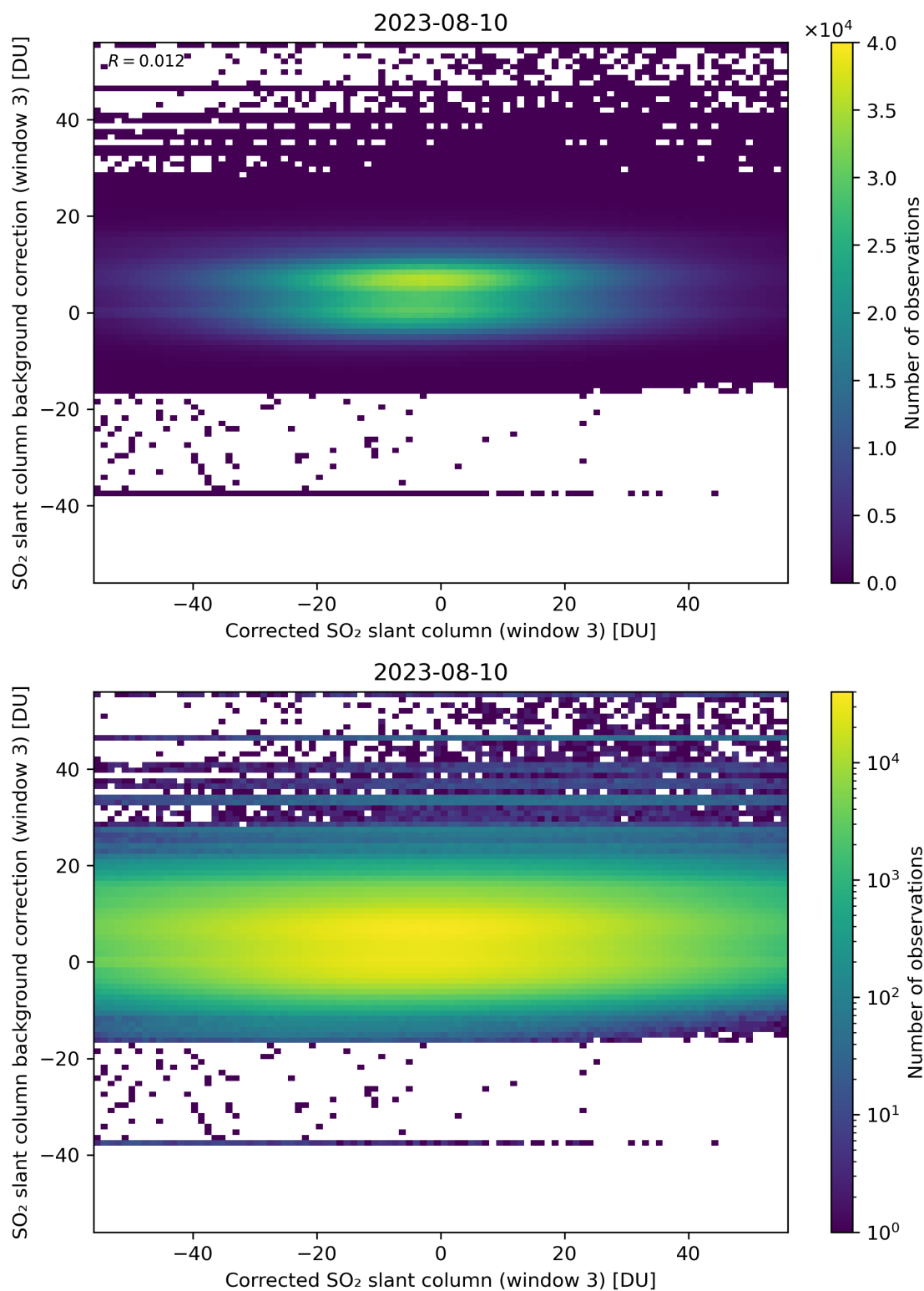


Figure 205: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

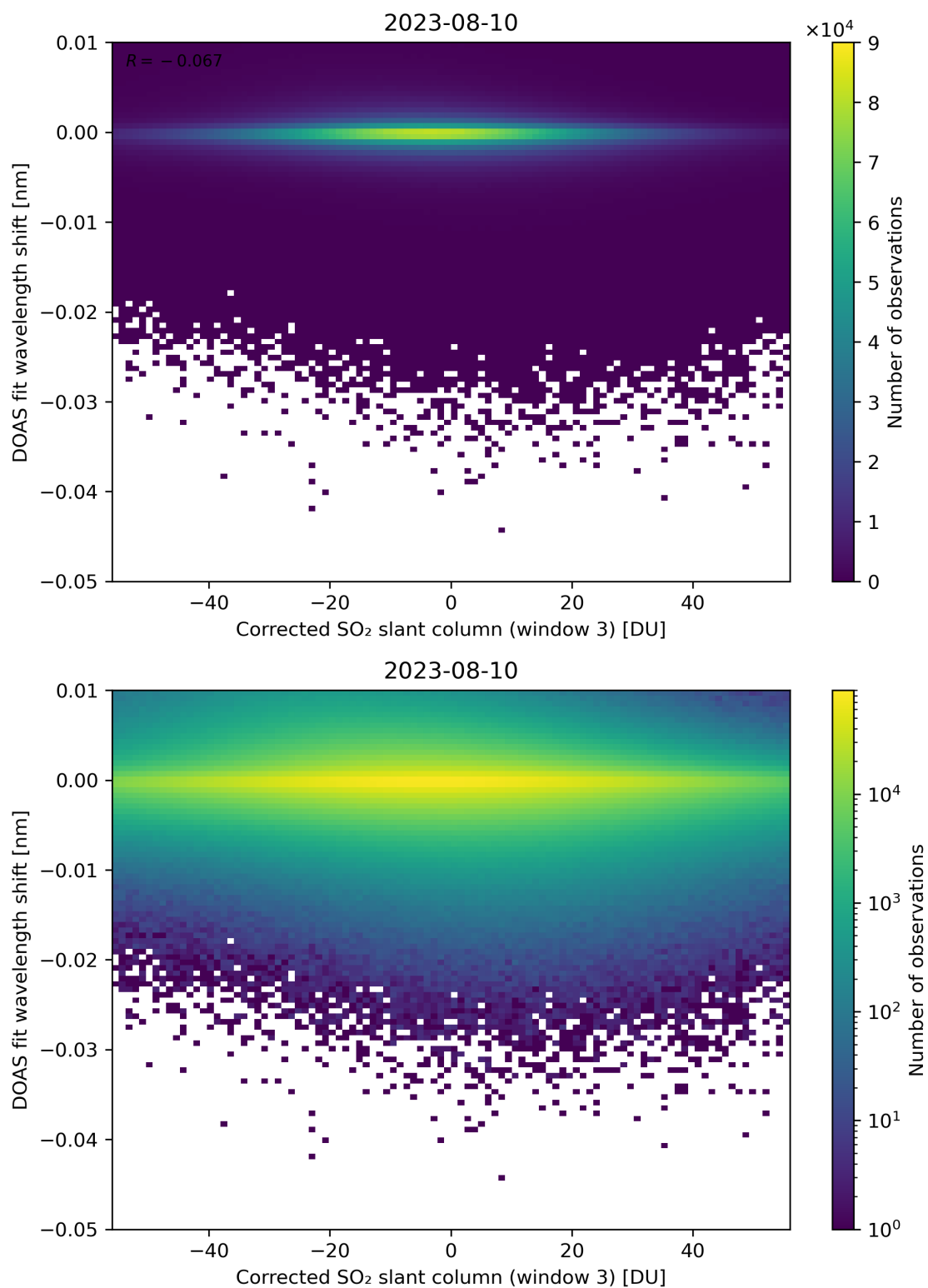


Figure 206: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

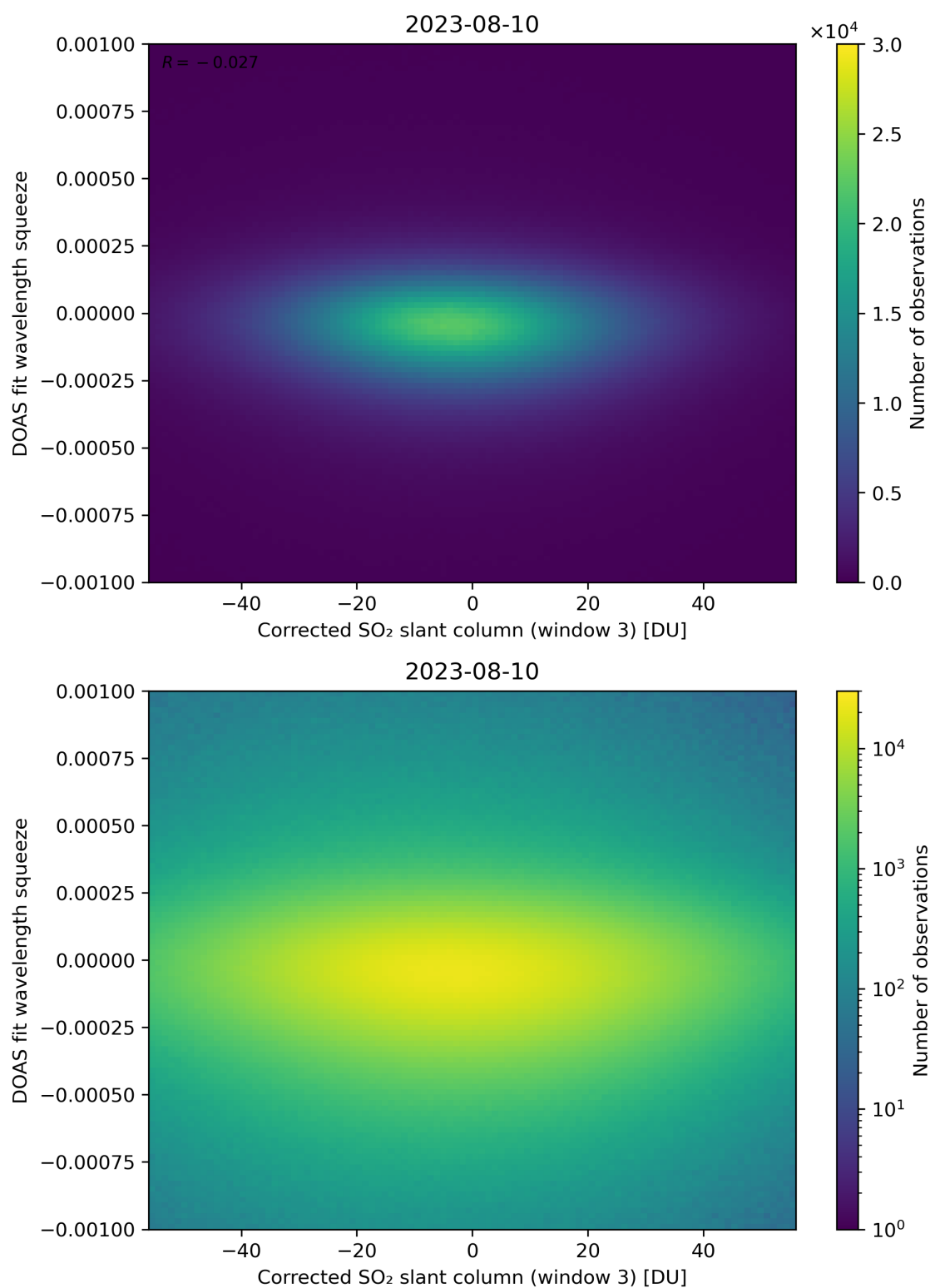


Figure 207: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

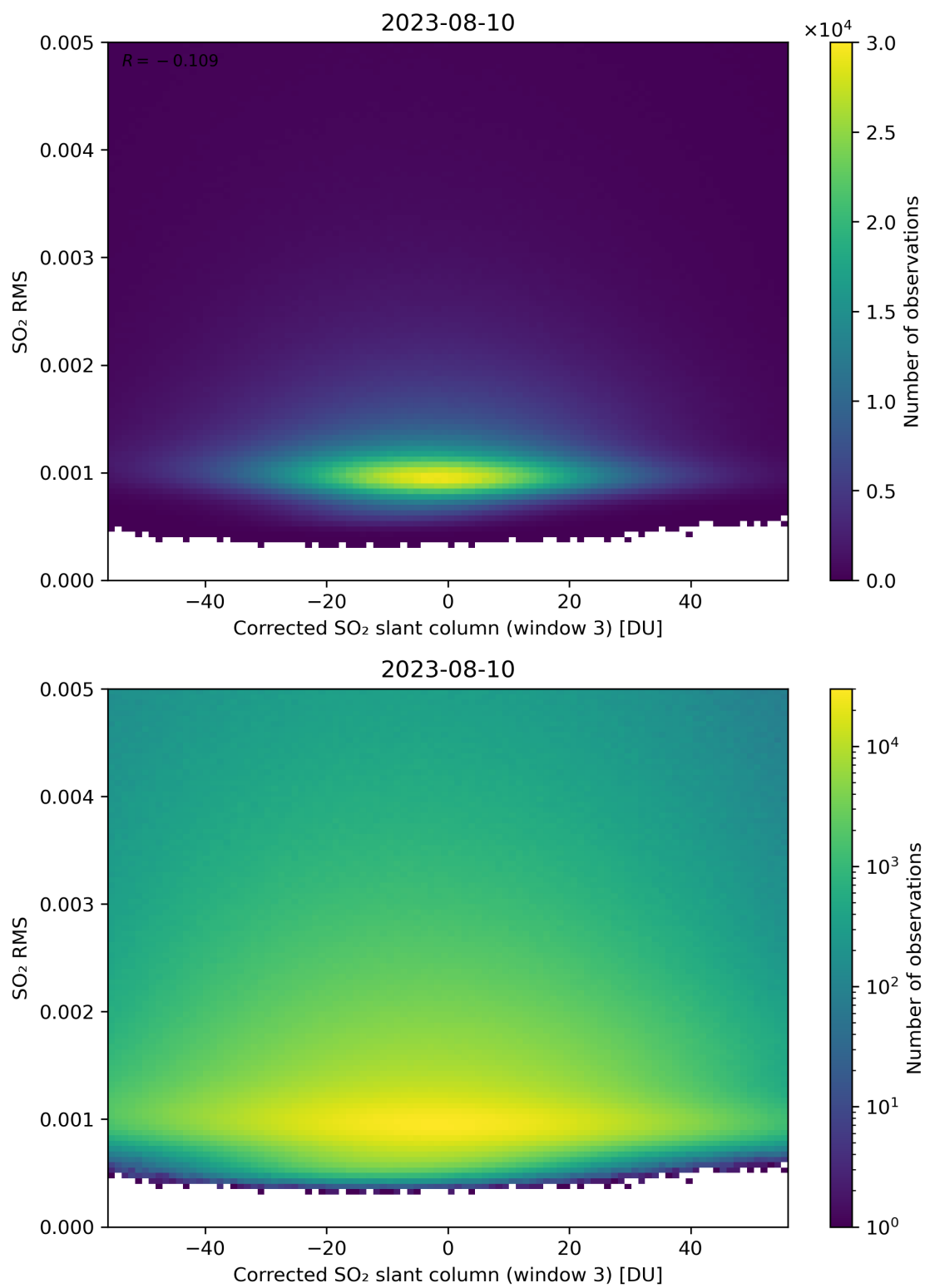


Figure 208: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

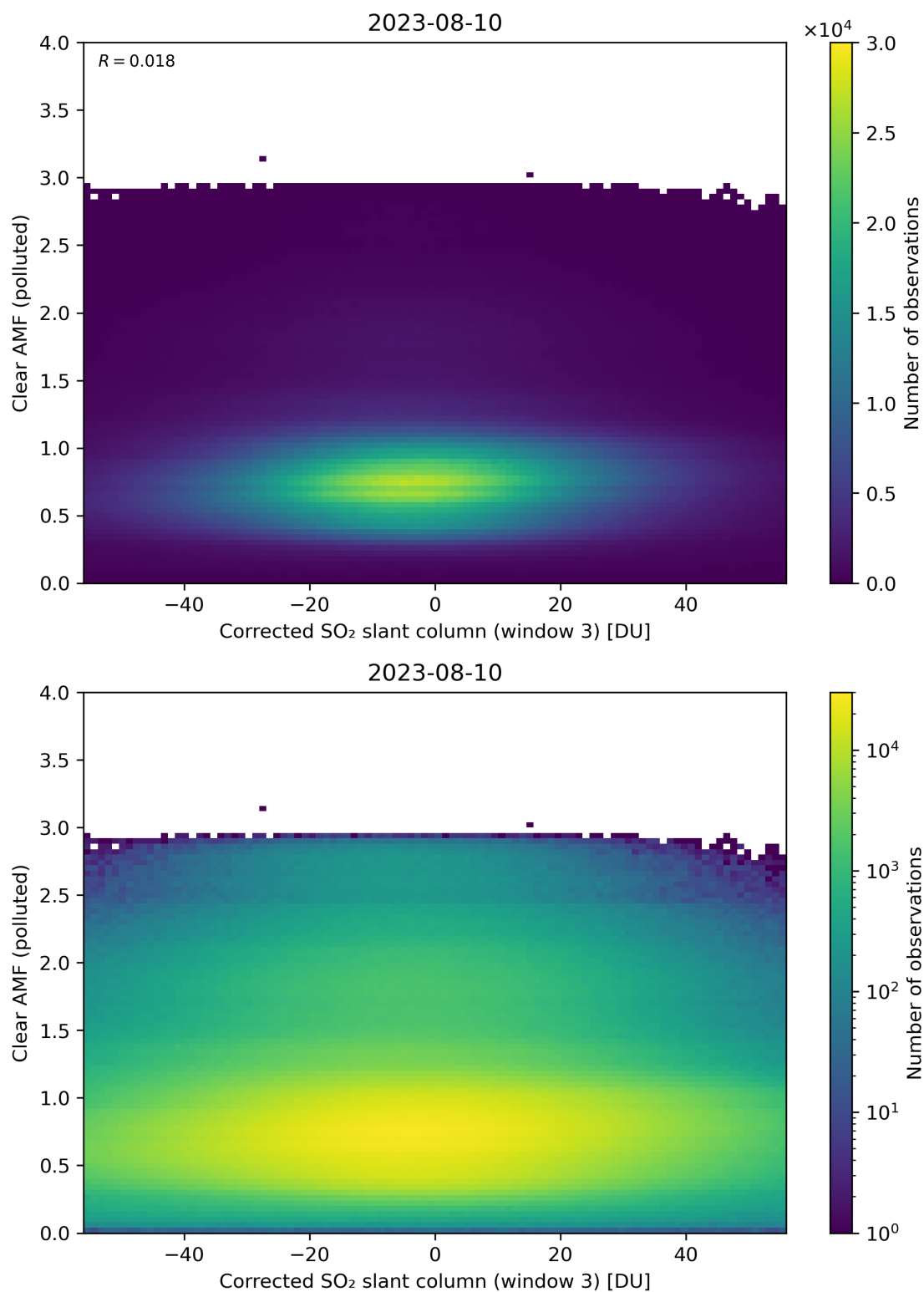


Figure 209: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

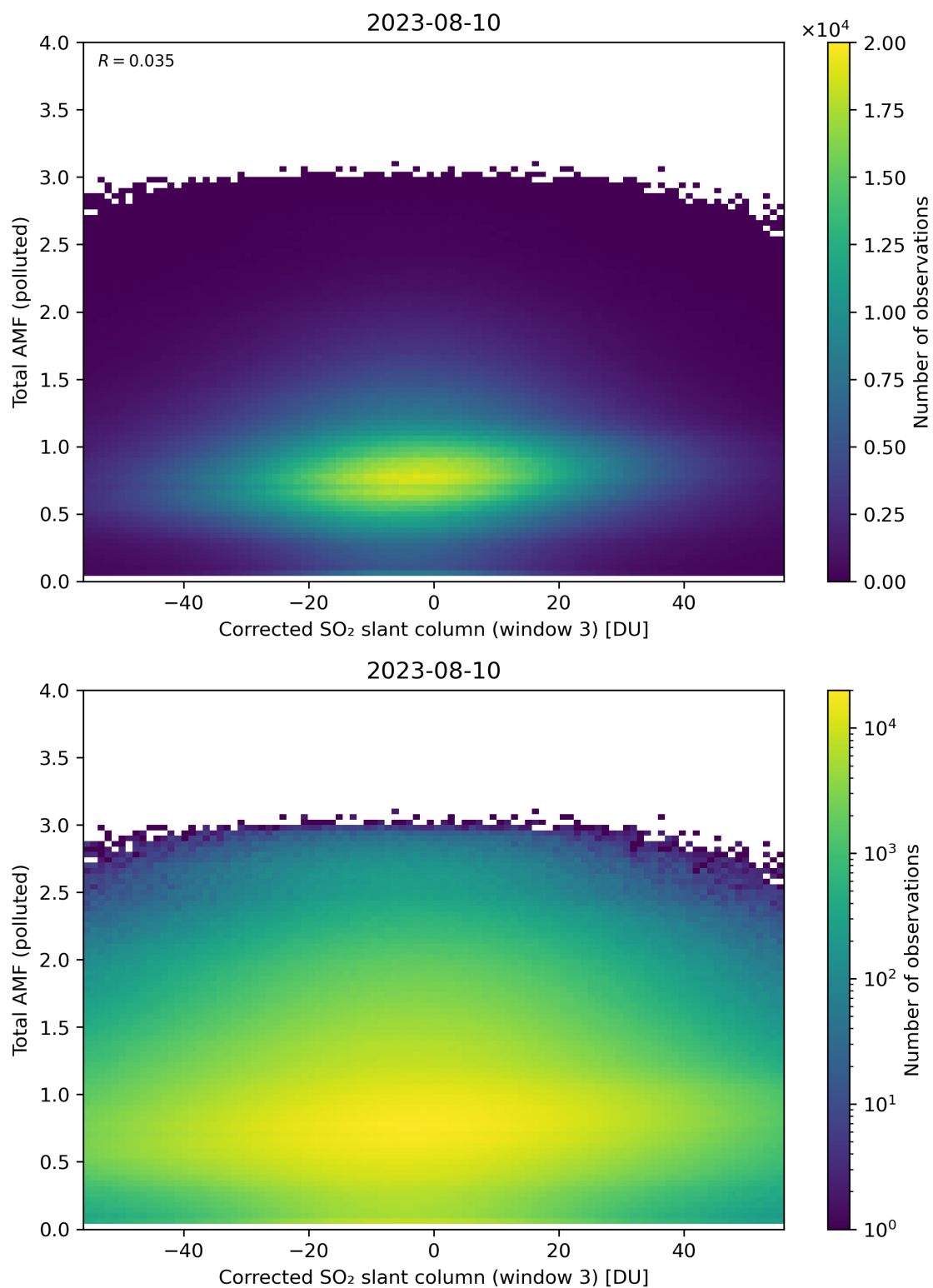


Figure 210: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

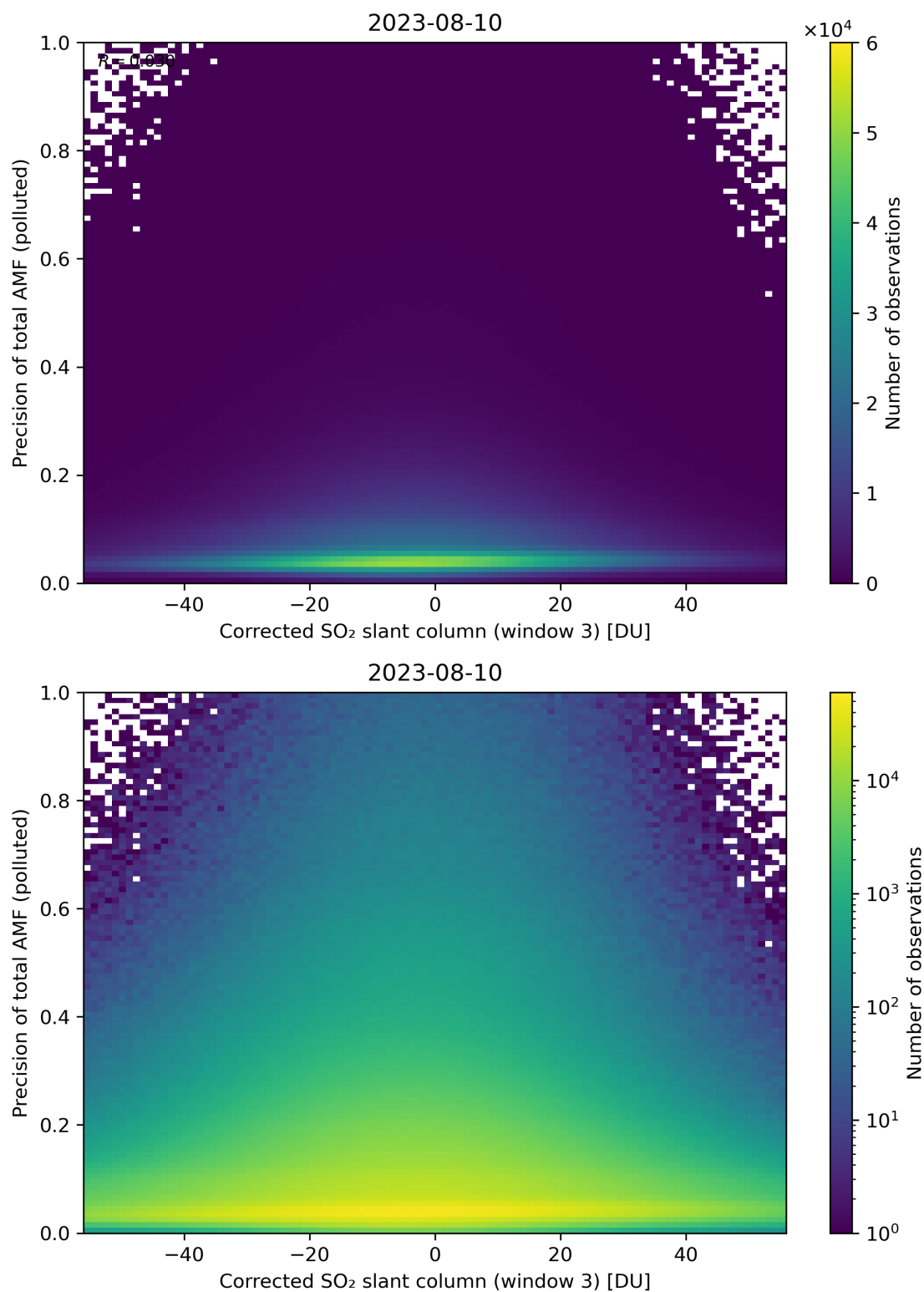


Figure 211: Scatter density plot of “Corrected SO₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

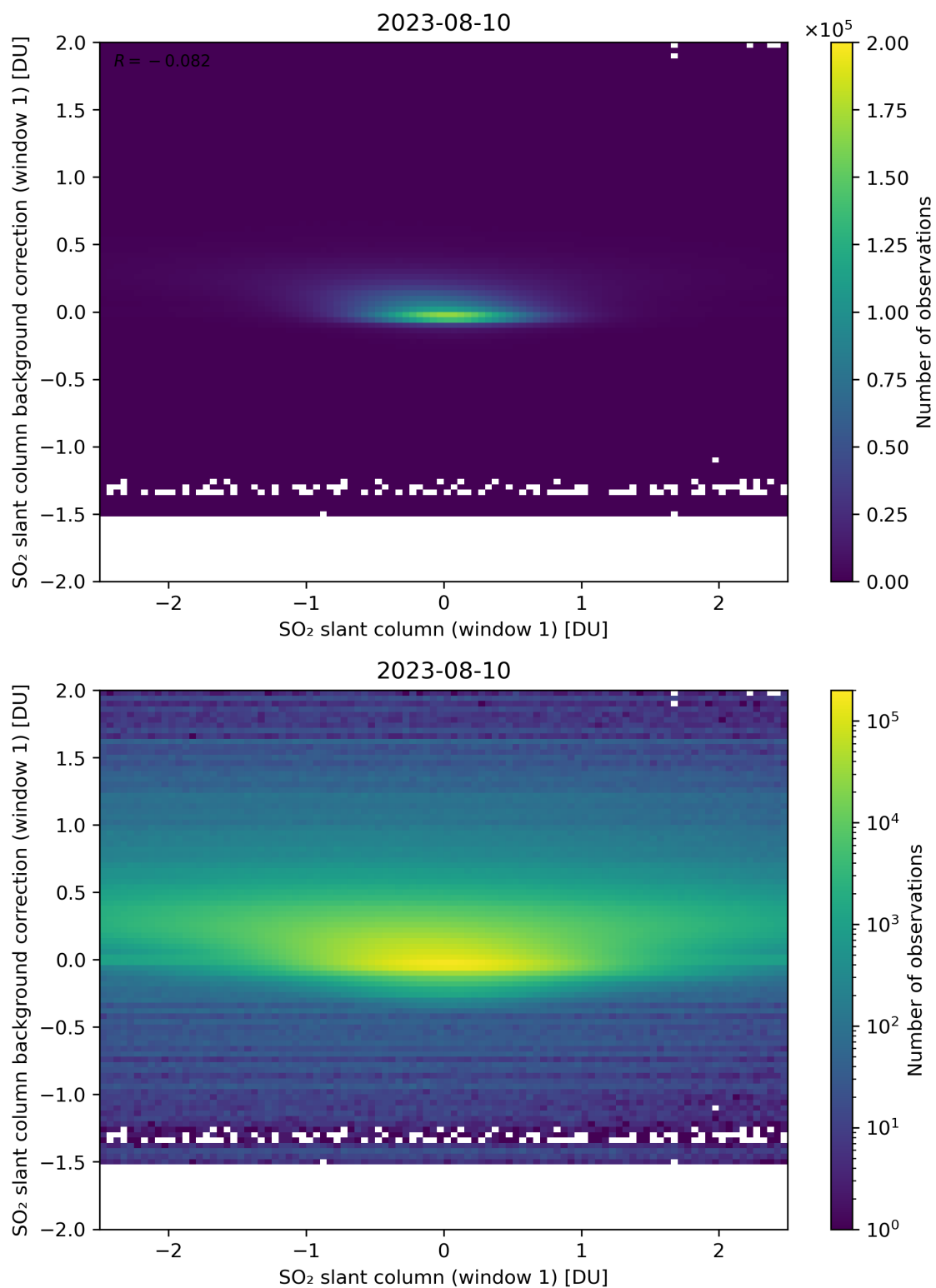


Figure 212: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

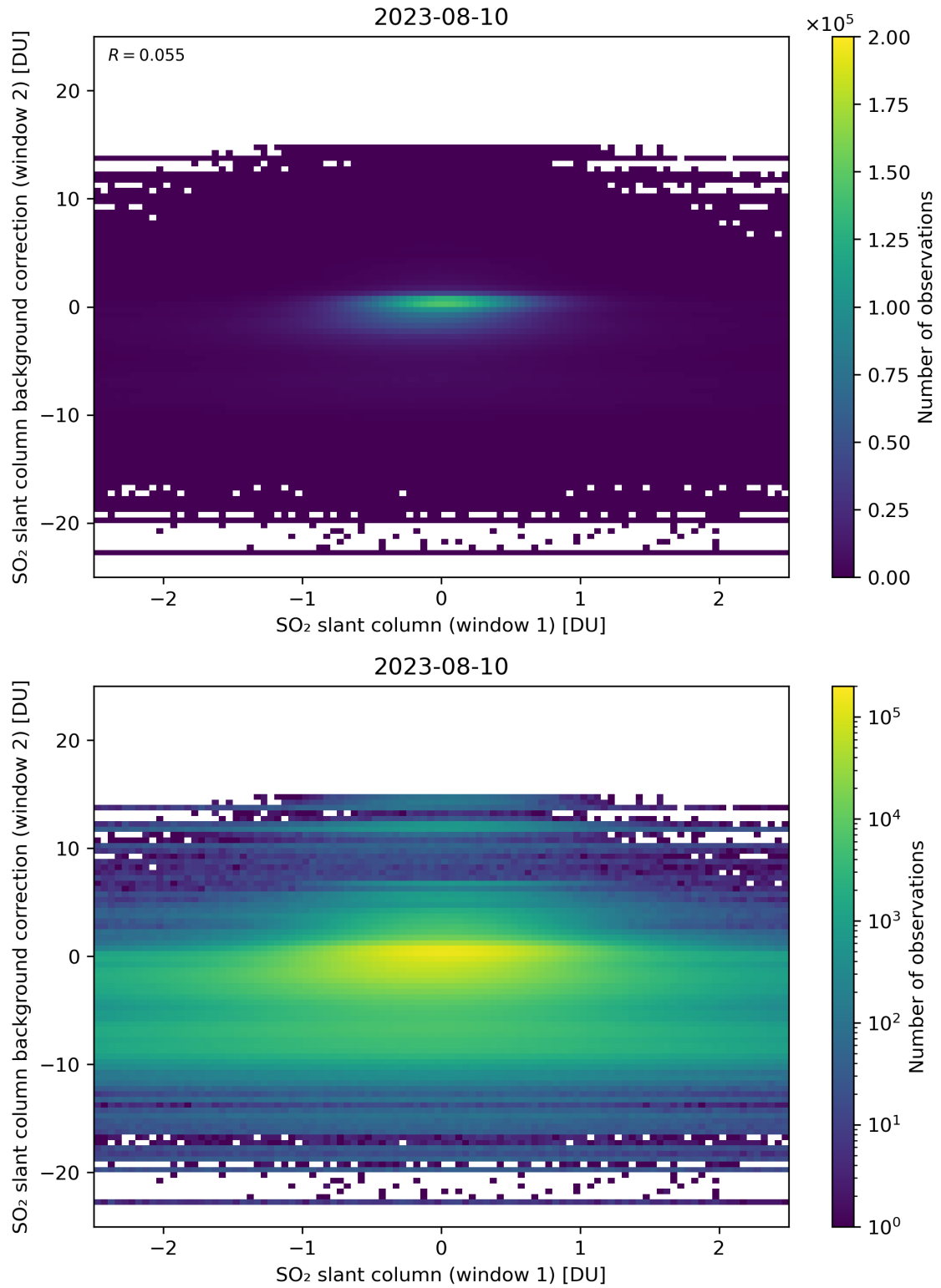


Figure 213: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

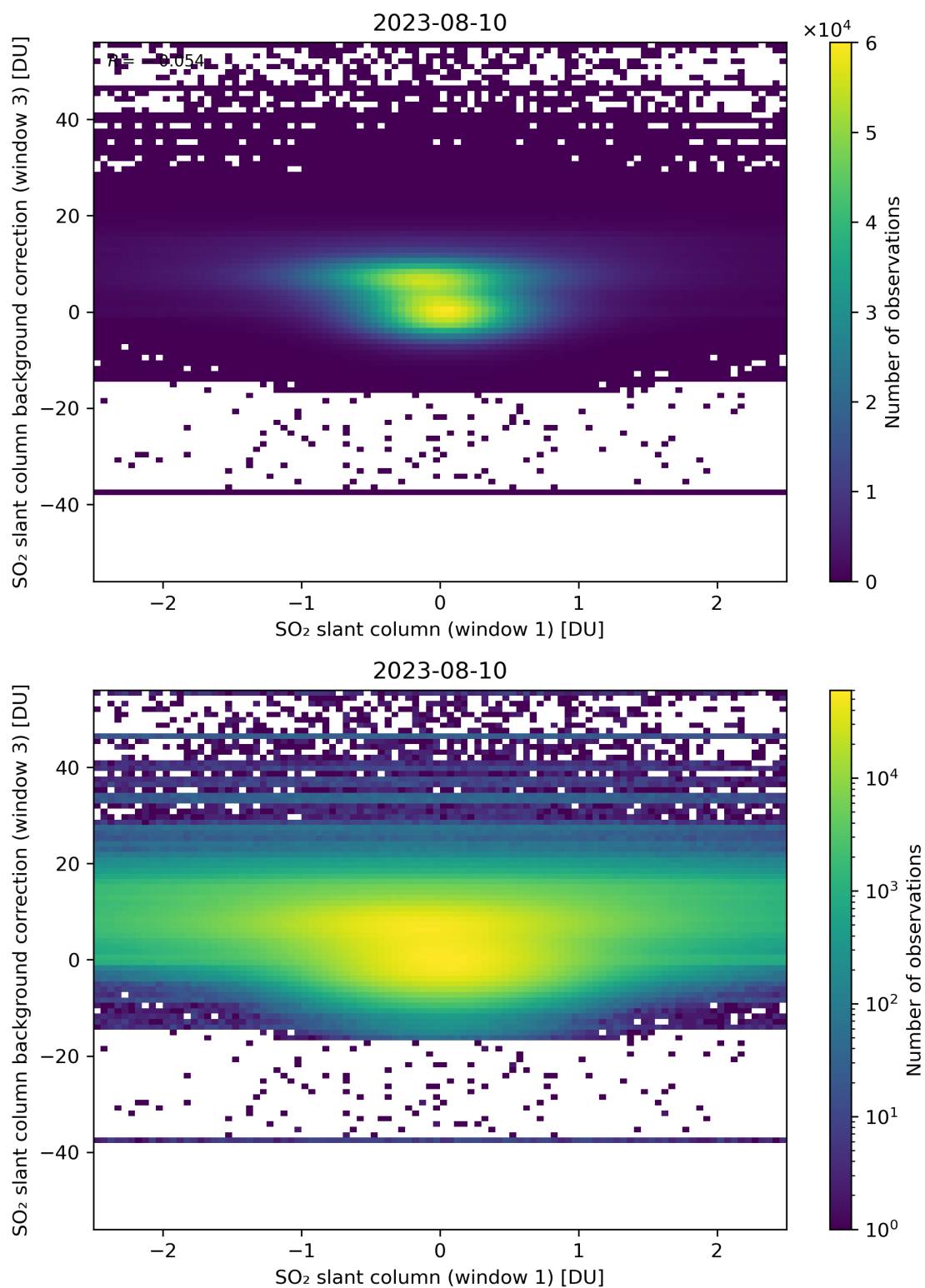


Figure 214: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

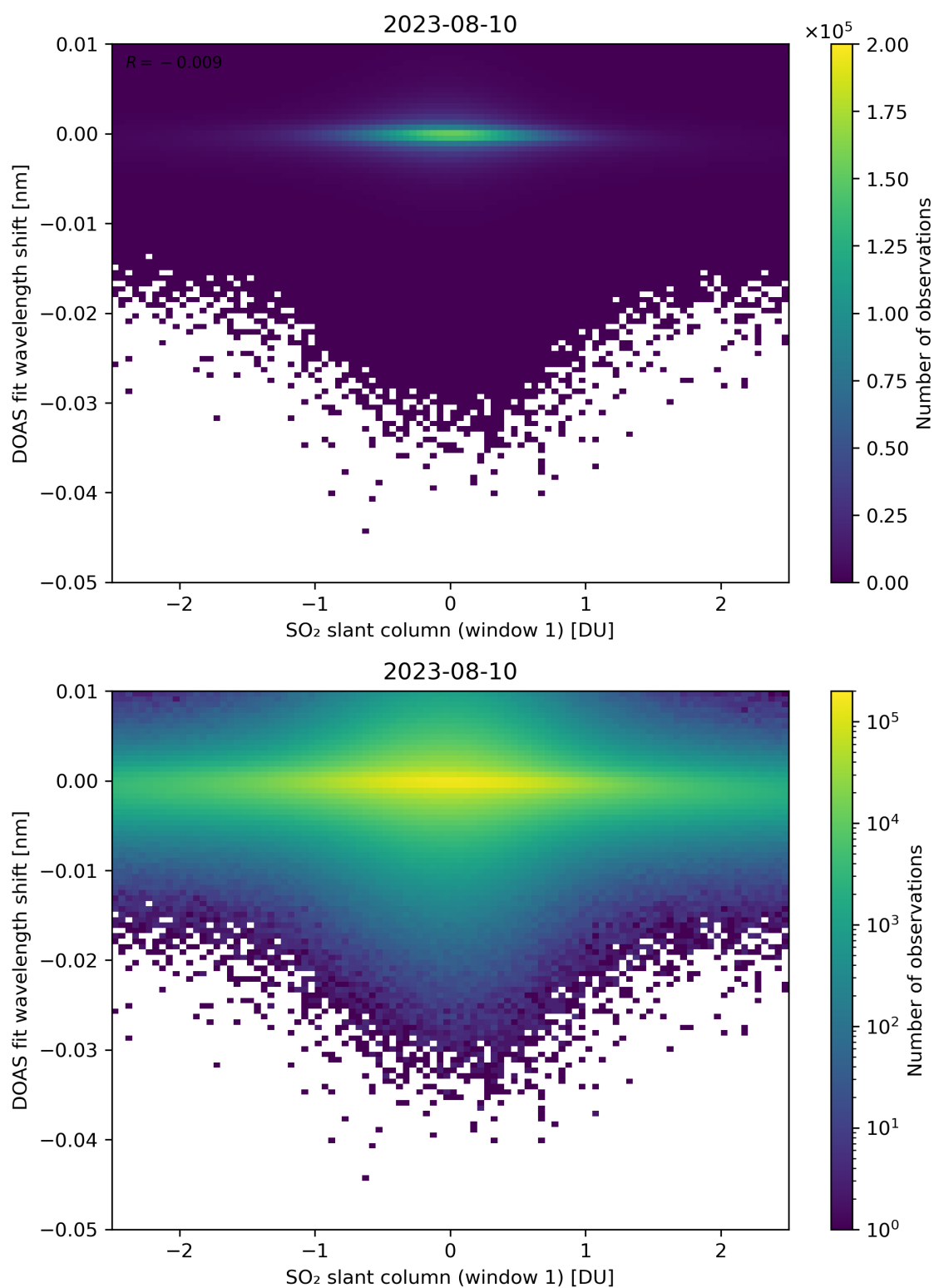


Figure 215: Scatter density plot of “SO₂ slant column (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

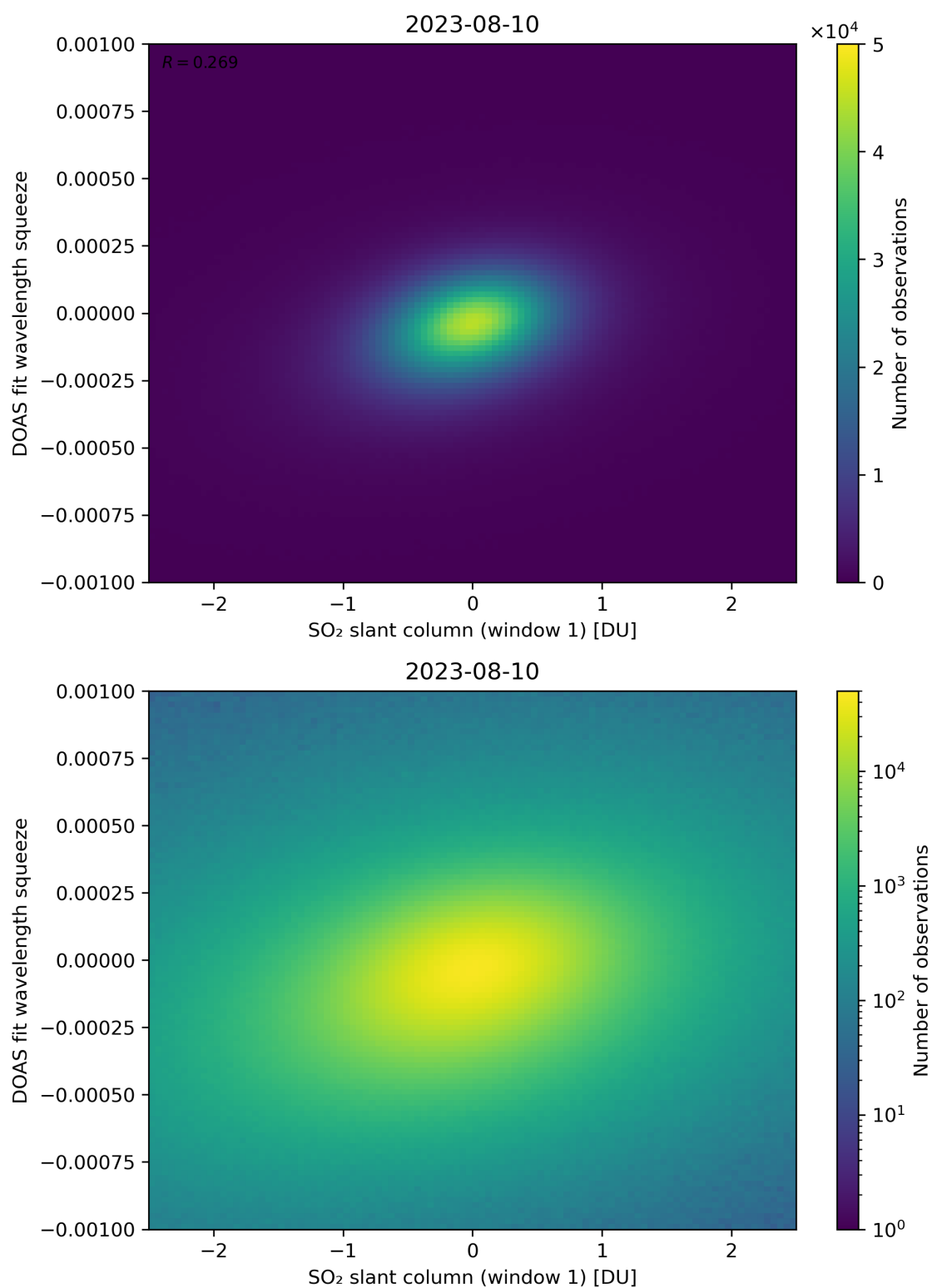


Figure 216: Scatter density plot of “SO₂ slant column (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

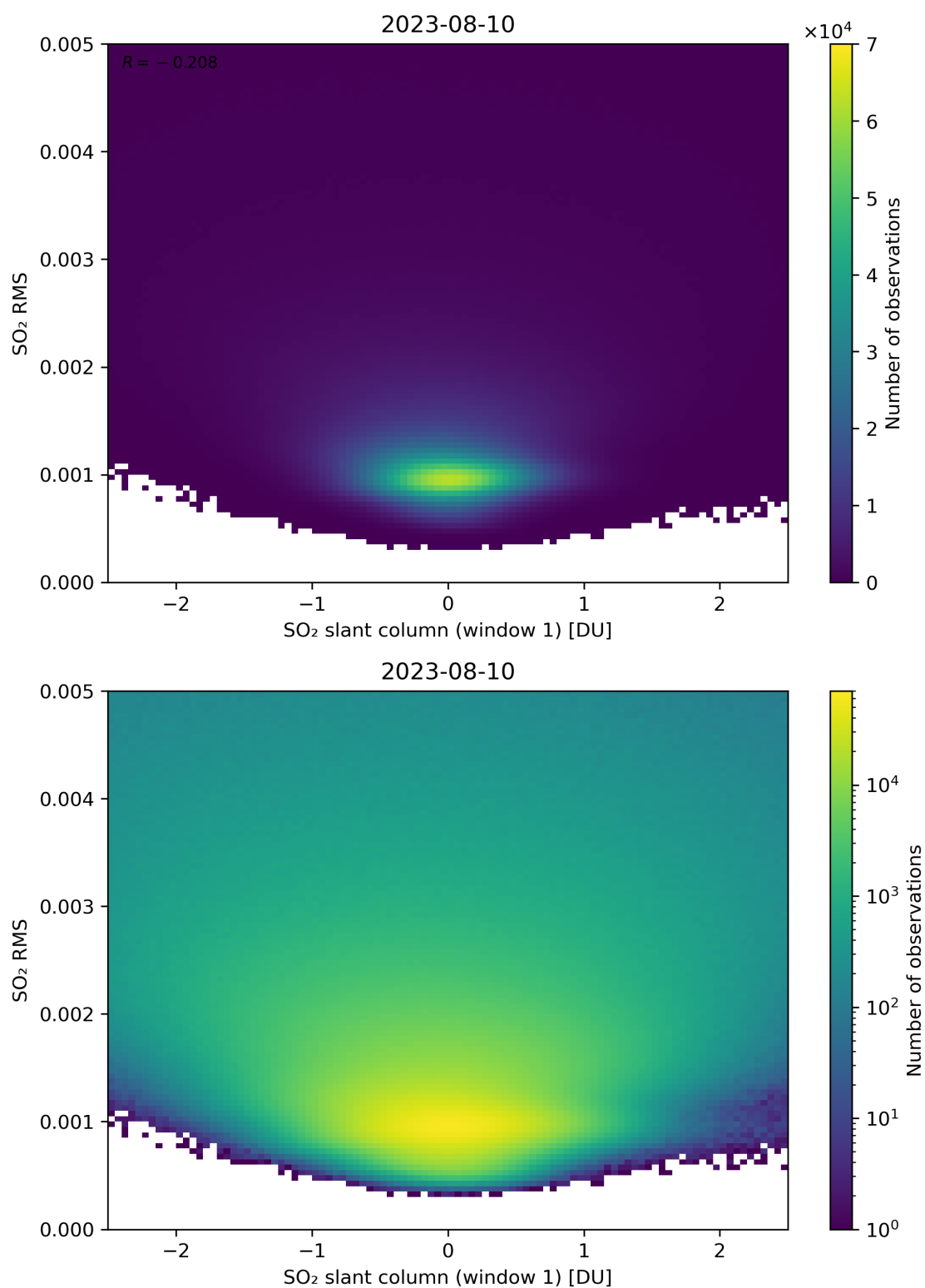


Figure 217: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

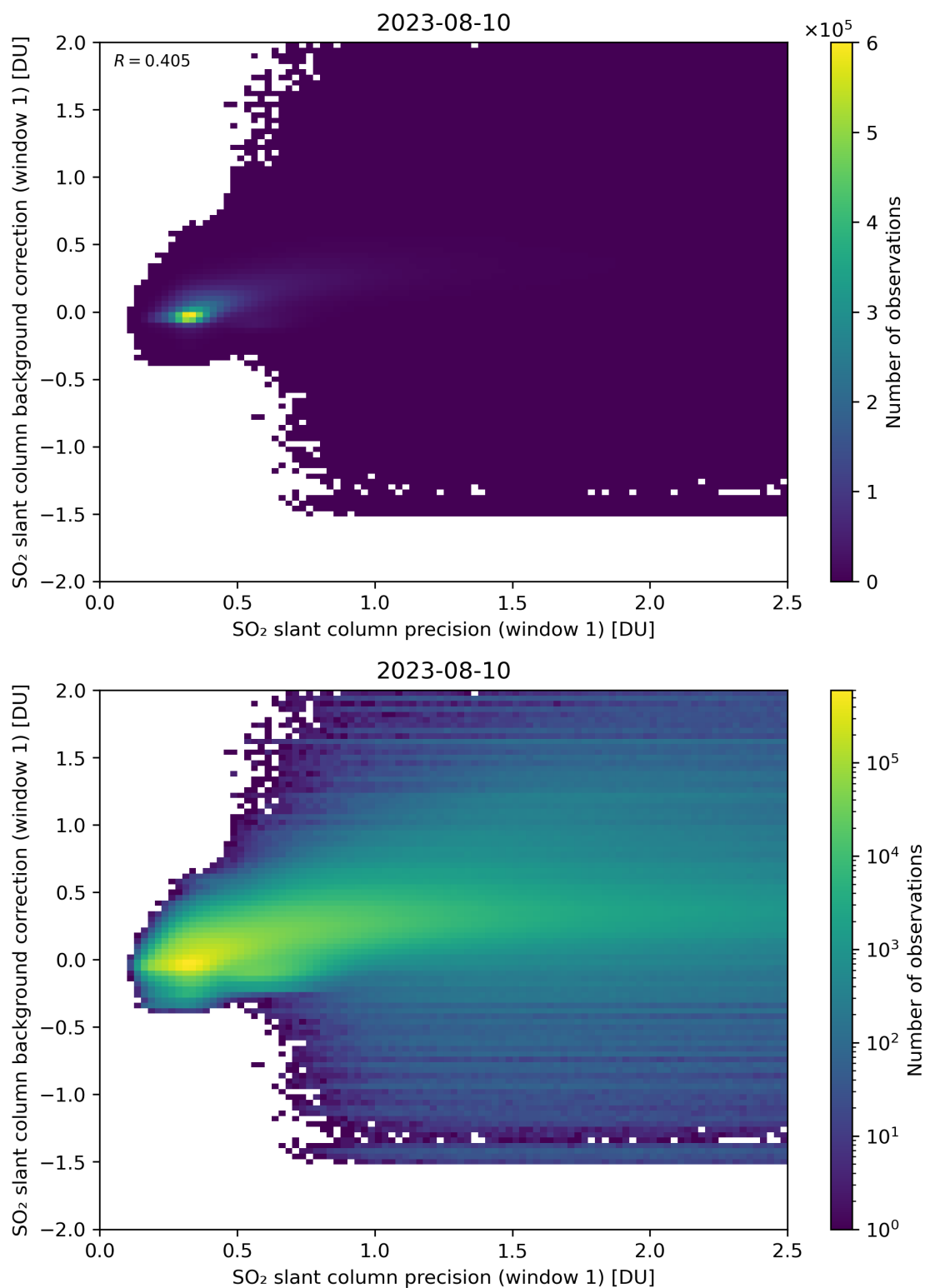


Figure 218: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

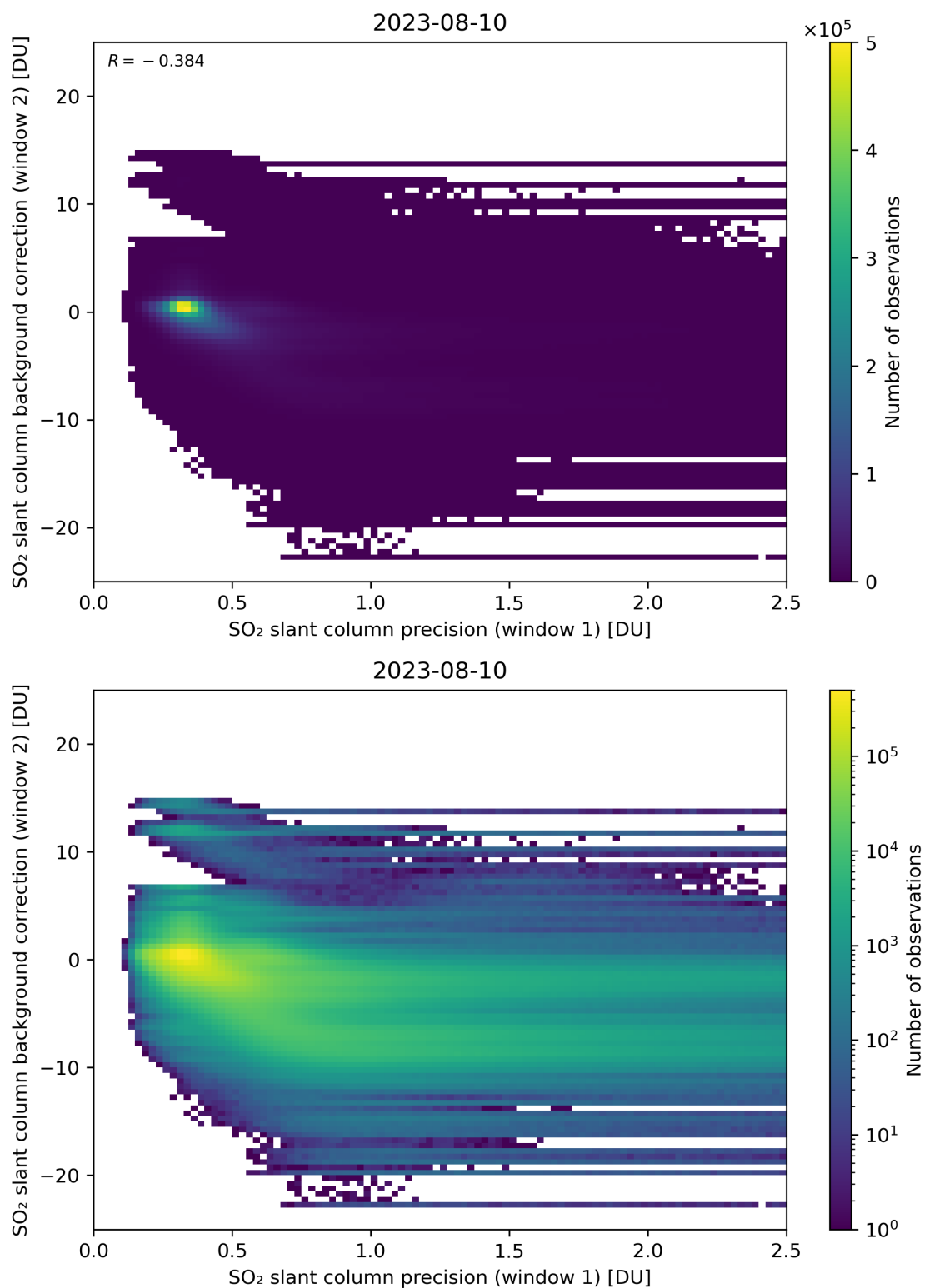


Figure 219: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

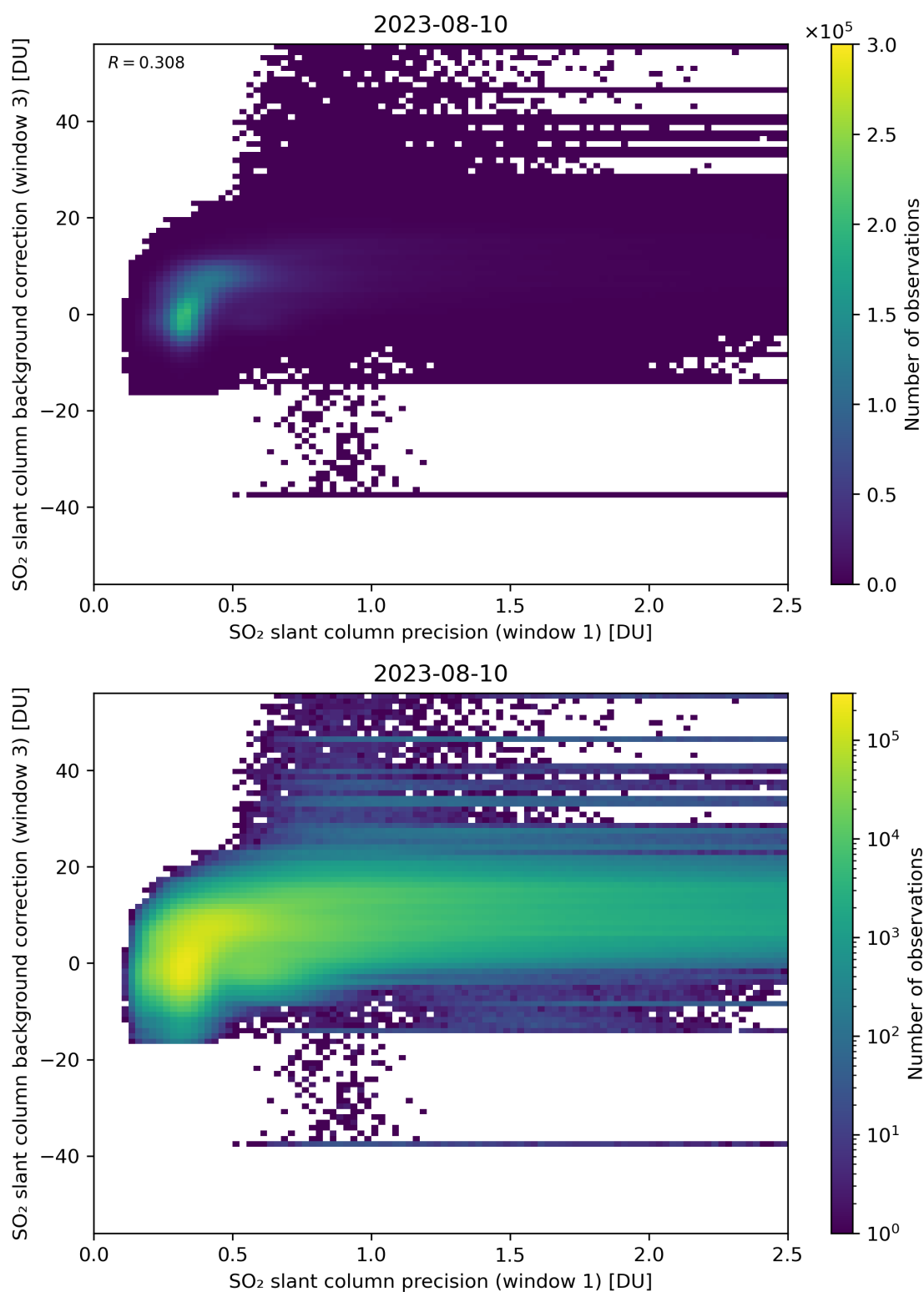


Figure 220: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

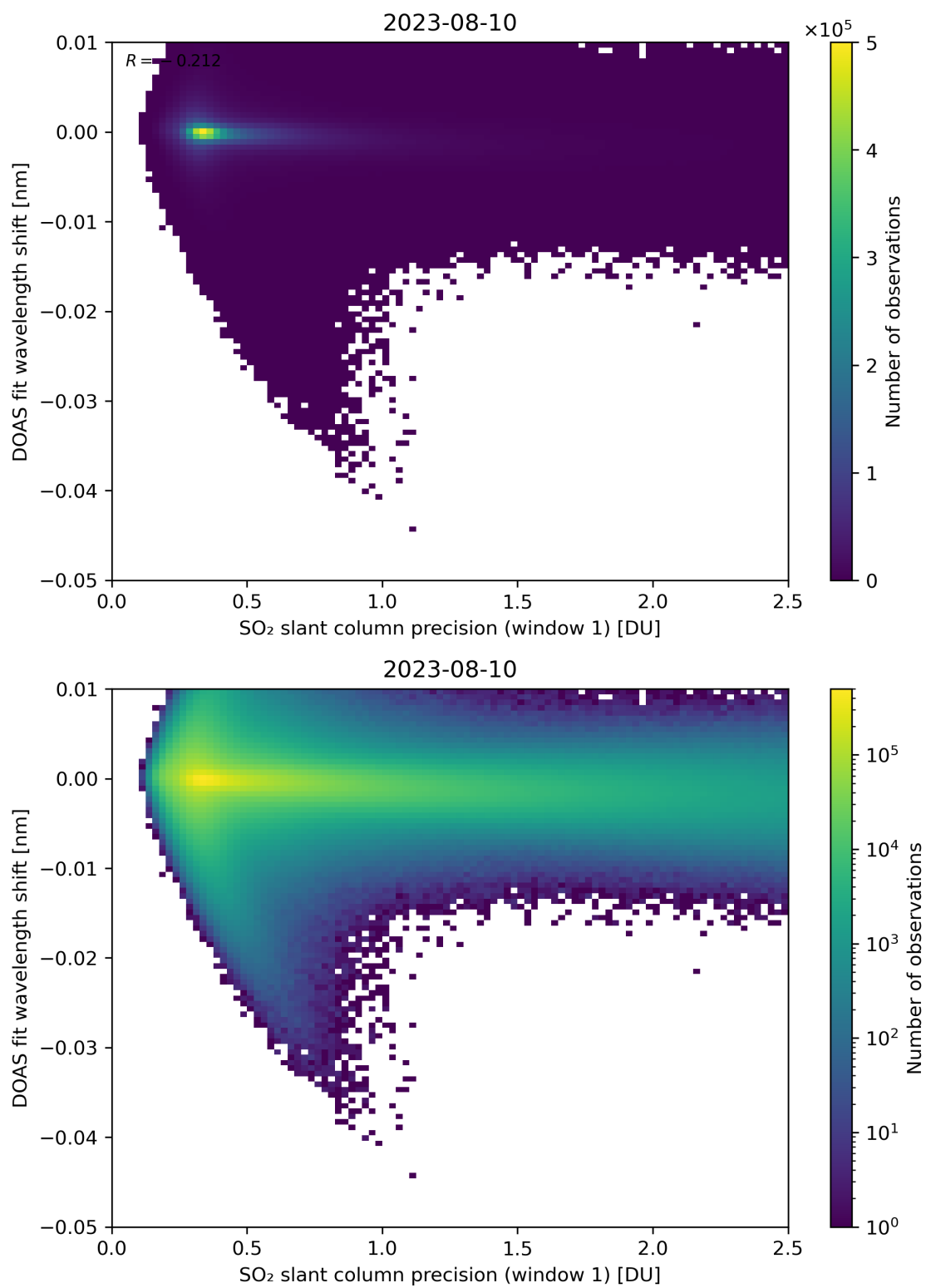


Figure 221: Scatter density plot of “SO₂ slant column precision (window 1)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

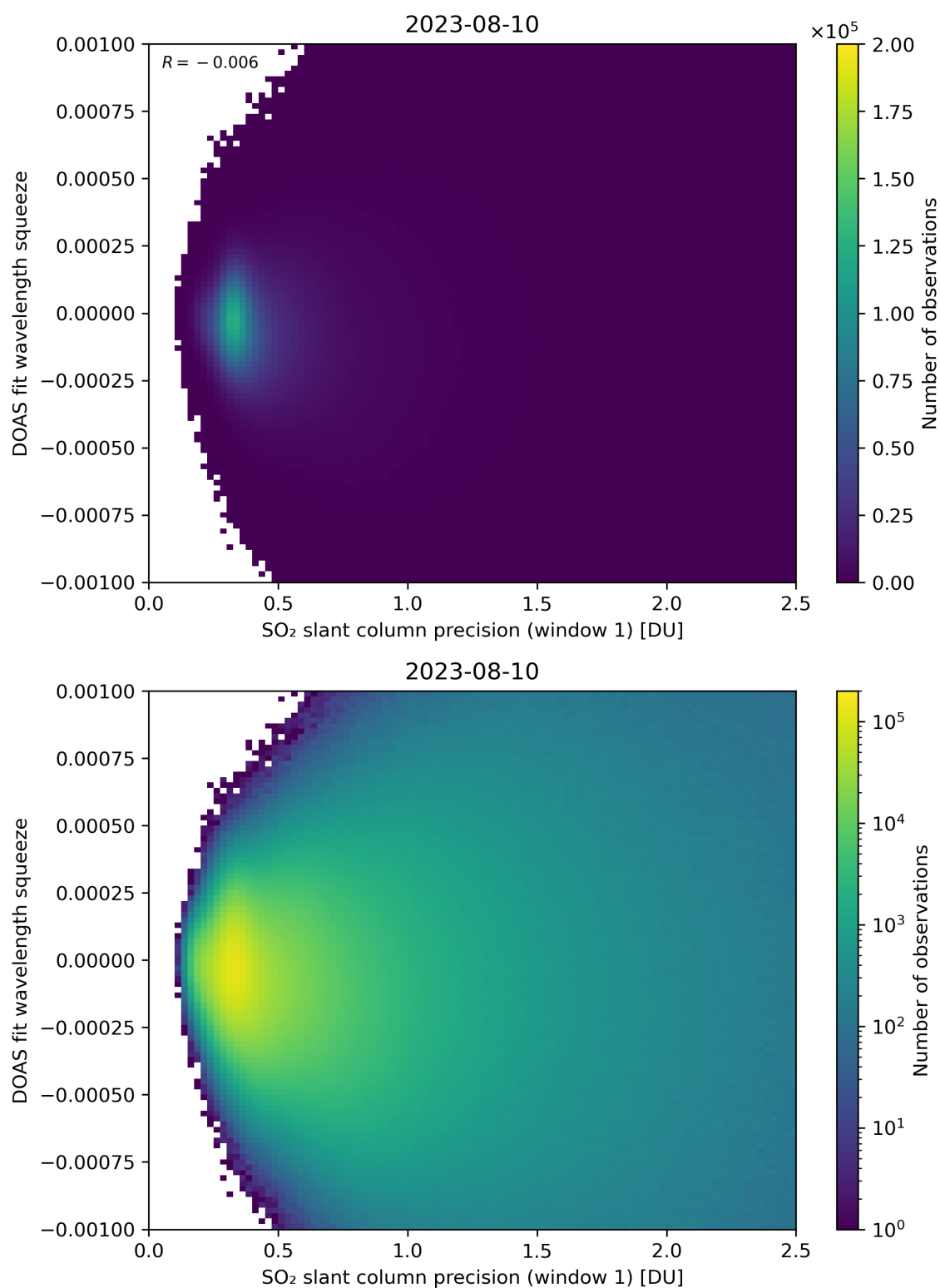


Figure 222: Scatter density plot of “SO₂ slant column precision (window 1)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

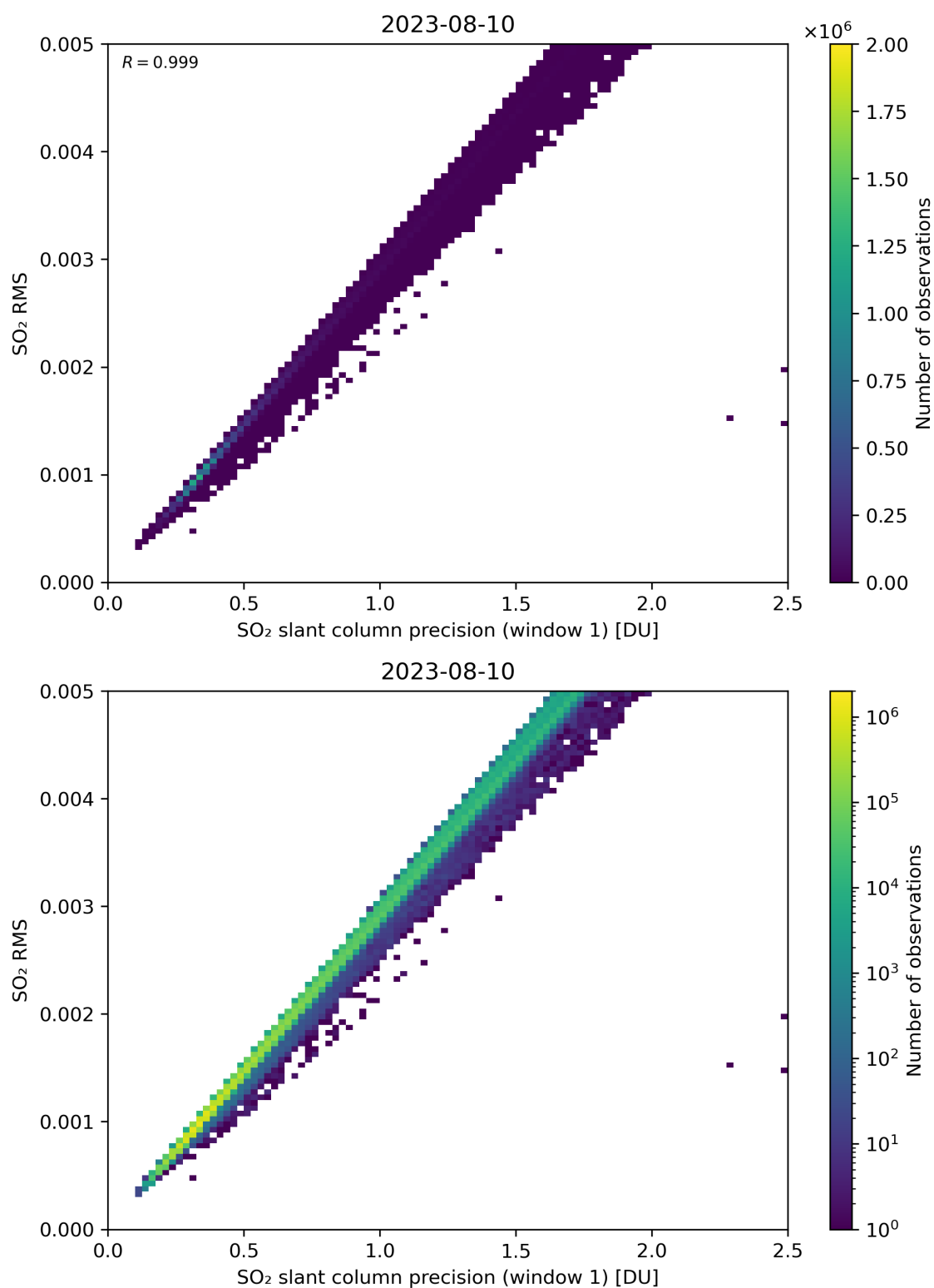


Figure 223: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

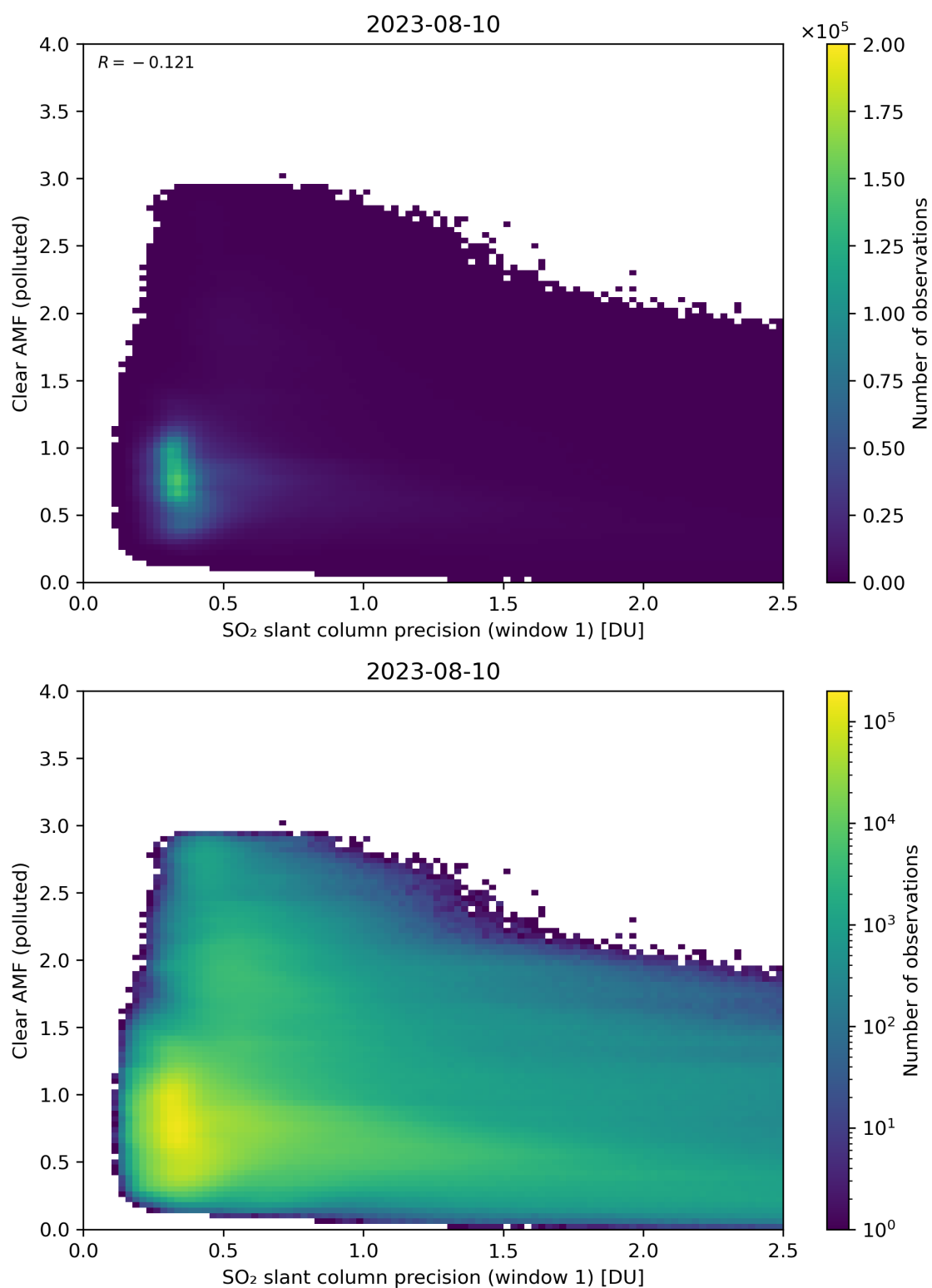


Figure 224: Scatter density plot of “SO₂ slant column precision (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

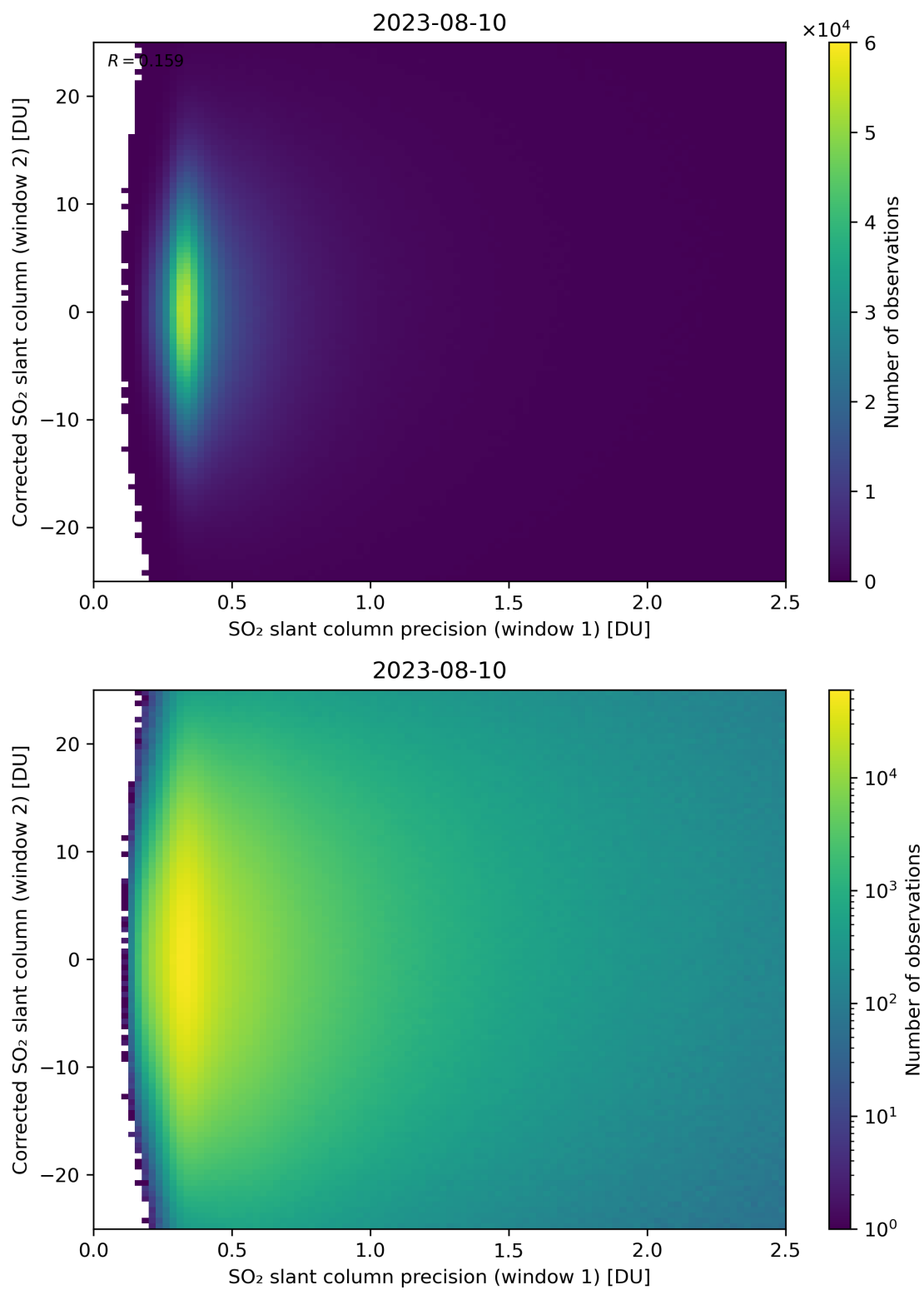


Figure 225: Scatter density plot of “SO₂ slant column precision (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

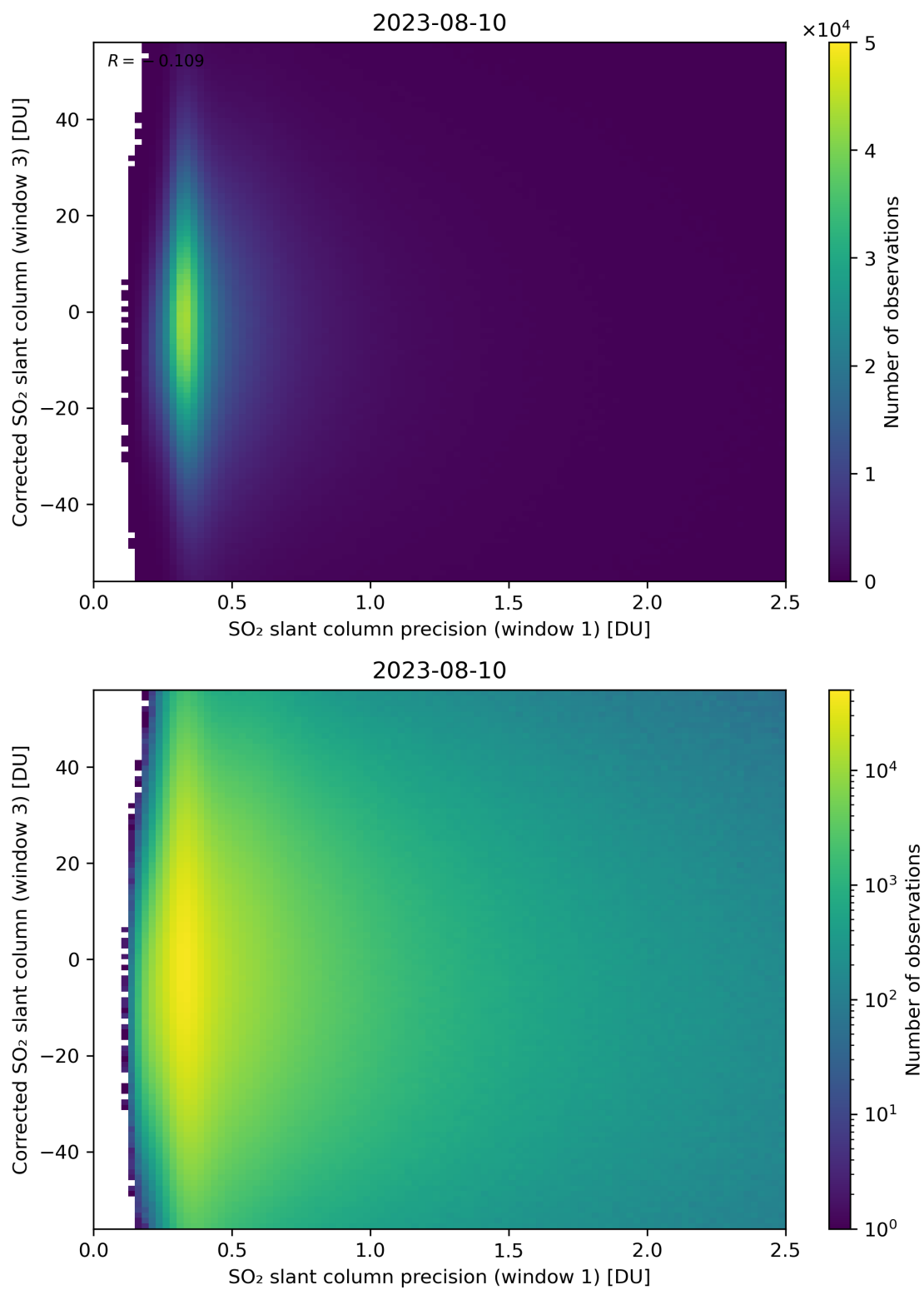


Figure 226: Scatter density plot of “SO₂ slant column precision (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

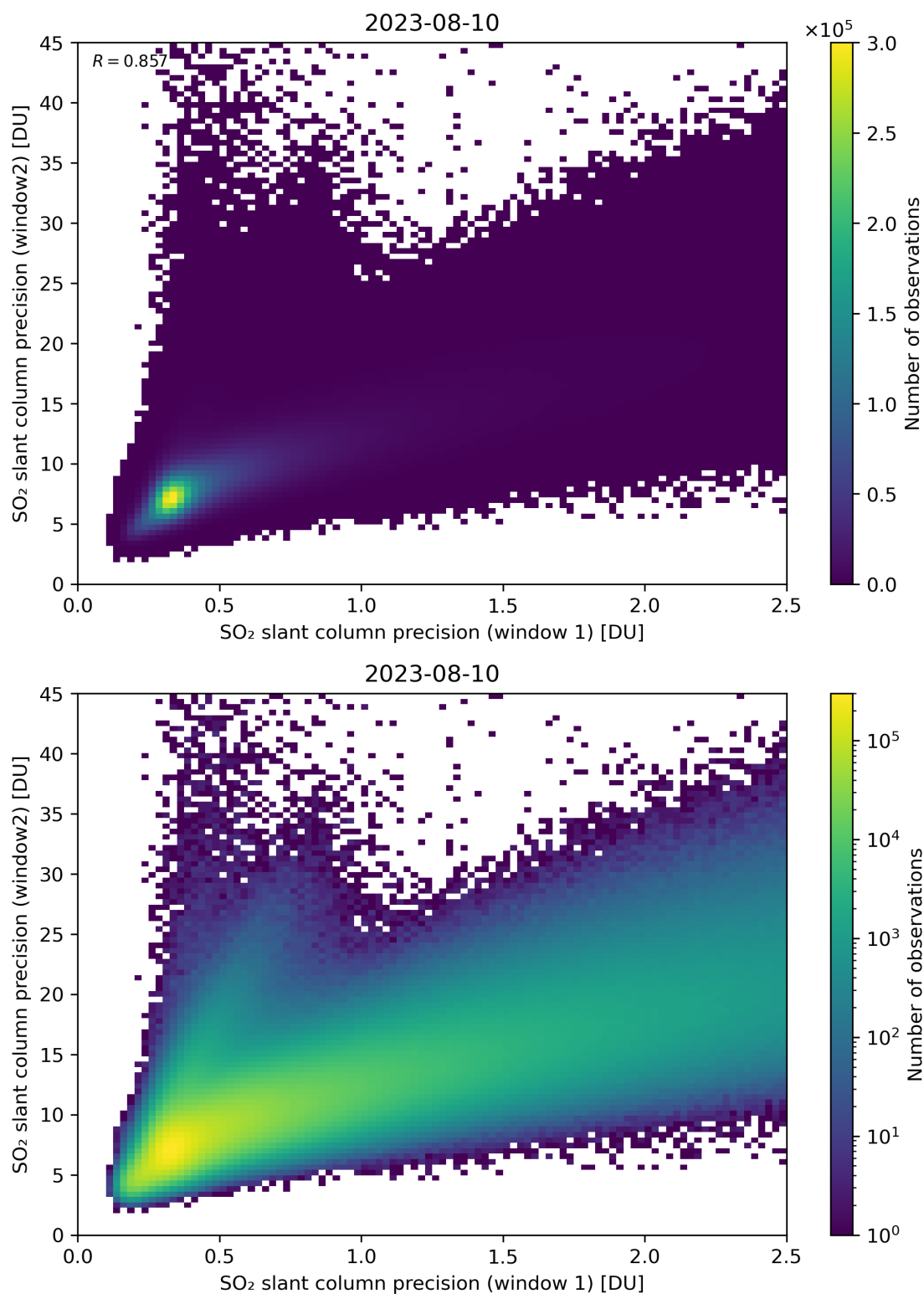


Figure 227: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

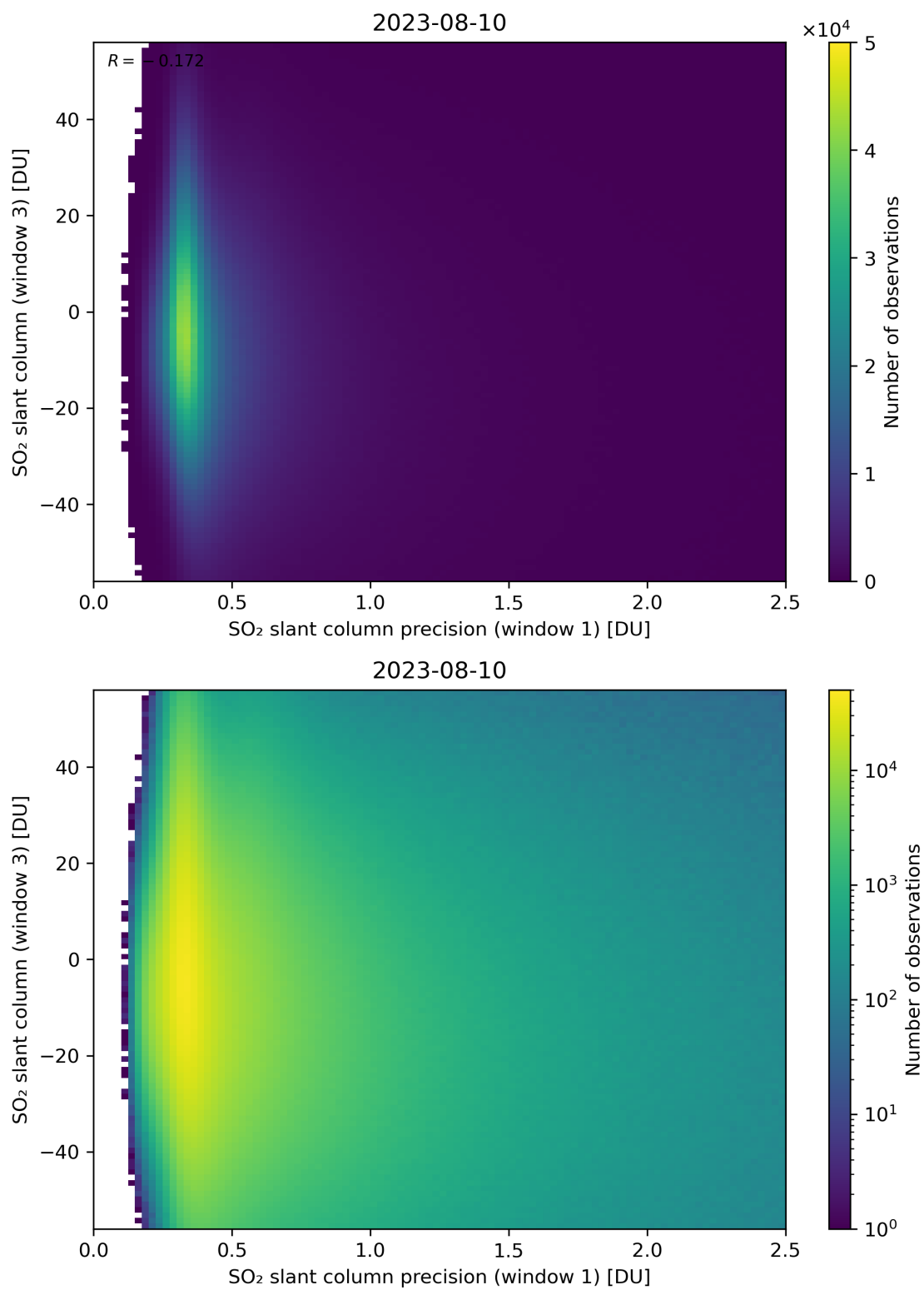


Figure 228: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

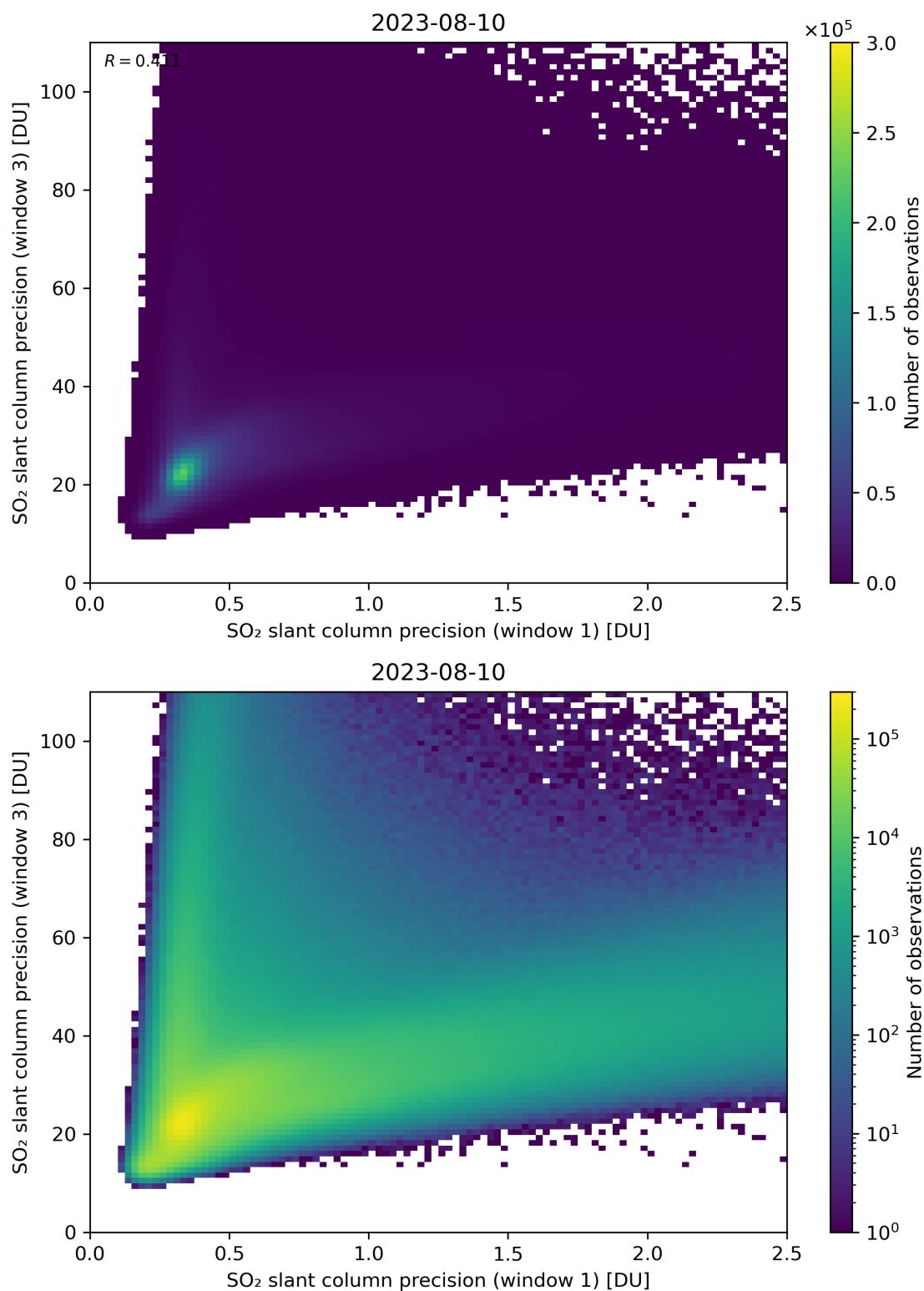


Figure 229: Scatter density plot of “SO₂ slant column precision (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

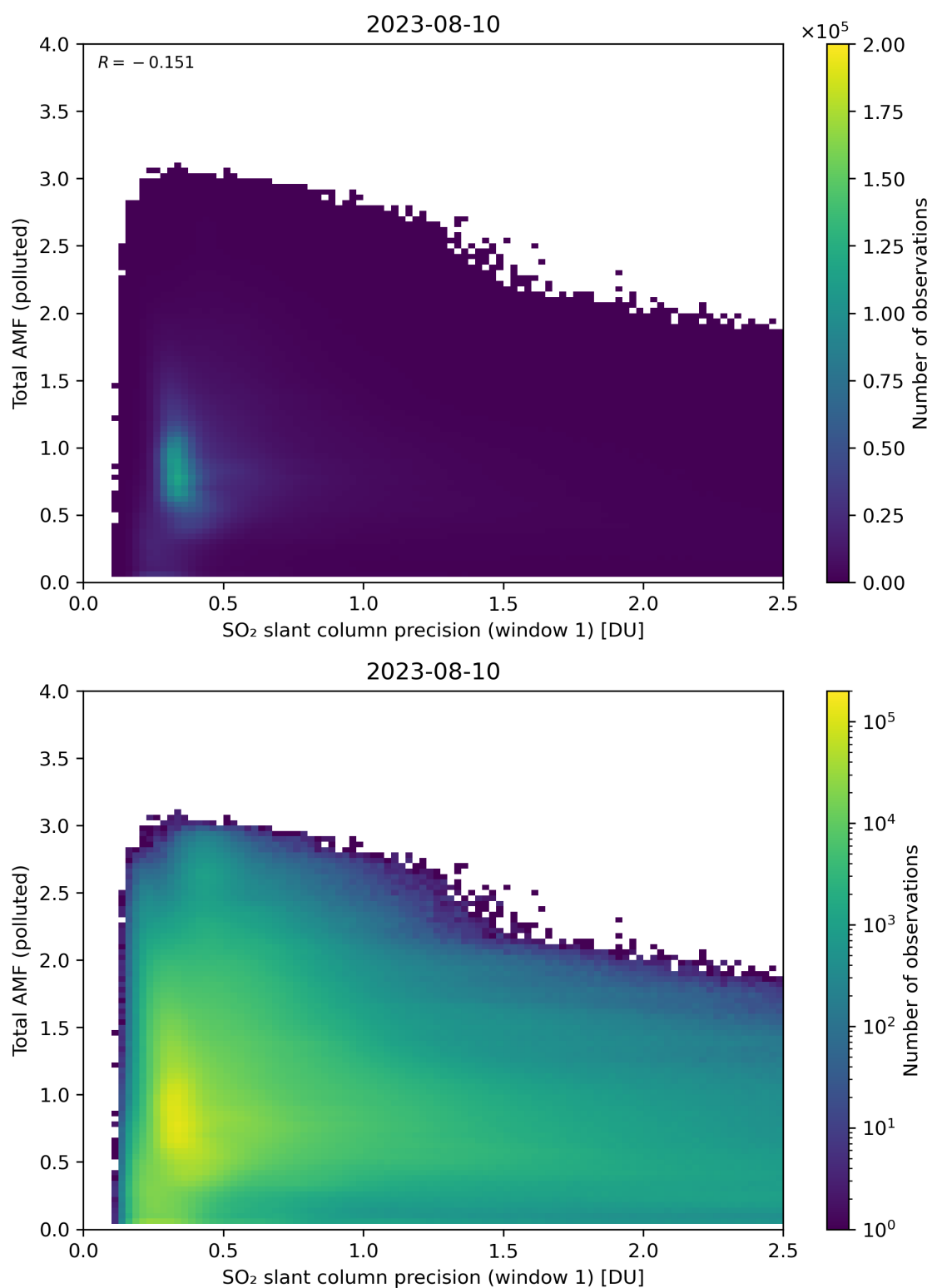


Figure 230: Scatter density plot of “SO₂ slant column precision (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

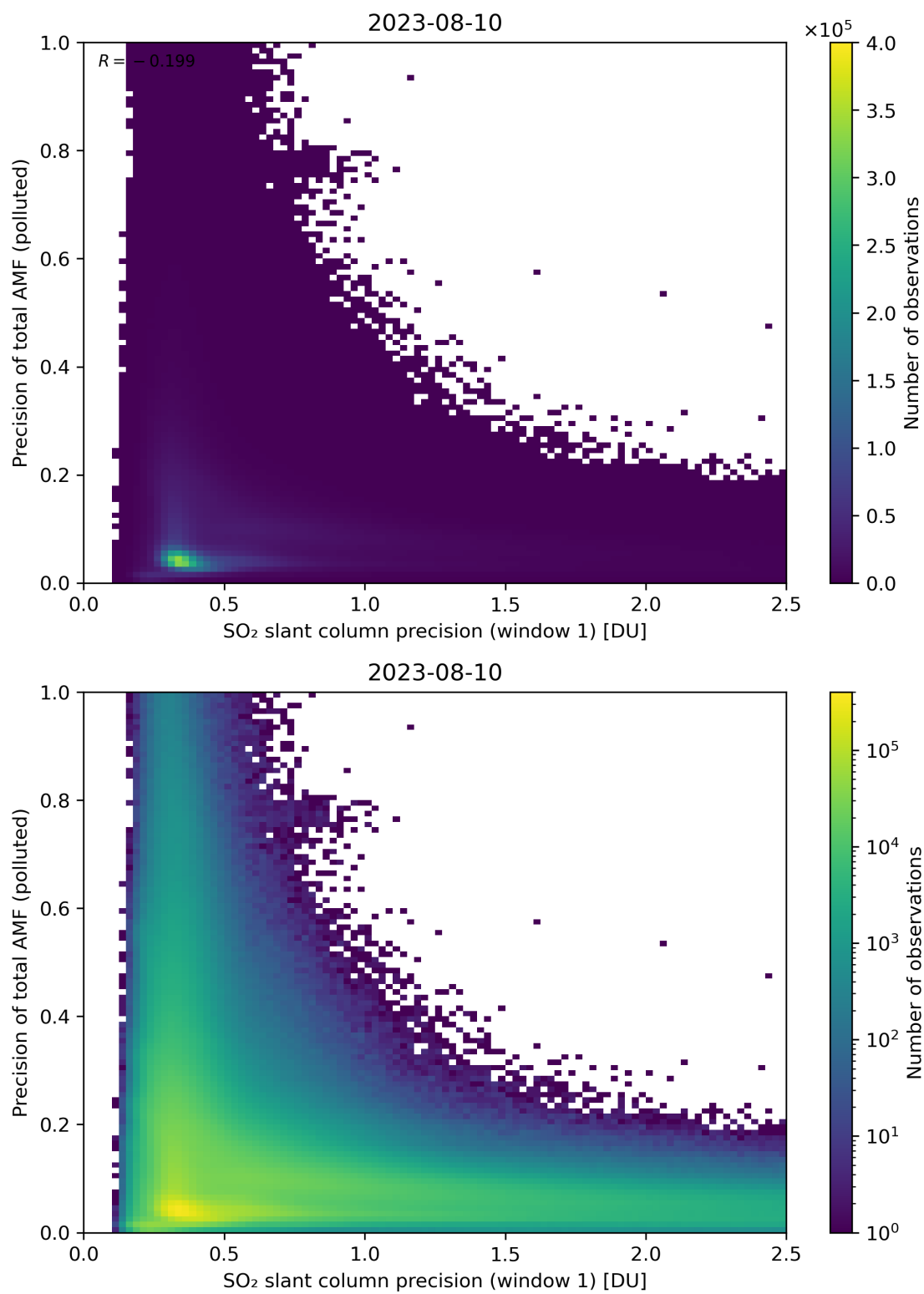


Figure 231: Scatter density plot of “SO₂ slant column precision (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

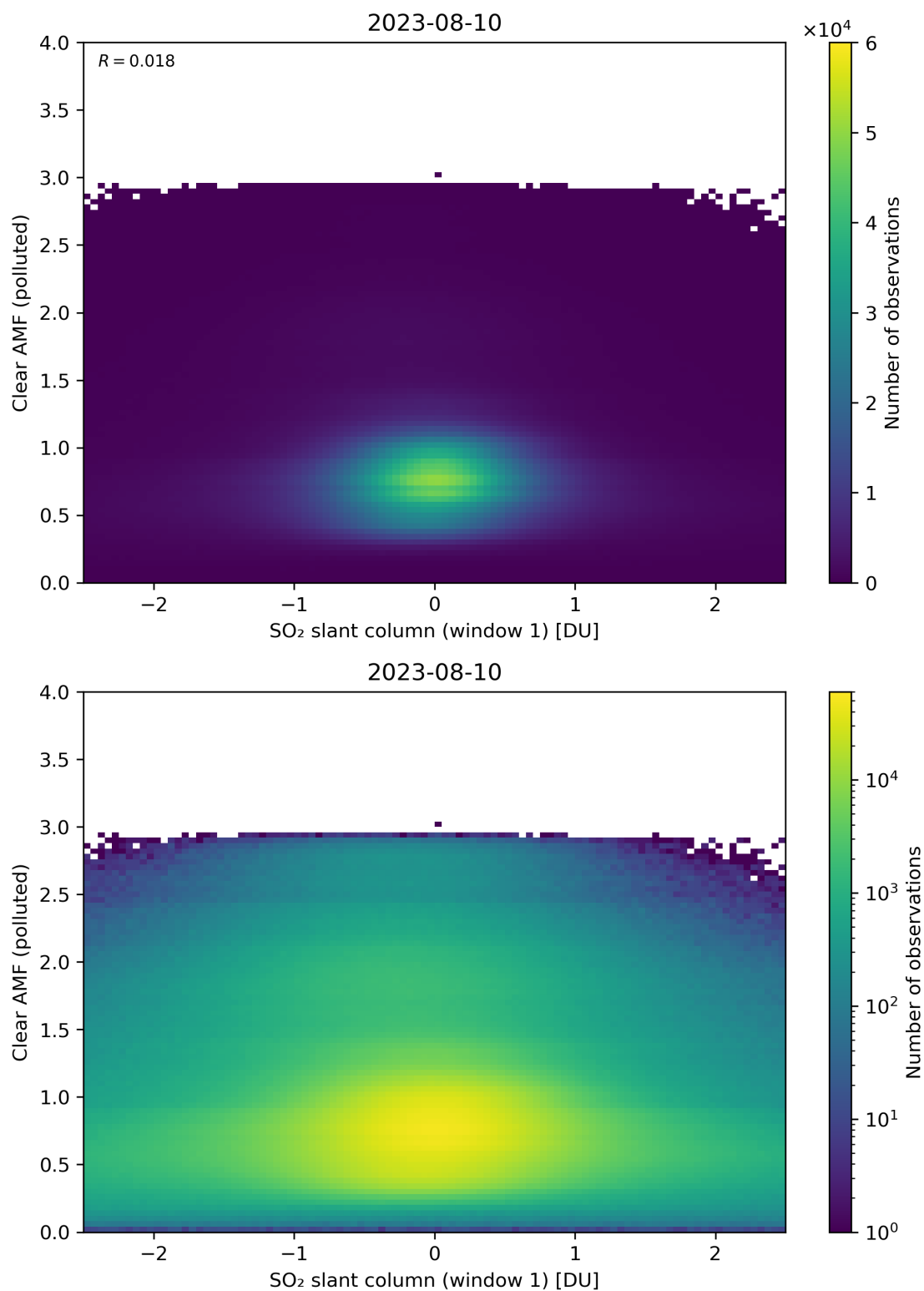


Figure 232: Scatter density plot of “SO₂ slant column (window 1)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

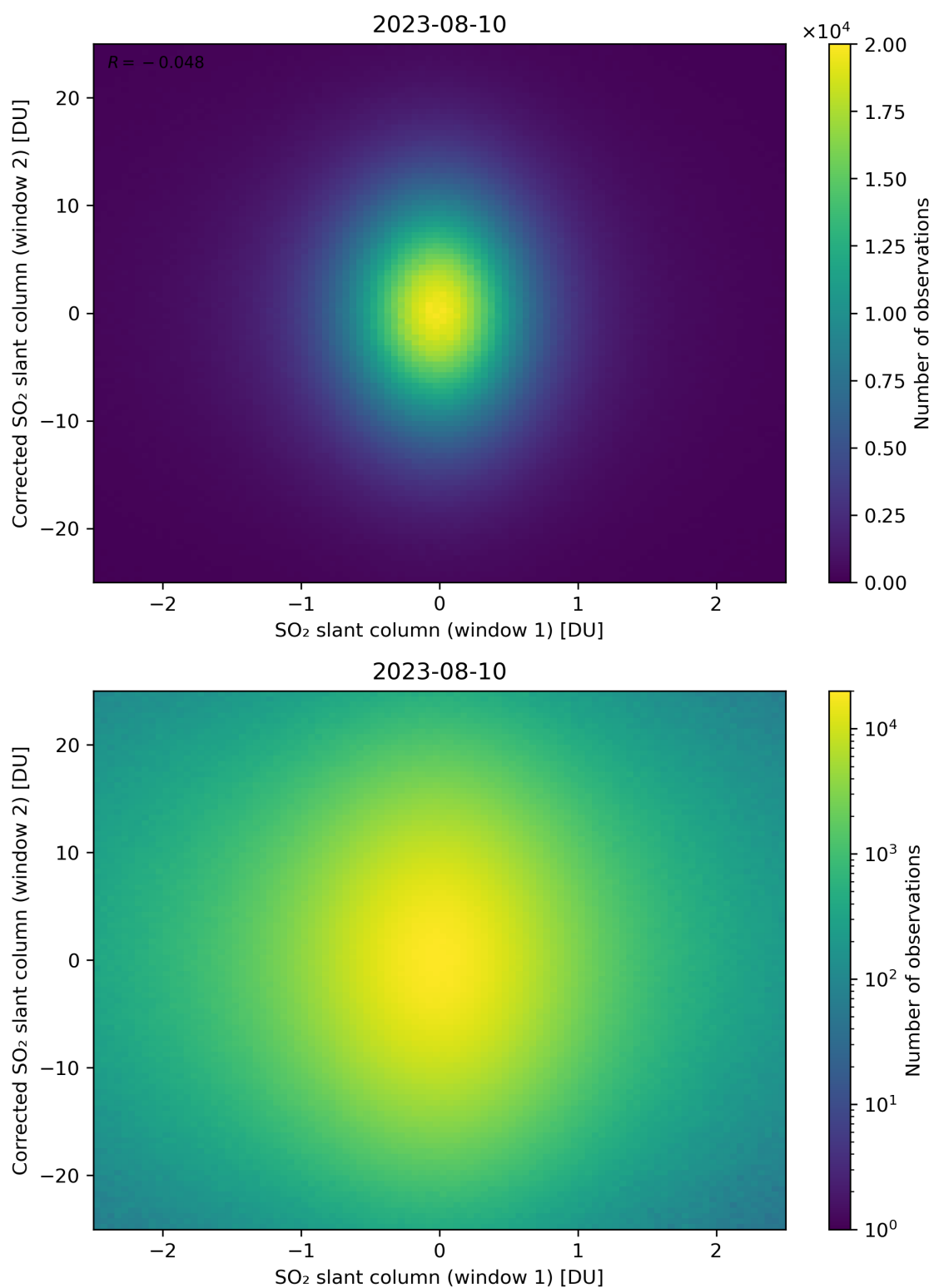


Figure 233: Scatter density plot of “SO₂ slant column (window 1)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

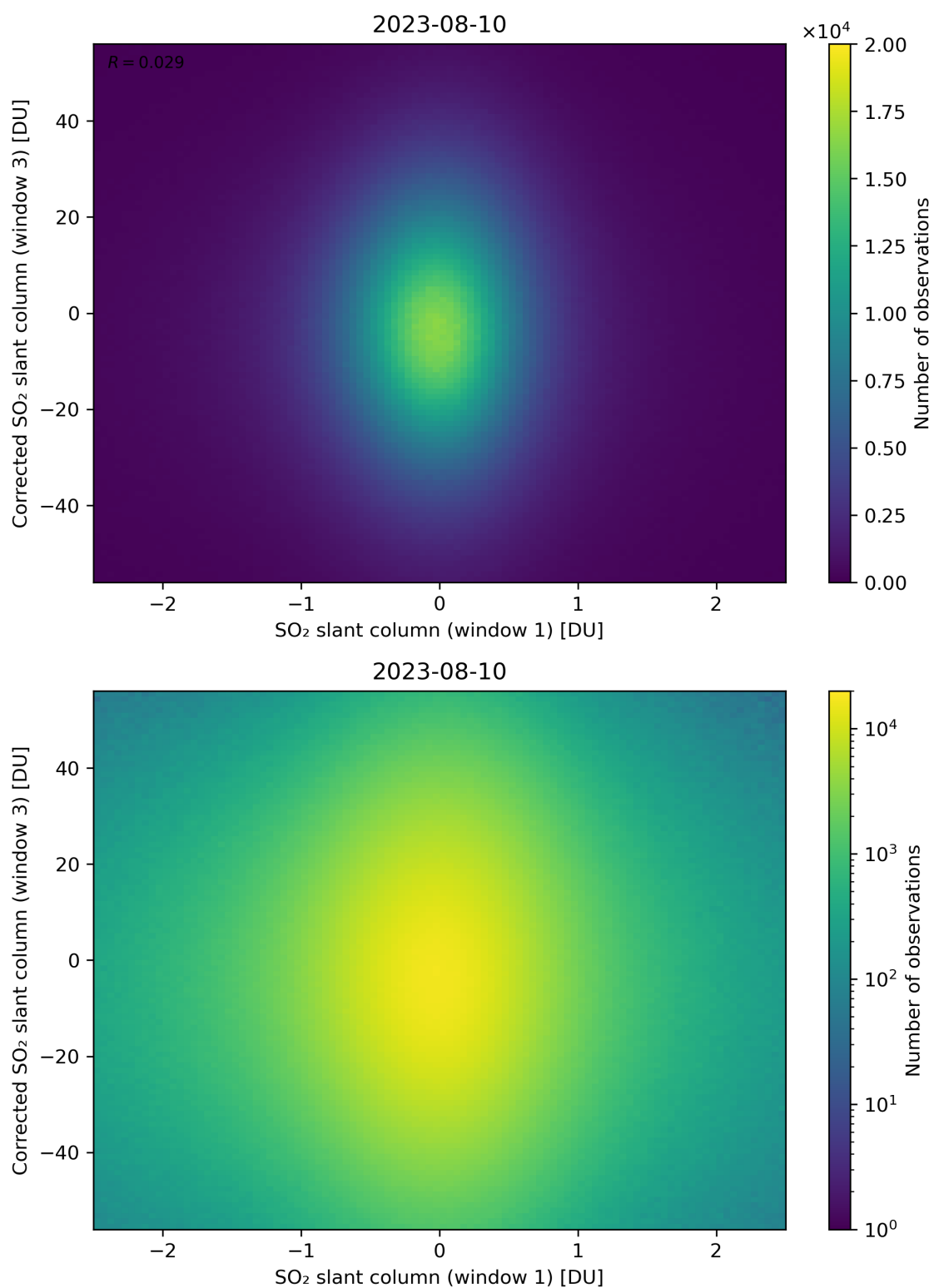


Figure 234: Scatter density plot of “SO₂ slant column (window 1)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

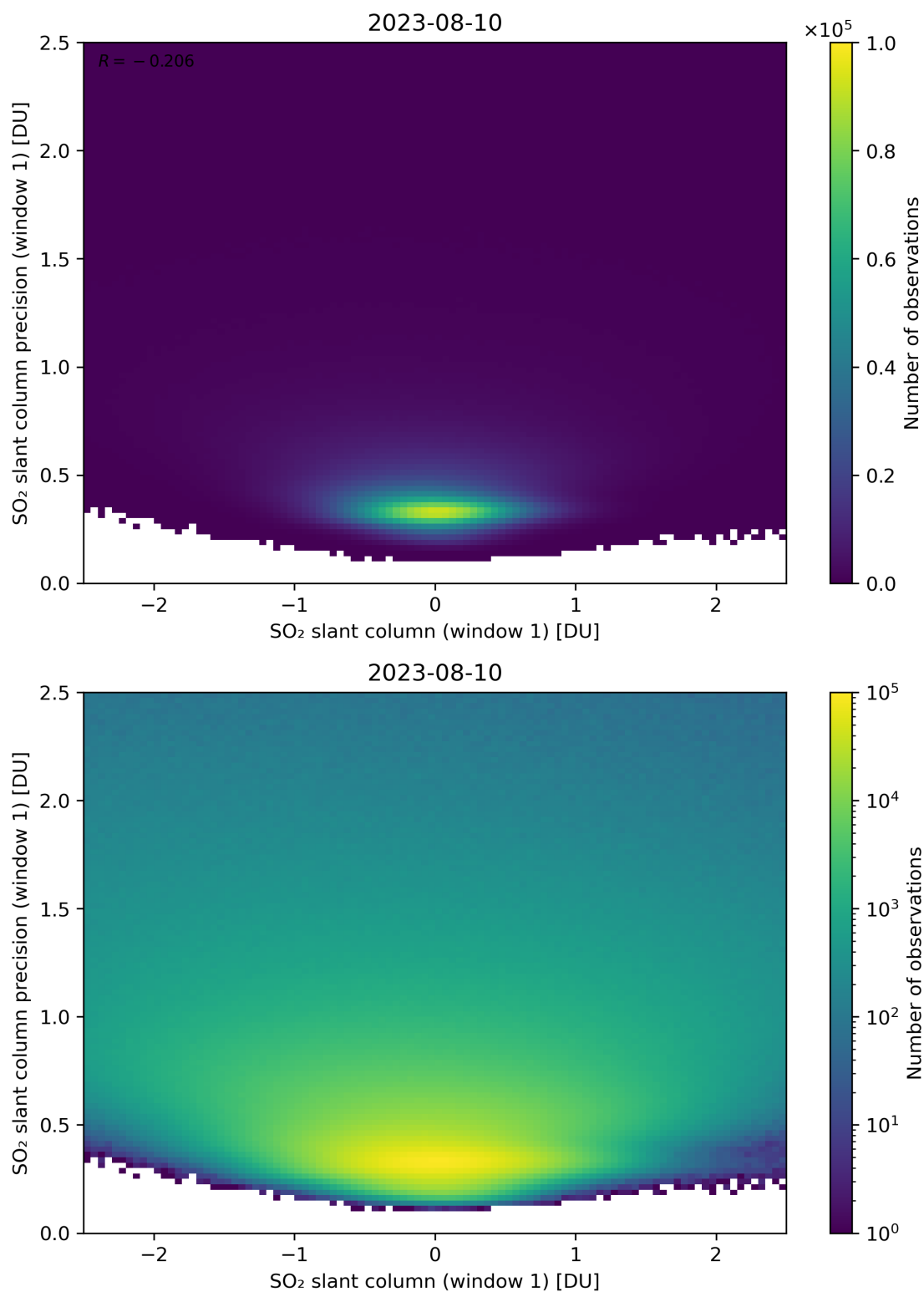


Figure 235: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

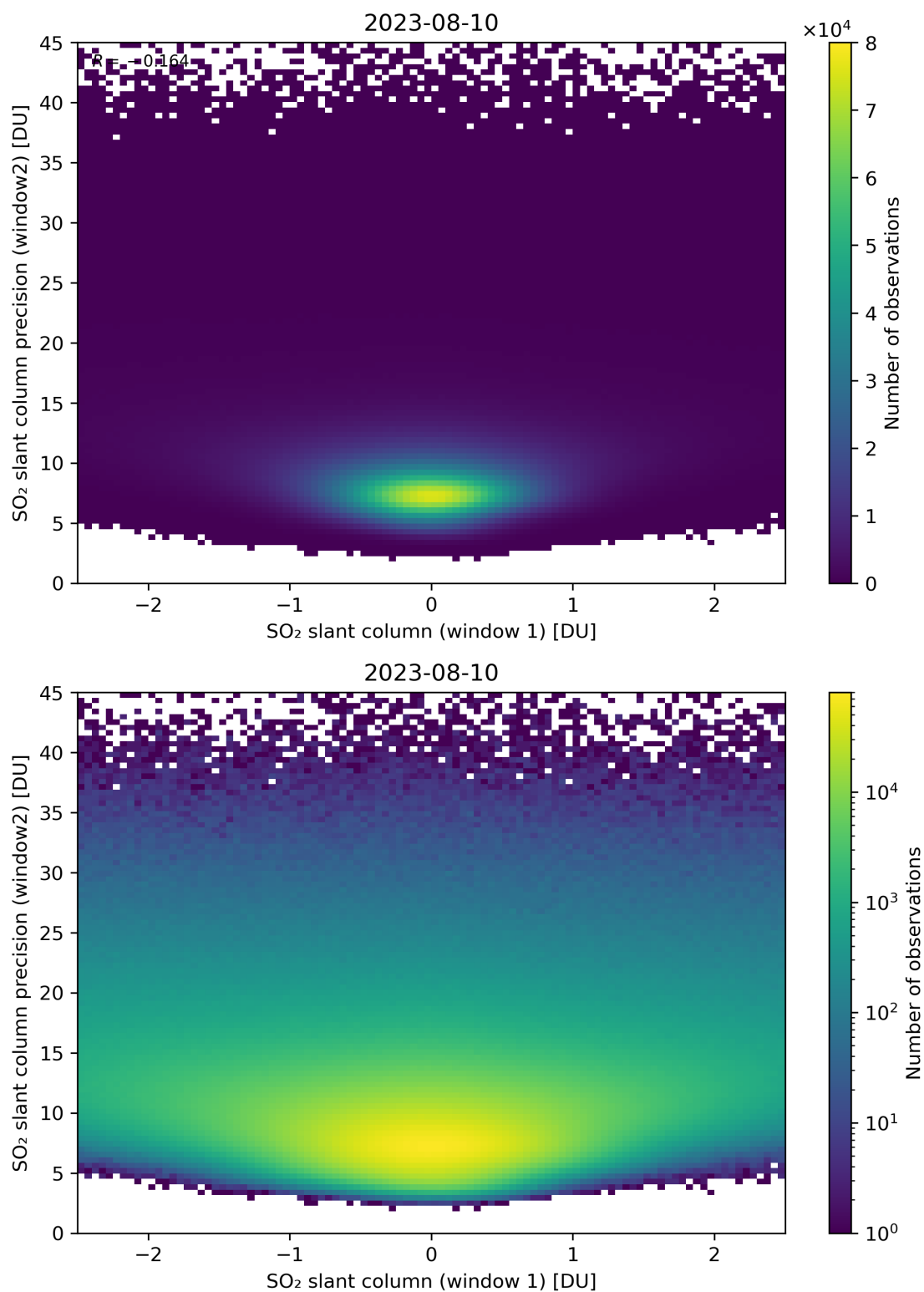


Figure 236: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

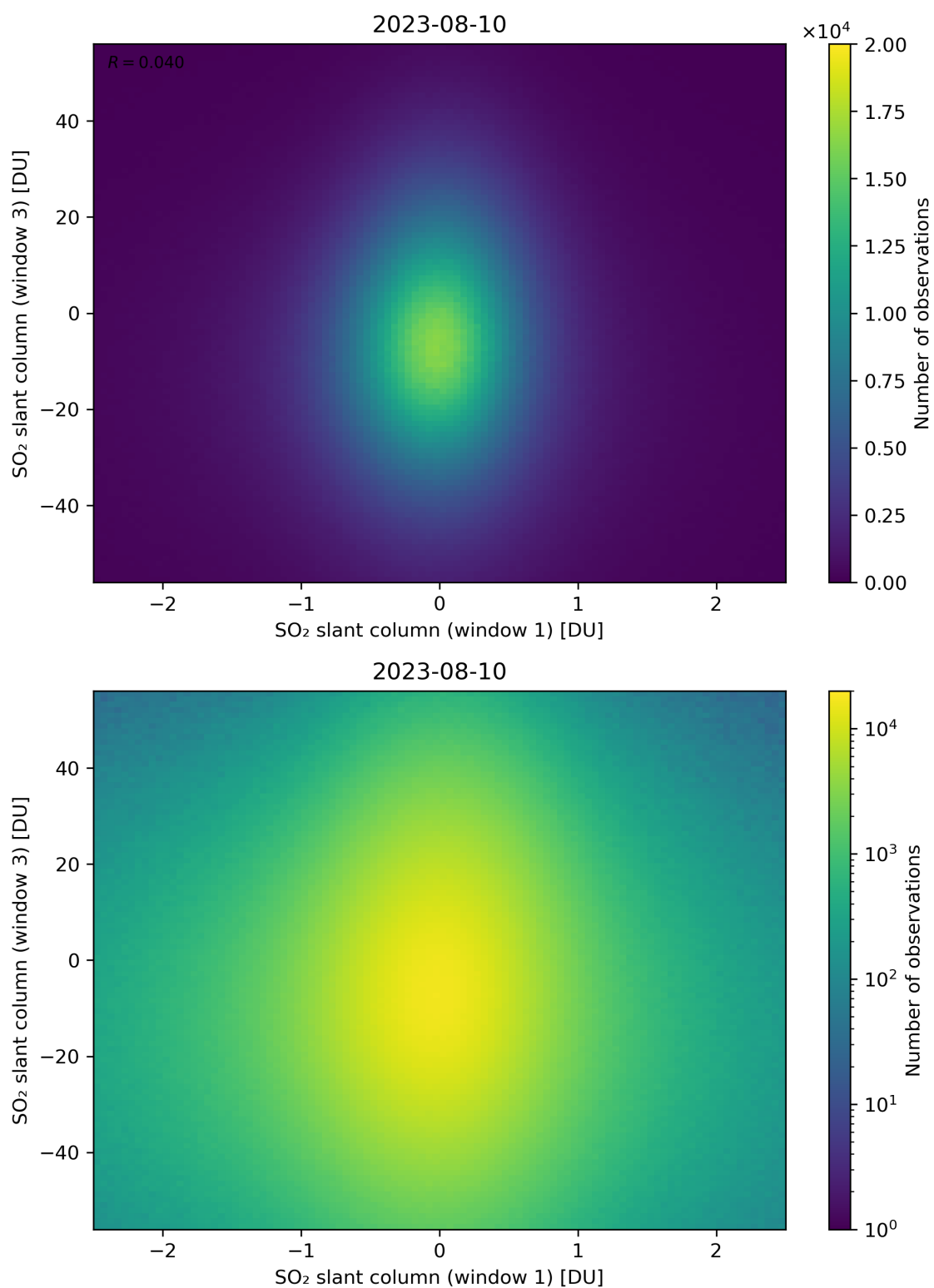


Figure 237: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

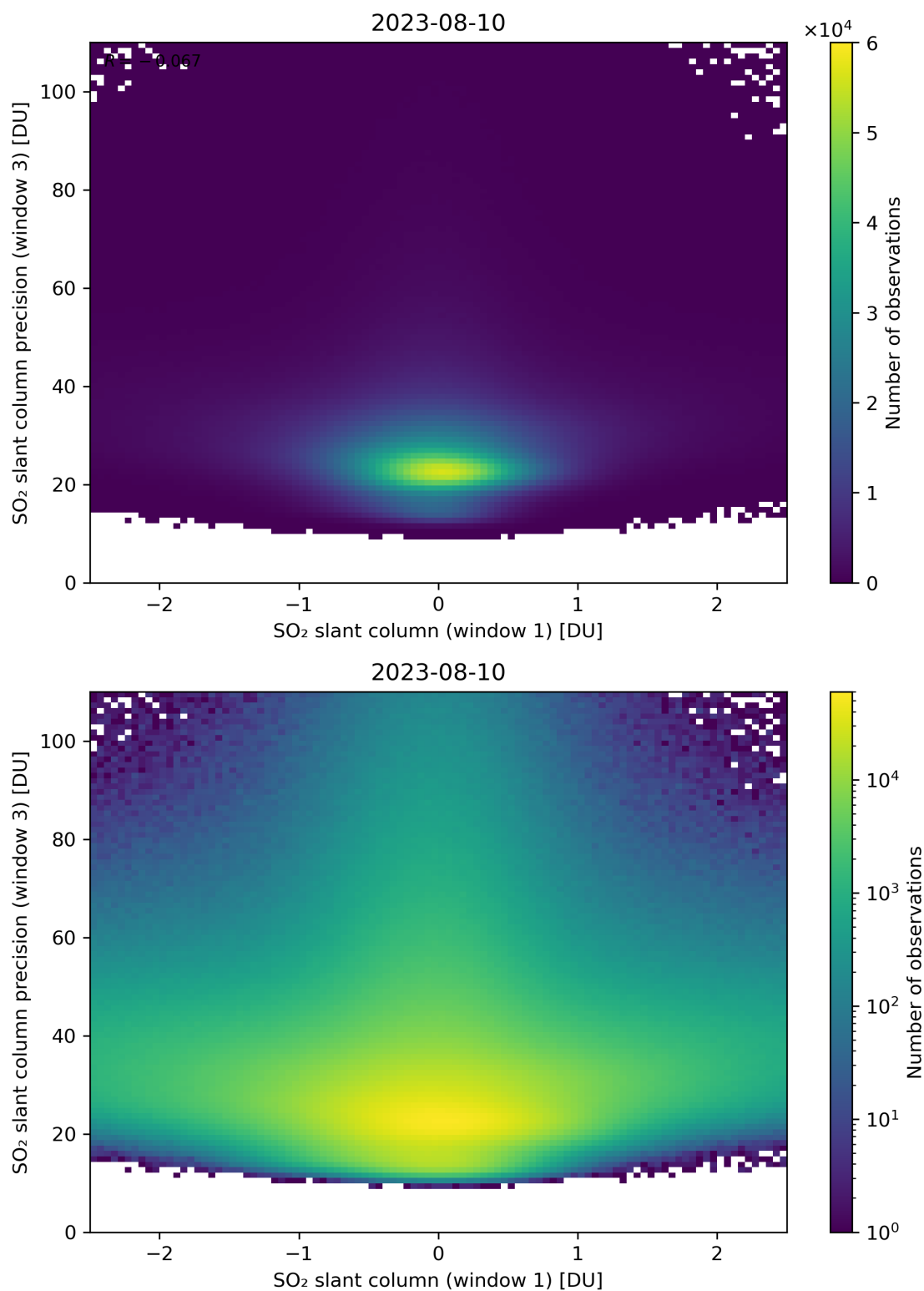


Figure 238: Scatter density plot of “SO₂ slant column (window 1)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

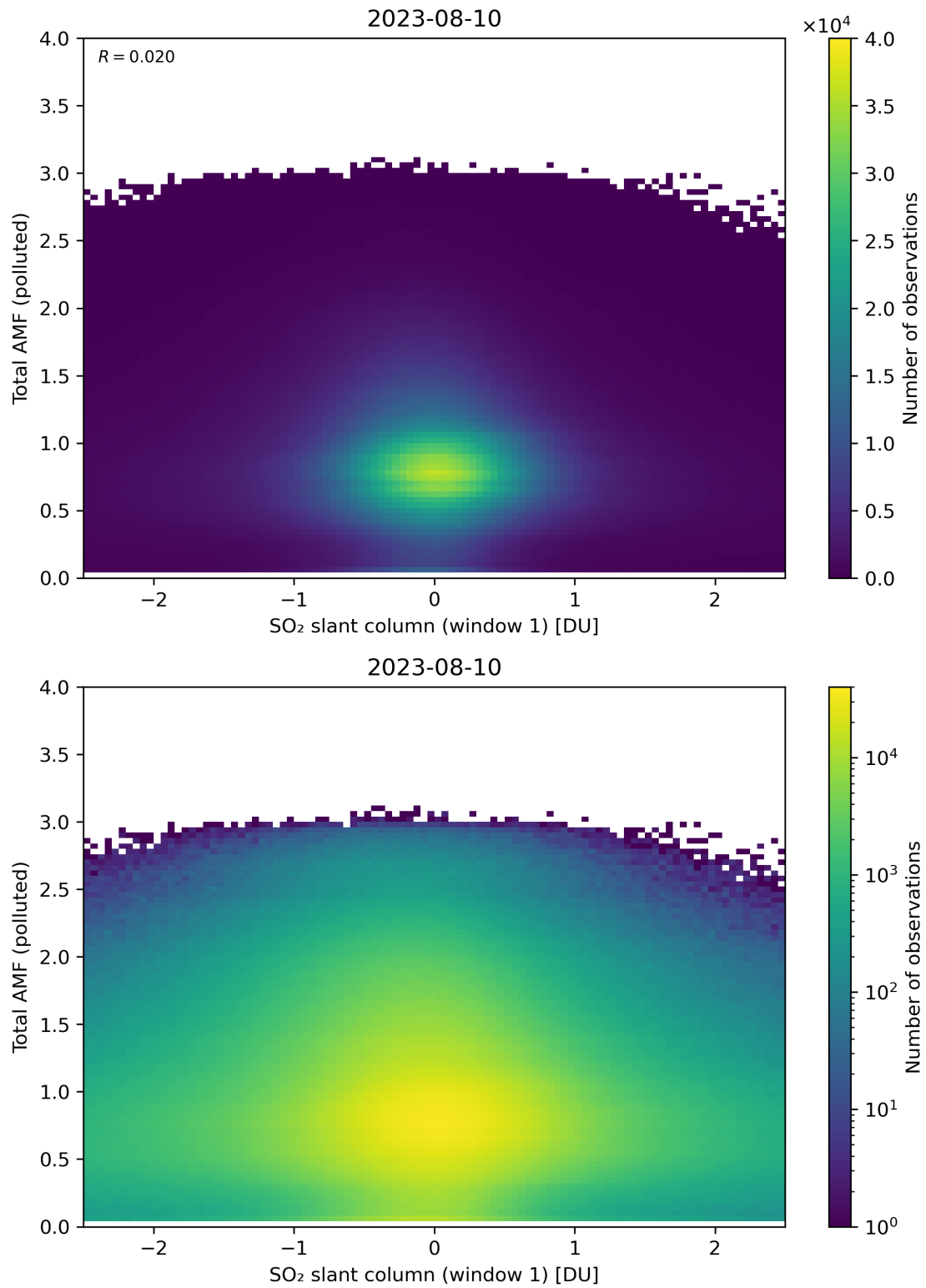


Figure 239: Scatter density plot of “SO₂ slant column (window 1)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

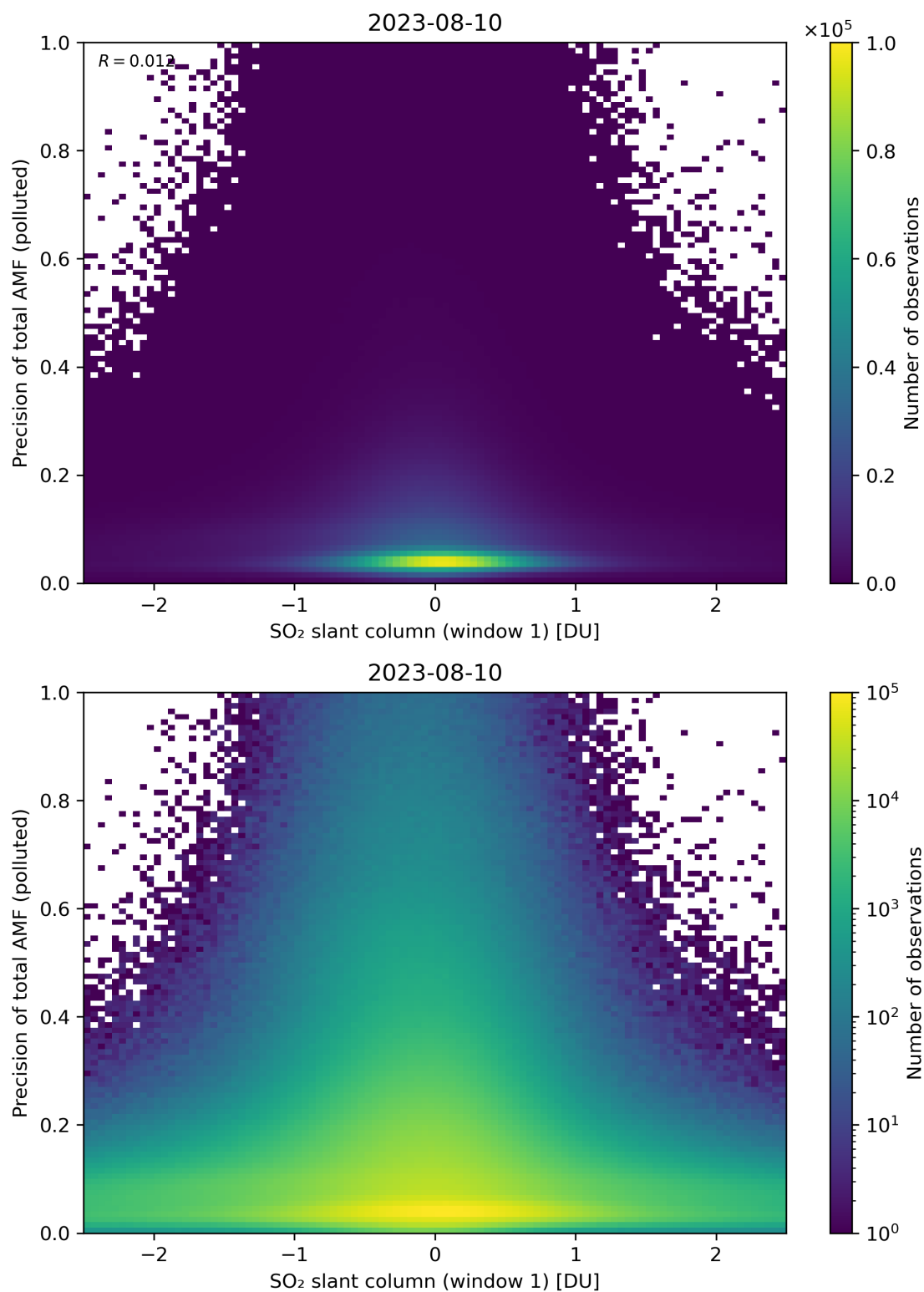


Figure 240: Scatter density plot of “SO₂ slant column (window 1)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

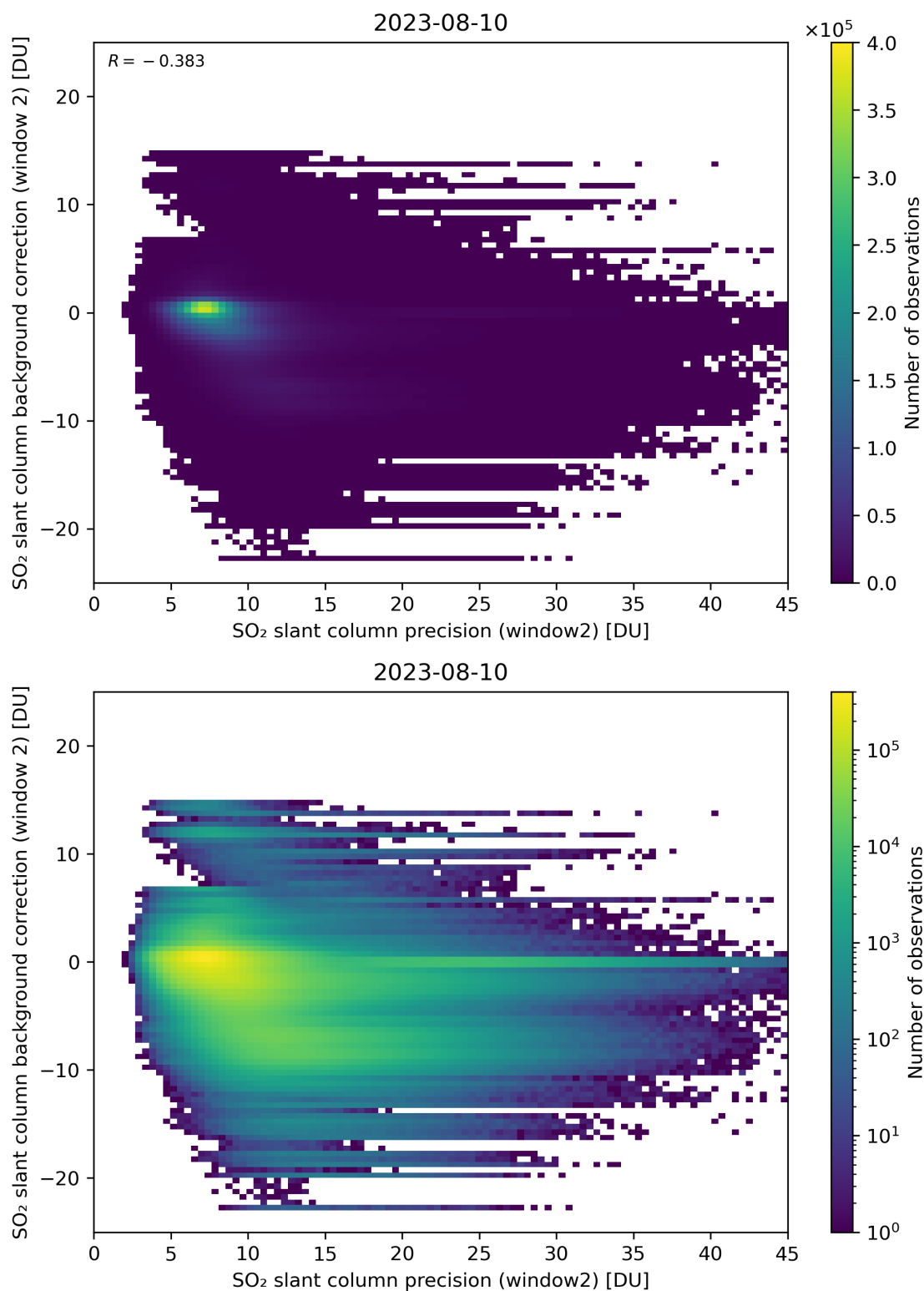


Figure 241: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

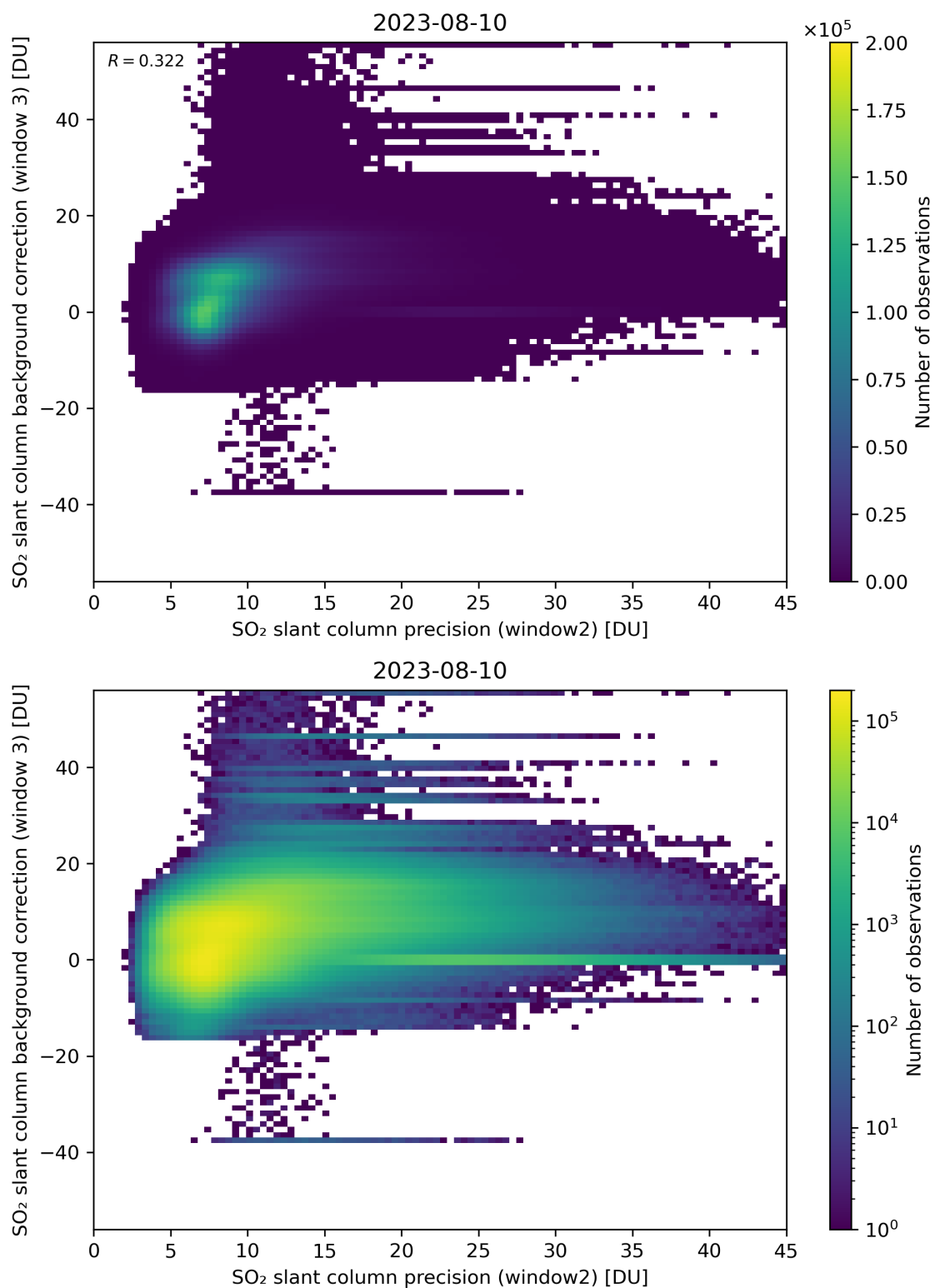


Figure 242: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

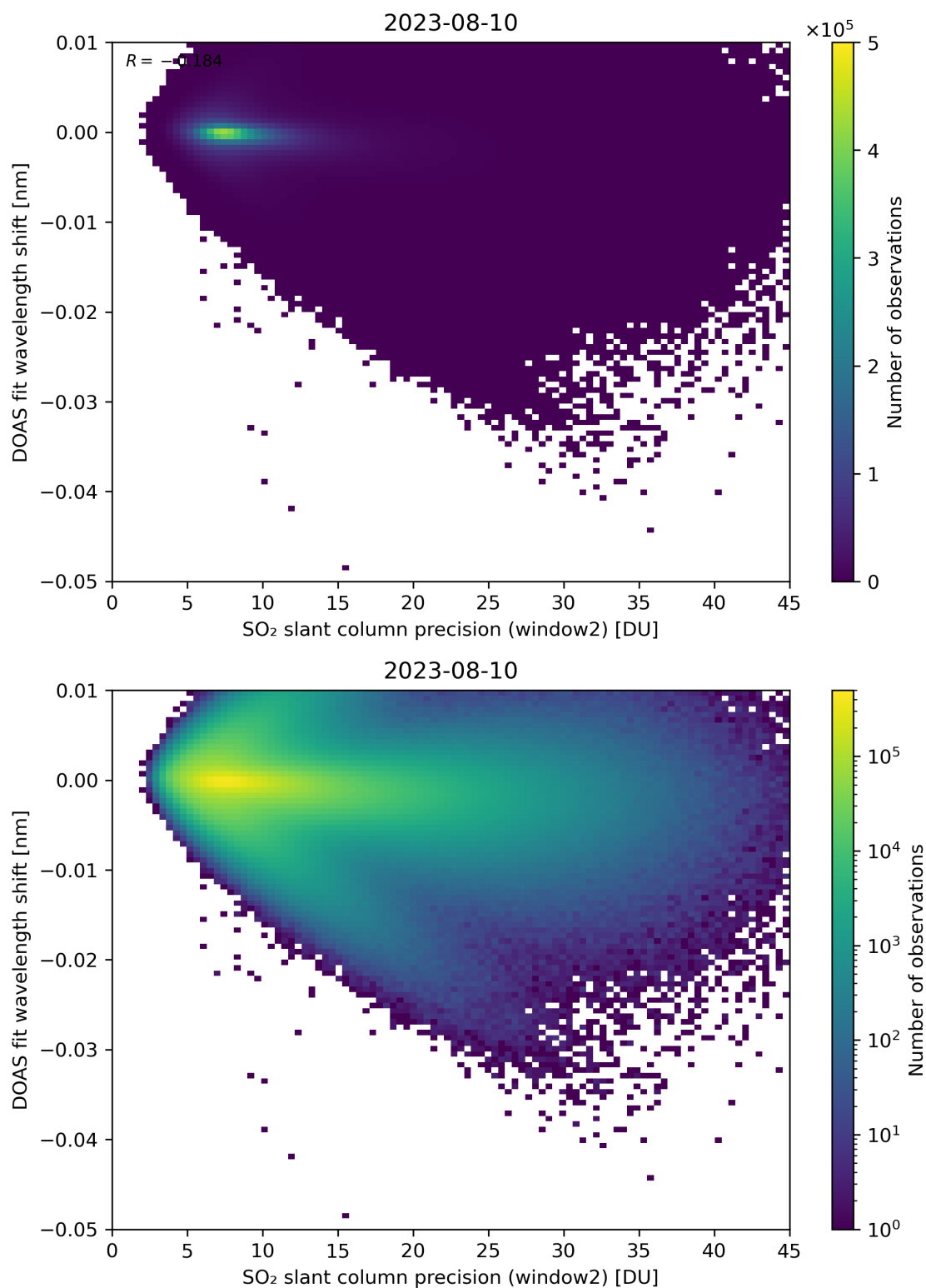


Figure 243: Scatter density plot of “SO₂ slant column precision (window2)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

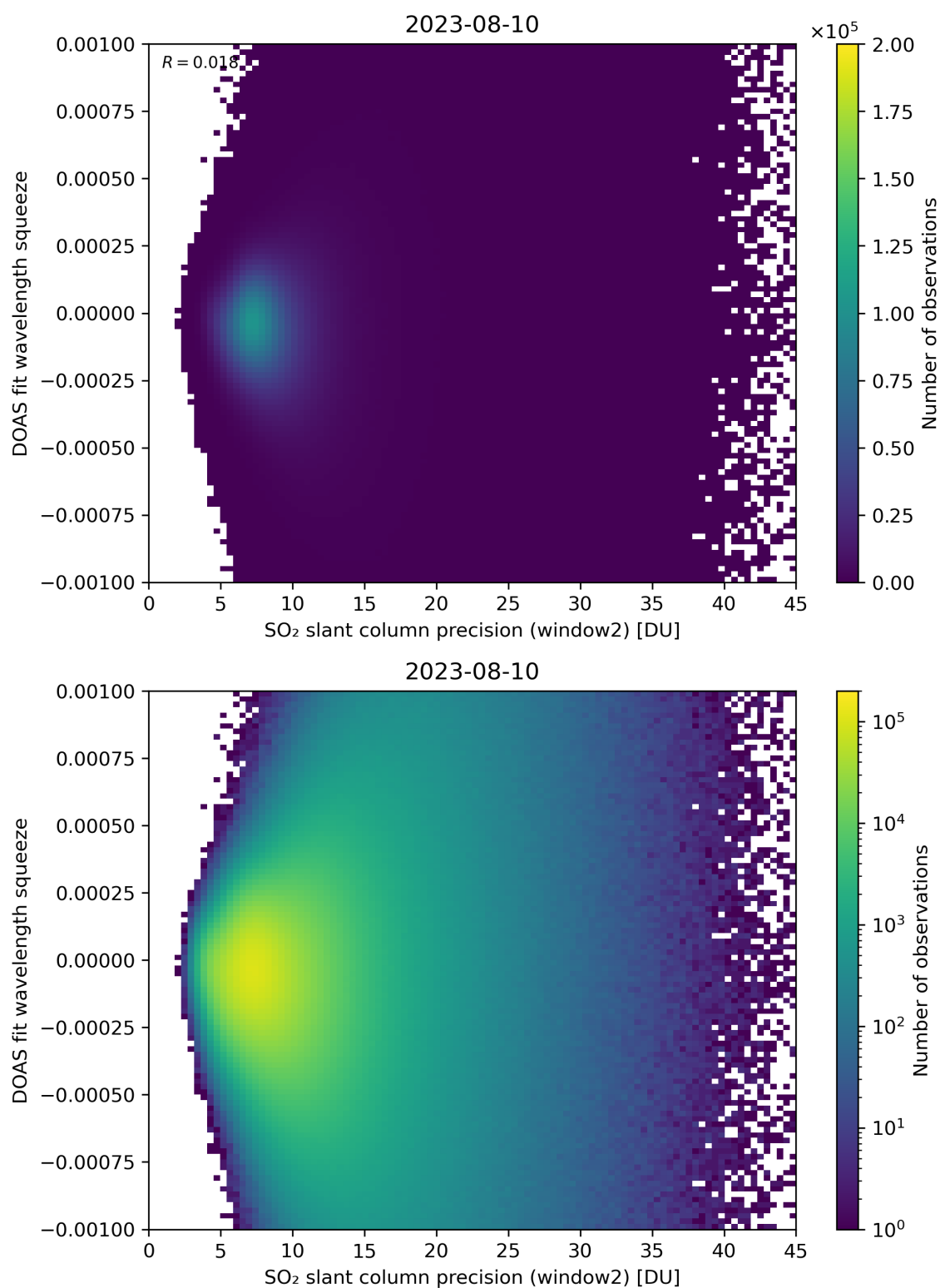


Figure 244: Scatter density plot of “SO₂ slant column precision (window2)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

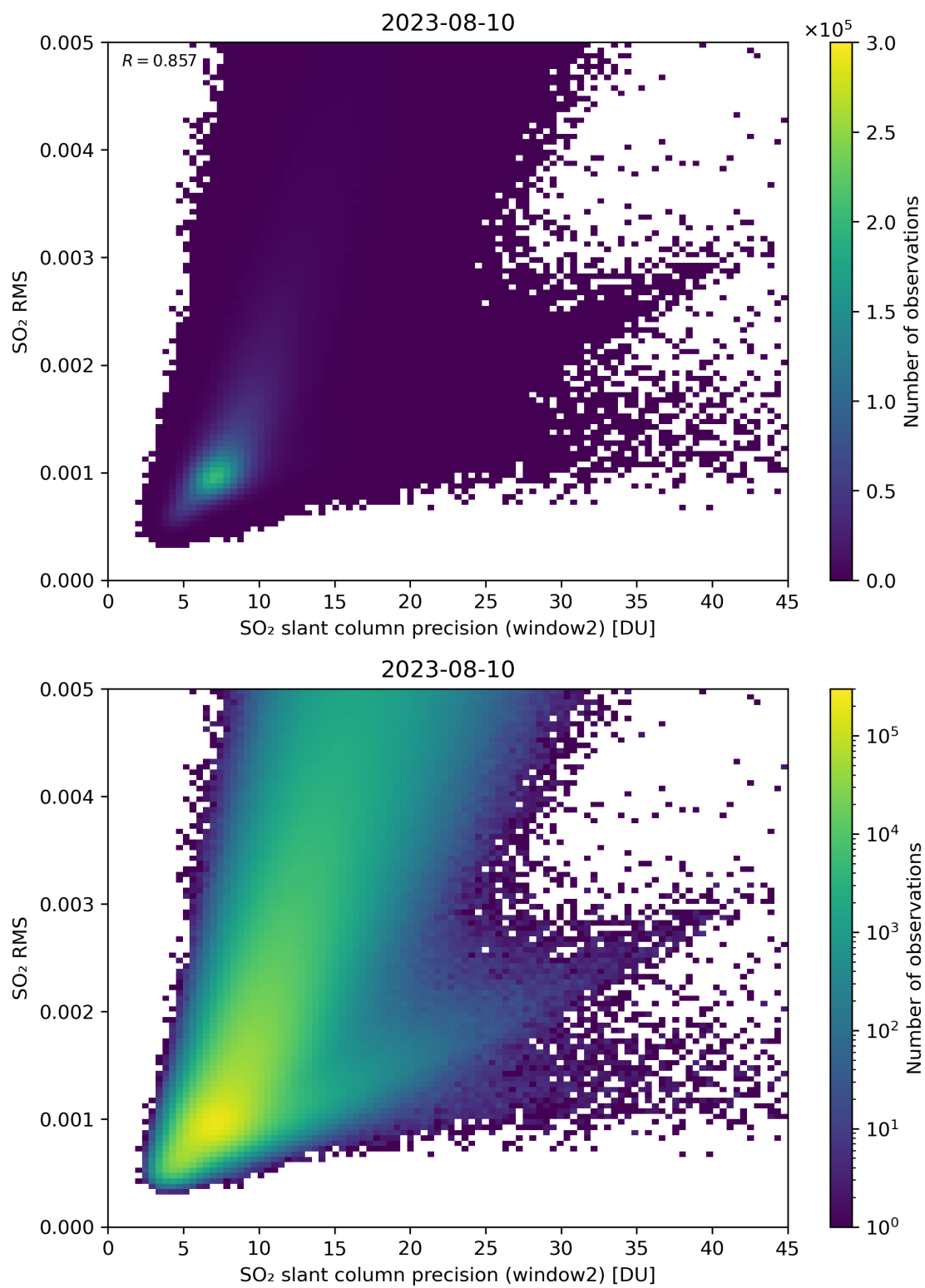


Figure 245: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

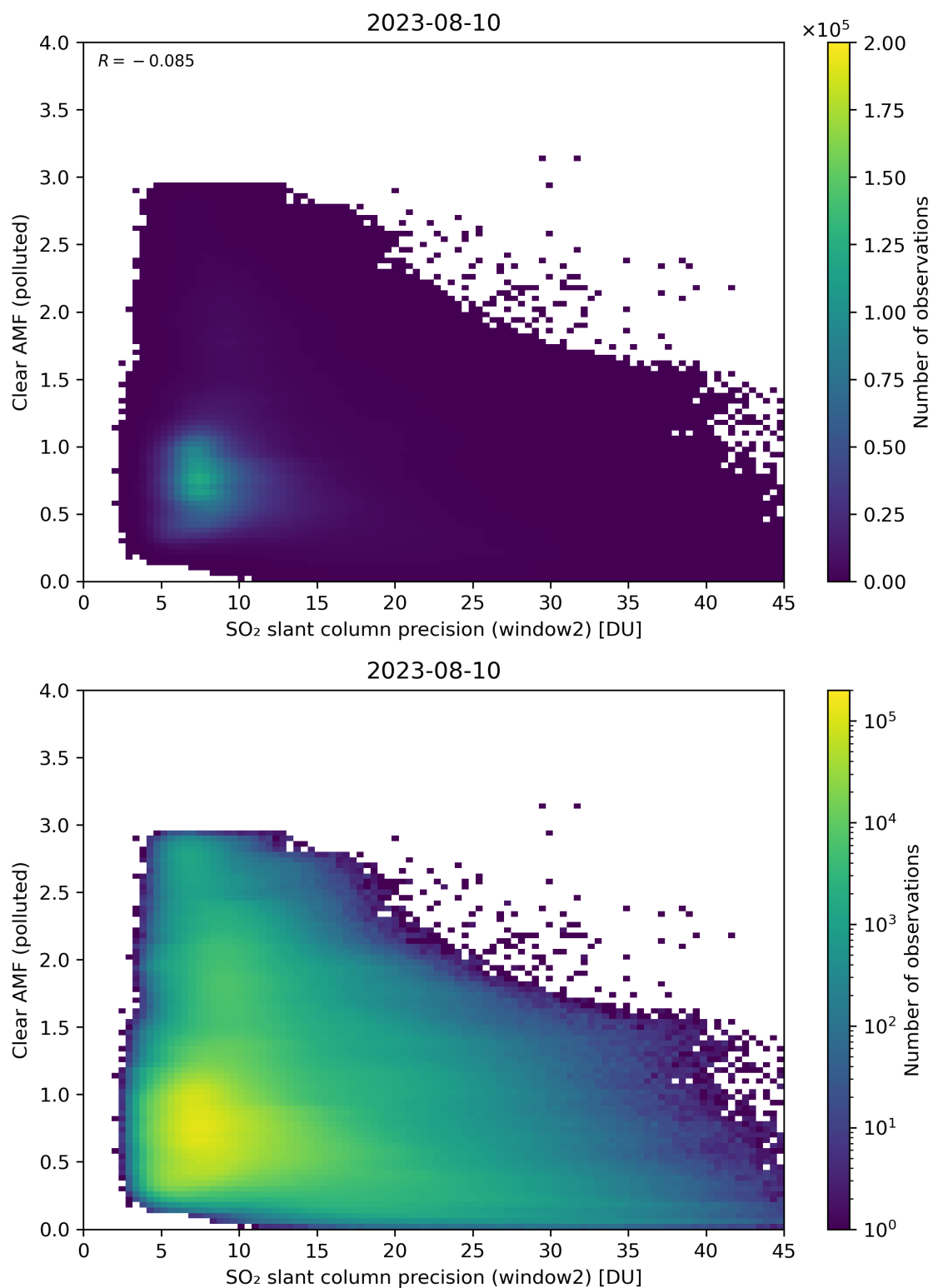


Figure 246: Scatter density plot of “SO₂ slant column precision (window2)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

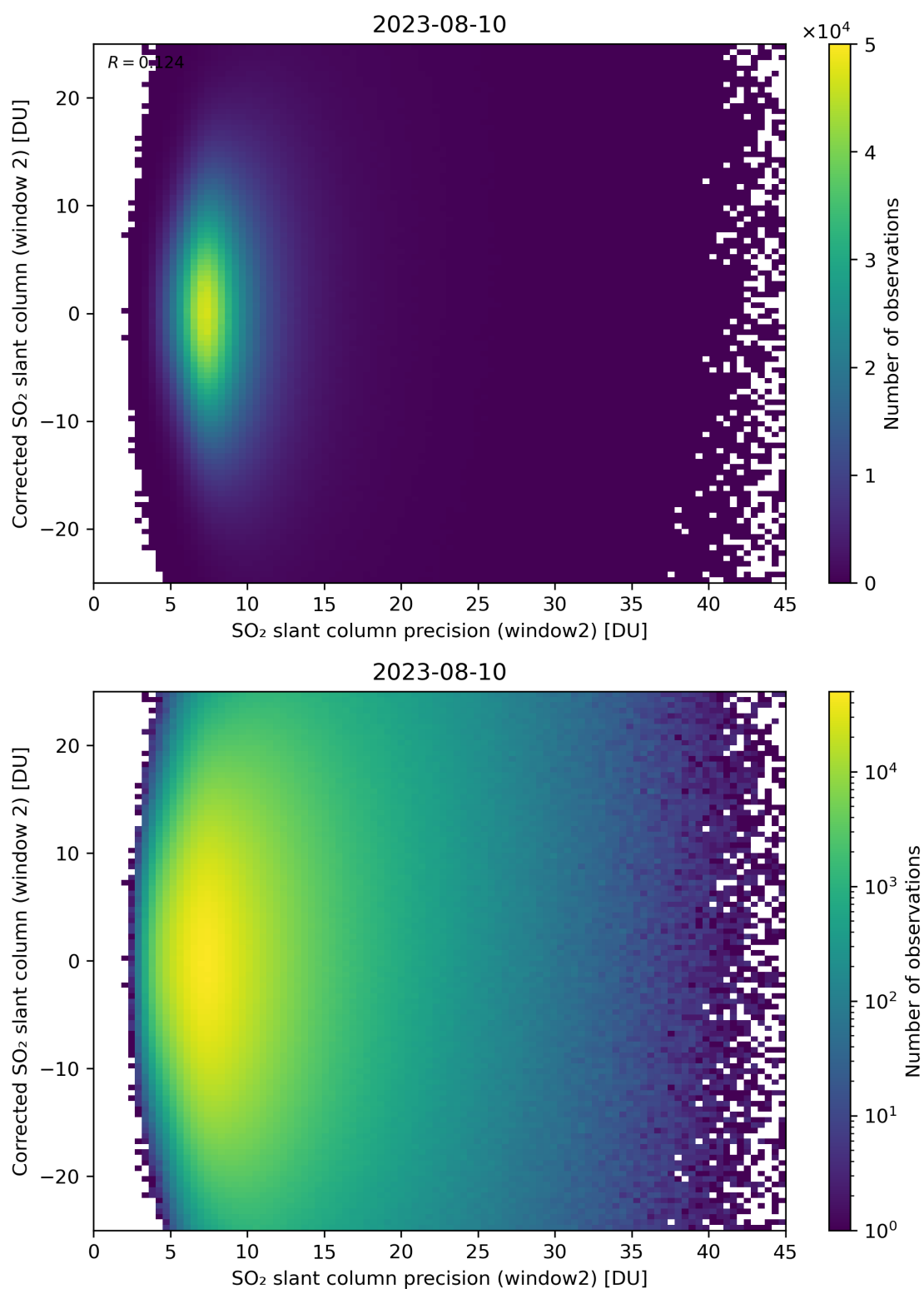


Figure 247: Scatter density plot of “SO₂ slant column precision (window2)” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

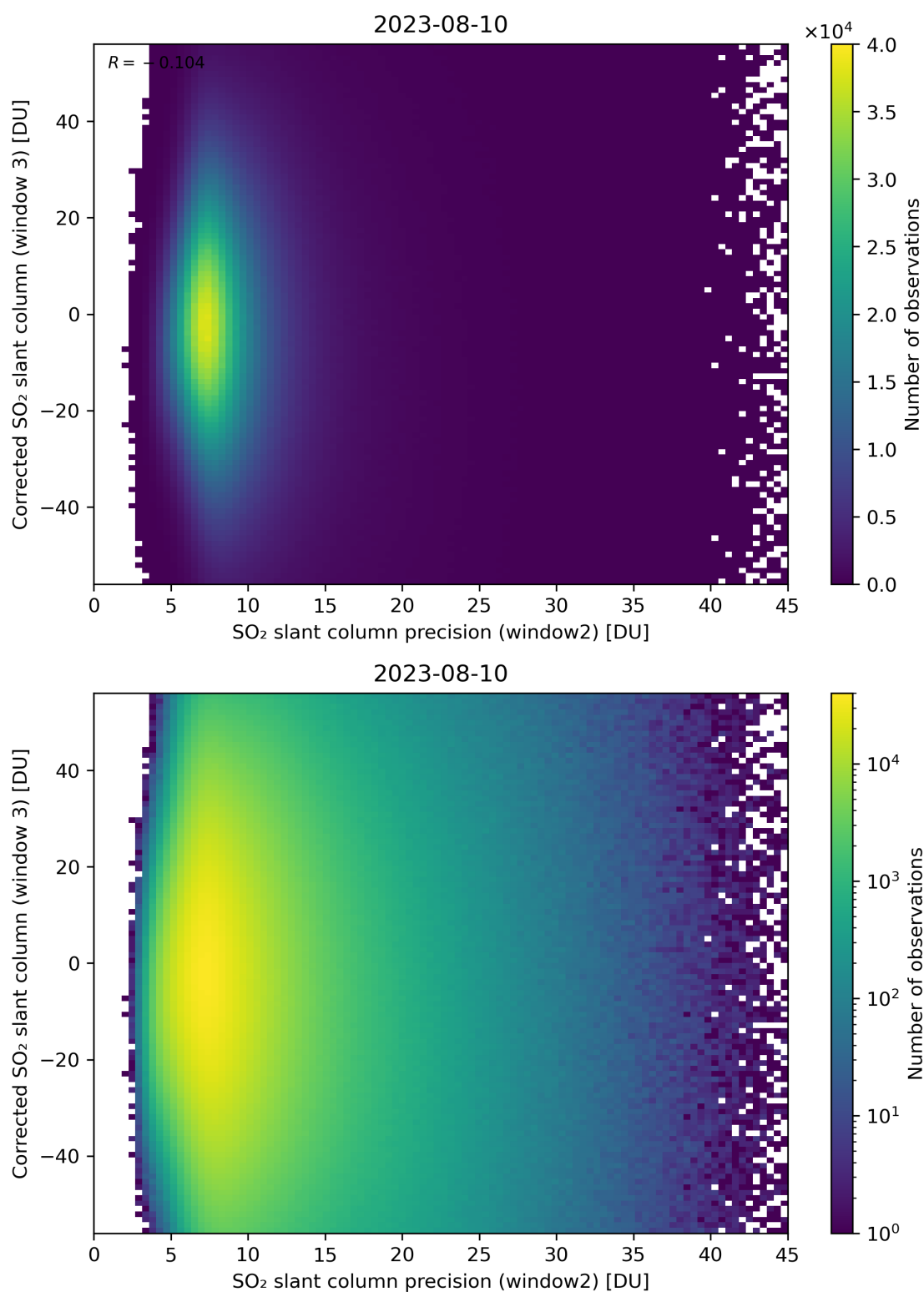


Figure 248: Scatter density plot of “SO₂ slant column precision (window2)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

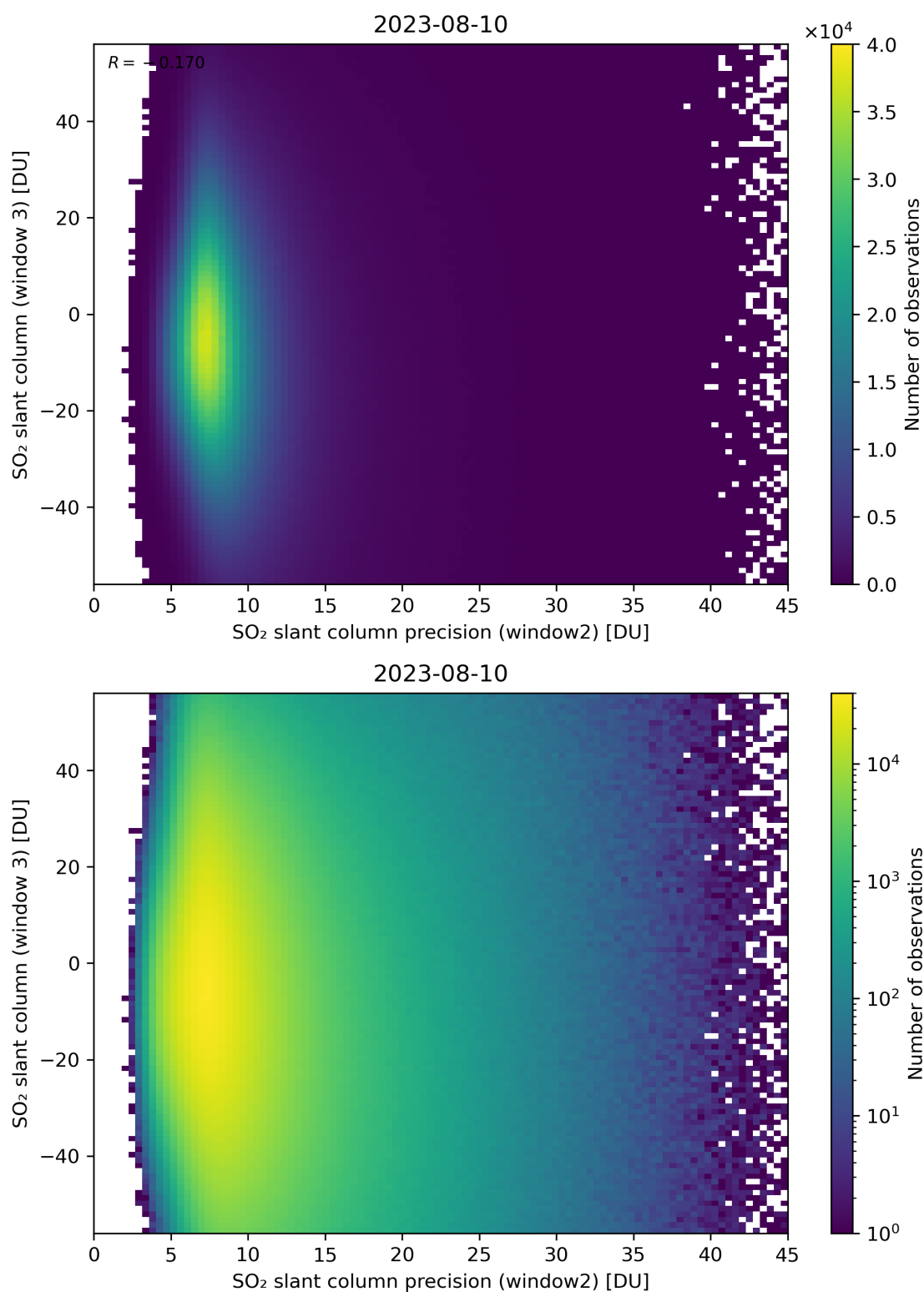


Figure 249: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

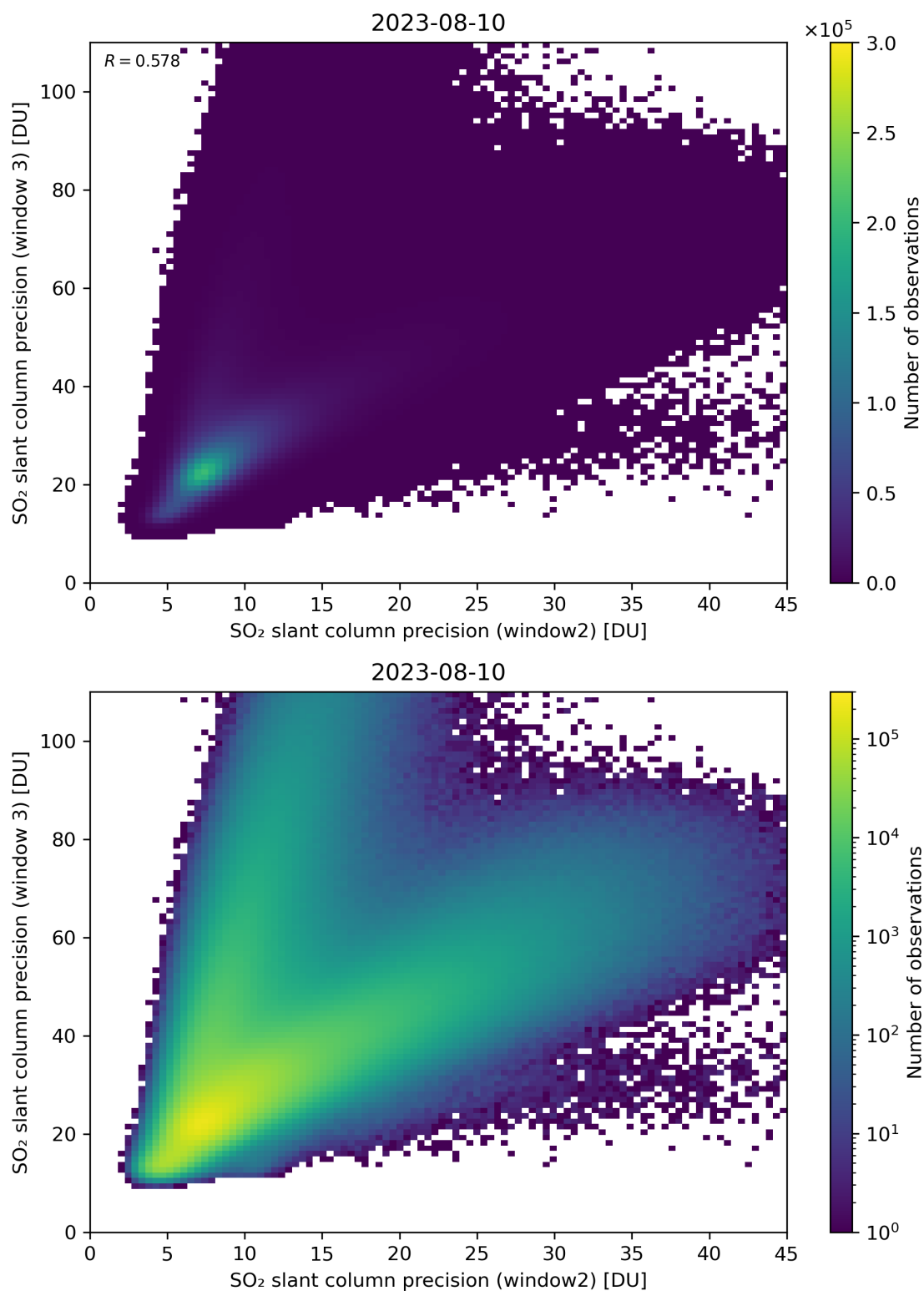


Figure 250: Scatter density plot of “SO₂ slant column precision (window2)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

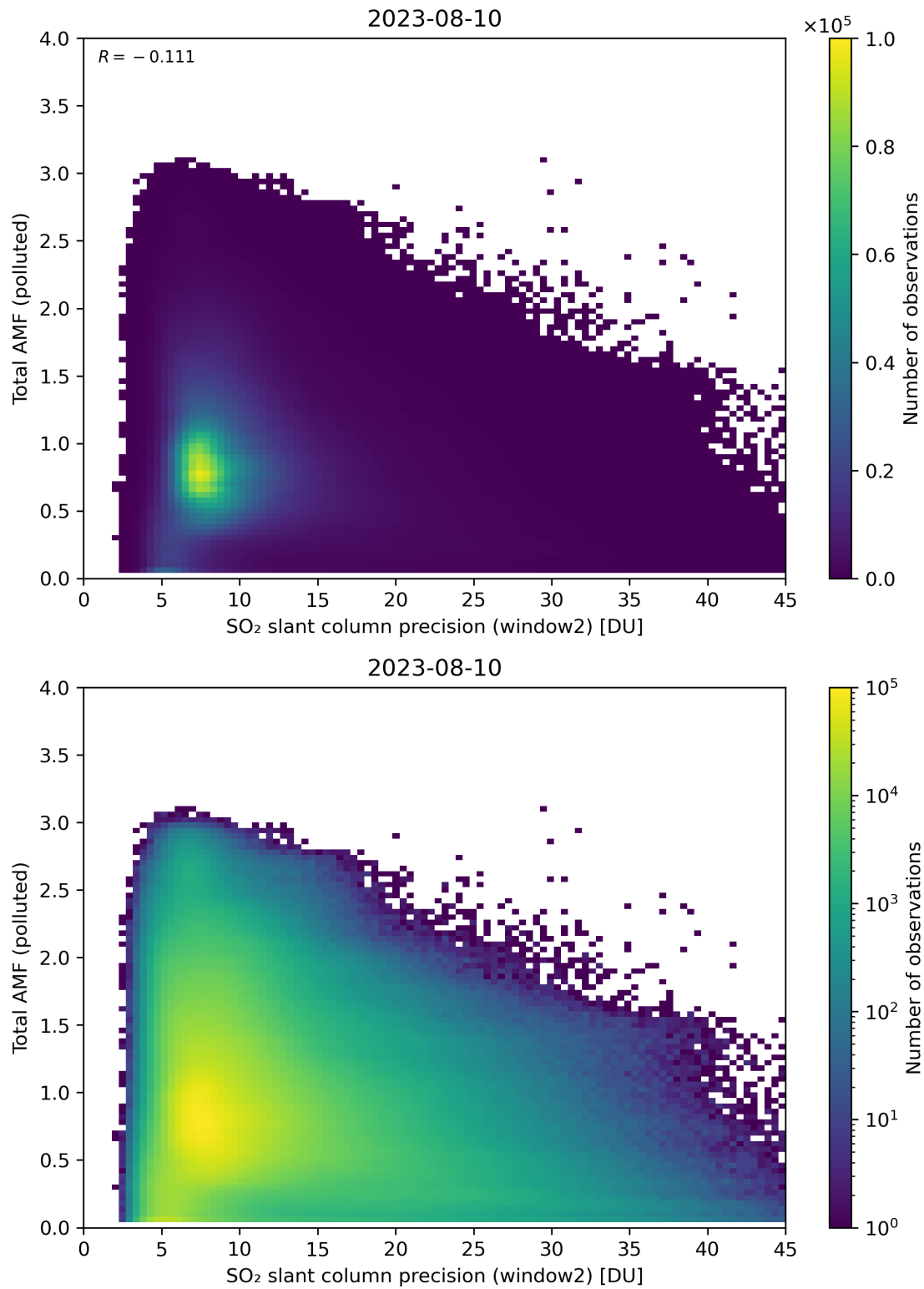


Figure 251: Scatter density plot of “SO₂ slant column precision (window2)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

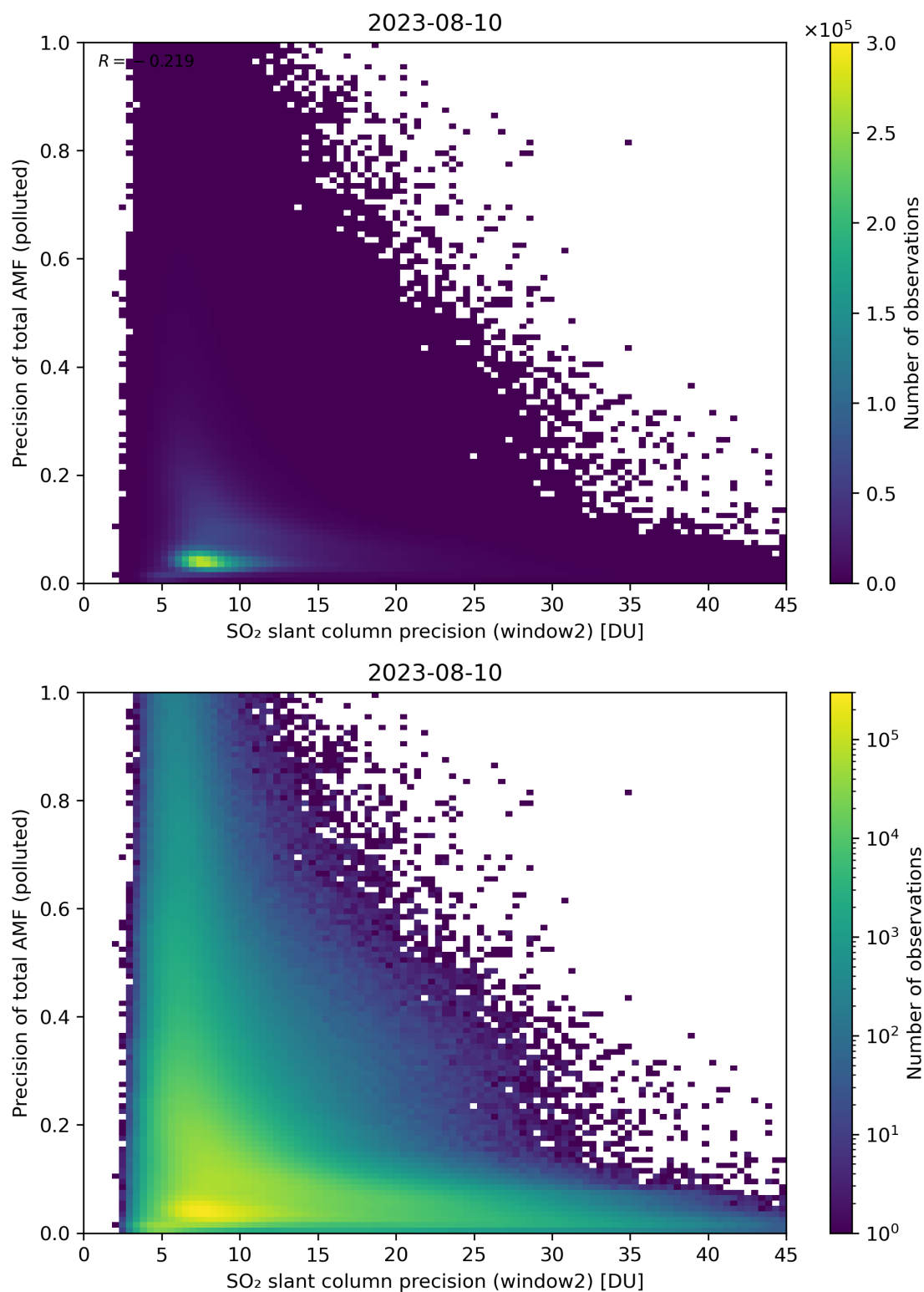


Figure 252: Scatter density plot of “SO₂ slant column precision (window2)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

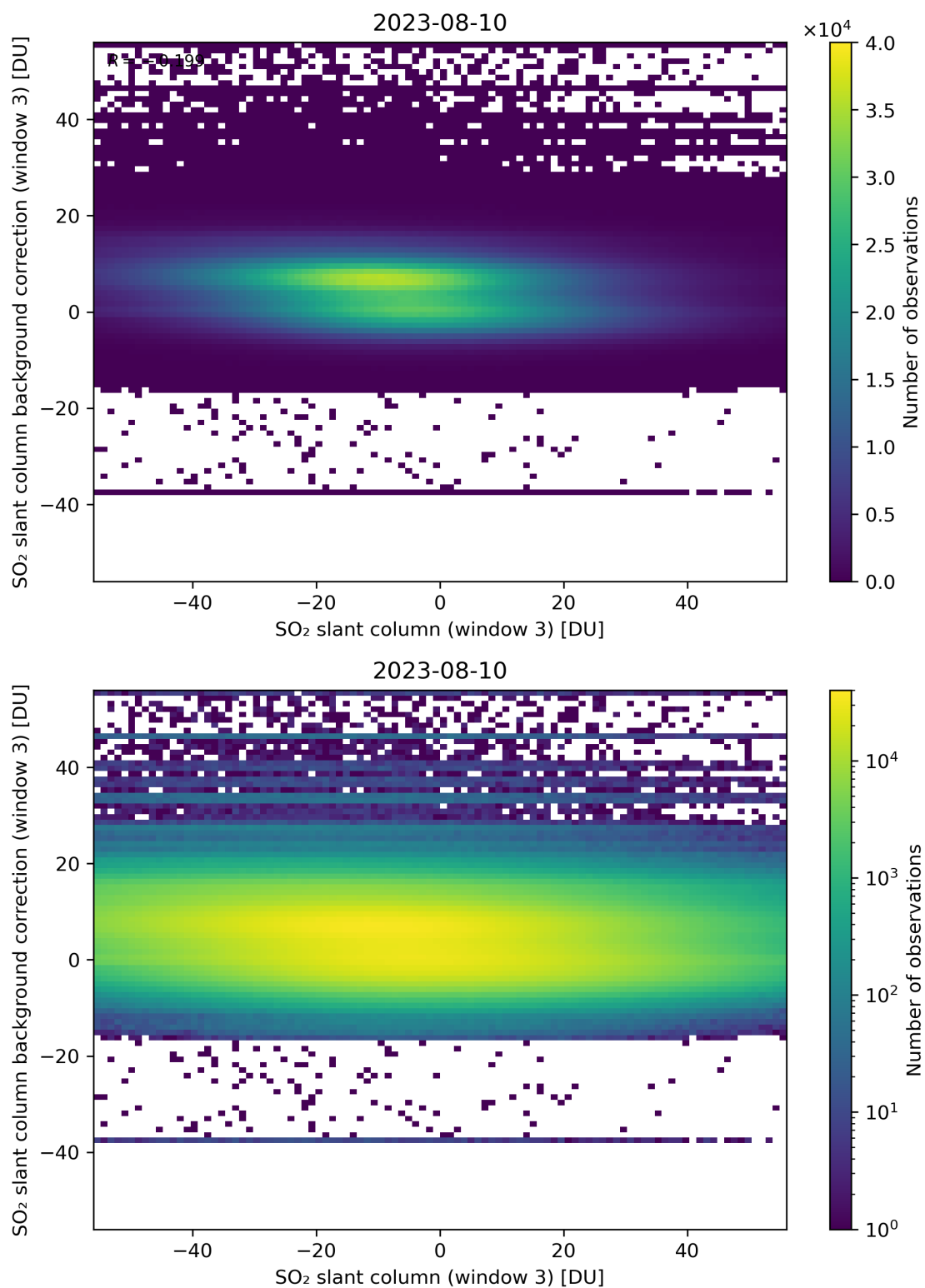


Figure 253: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

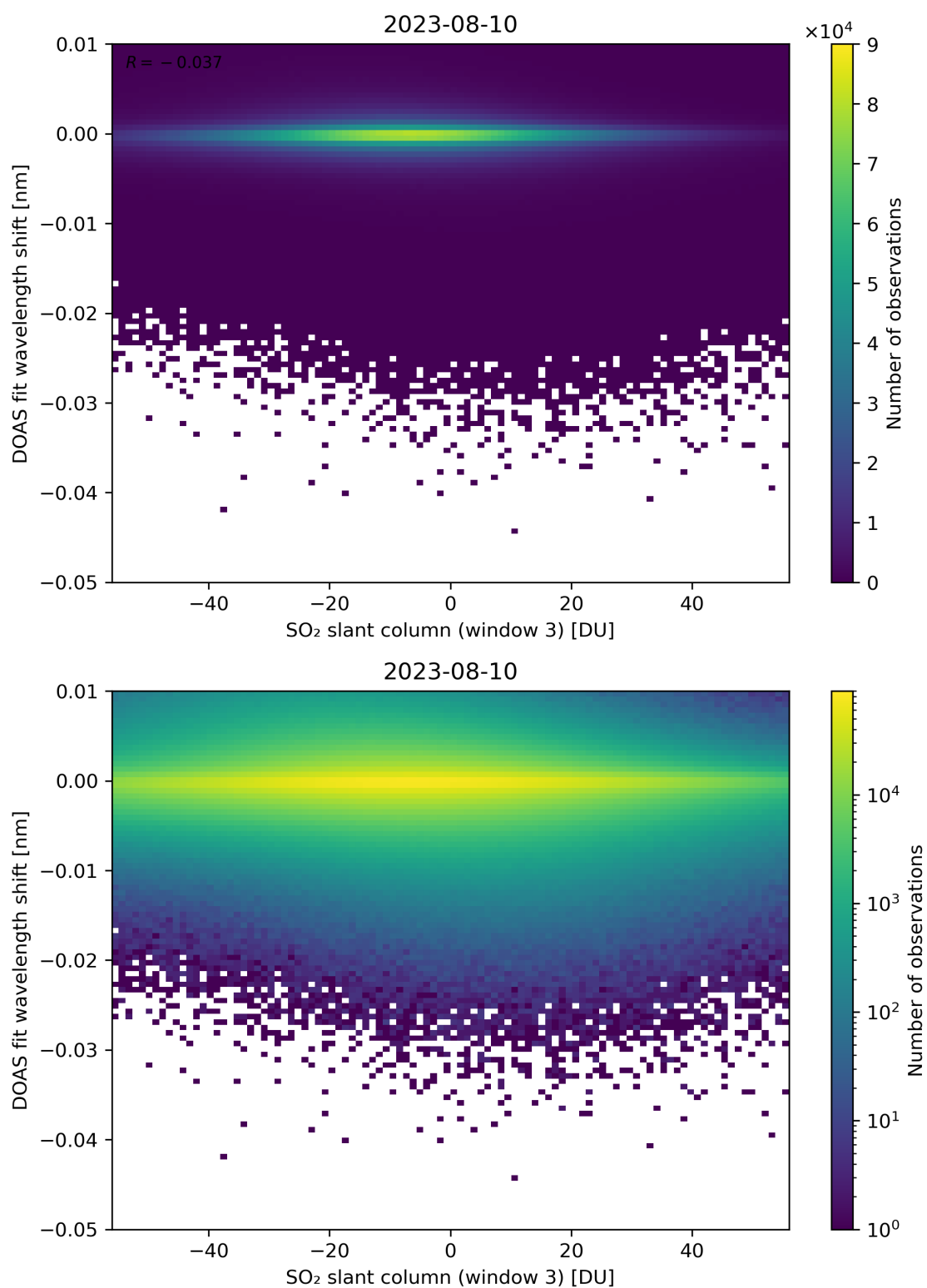


Figure 254: Scatter density plot of “SO₂ slant column (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

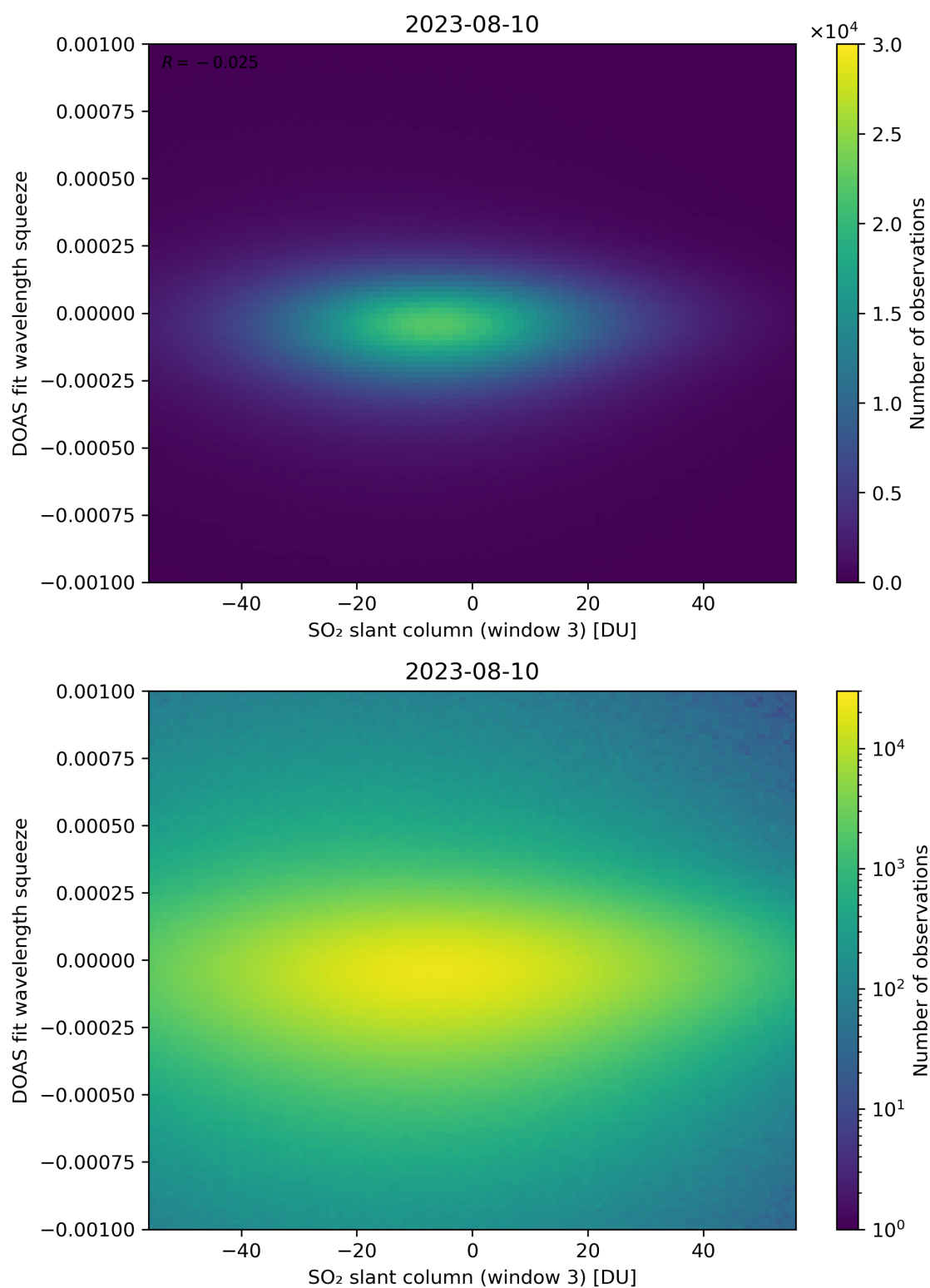


Figure 255: Scatter density plot of “SO₂ slant column (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

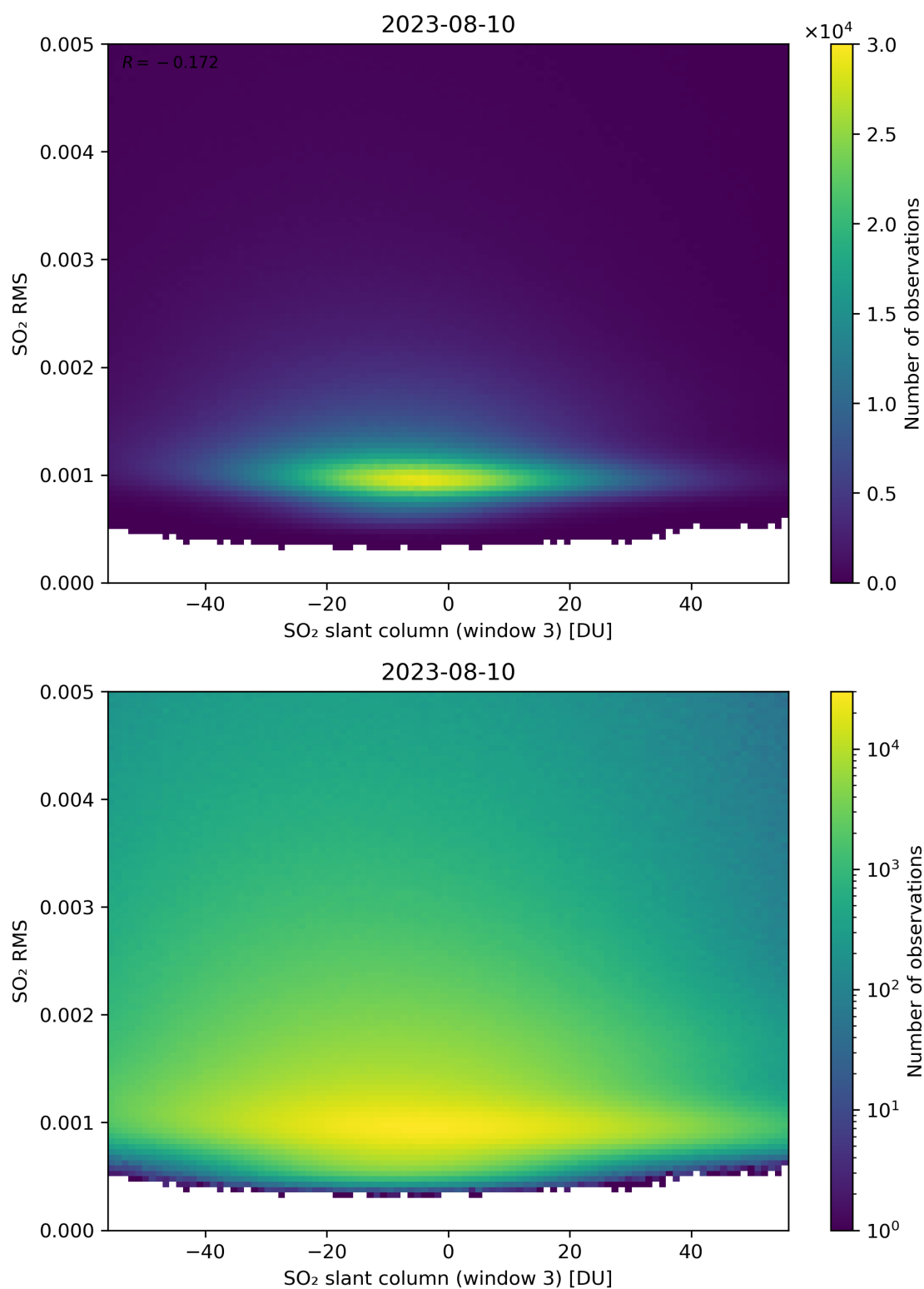


Figure 256: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

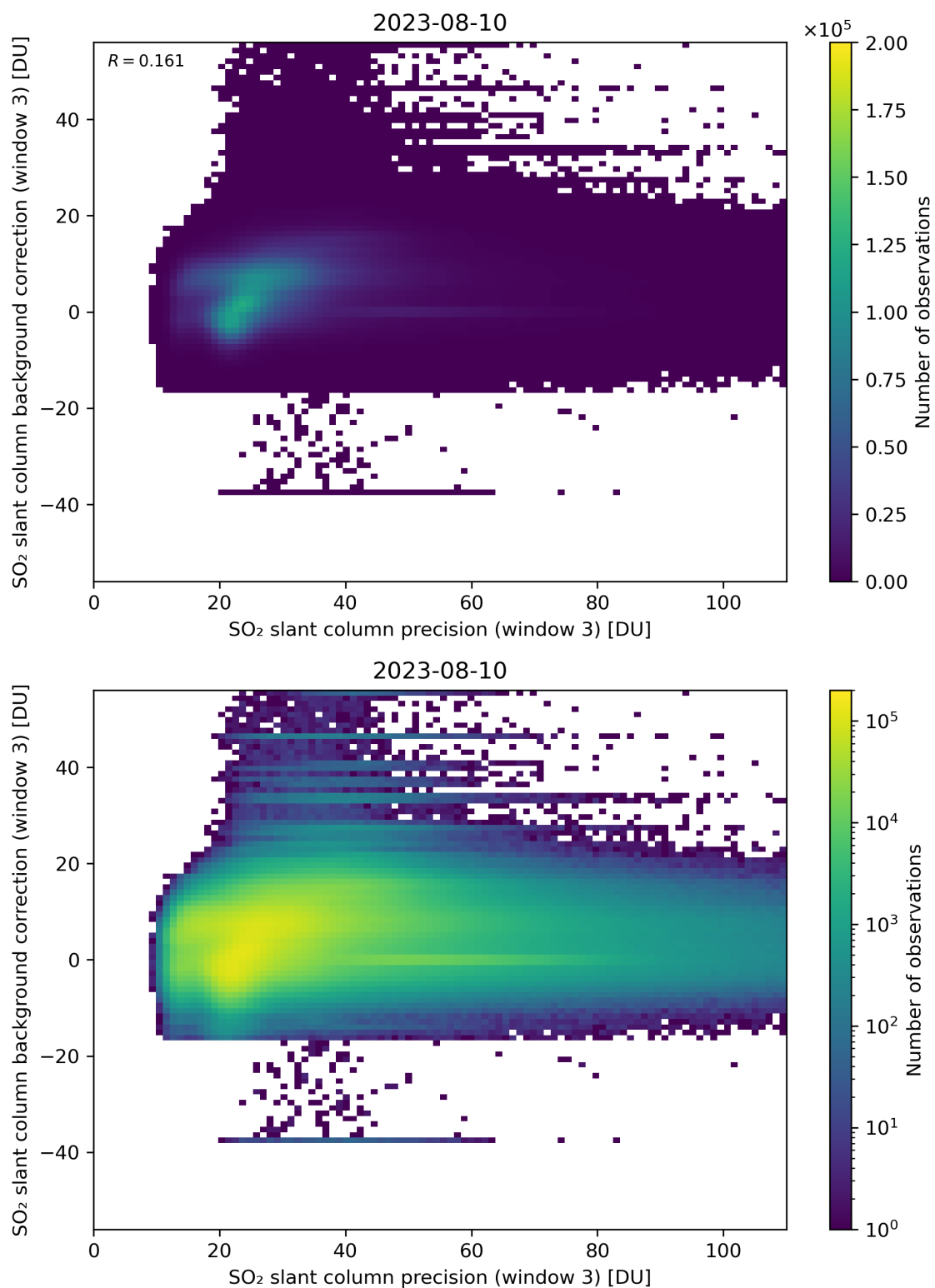


Figure 257: Scatter density plot of “SO₂ slant column precision (window 3)” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

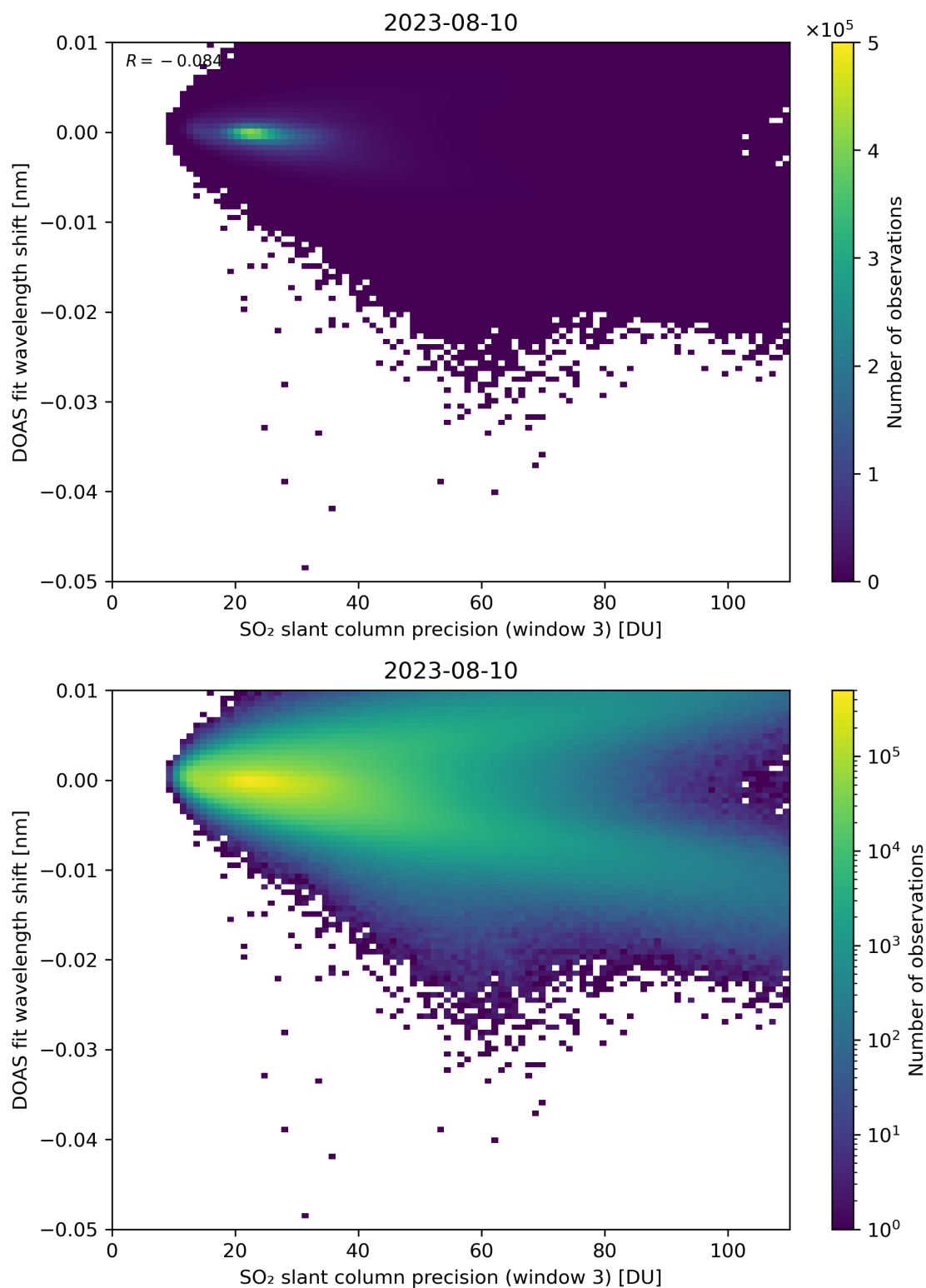


Figure 258: Scatter density plot of “SO₂ slant column precision (window 3)” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

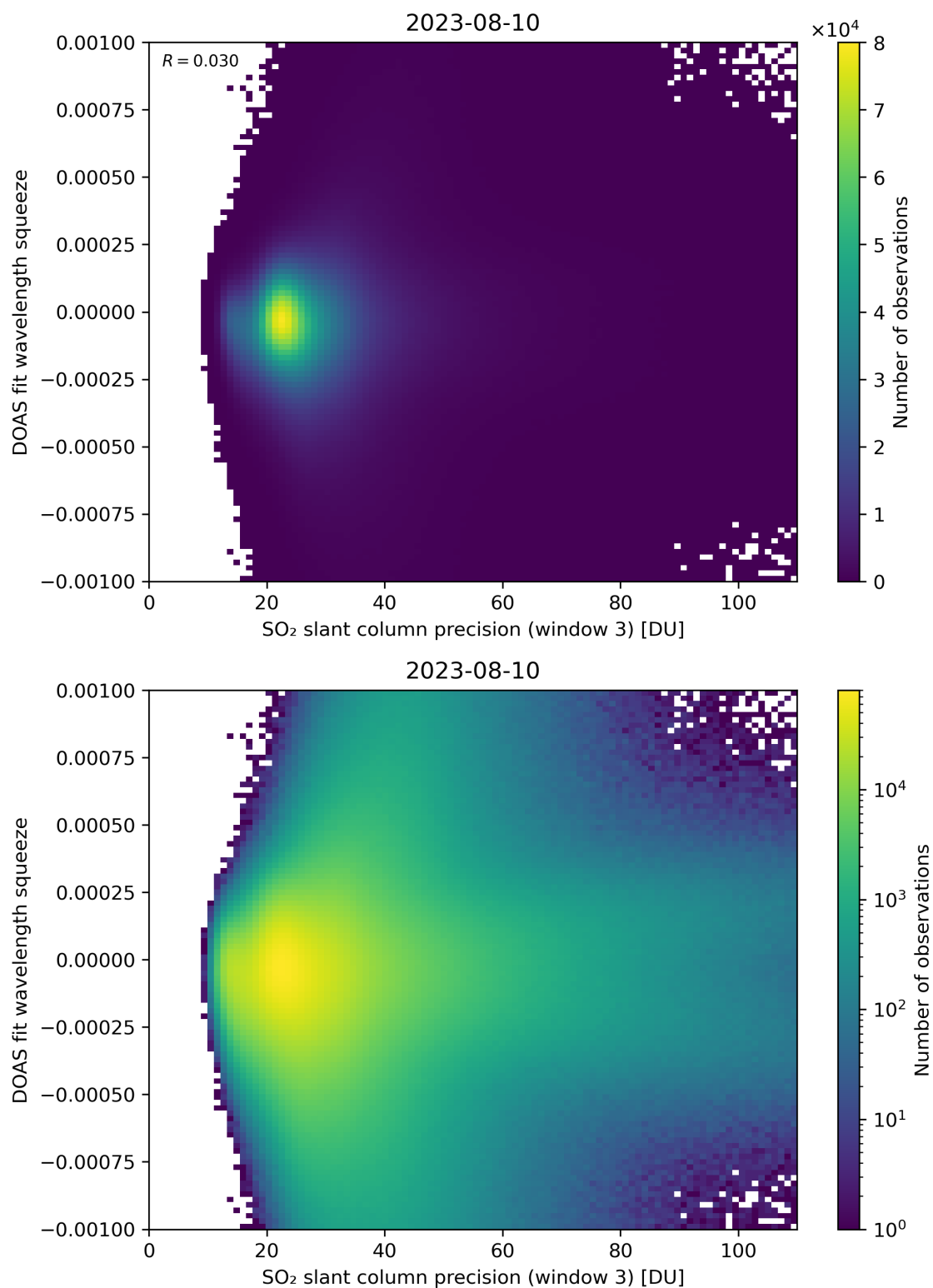


Figure 259: Scatter density plot of “SO₂ slant column precision (window 3)” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

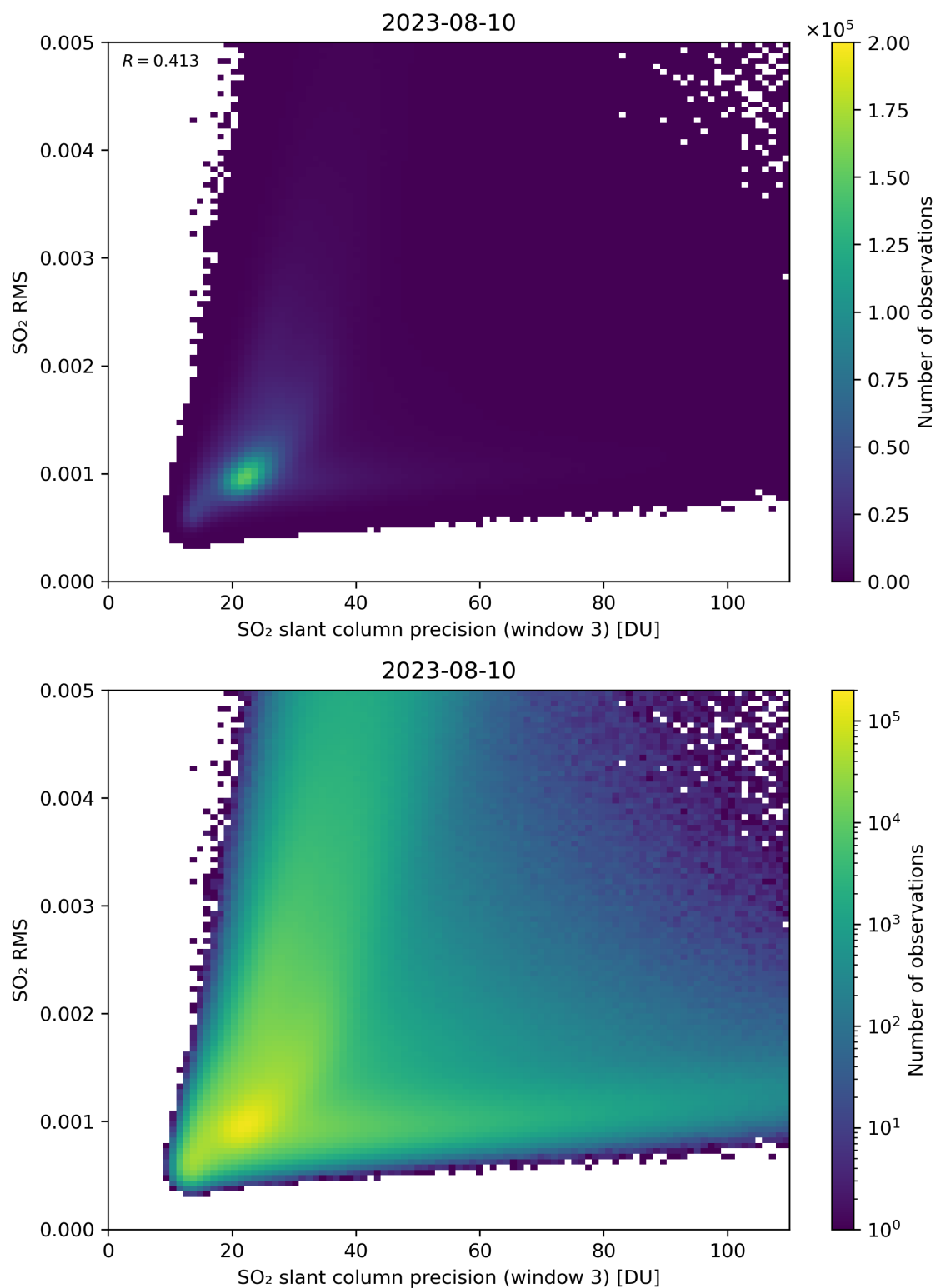


Figure 260: Scatter density plot of “SO₂ slant column precision (window 3)” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

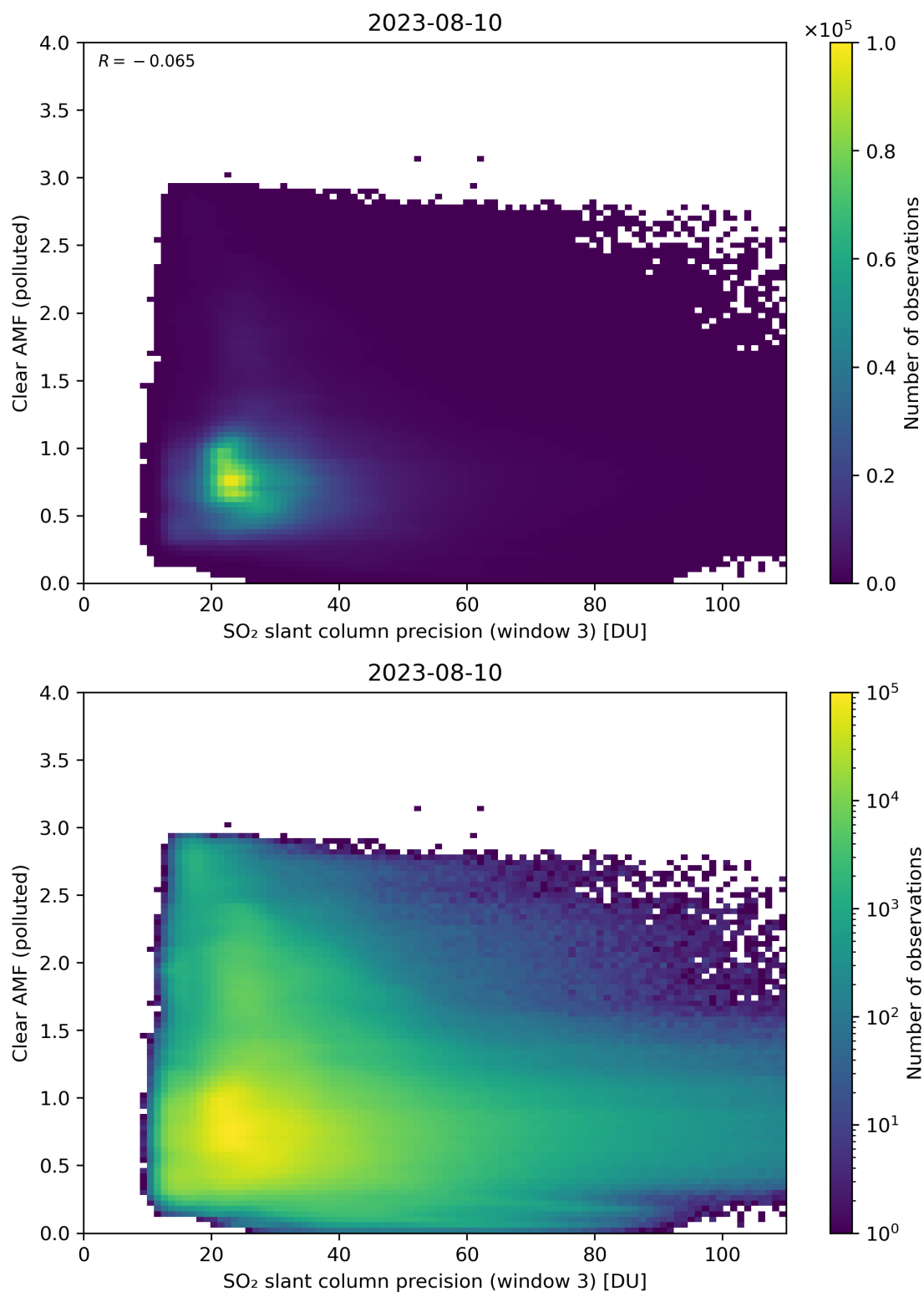


Figure 261: Scatter density plot of “SO₂ slant column precision (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

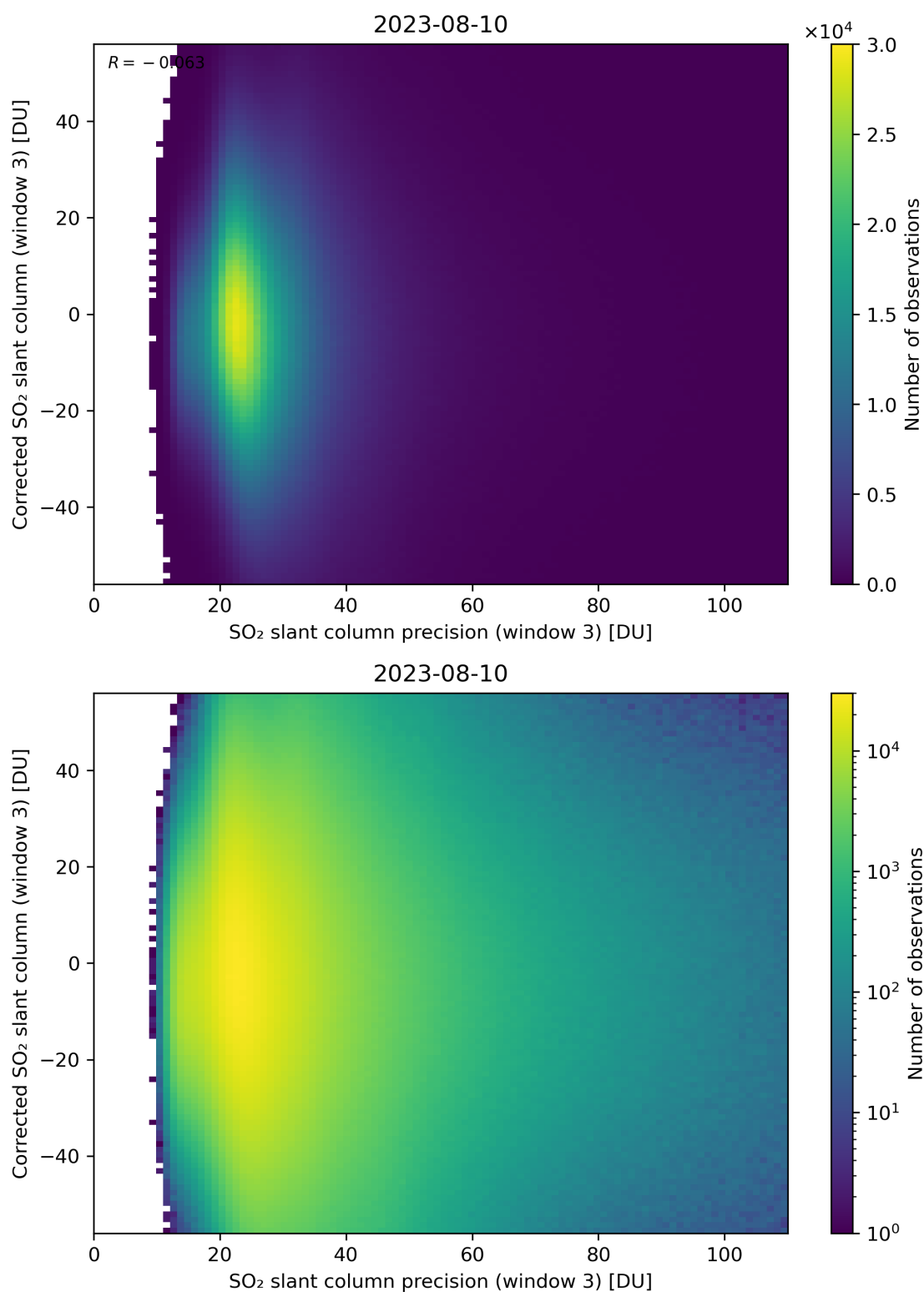


Figure 262: Scatter density plot of “SO₂ slant column precision (window 3)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

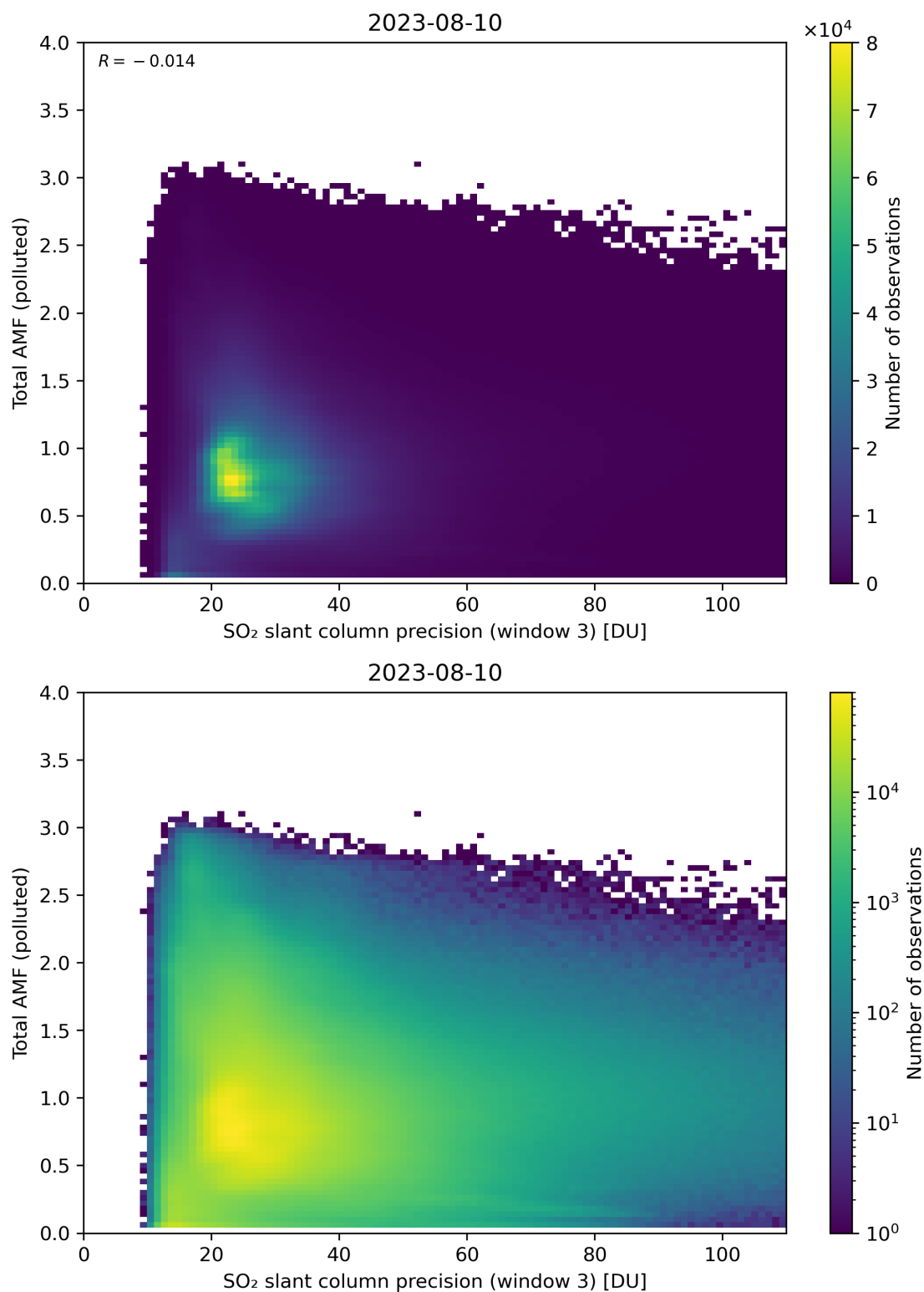


Figure 263: Scatter density plot of “SO₂ slant column precision (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

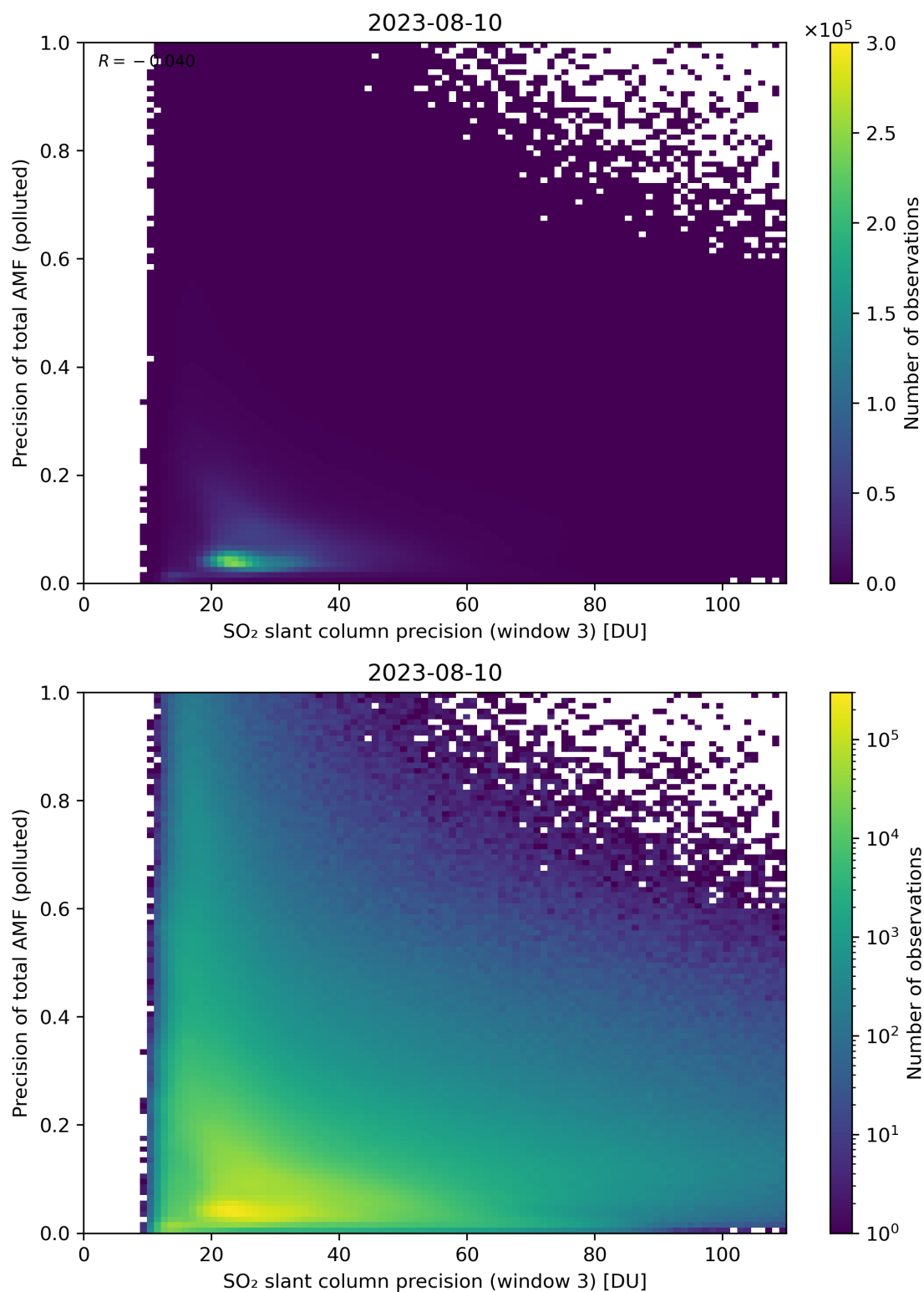


Figure 264: Scatter density plot of “SO₂ slant column precision (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

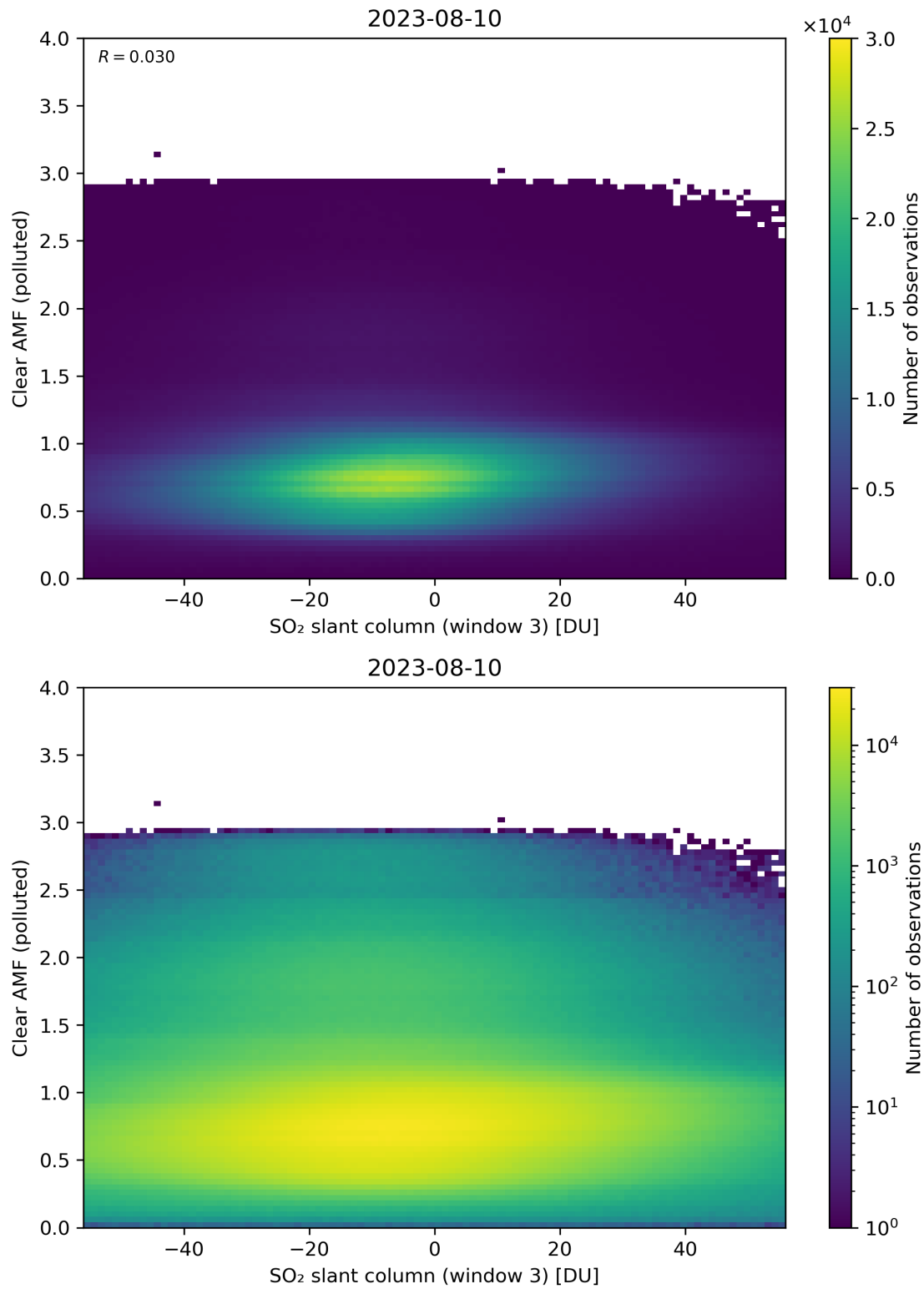


Figure 265: Scatter density plot of “SO₂ slant column (window 3)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

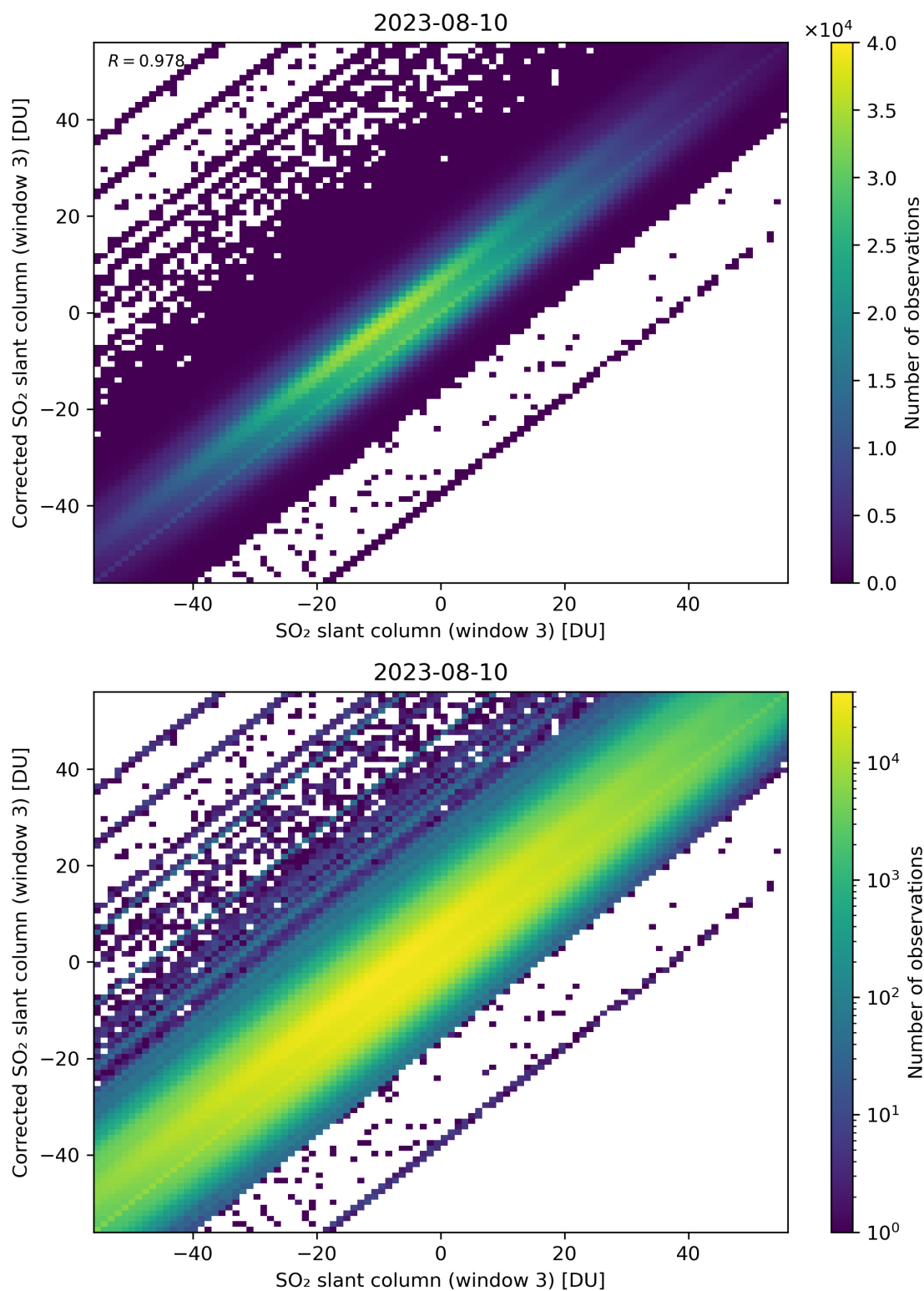


Figure 266: Scatter density plot of “SO₂ slant column (window 3)” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

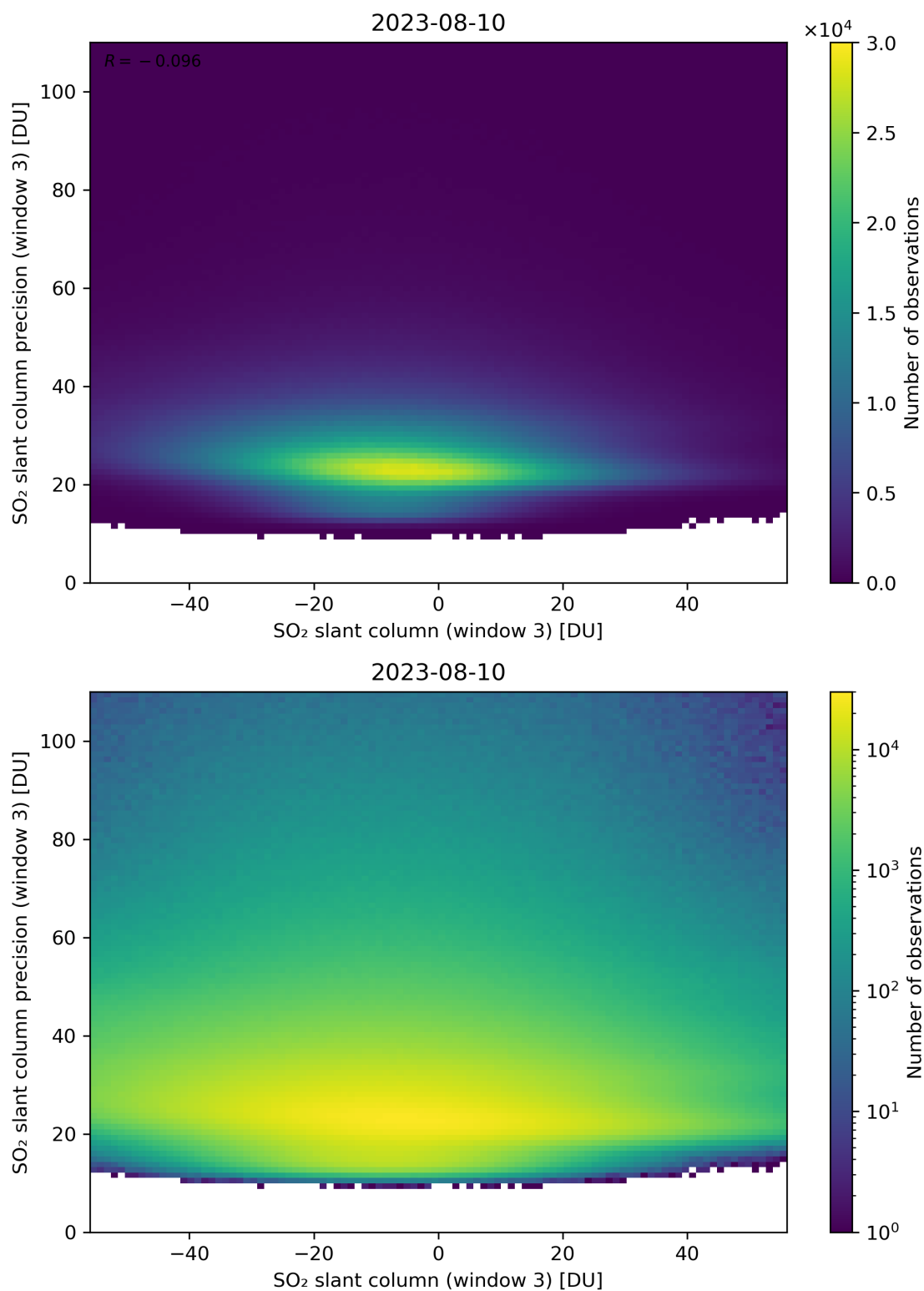


Figure 267: Scatter density plot of “SO₂ slant column (window 3)” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

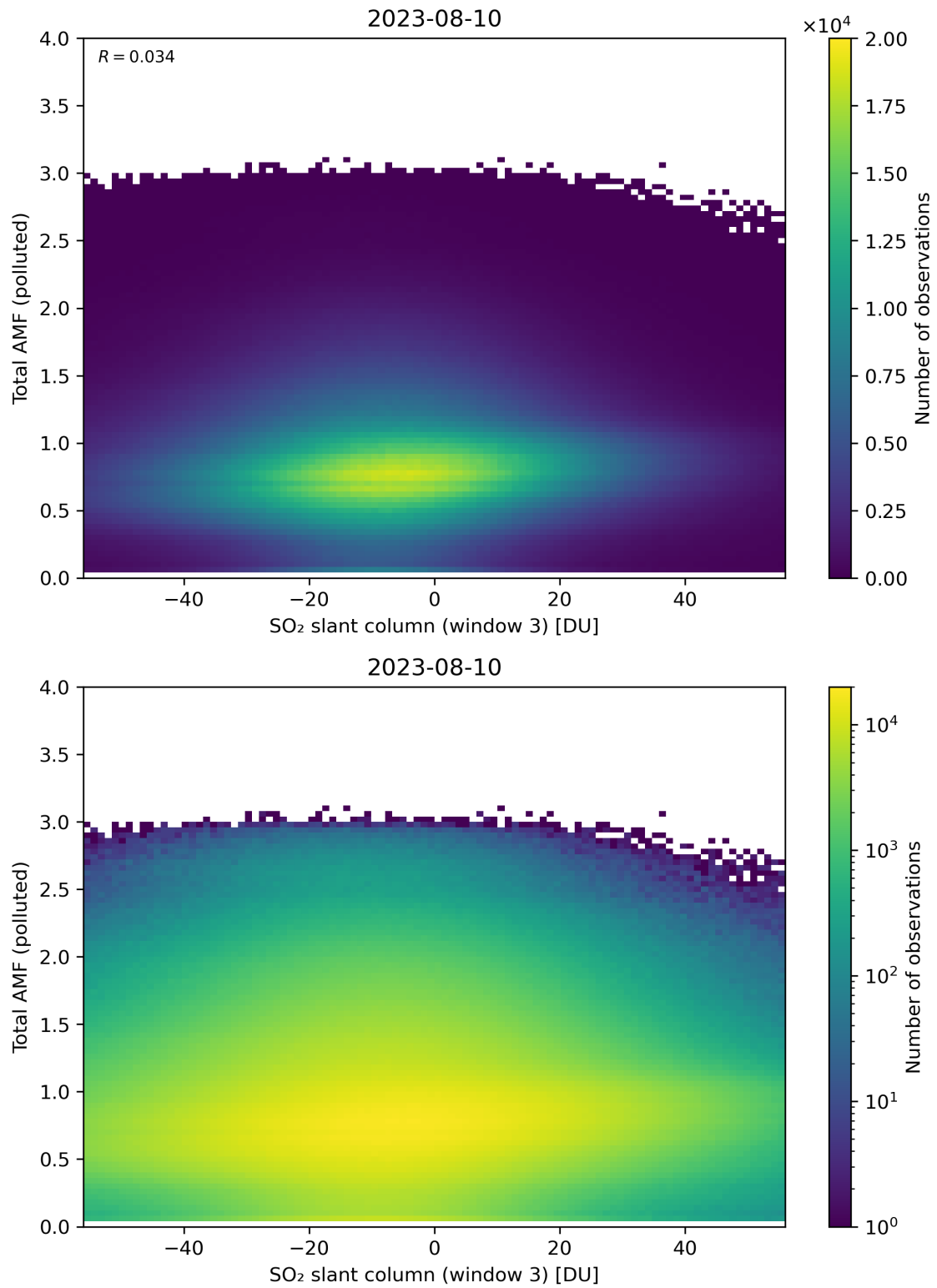


Figure 268: Scatter density plot of “SO₂ slant column (window 3)” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

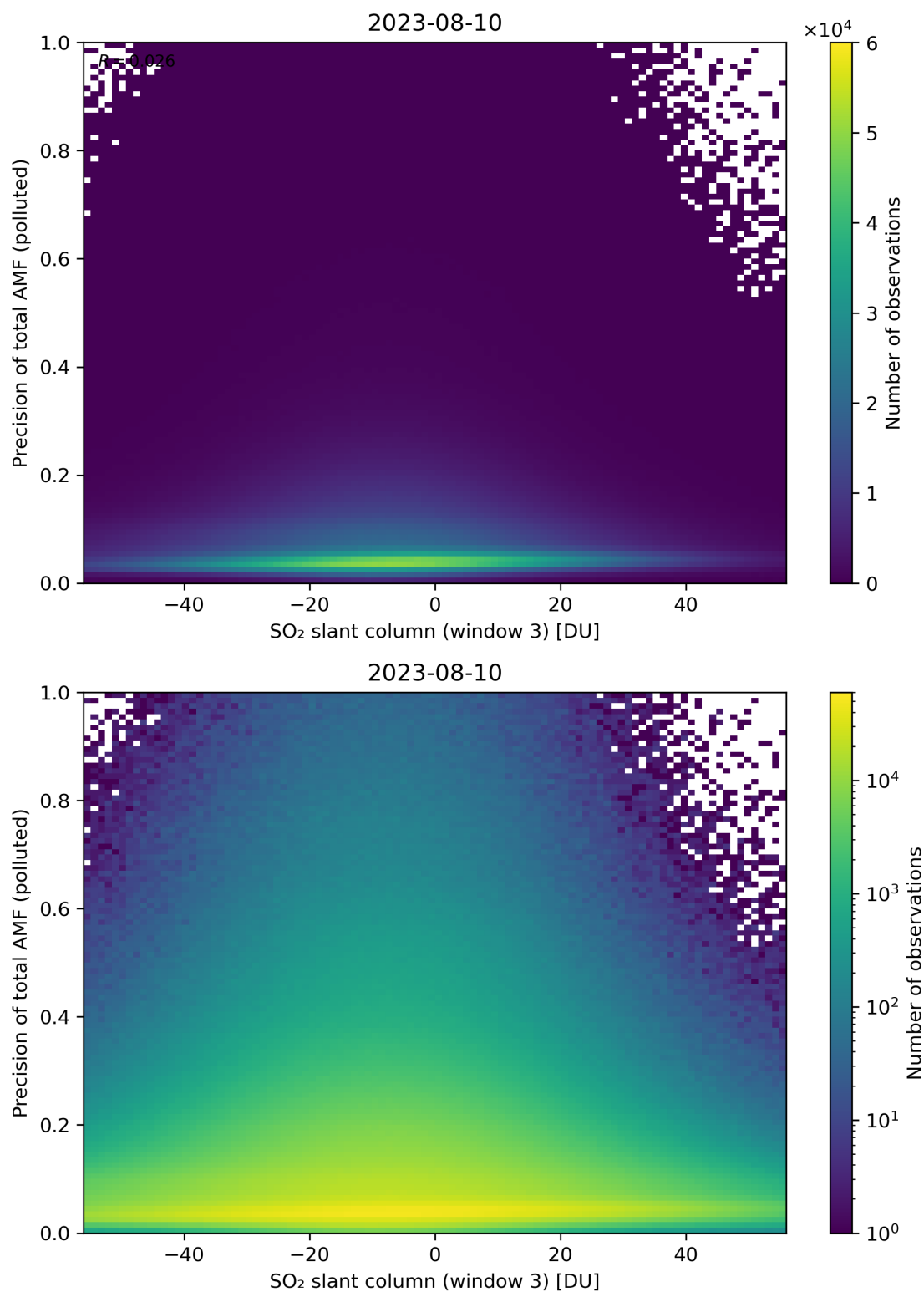


Figure 269: Scatter density plot of “SO₂ slant column (window 3)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

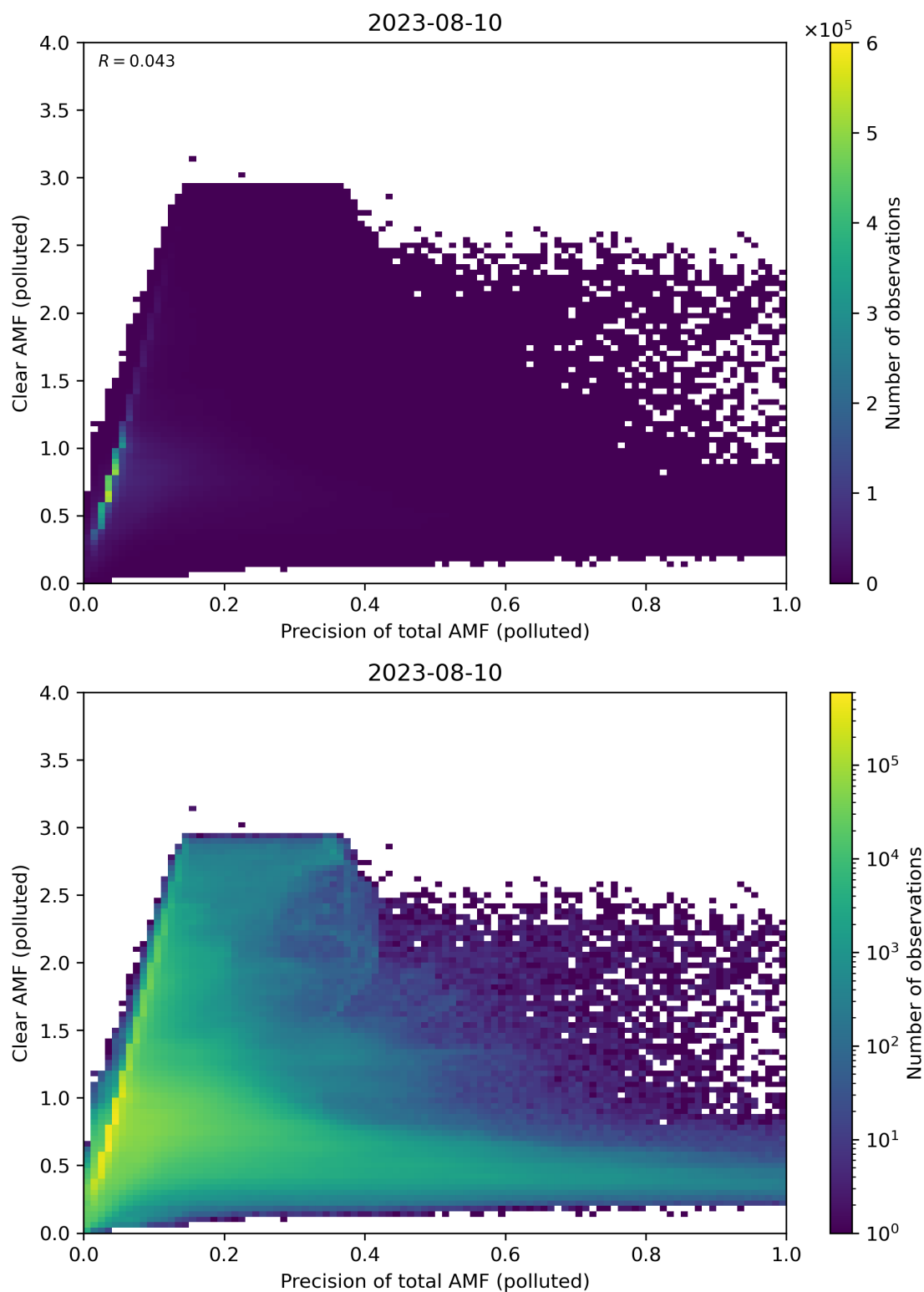


Figure 270: Scatter density plot of “Precision of total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

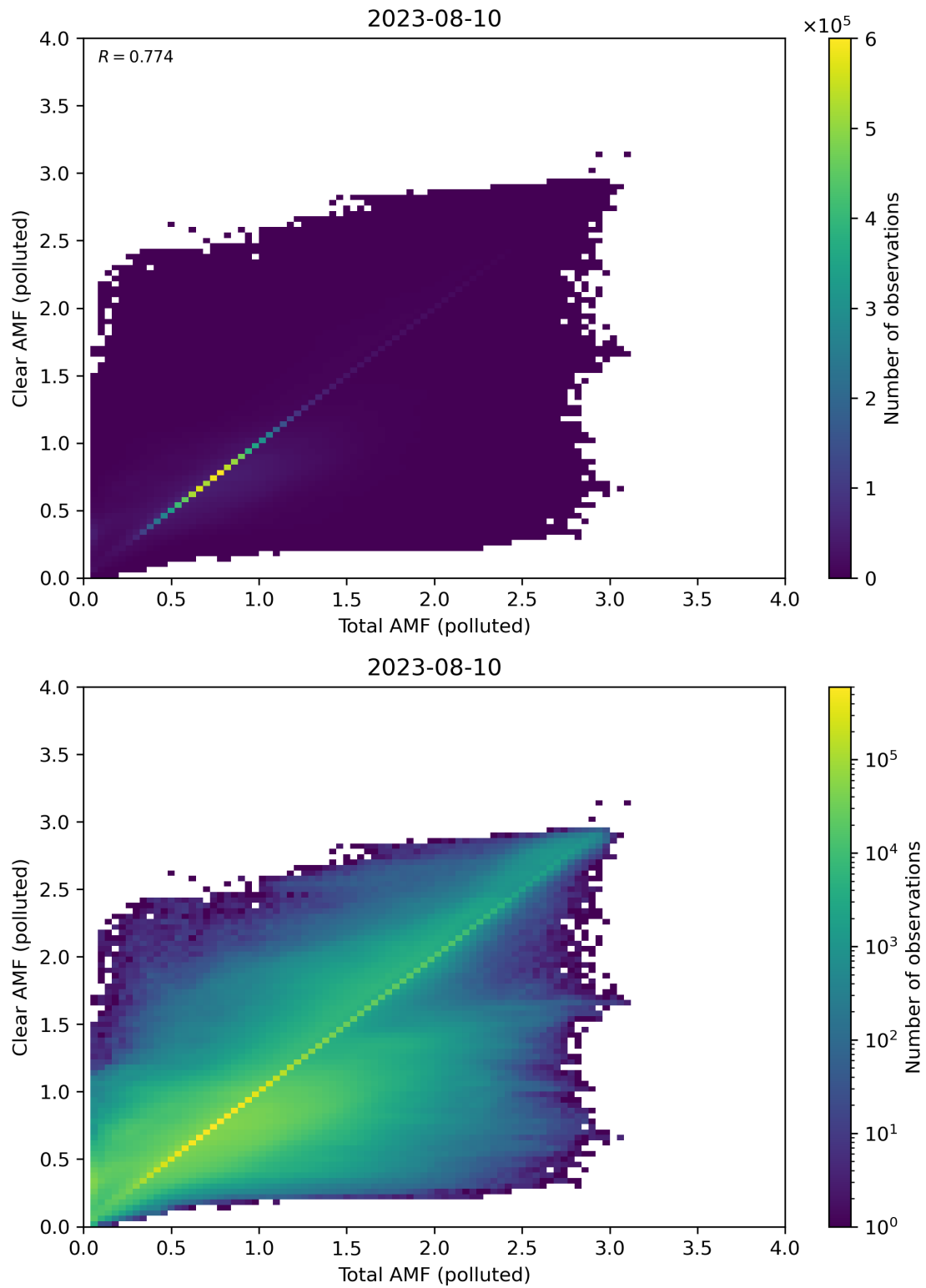


Figure 271: Scatter density plot of “Total AMF (polluted)” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

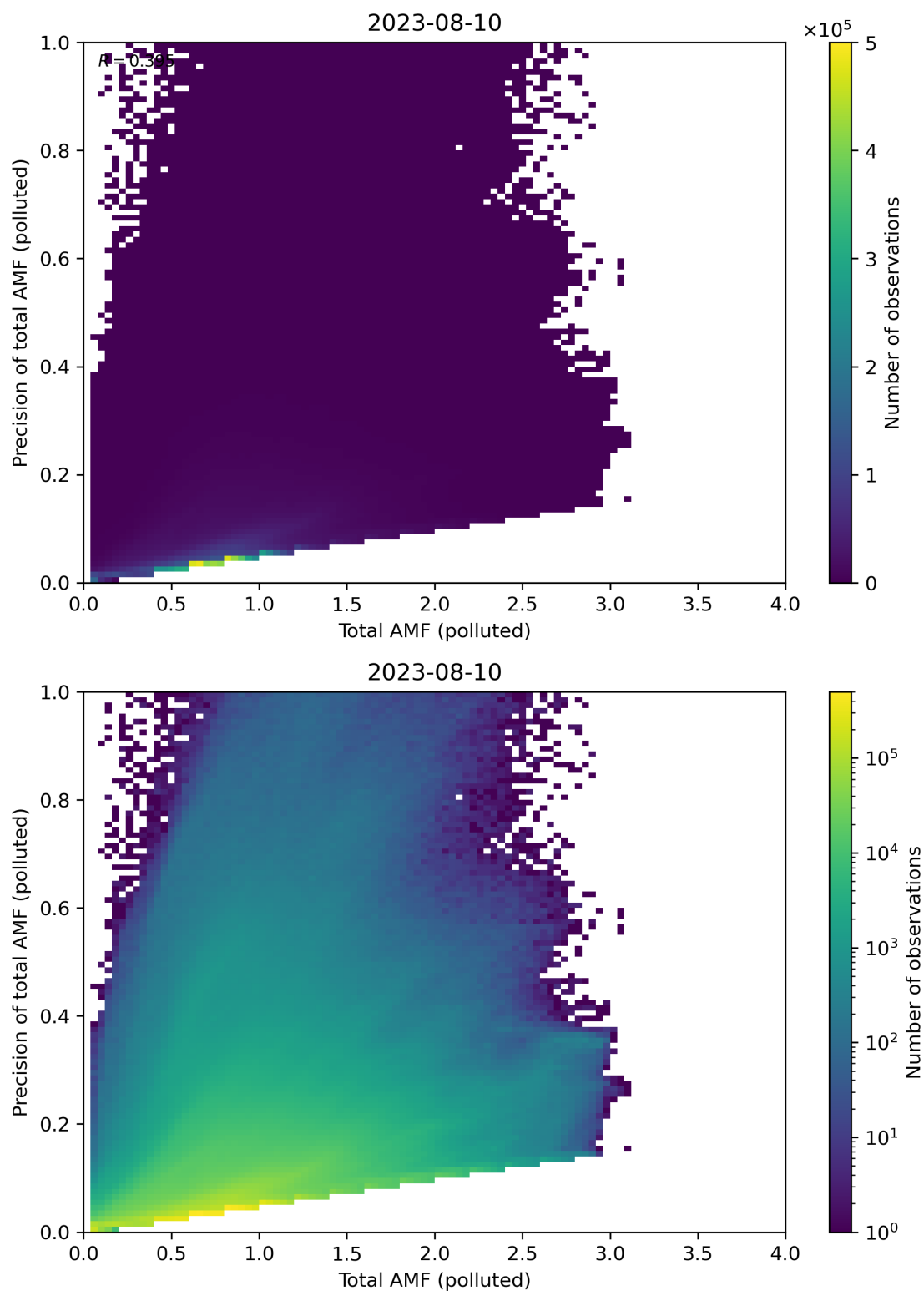


Figure 272: Scatter density plot of “Total AMF (polluted)” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

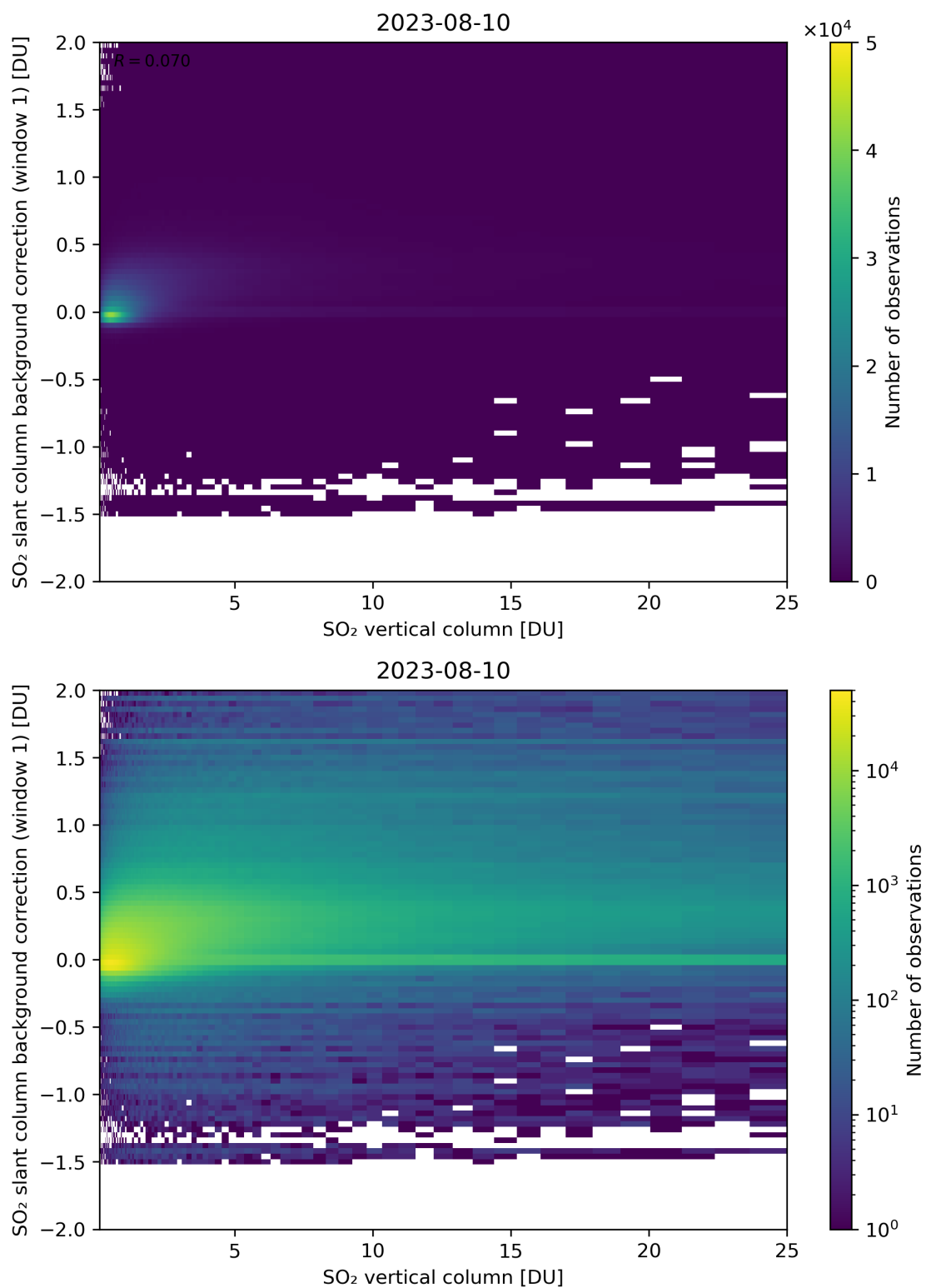


Figure 273: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

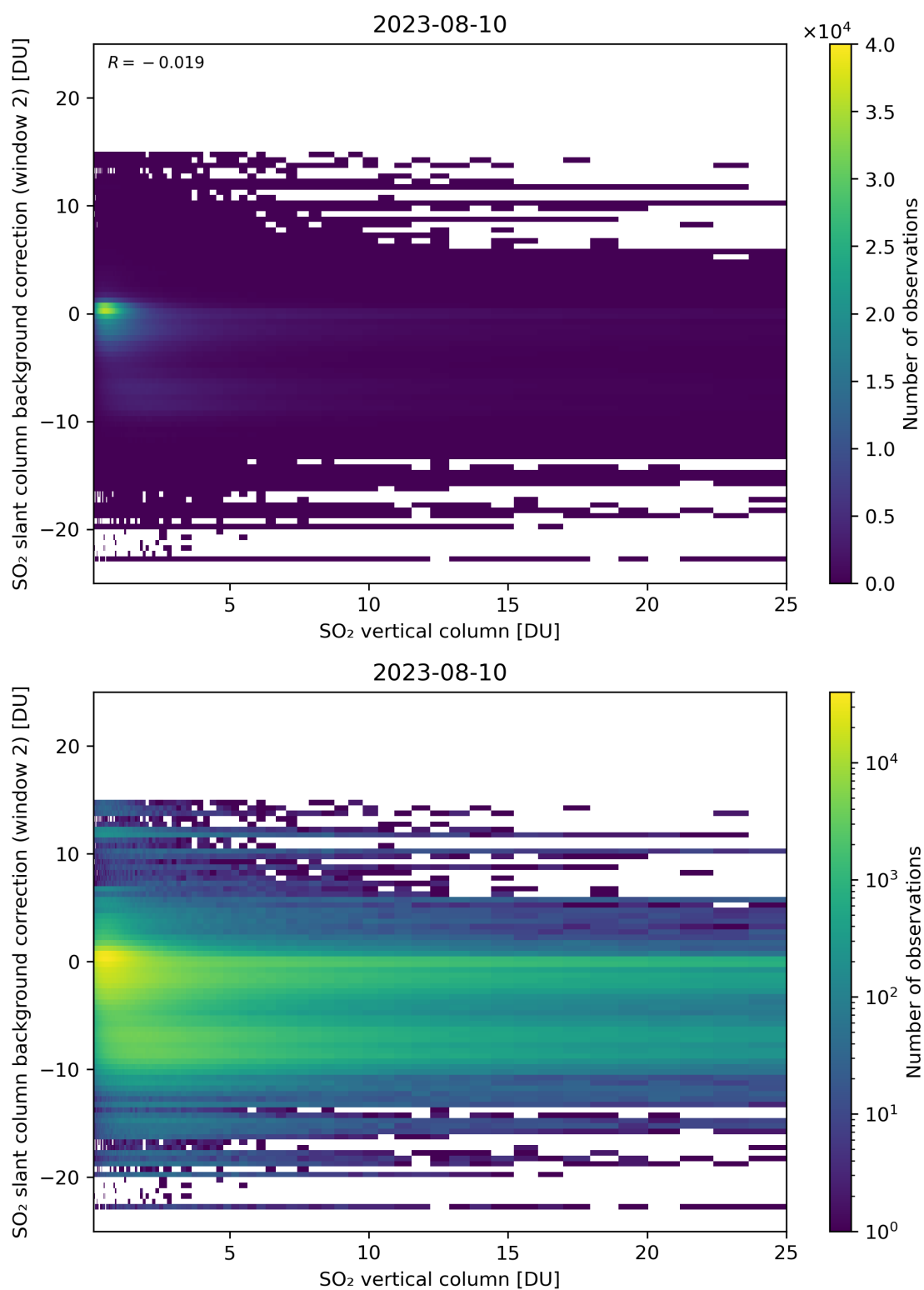


Figure 274: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

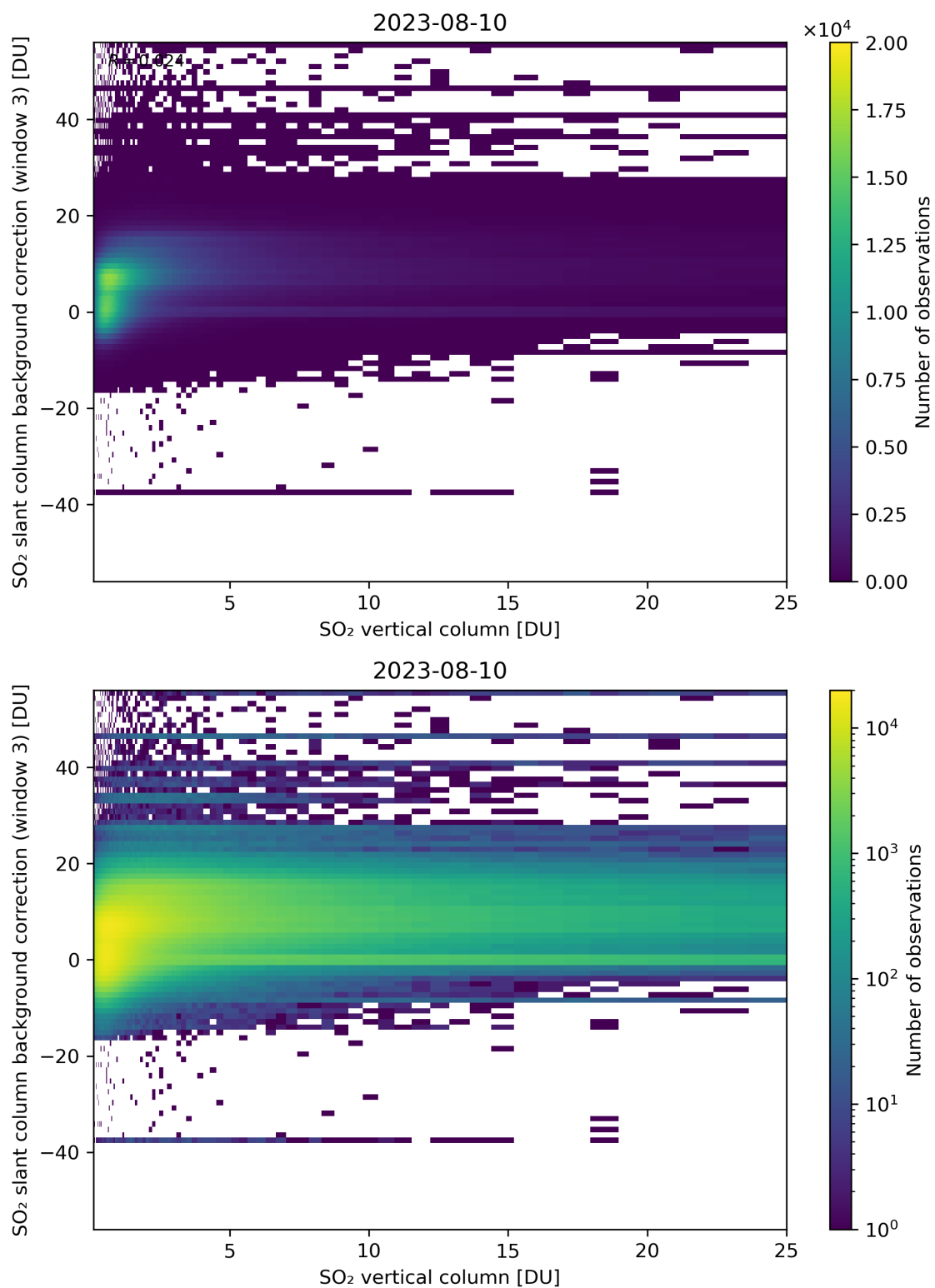


Figure 275: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

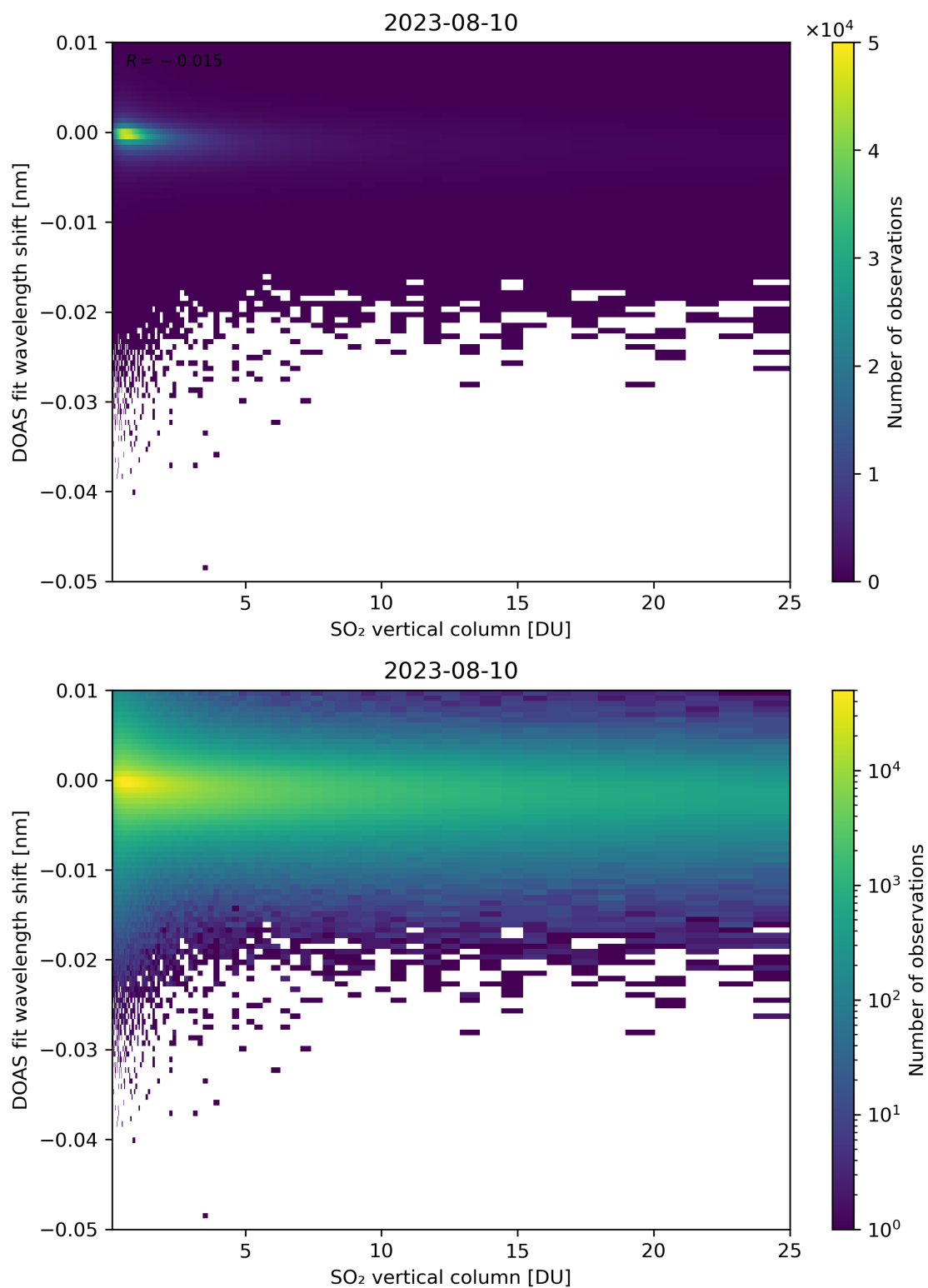


Figure 276: Scatter density plot of “SO₂ vertical column” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

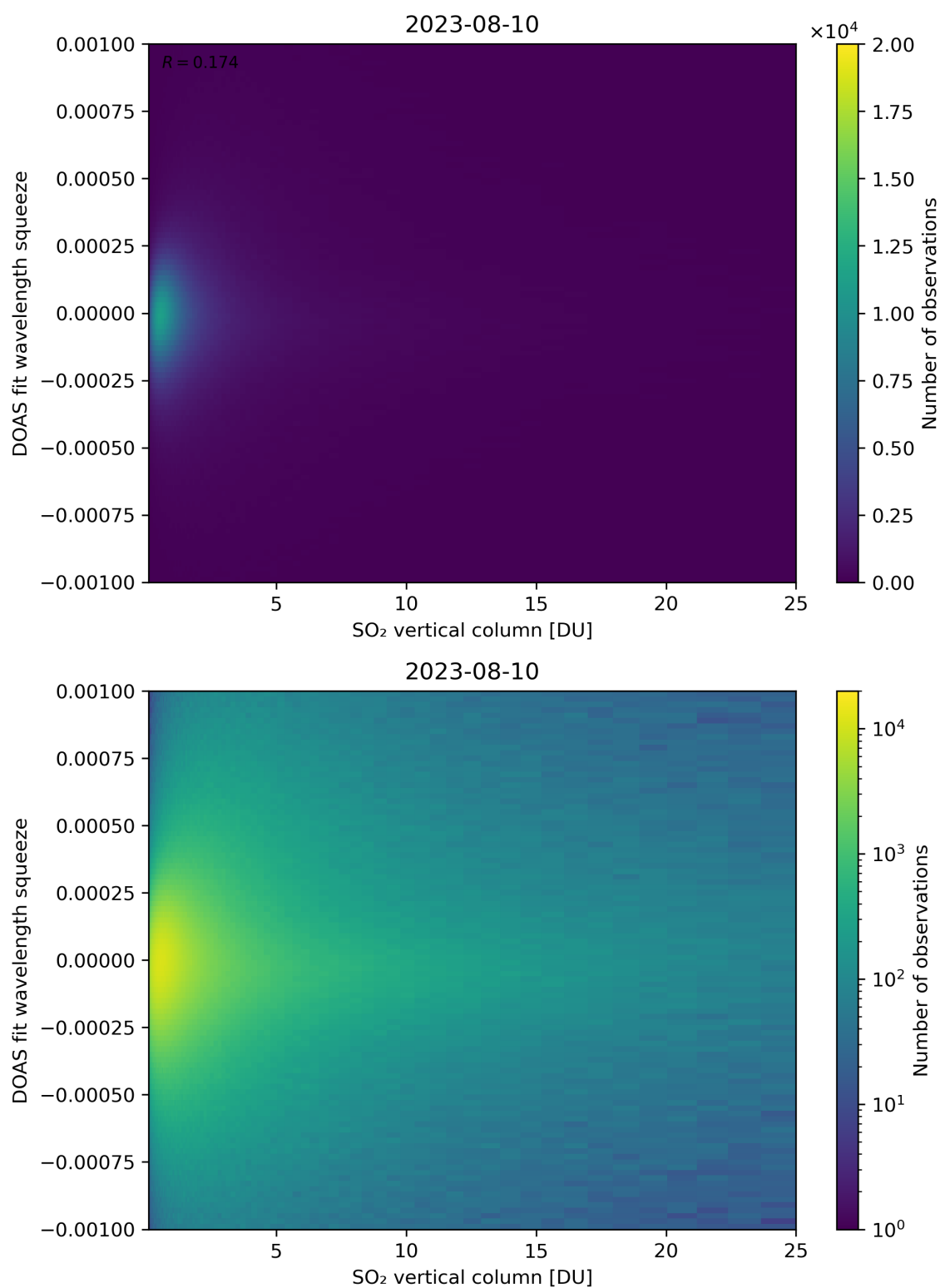


Figure 277: Scatter density plot of “SO₂ vertical column” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

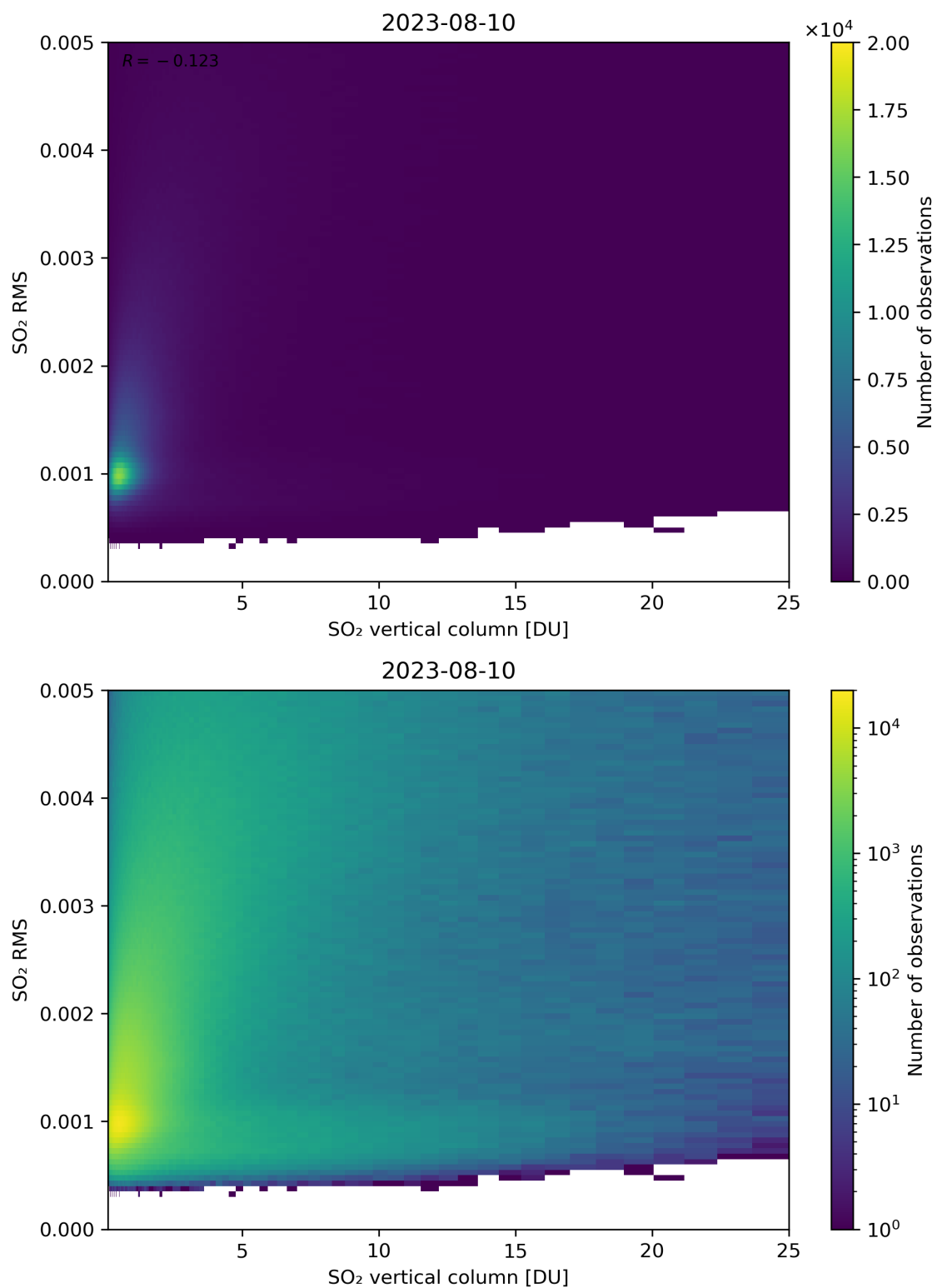


Figure 278: Scatter density plot of “SO₂ vertical column” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

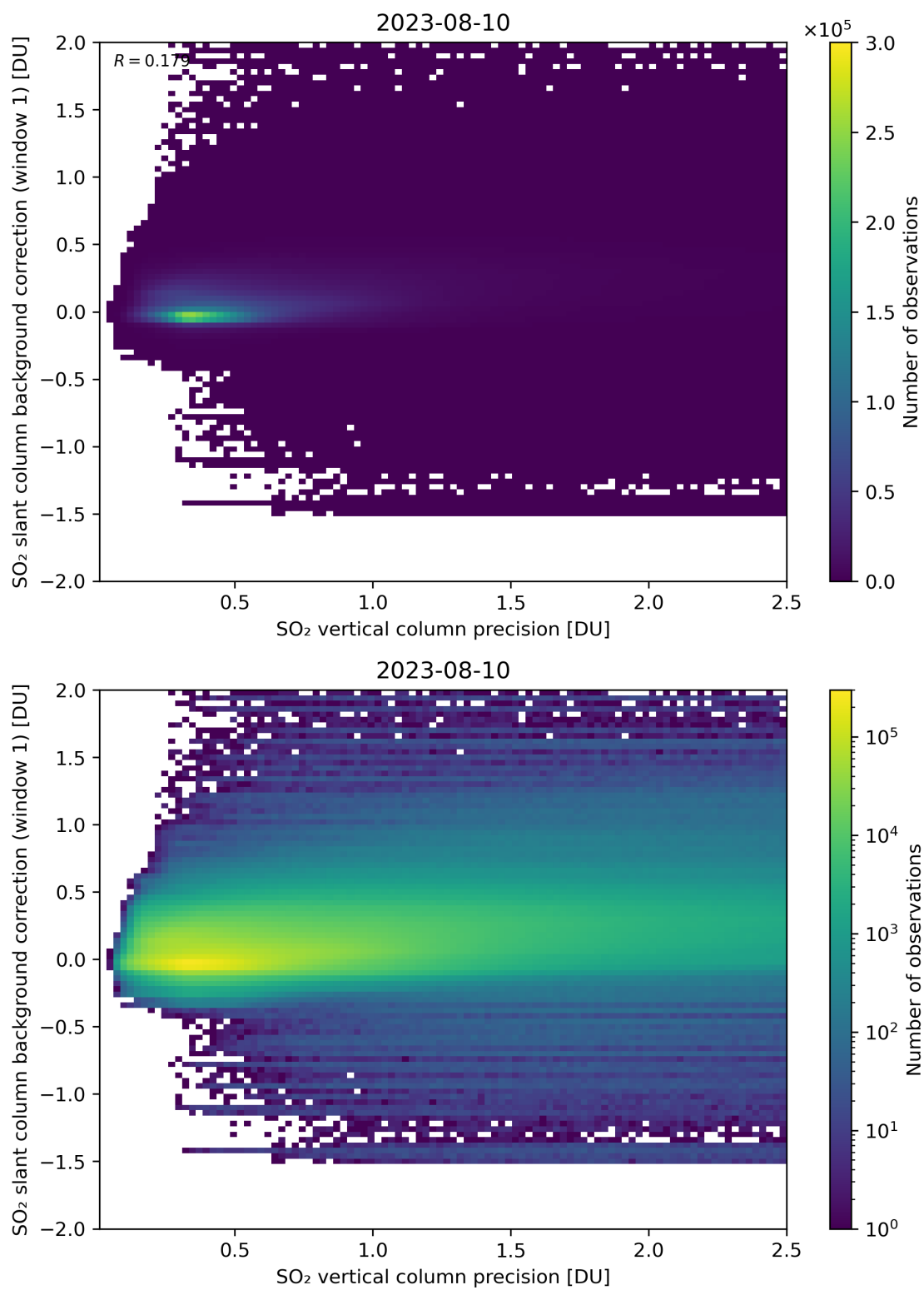


Figure 279: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

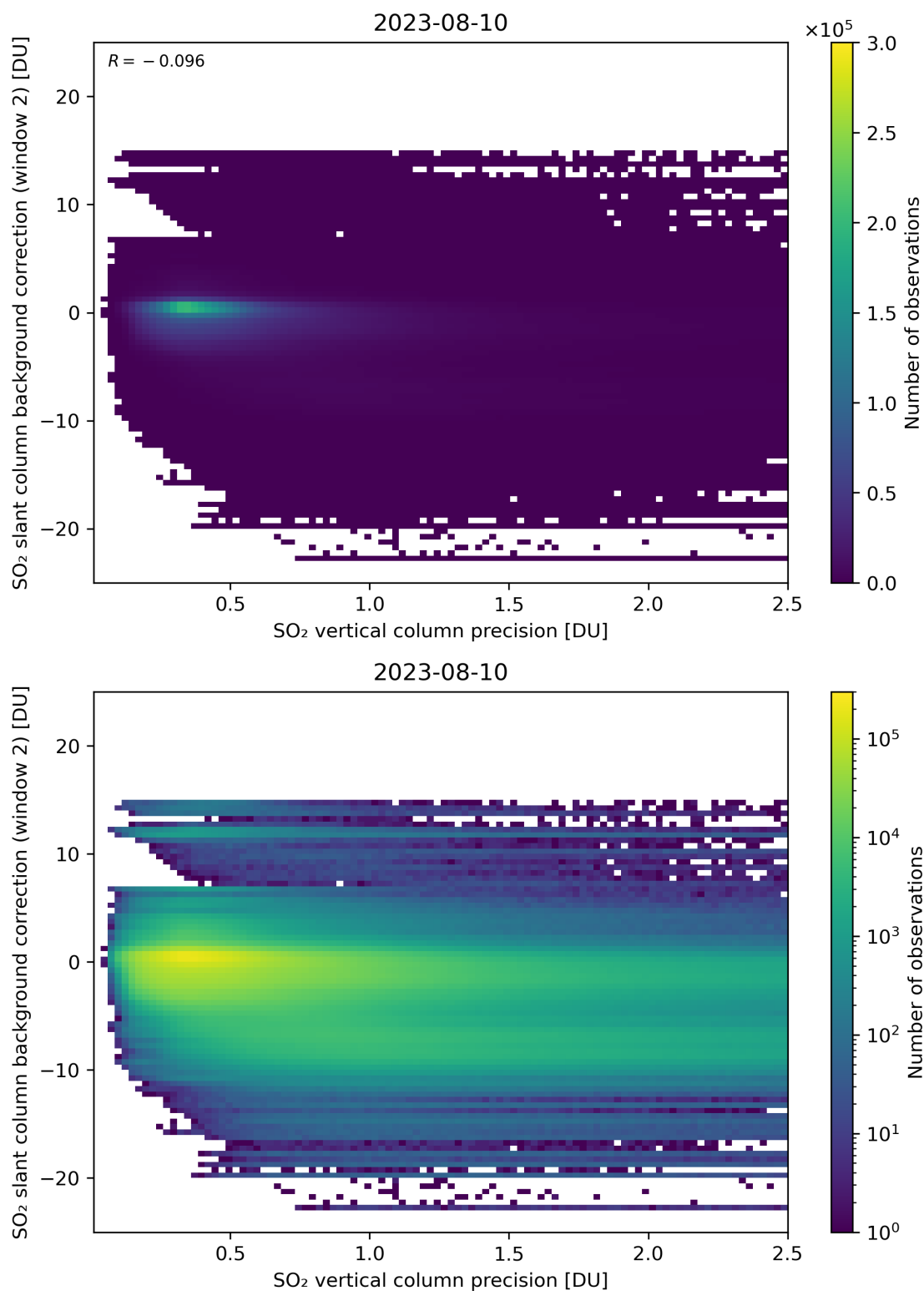


Figure 280: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

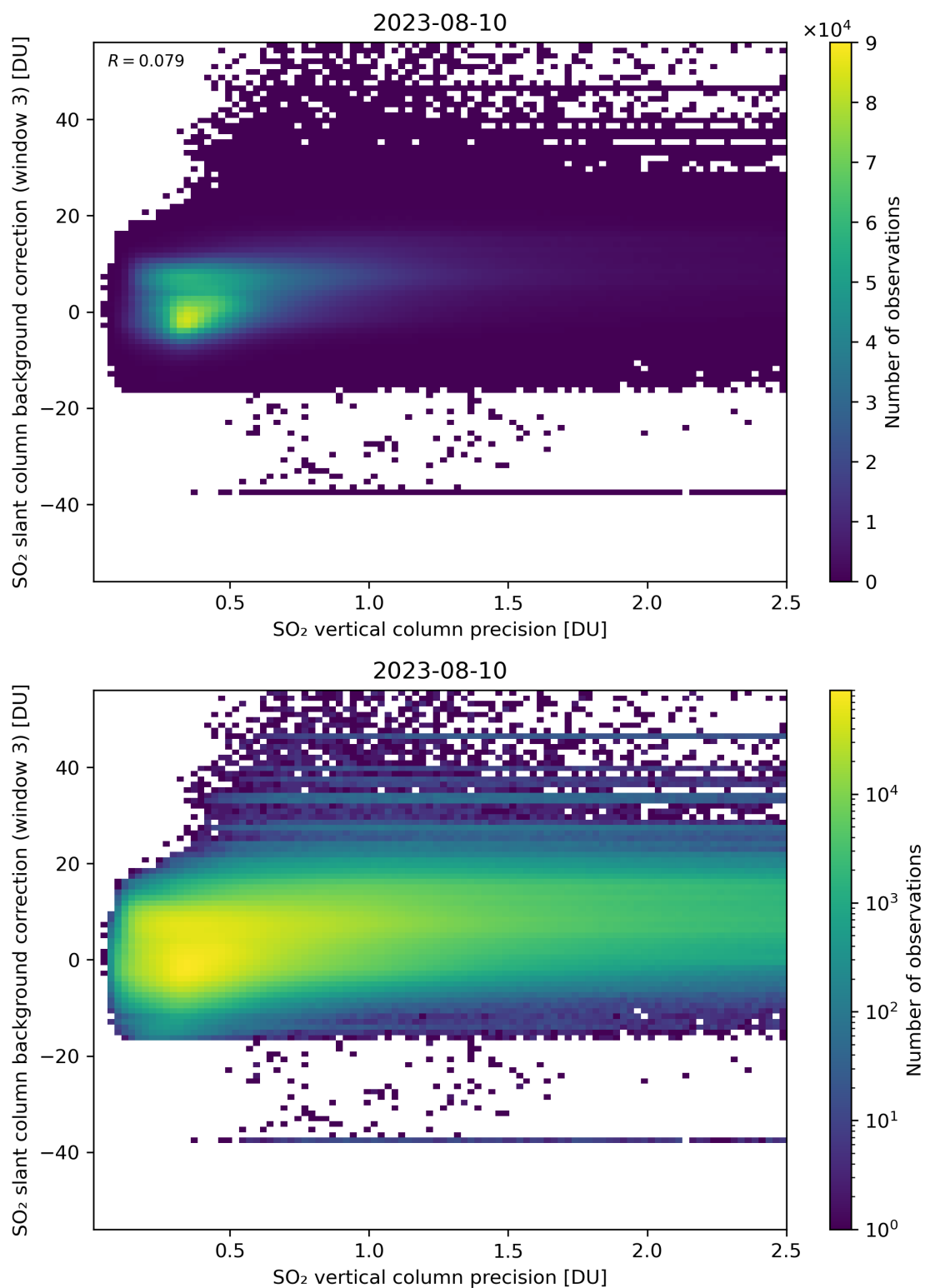


Figure 281: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

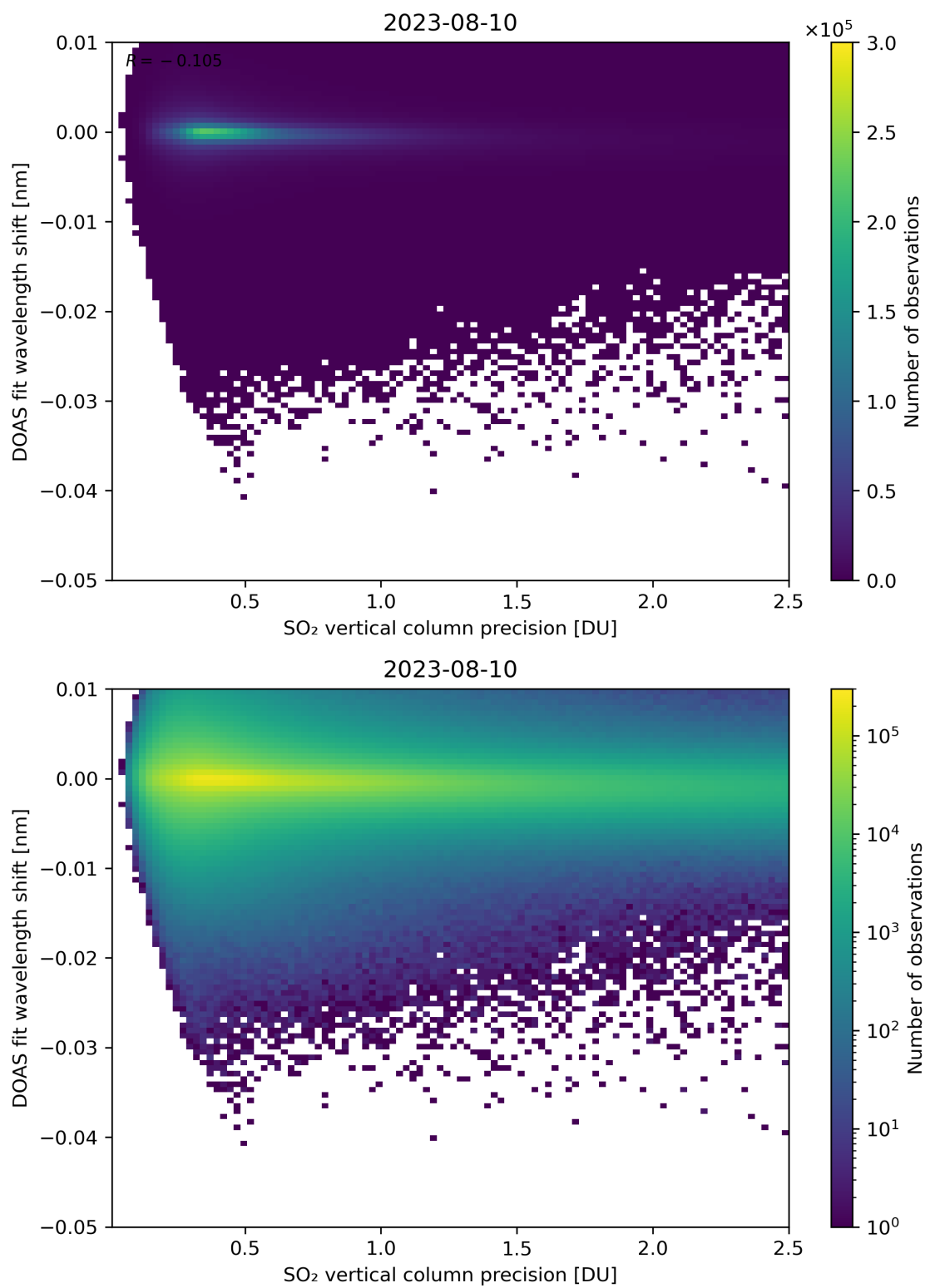


Figure 282: Scatter density plot of “SO₂ vertical column precision” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

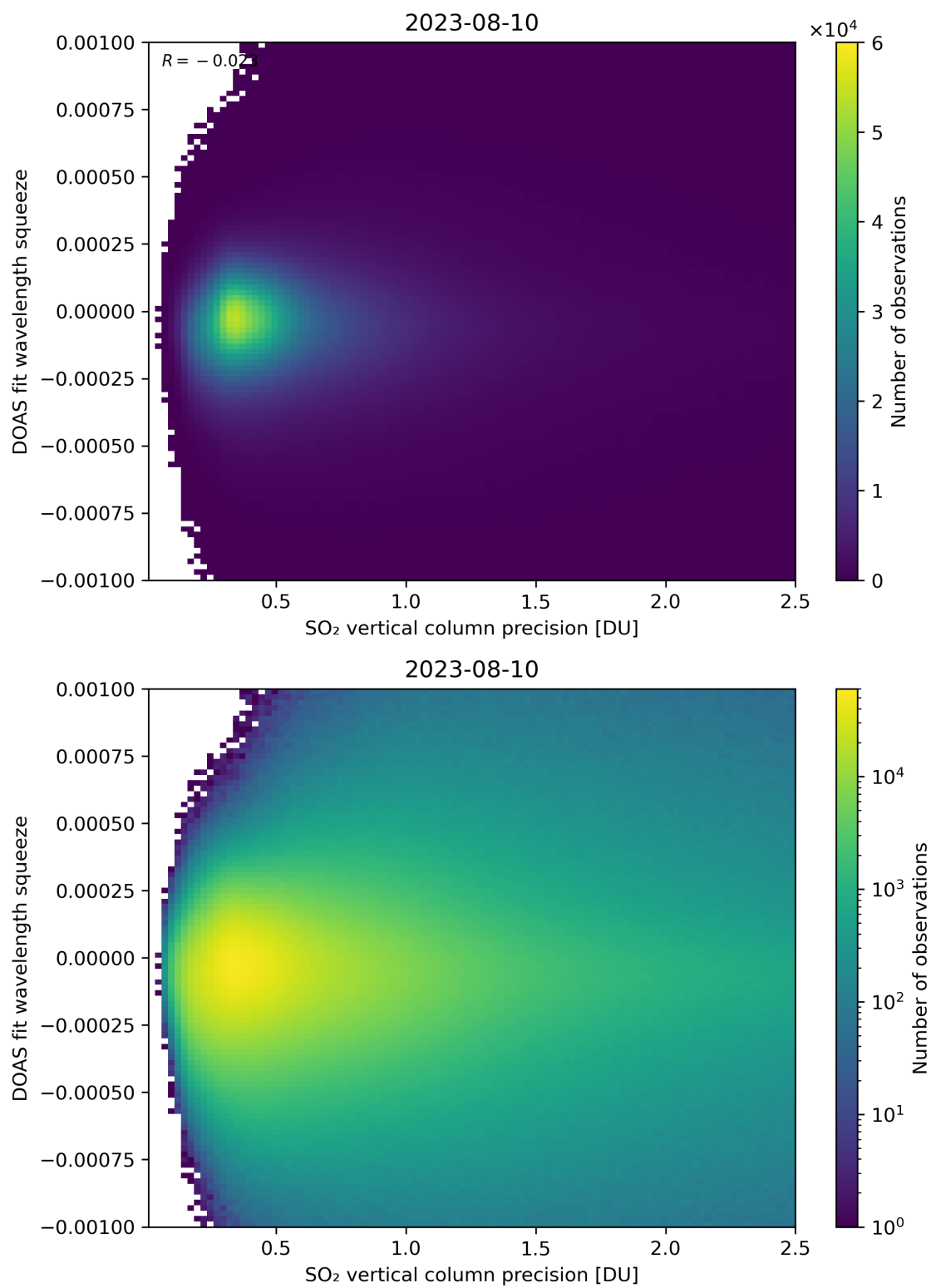


Figure 283: Scatter density plot of “SO₂ vertical column precision” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

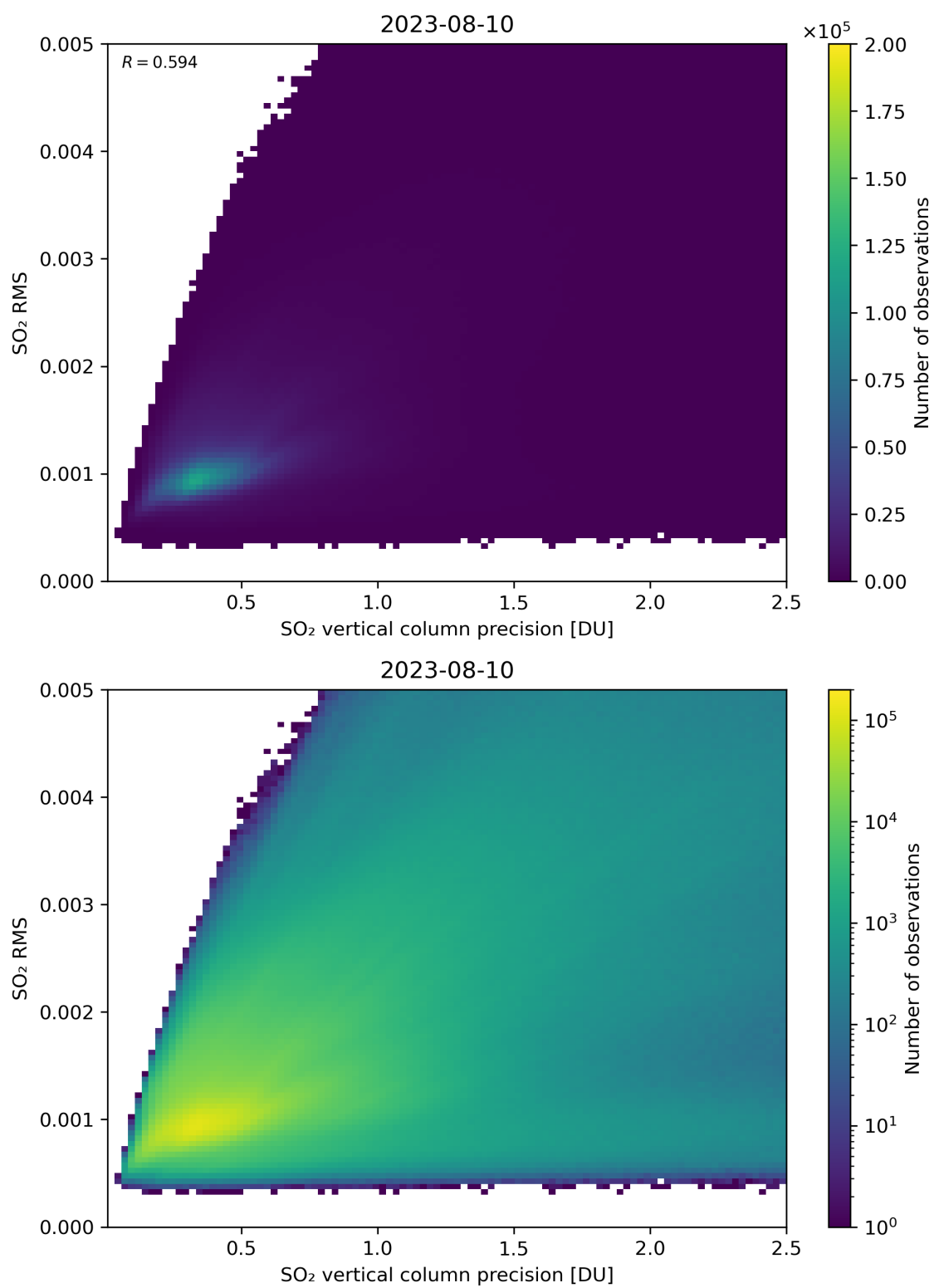


Figure 284: Scatter density plot of “SO₂ vertical column precision” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

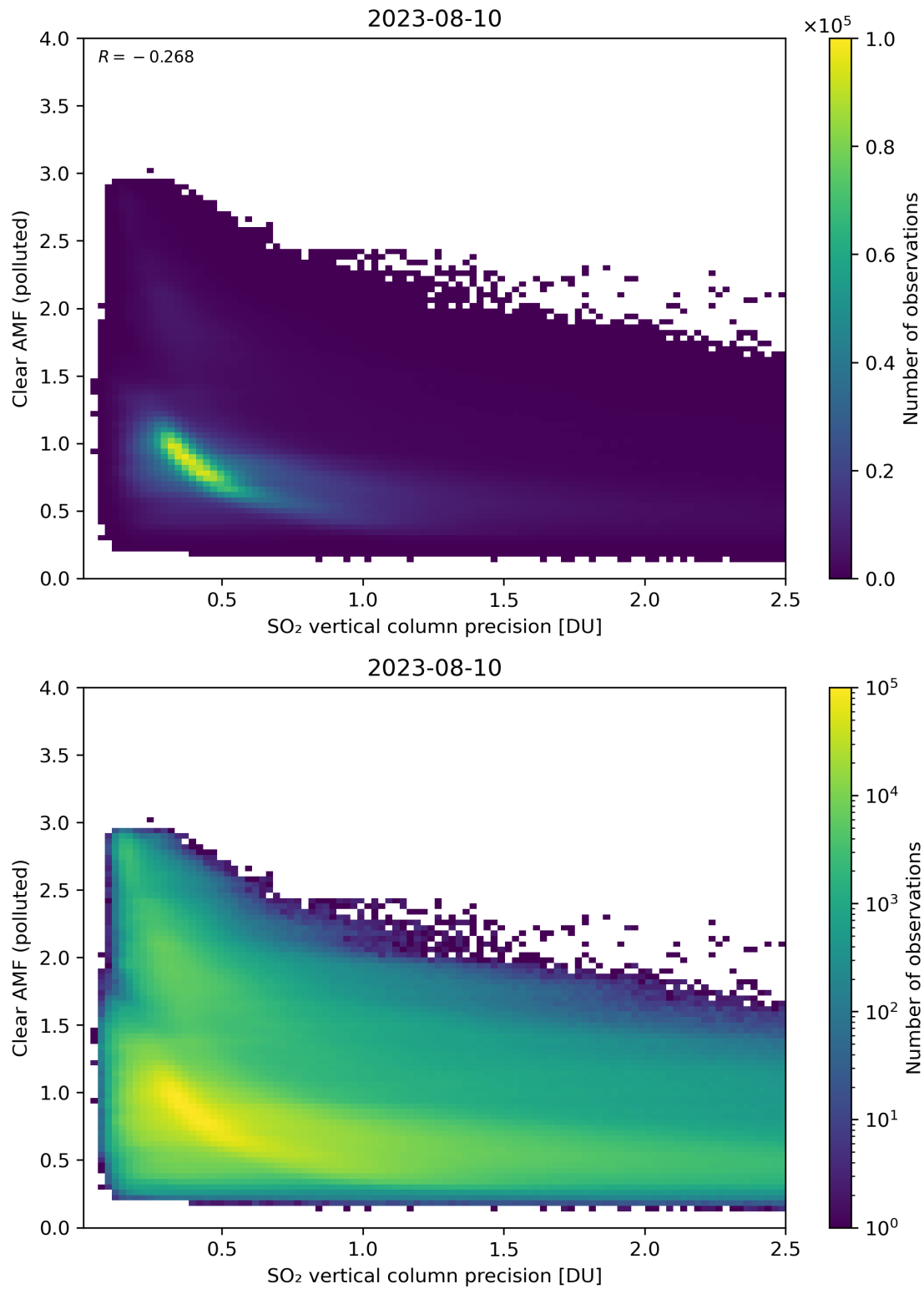


Figure 285: Scatter density plot of “SO₂ vertical column precision” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

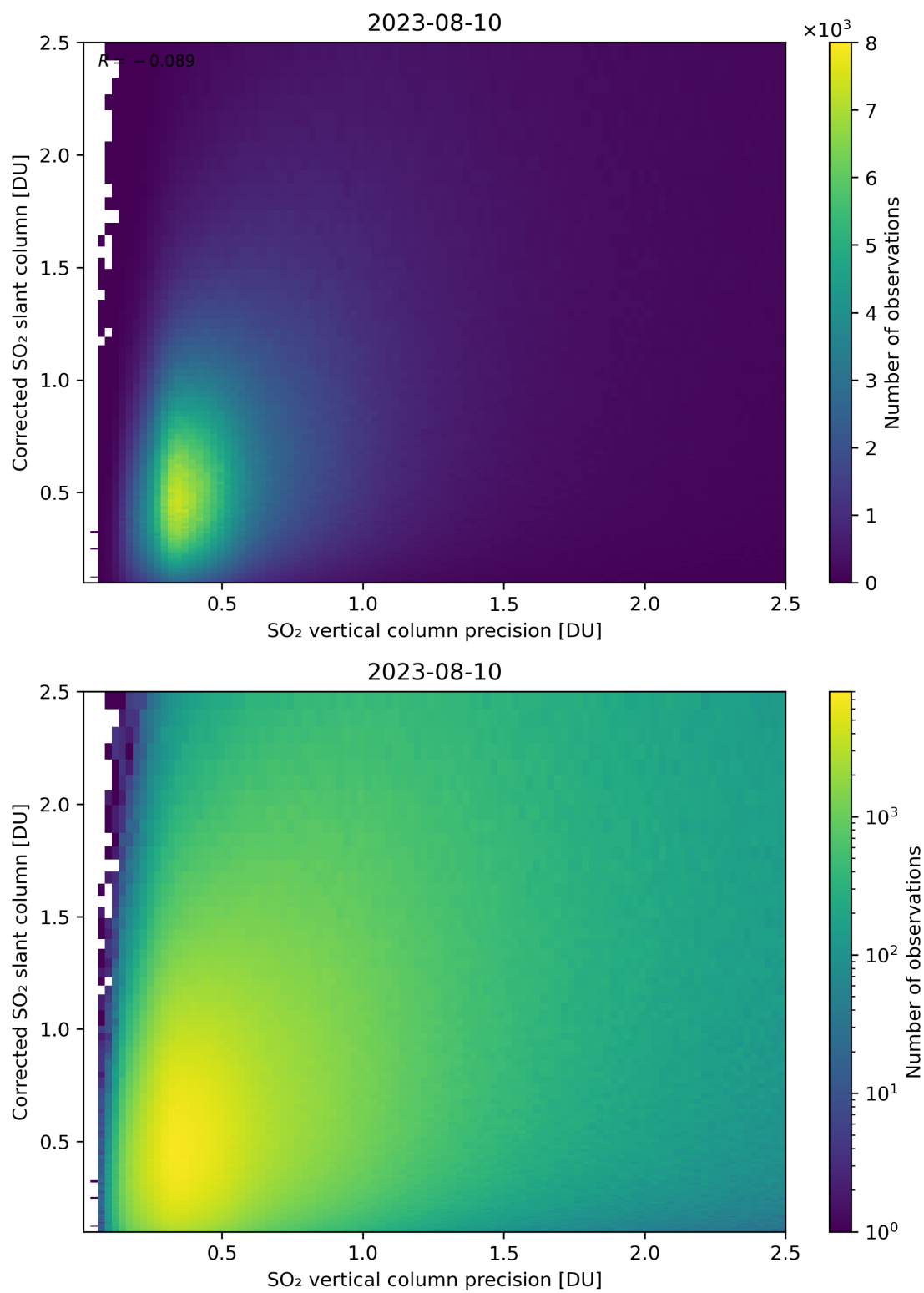


Figure 286: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

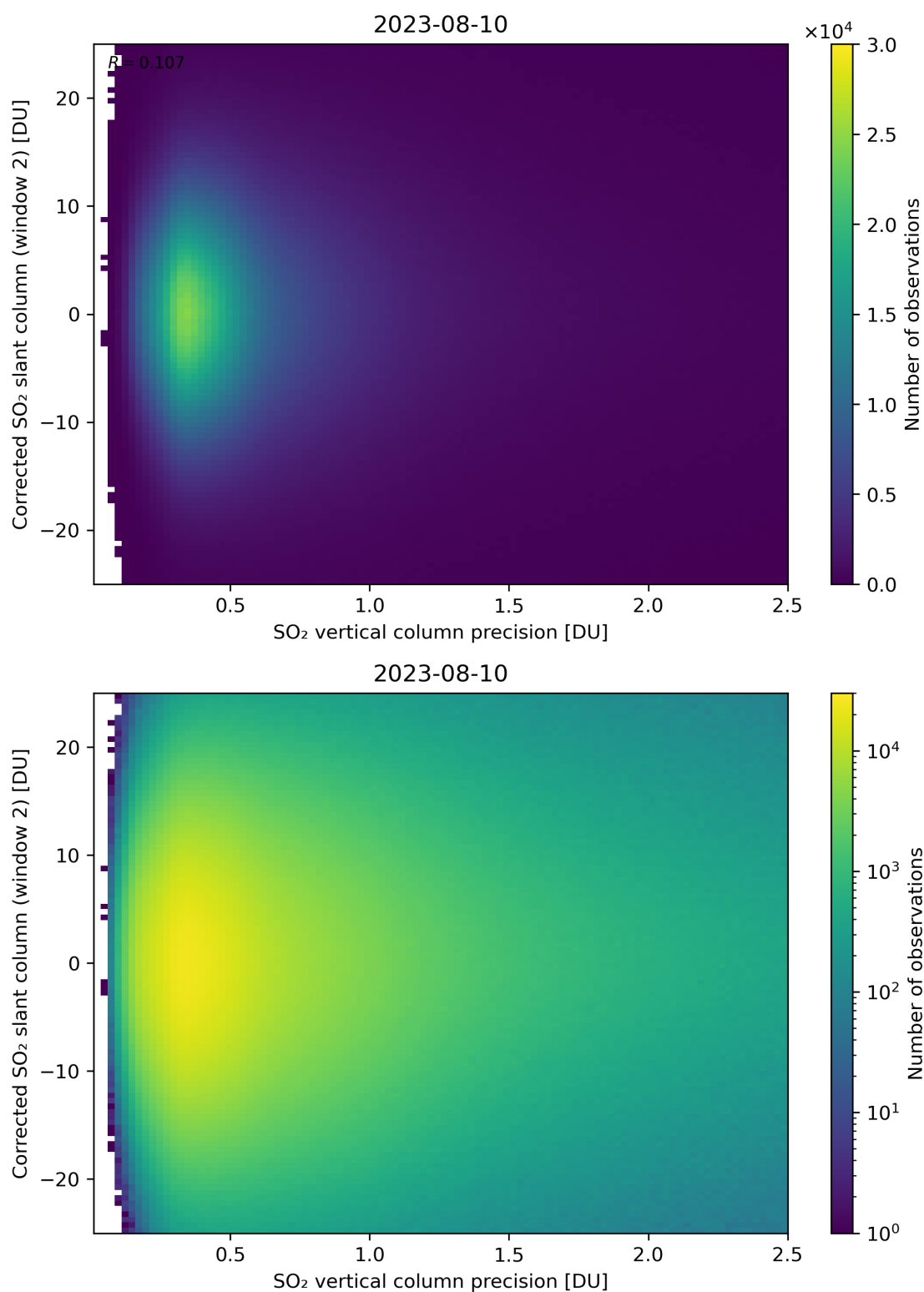


Figure 287: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

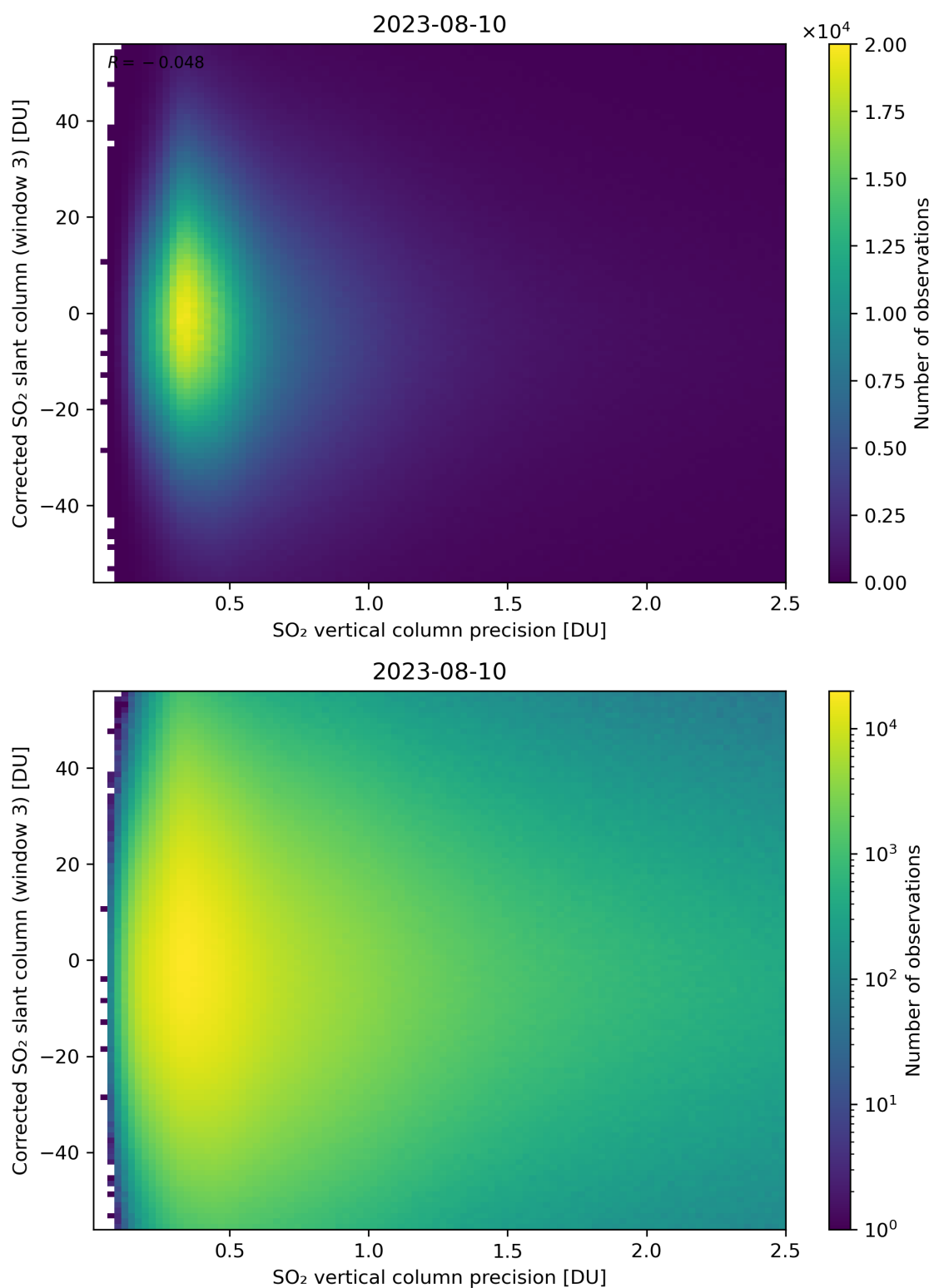


Figure 288: Scatter density plot of “SO₂ vertical column precision” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

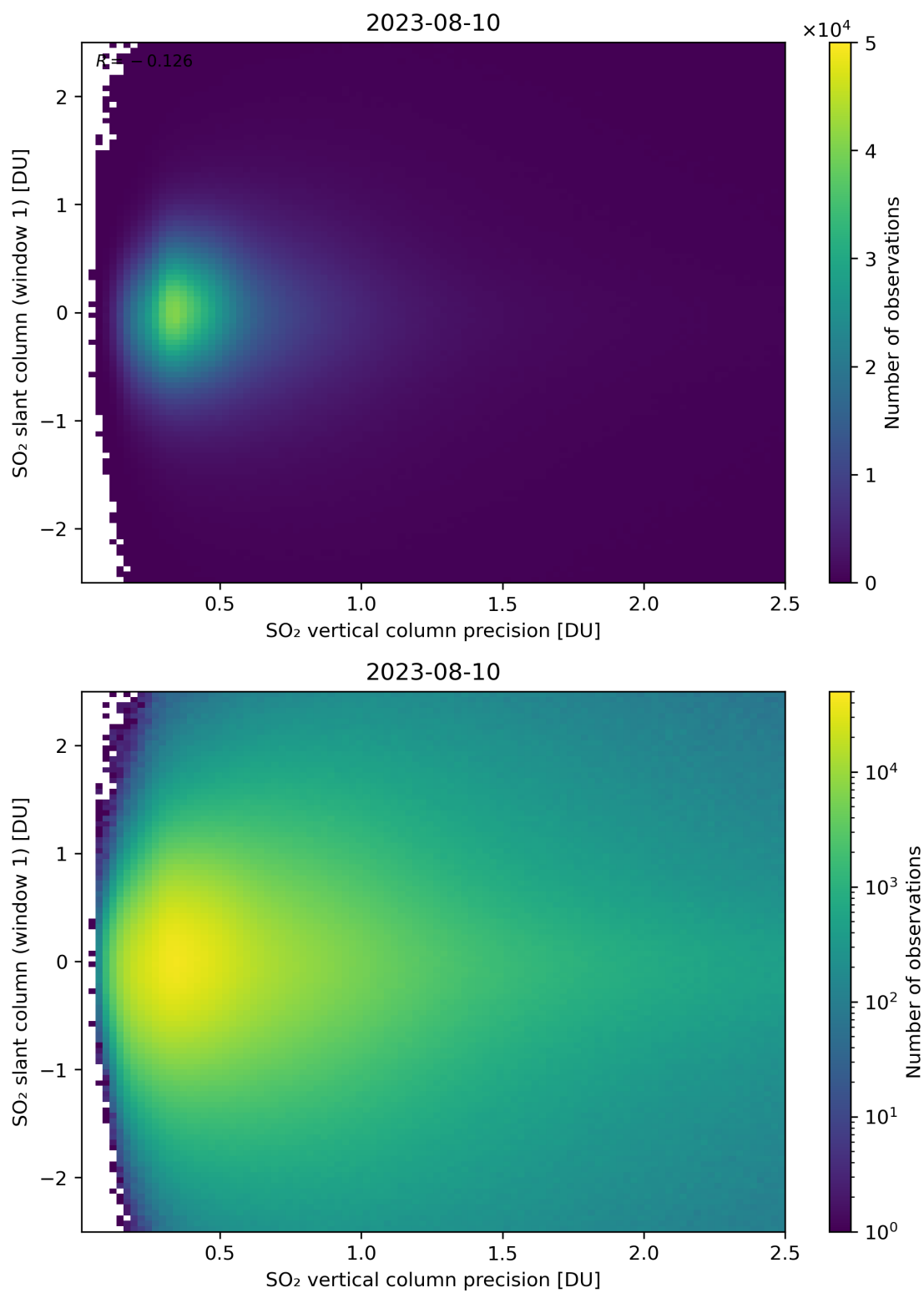


Figure 289: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

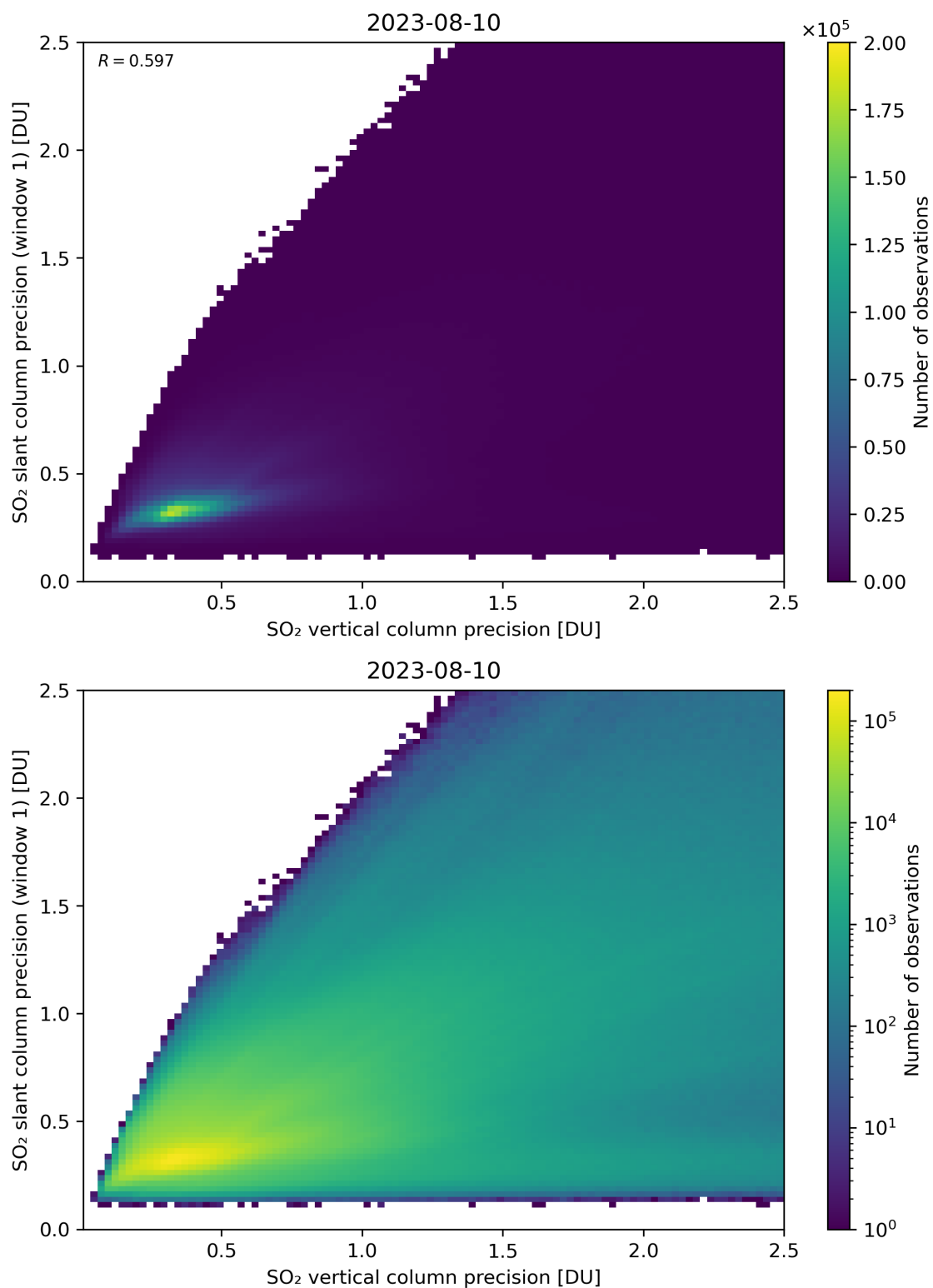


Figure 290: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

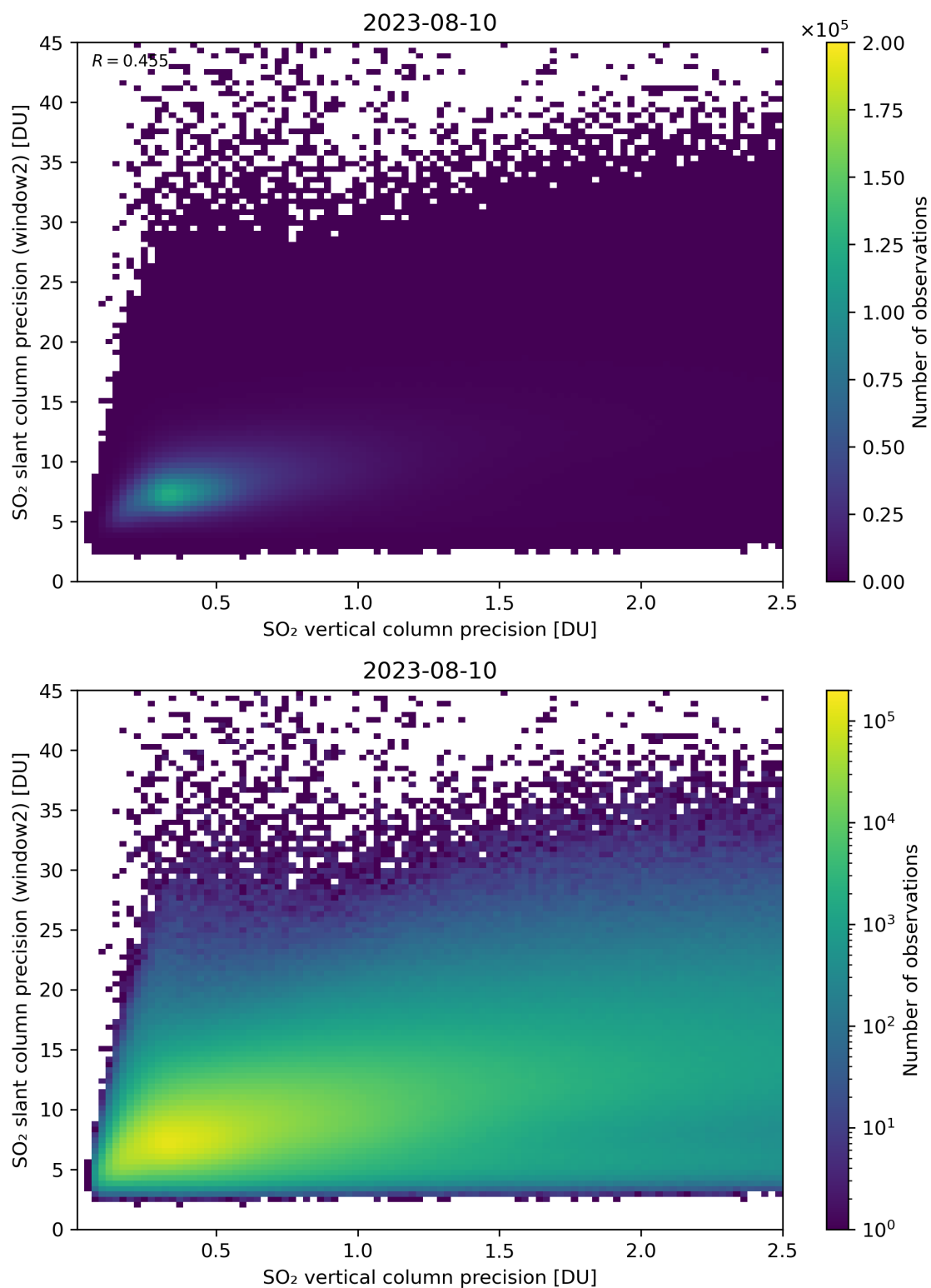


Figure 291: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

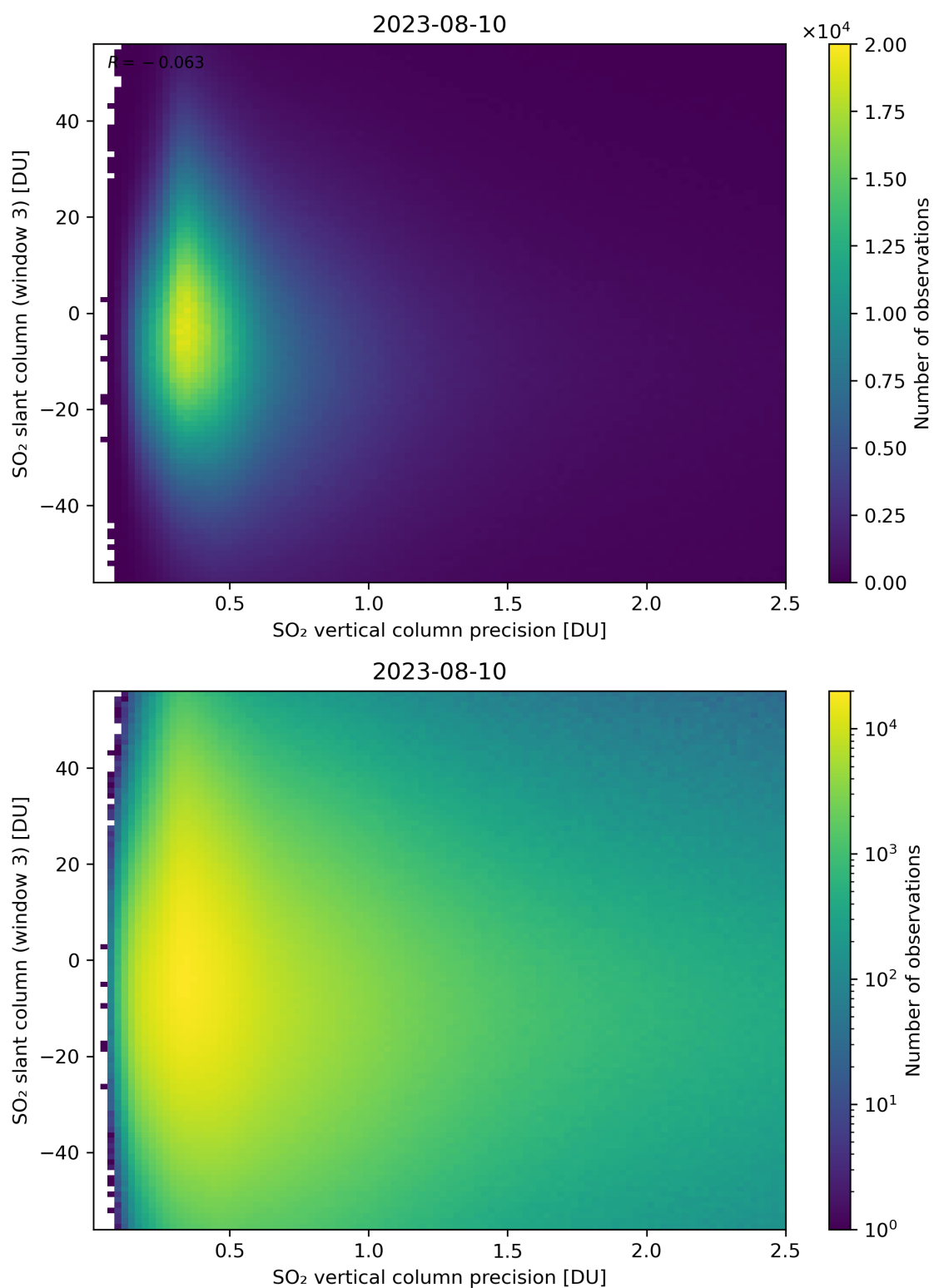


Figure 292: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

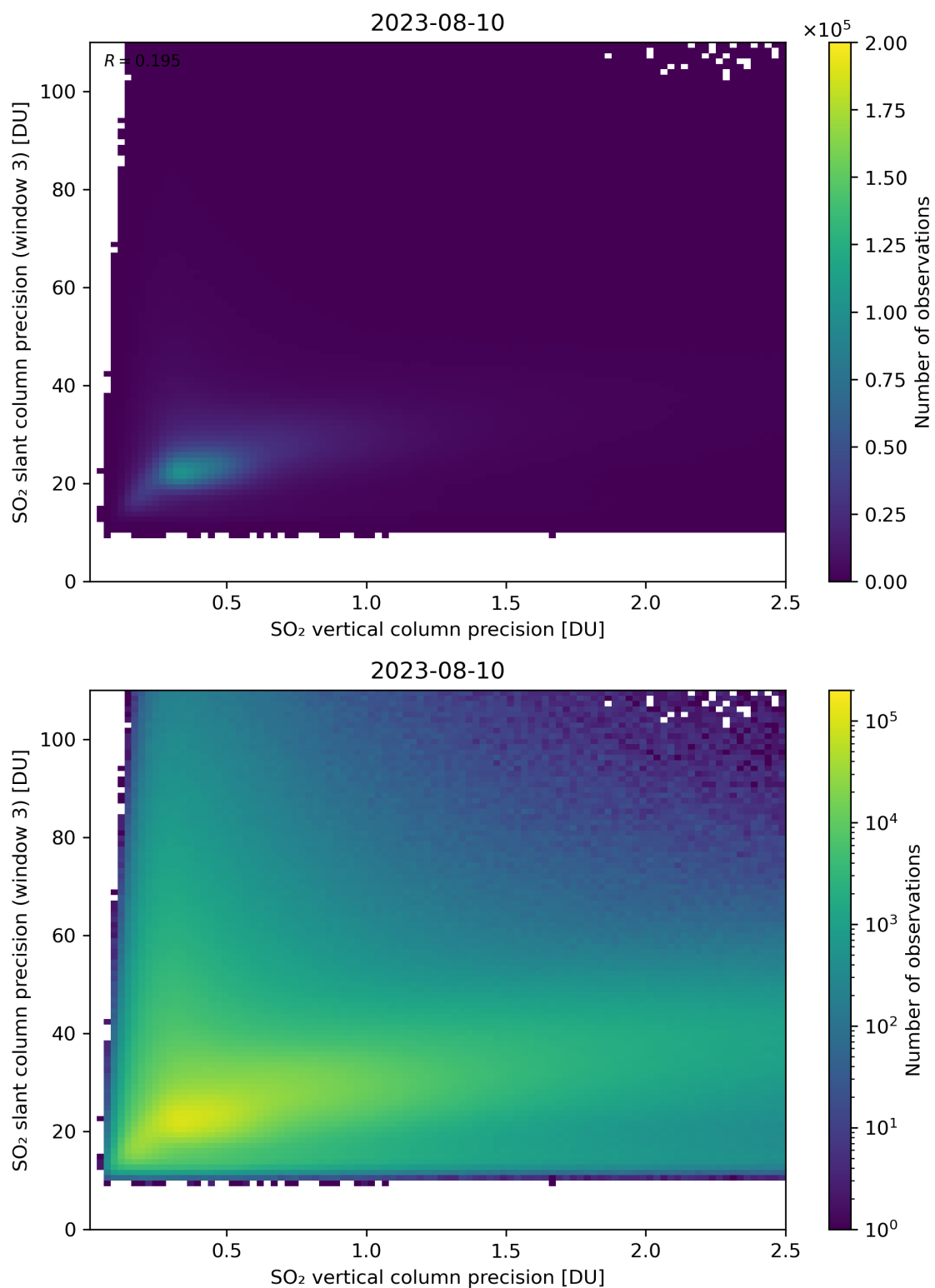


Figure 293: Scatter density plot of “SO₂ vertical column precision” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

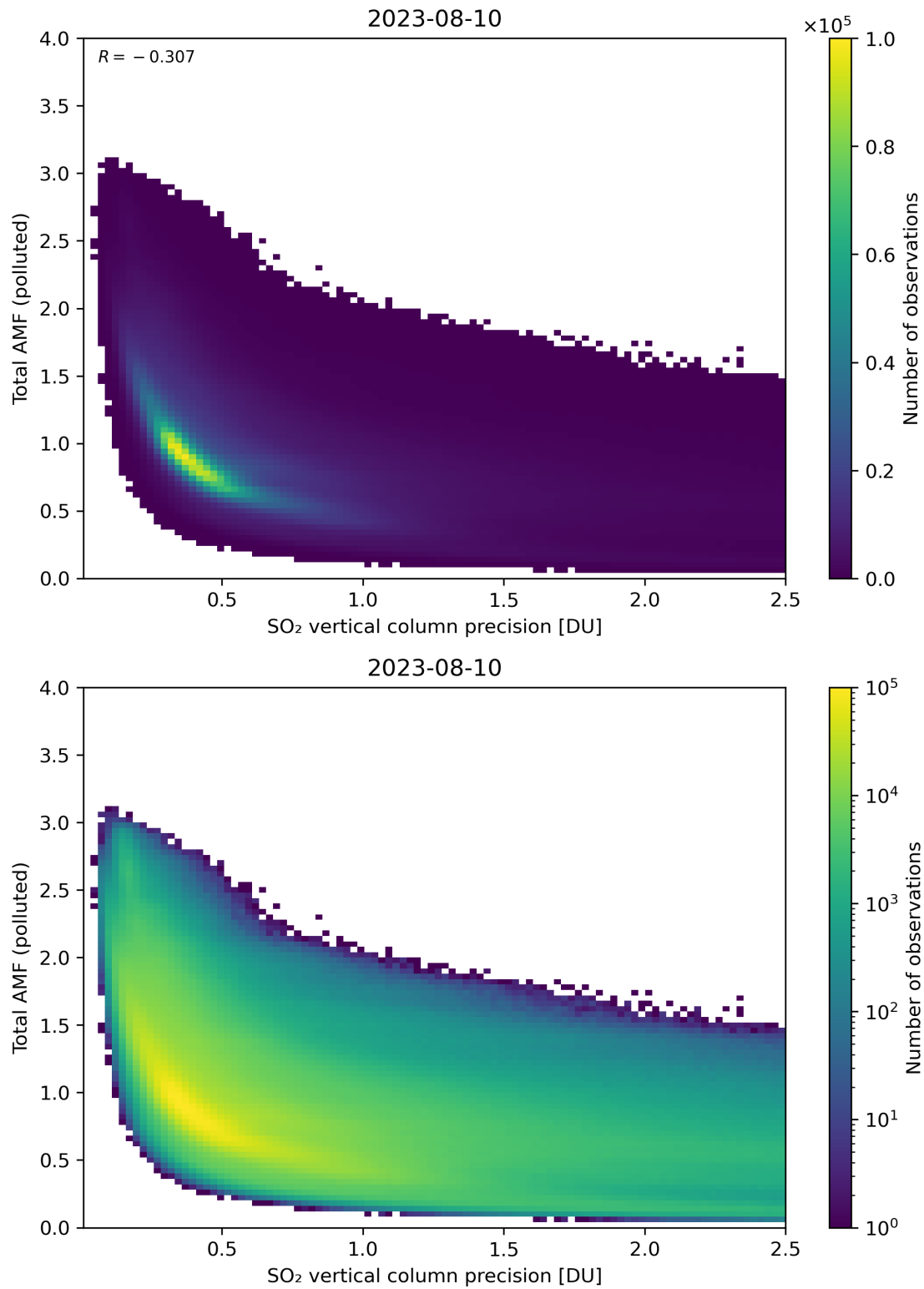


Figure 294: Scatter density plot of “SO₂ vertical column precision” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

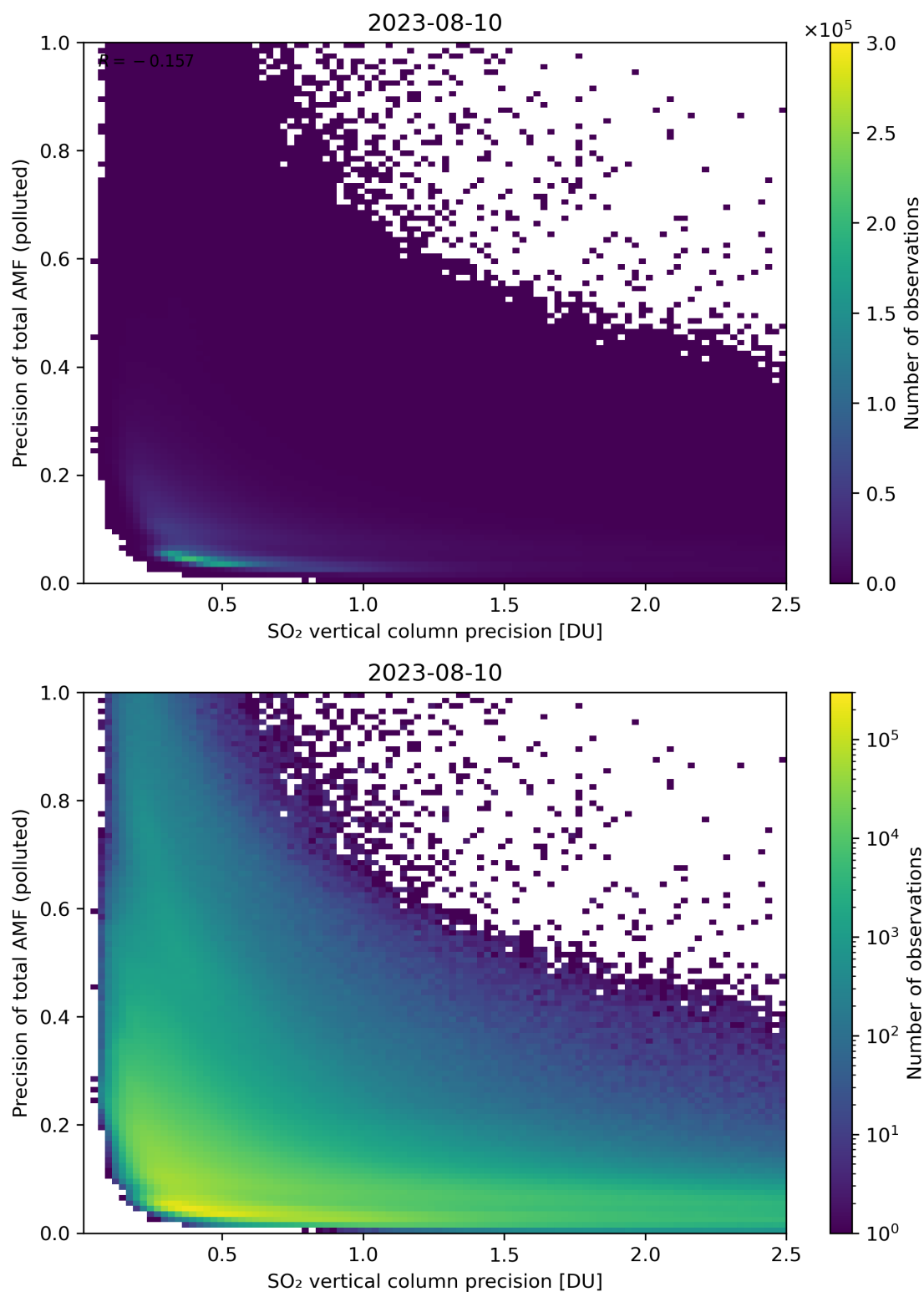


Figure 295: Scatter density plot of “SO₂ vertical column precision” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

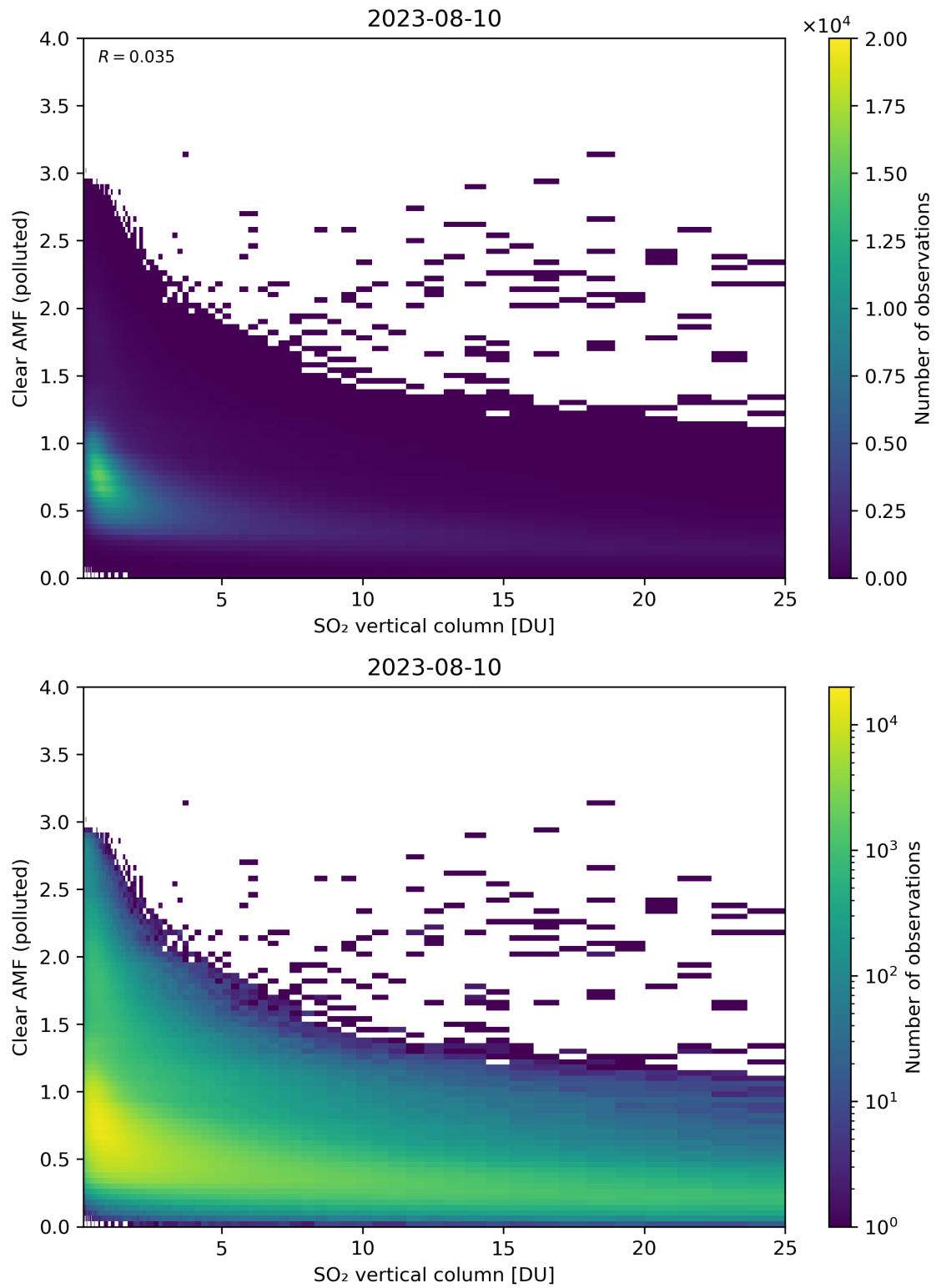


Figure 296: Scatter density plot of “SO₂ vertical column” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

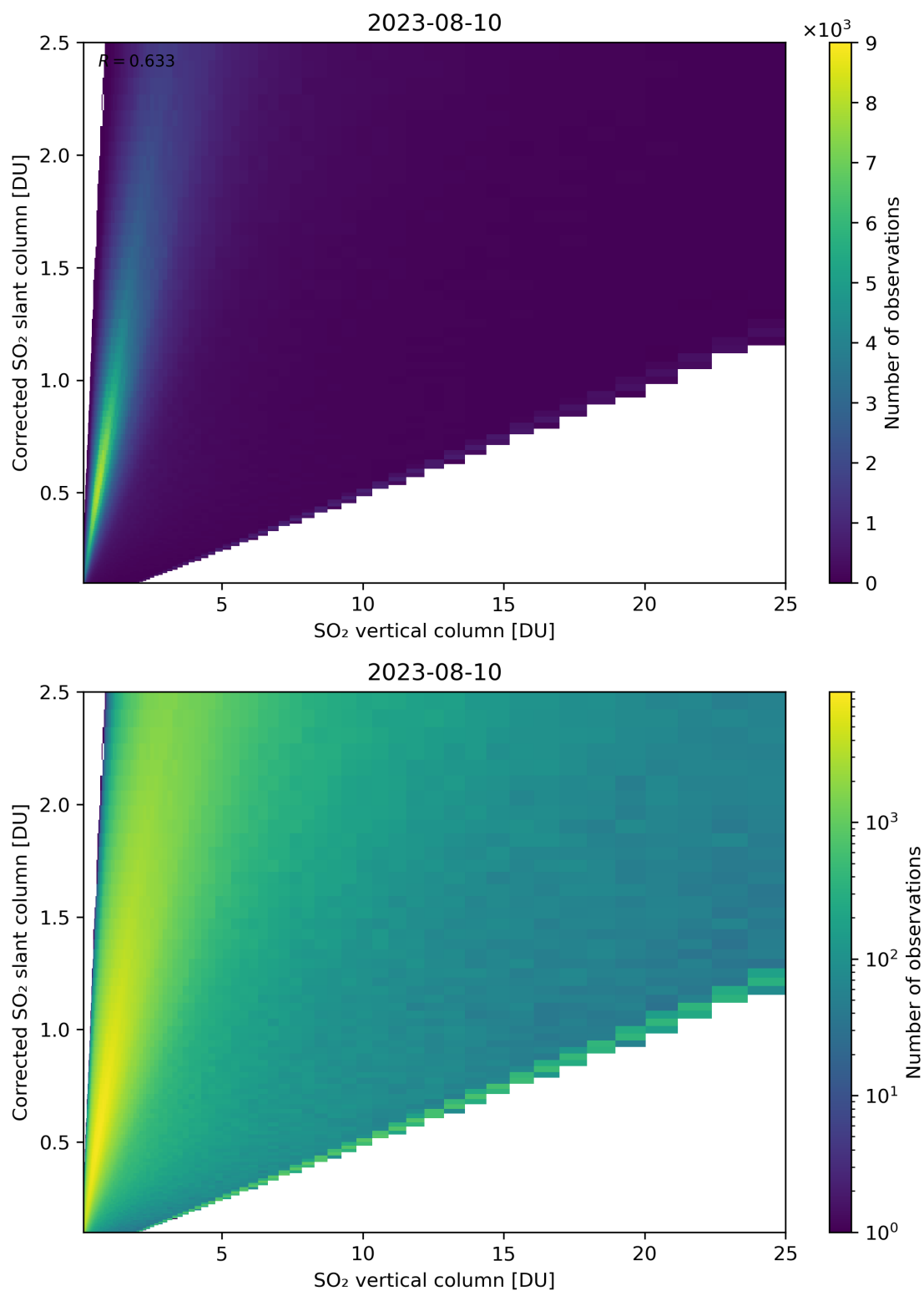


Figure 297: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

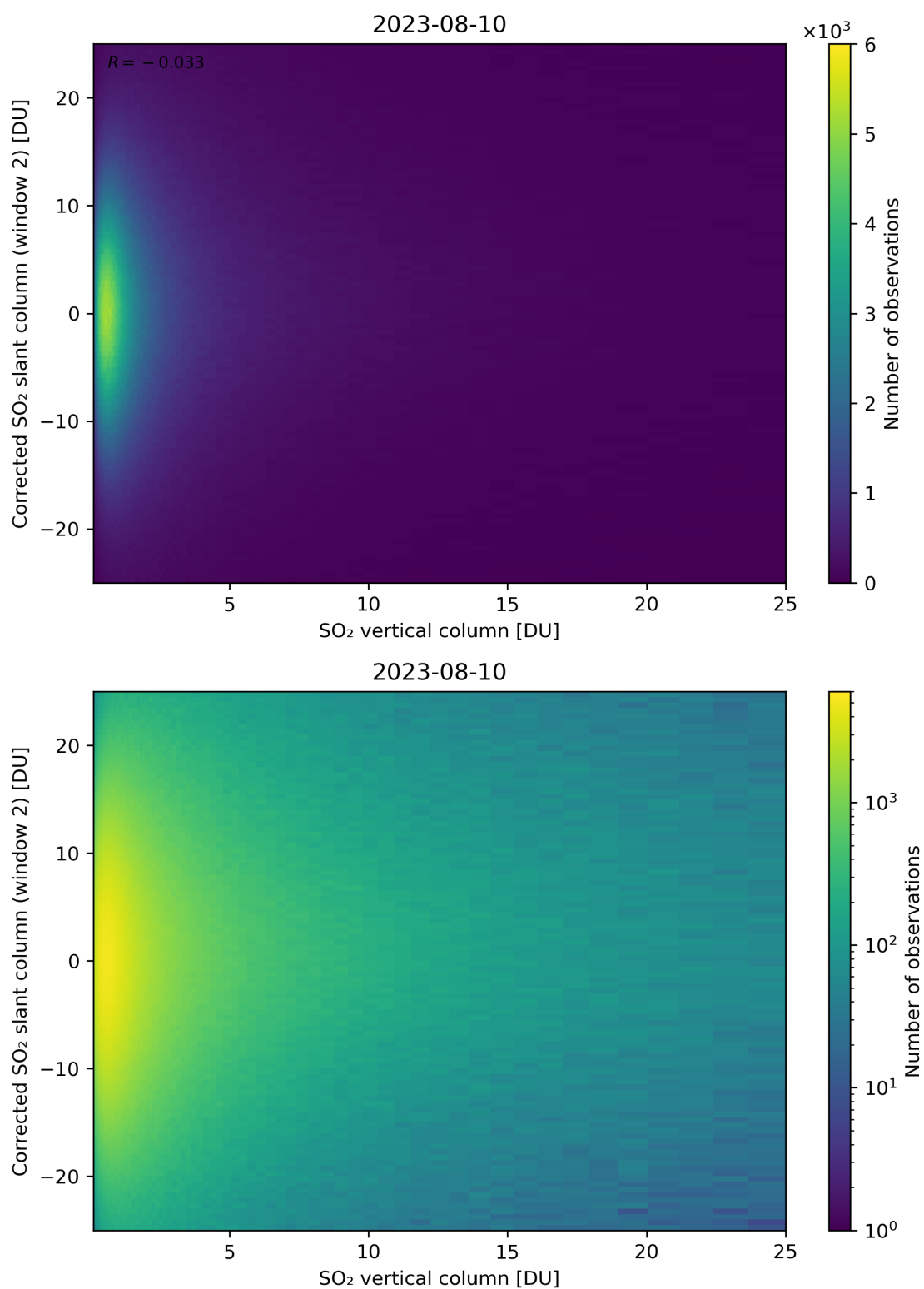


Figure 298: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

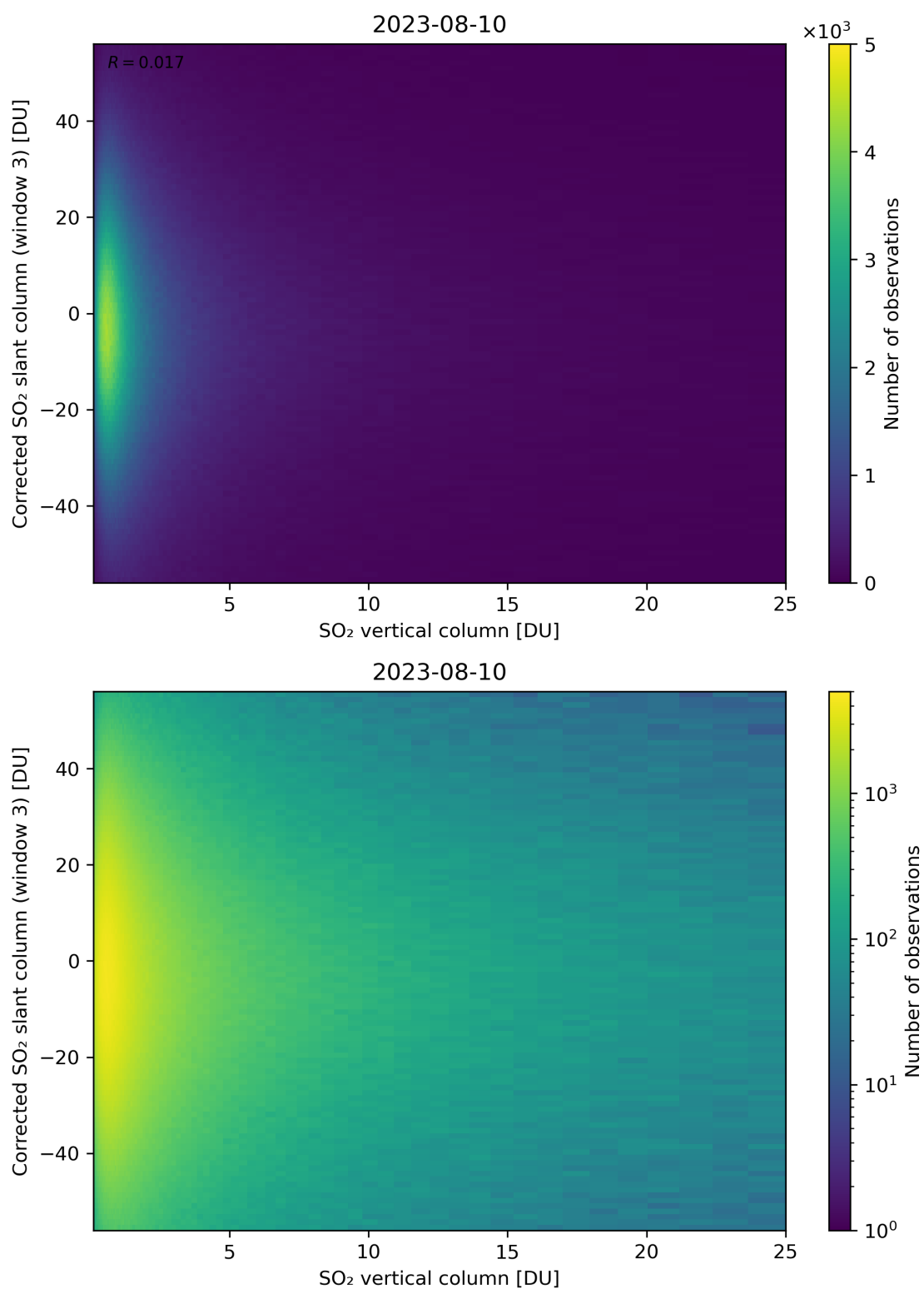


Figure 299: Scatter density plot of “SO₂ vertical column” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

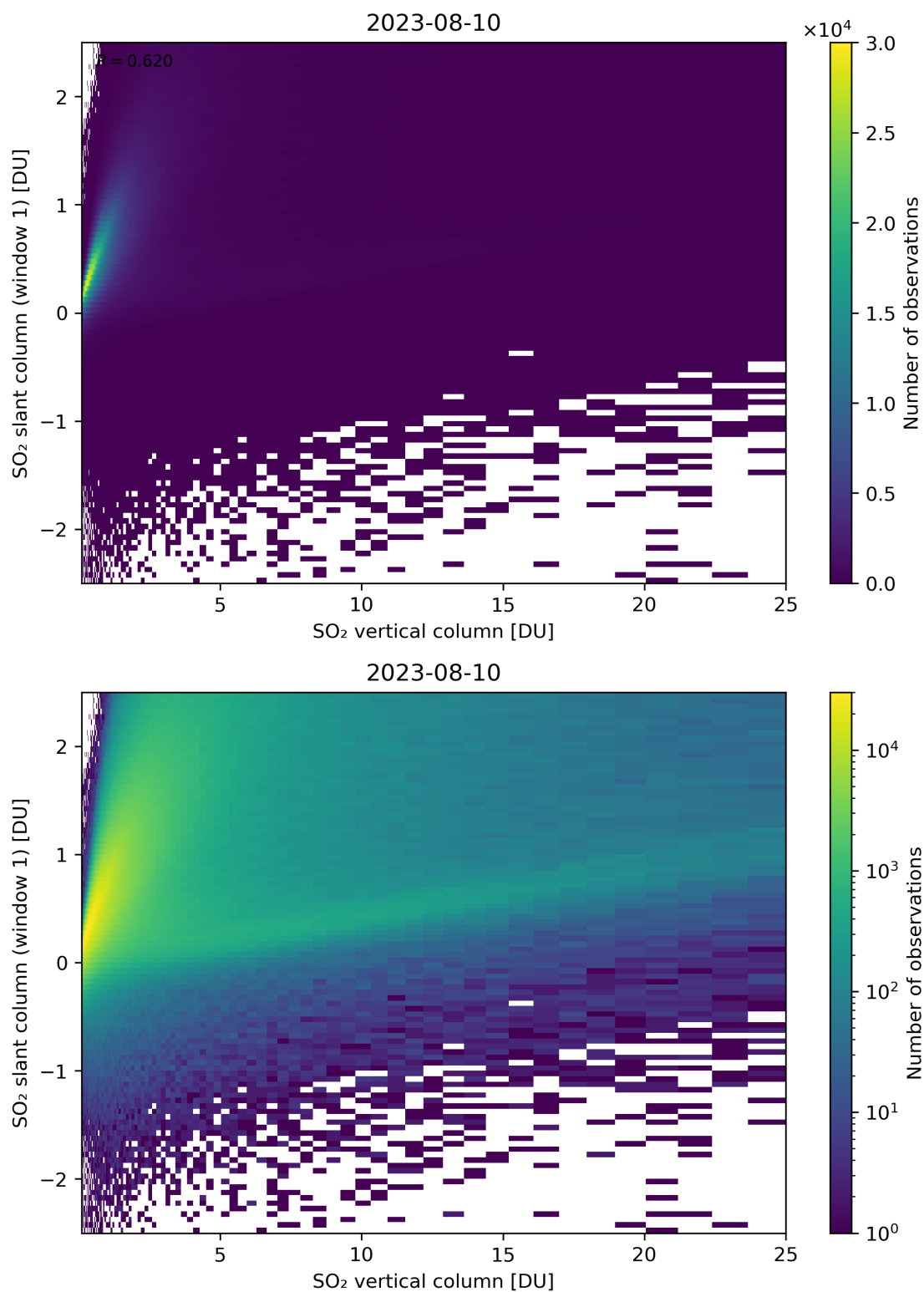


Figure 300: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

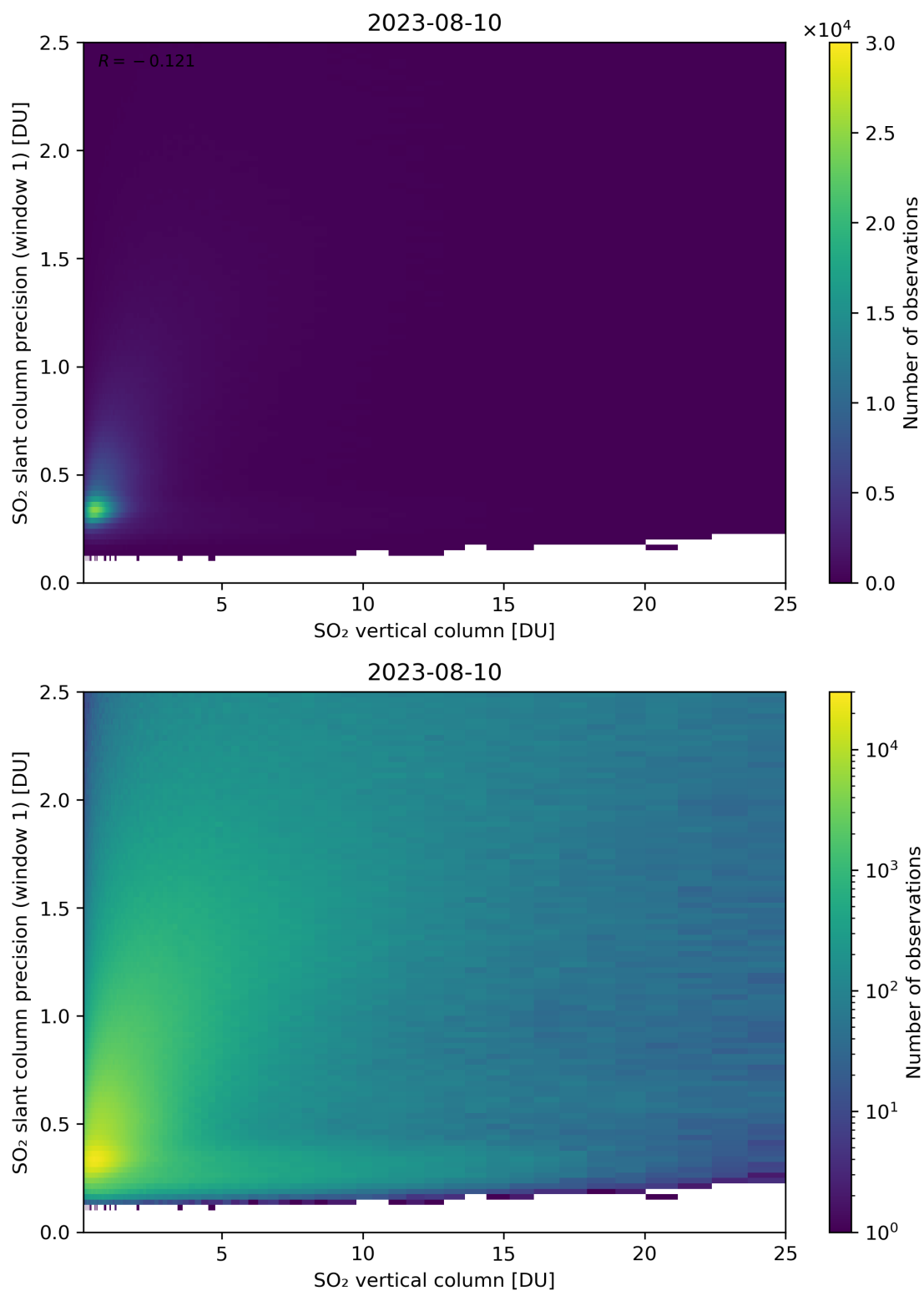


Figure 301: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

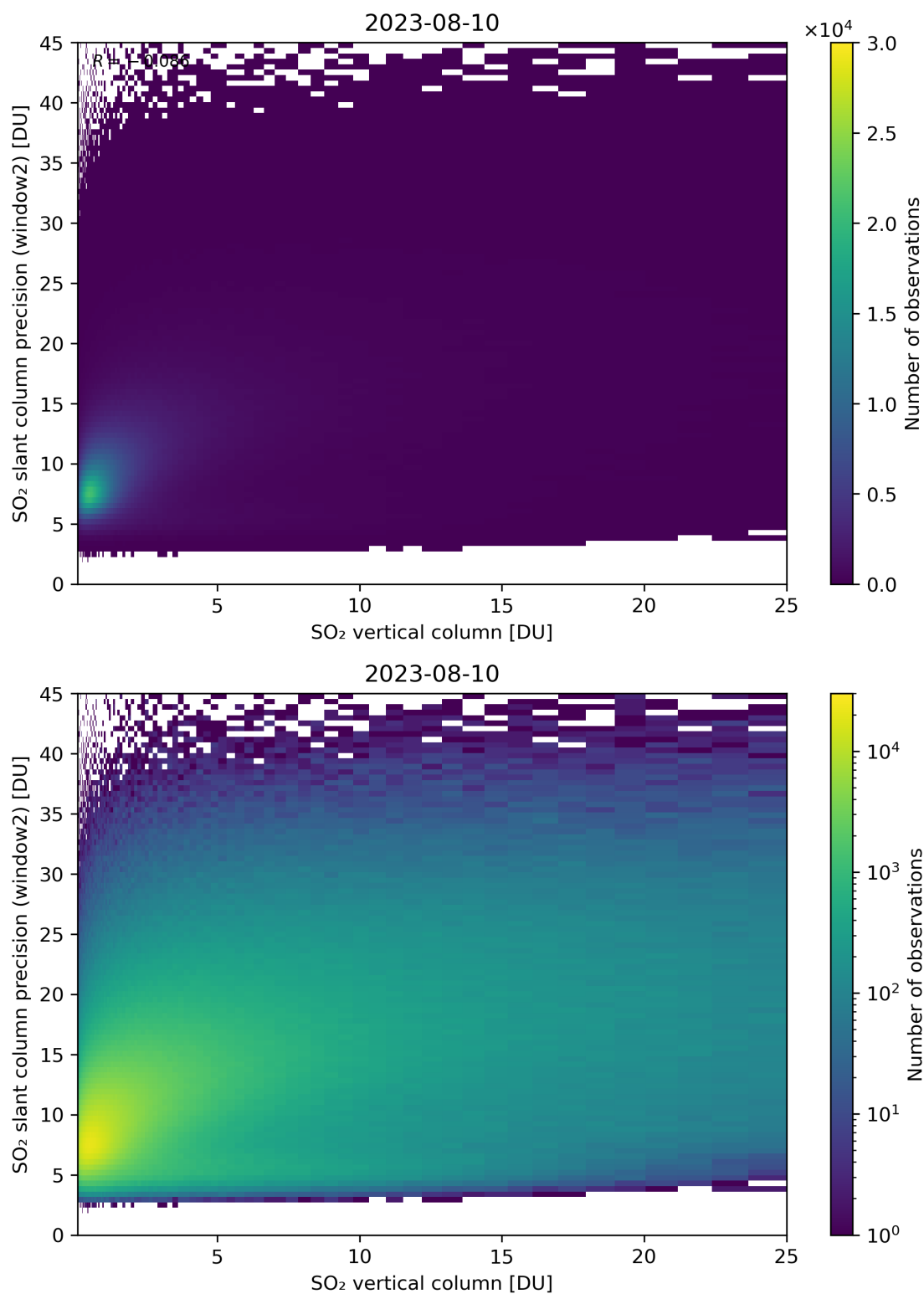


Figure 302: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

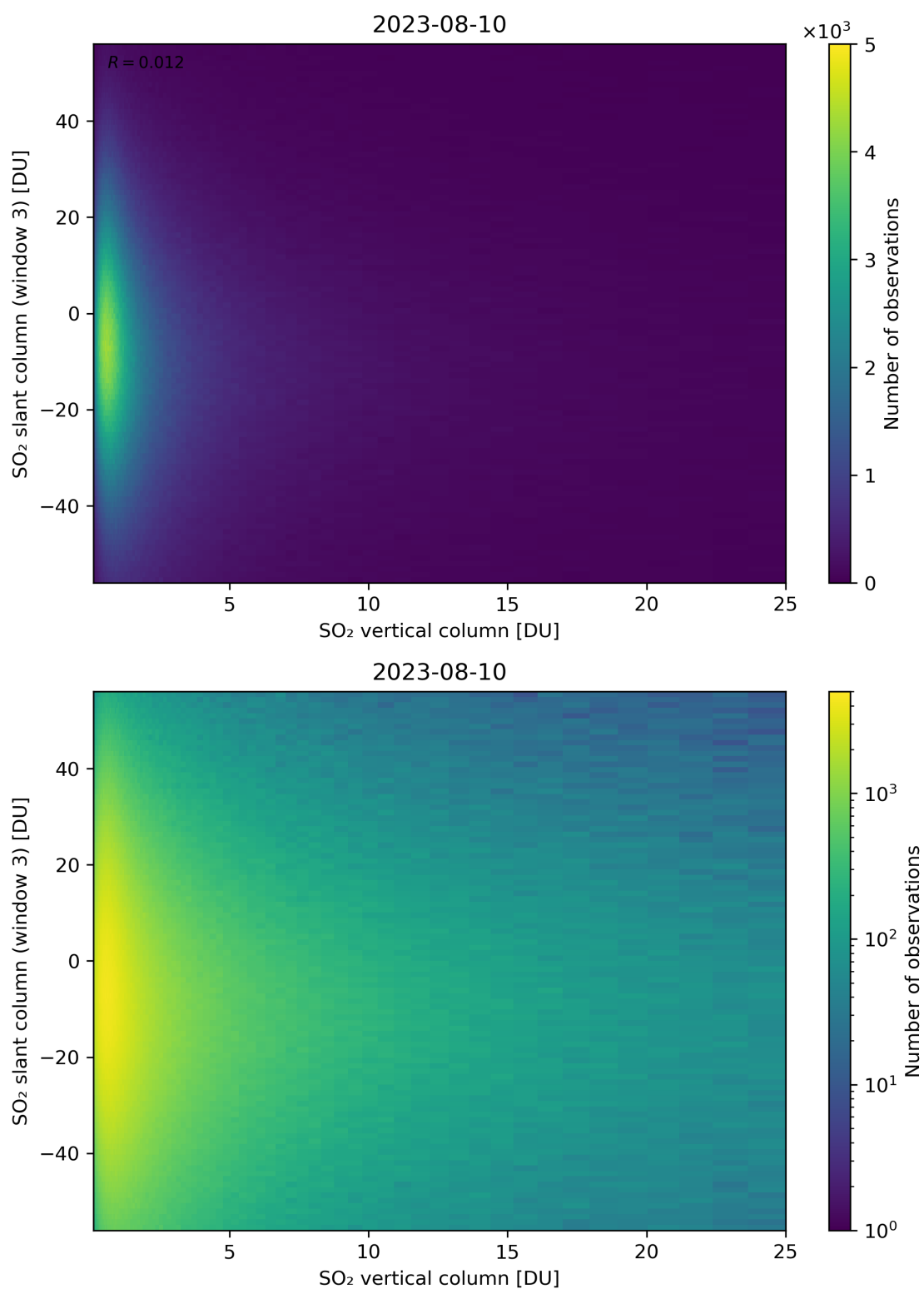


Figure 303: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

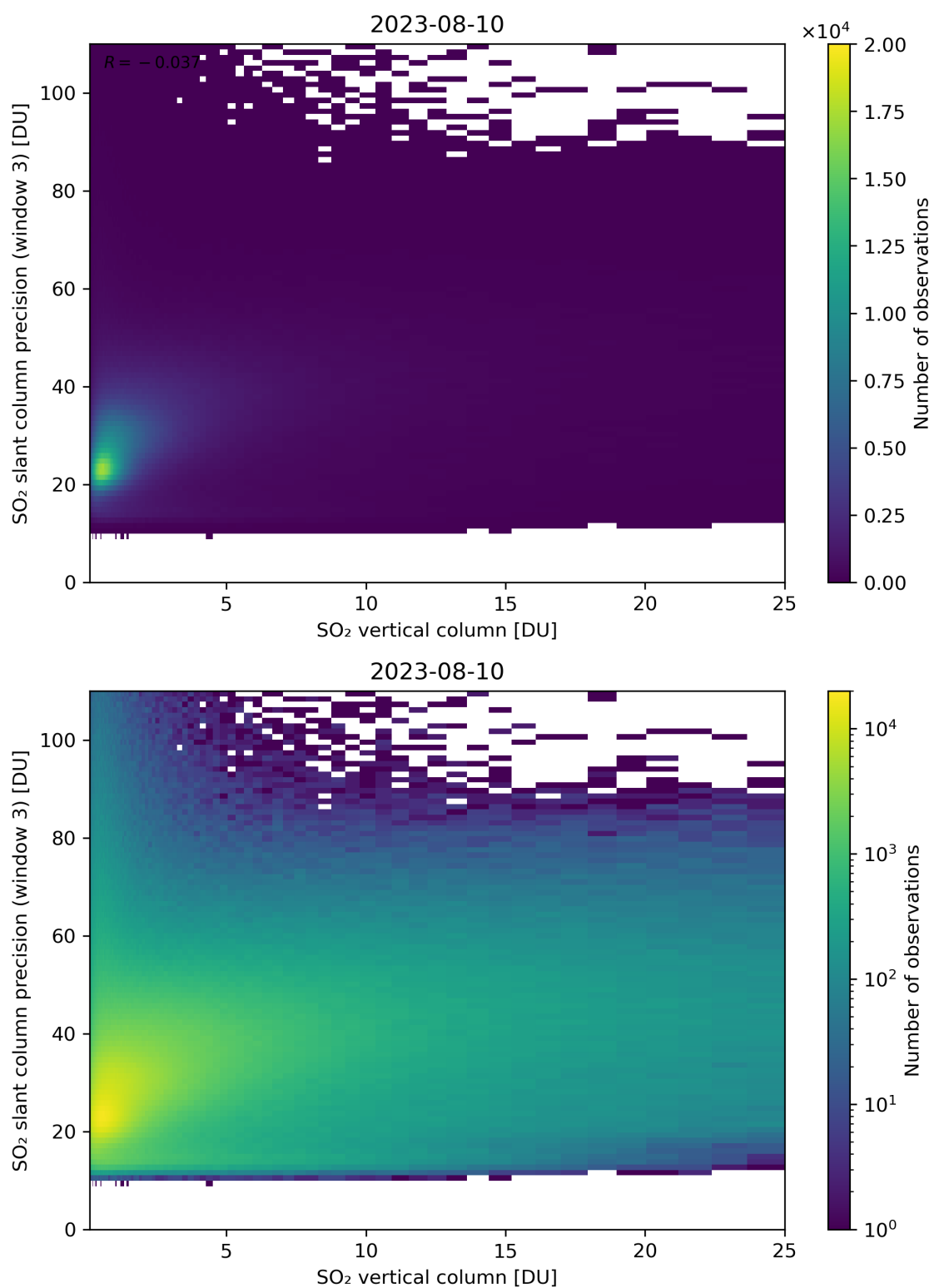


Figure 304: Scatter density plot of “SO₂ vertical column” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

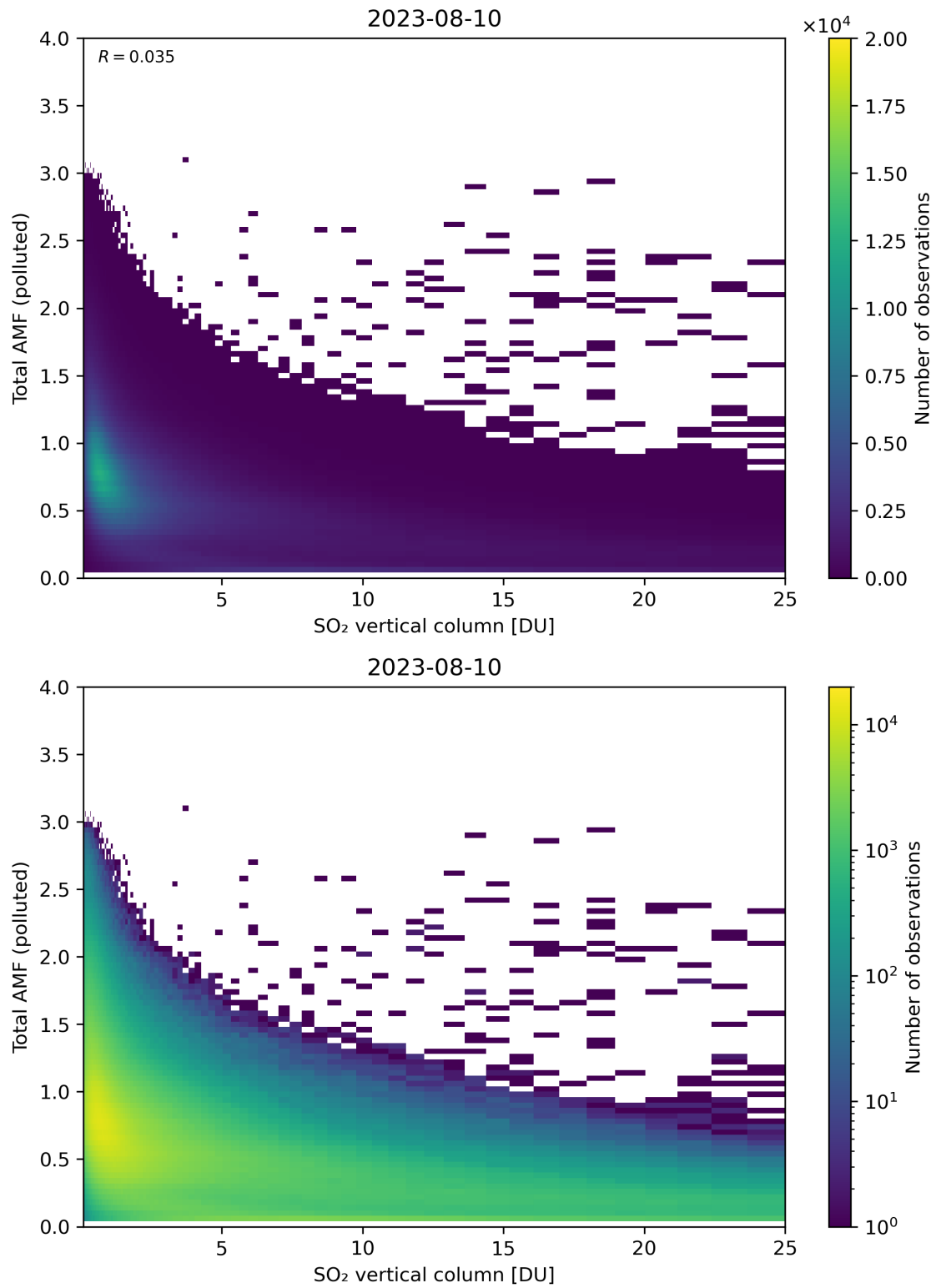


Figure 305: Scatter density plot of “SO₂ vertical column” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

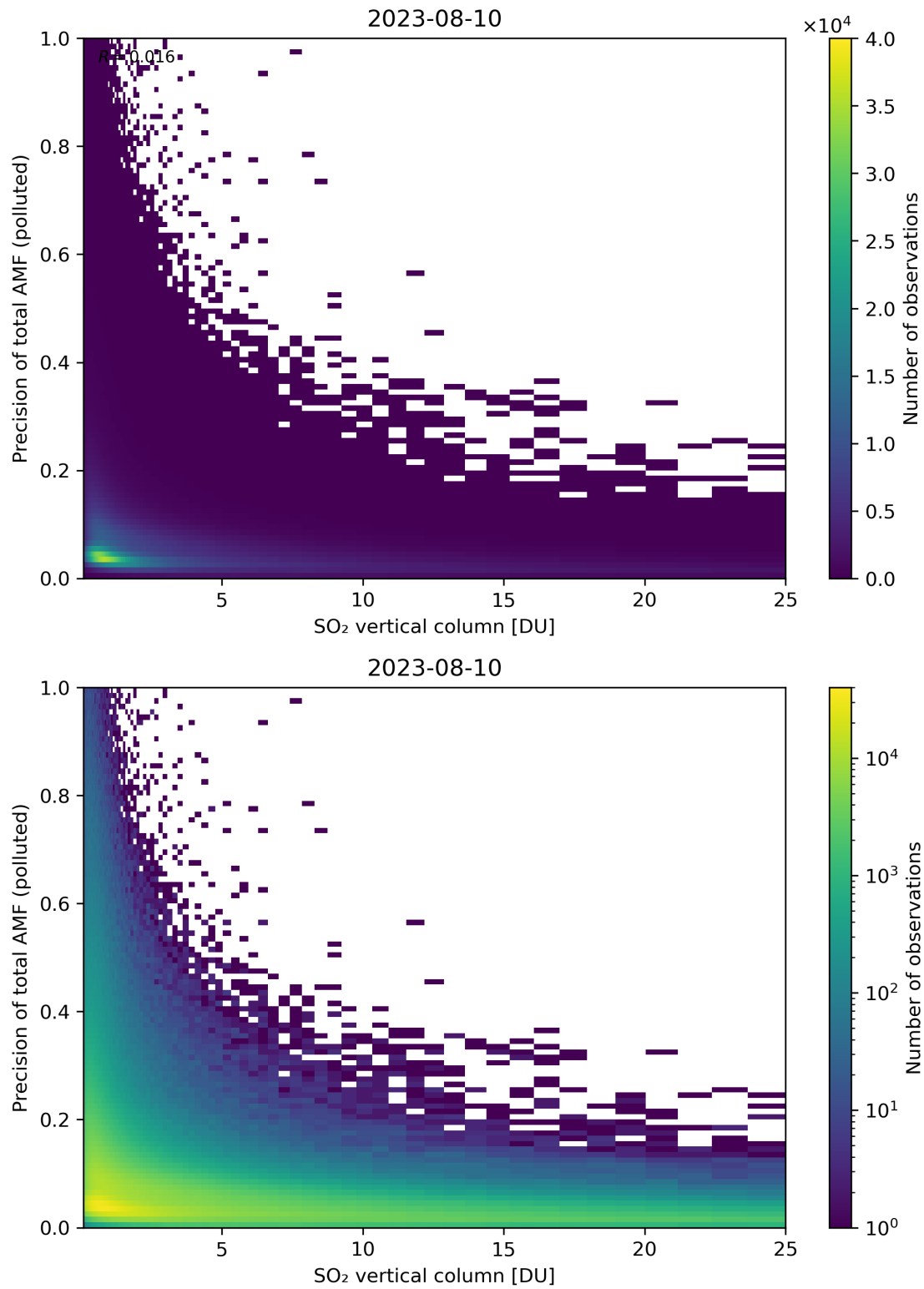


Figure 306: Scatter density plot of “SO₂ vertical column” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

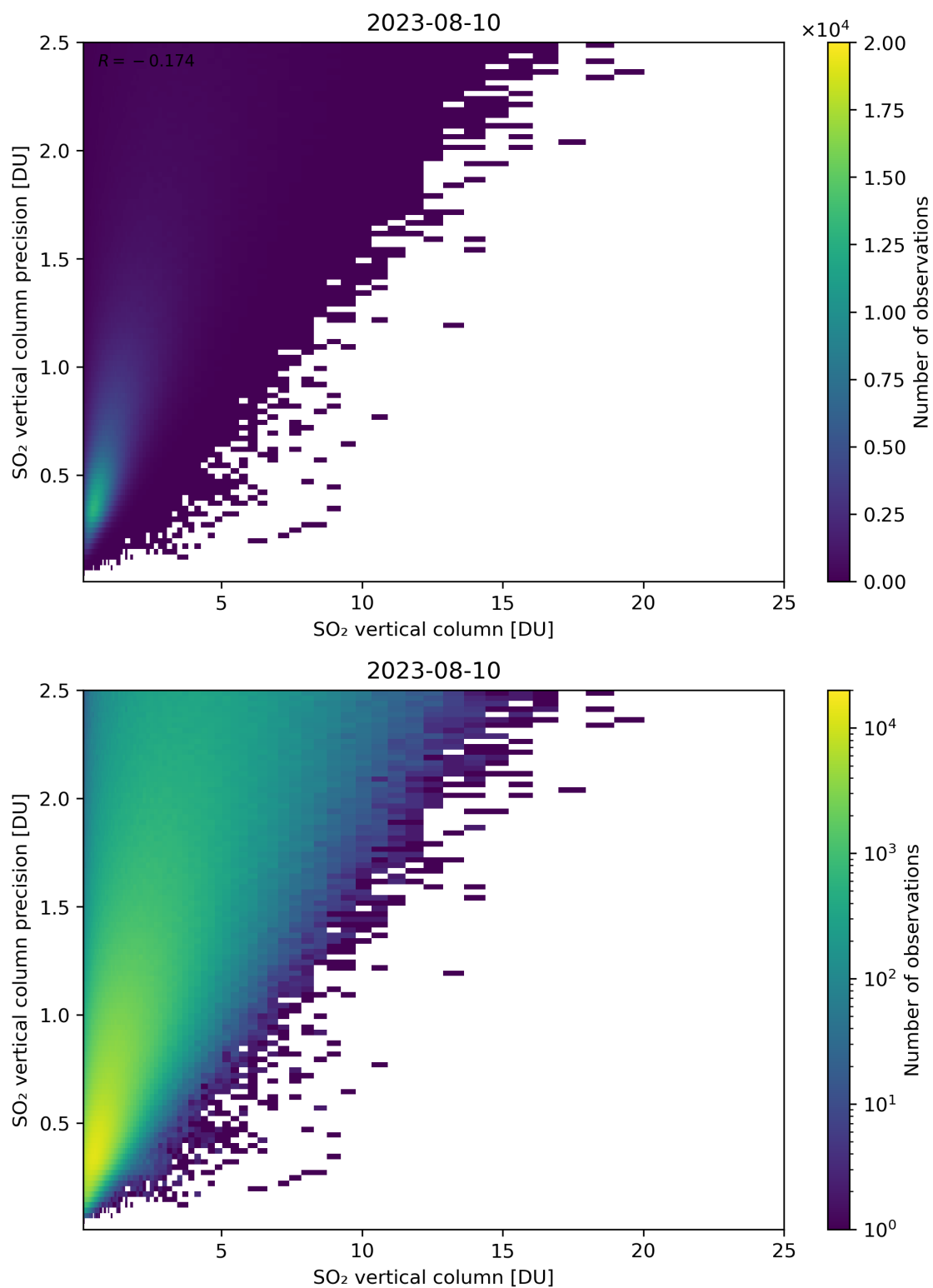


Figure 307: Scatter density plot of “SO₂ vertical column” against “SO₂ vertical column precision” for 2023-08-09 to 2023-08-11.

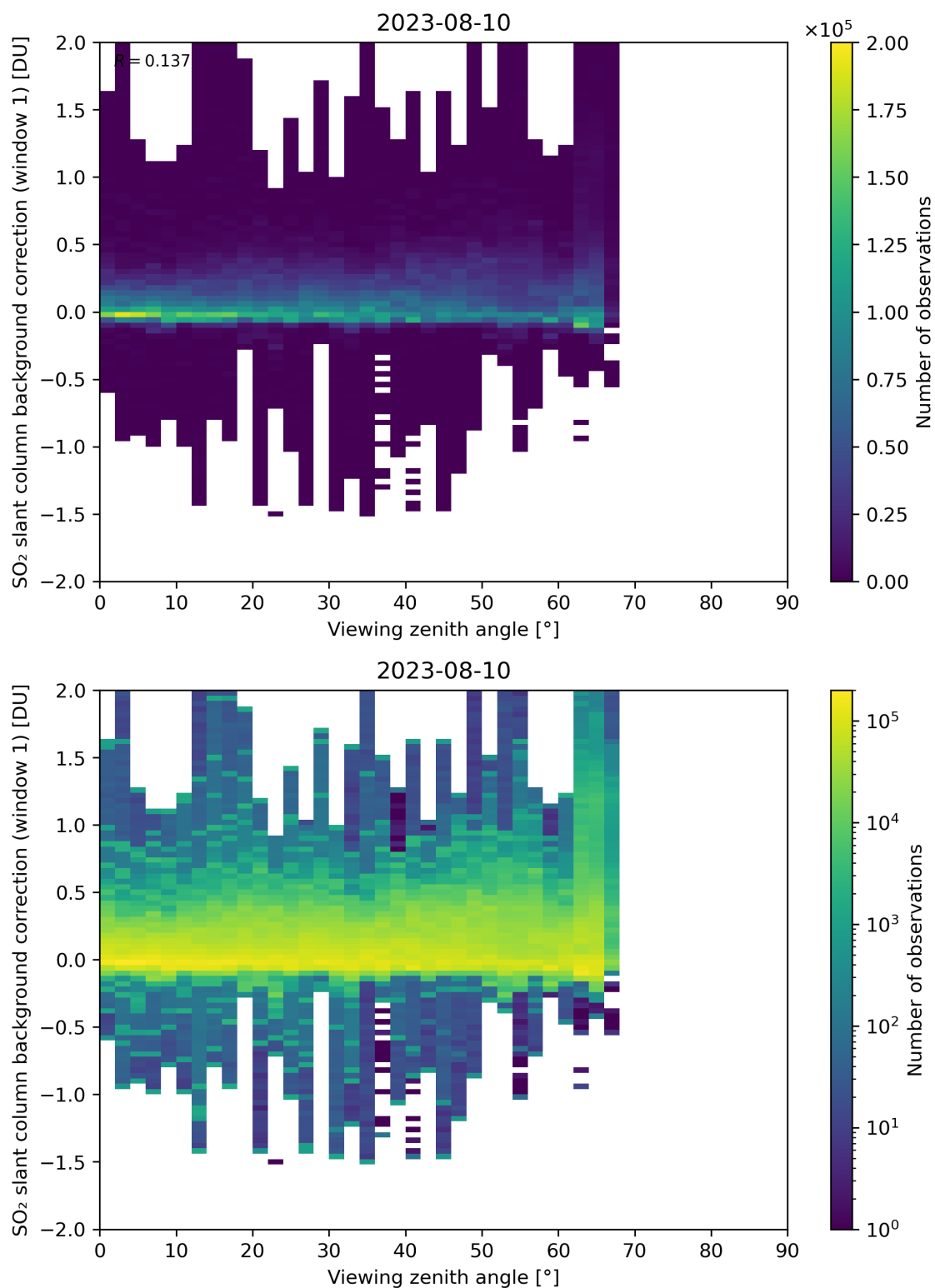


Figure 308: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 1)” for 2023-08-09 to 2023-08-11.

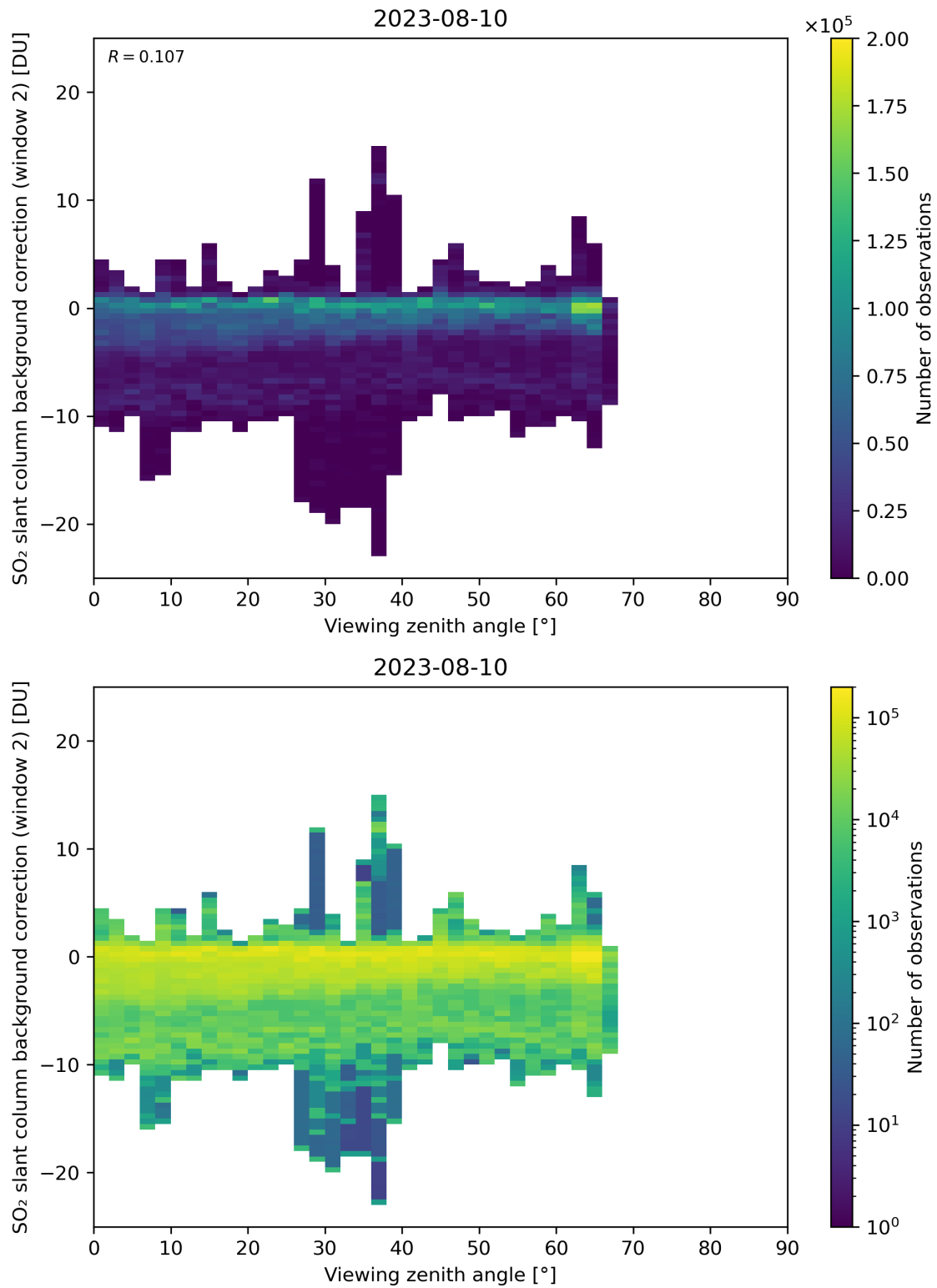


Figure 309: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 2)” for 2023-08-09 to 2023-08-11.

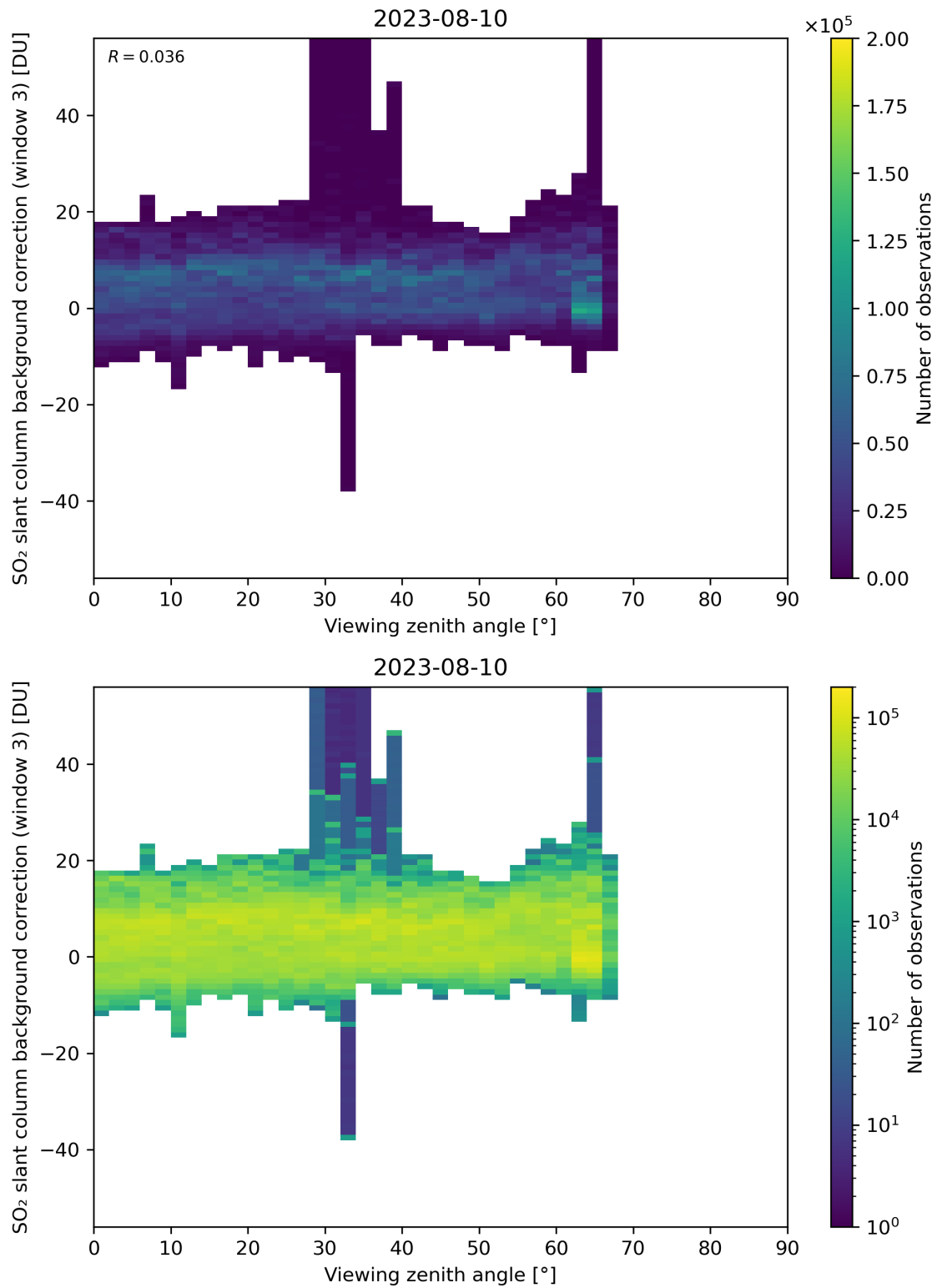


Figure 310: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column background correction (window 3)” for 2023-08-09 to 2023-08-11.

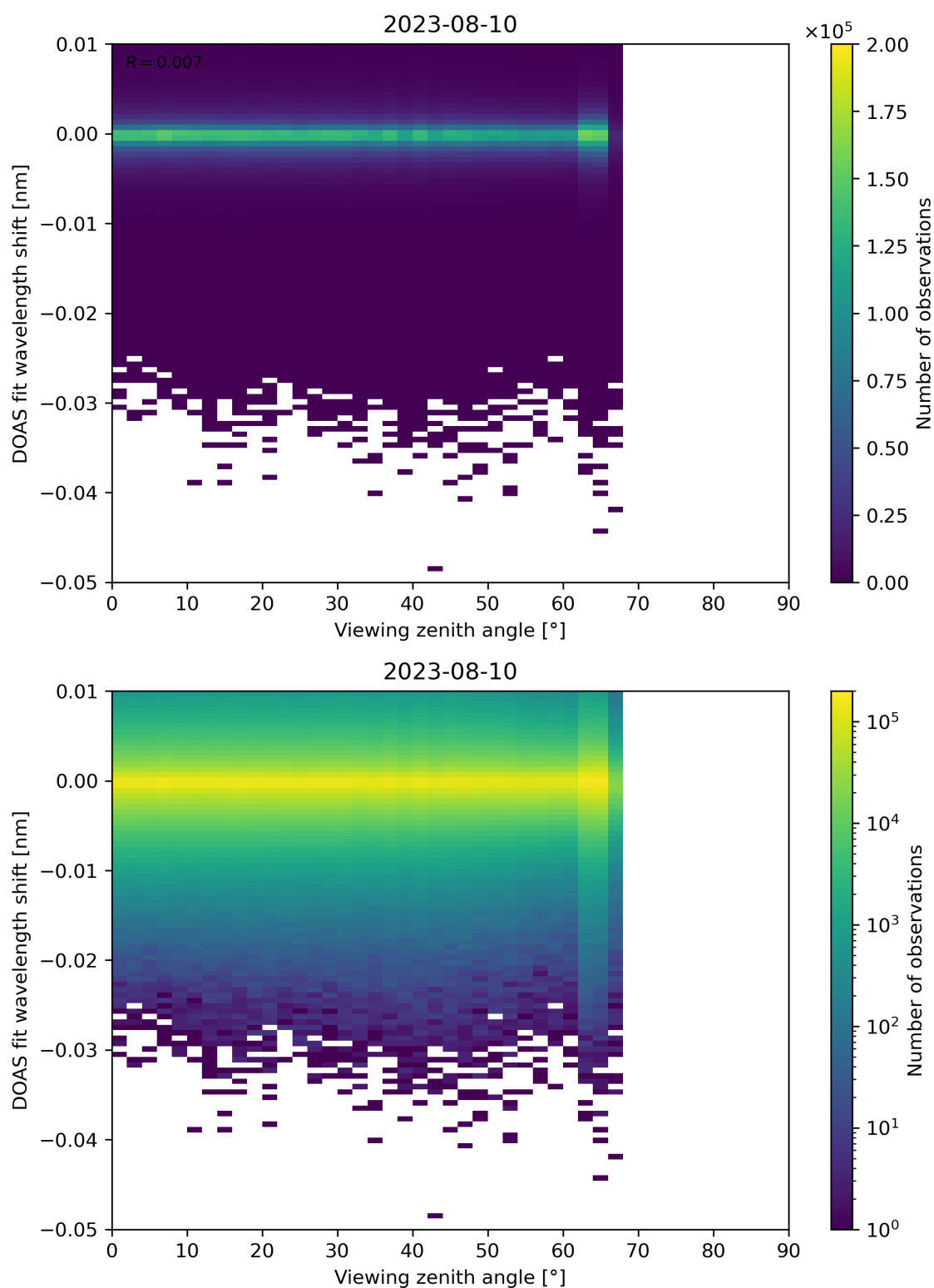


Figure 311: Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength shift” for 2023-08-09 to 2023-08-11.

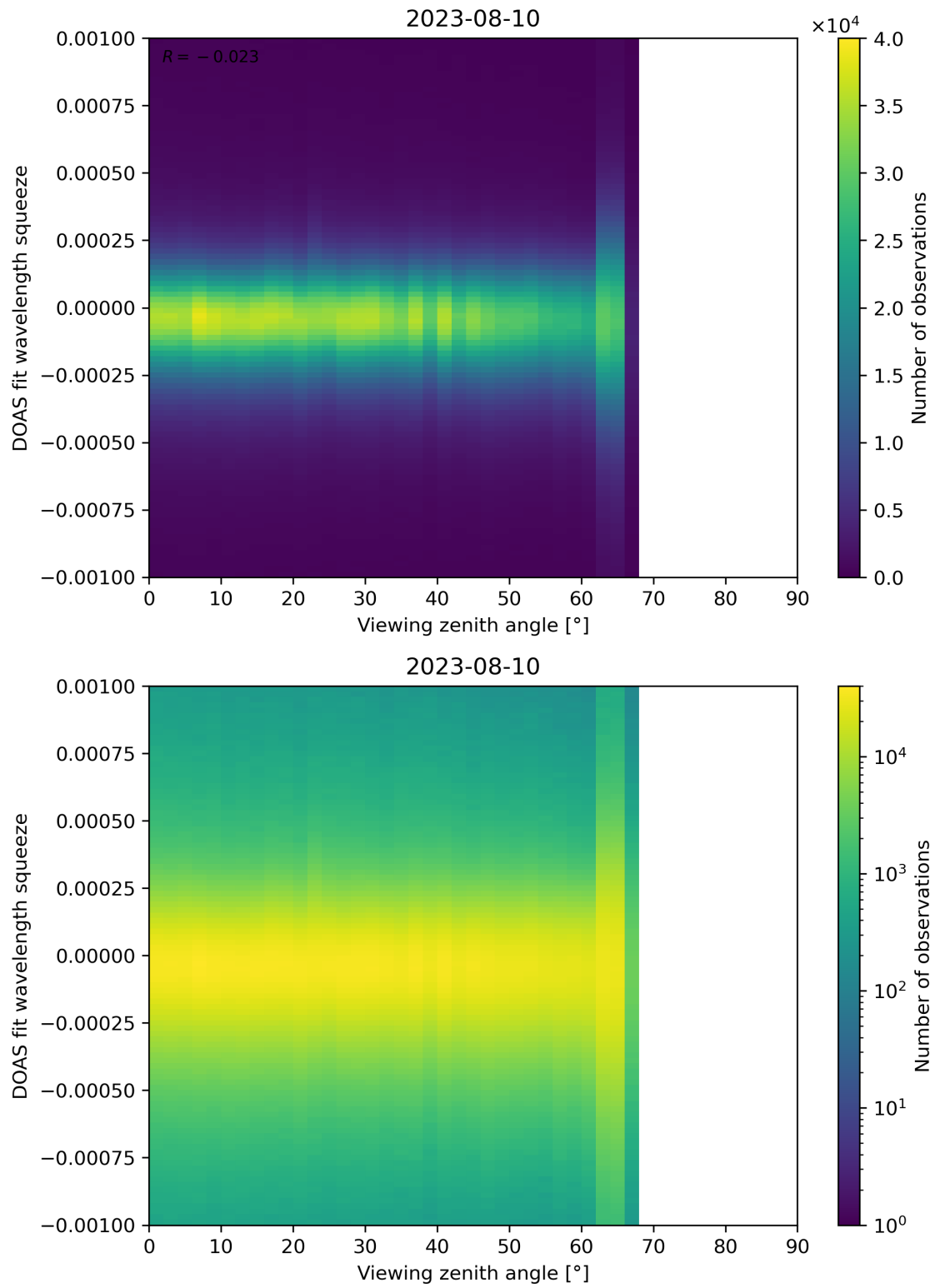


Figure 312: Scatter density plot of “Viewing zenith angle” against “DOAS fit wavelength squeeze” for 2023-08-09 to 2023-08-11.

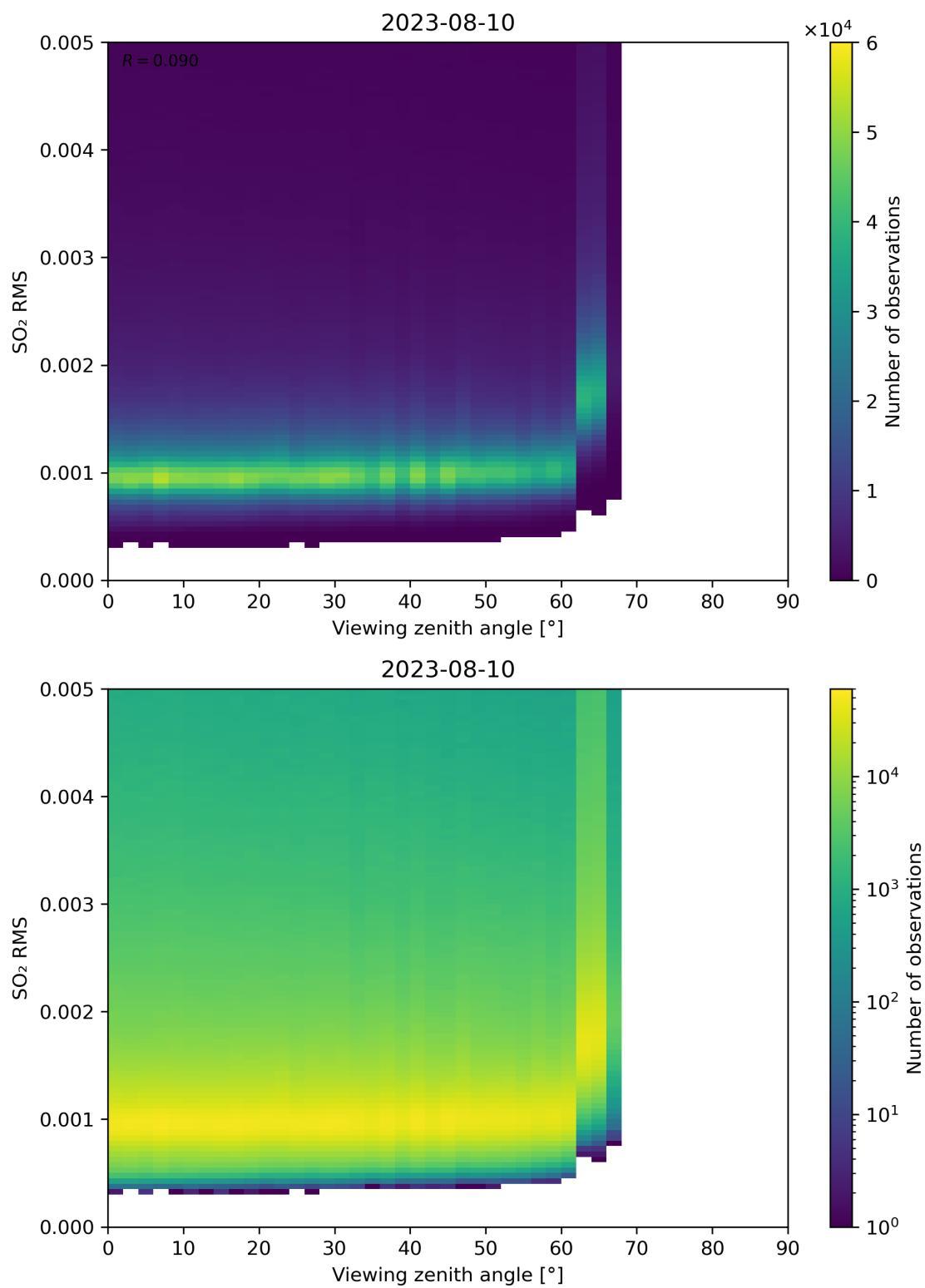


Figure 313: Scatter density plot of “Viewing zenith angle” against “SO₂ RMS” for 2023-08-09 to 2023-08-11.

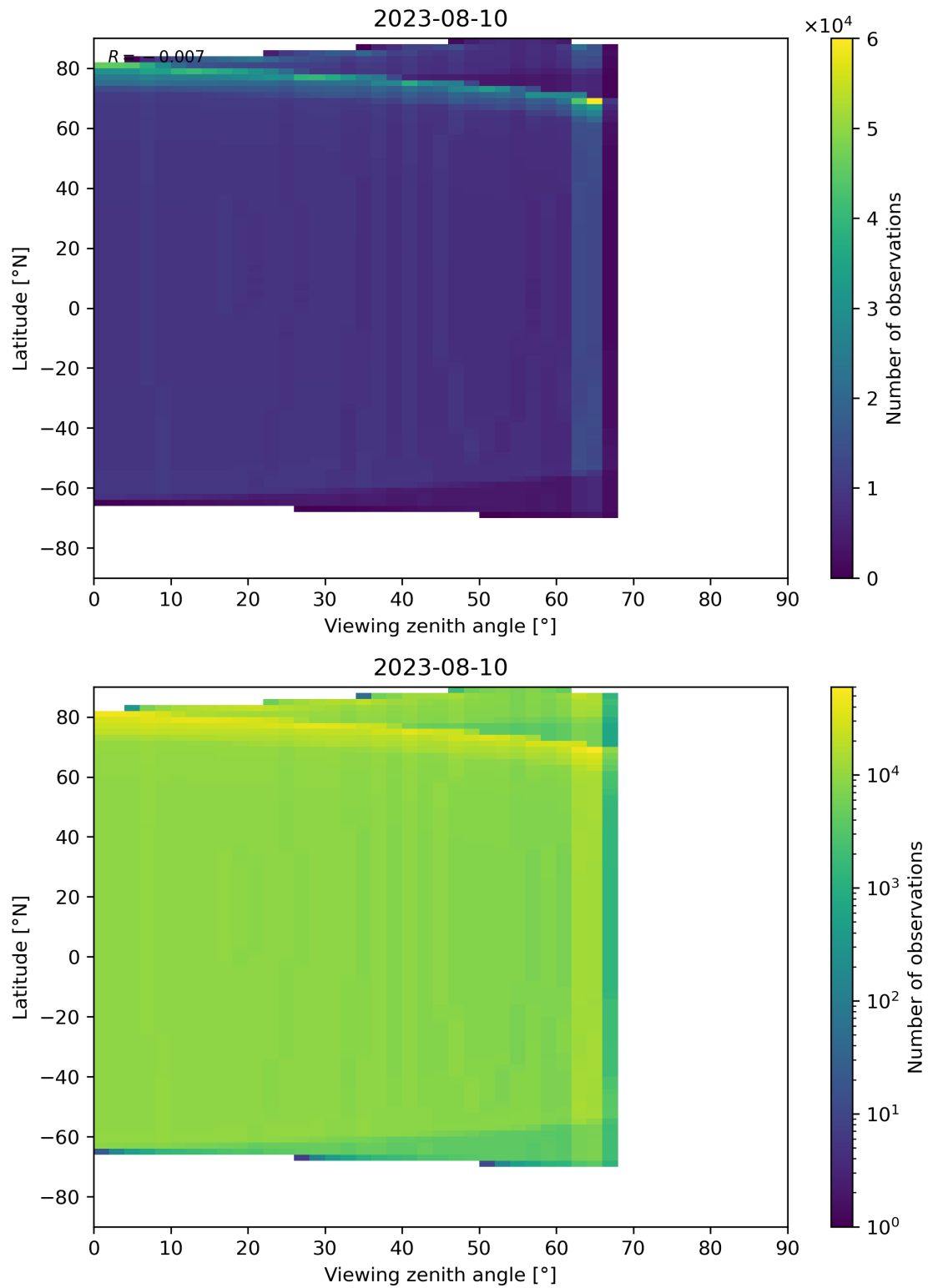


Figure 314: Scatter density plot of “Viewing zenith angle” against “Latitude” for 2023-08-09 to 2023-08-11.

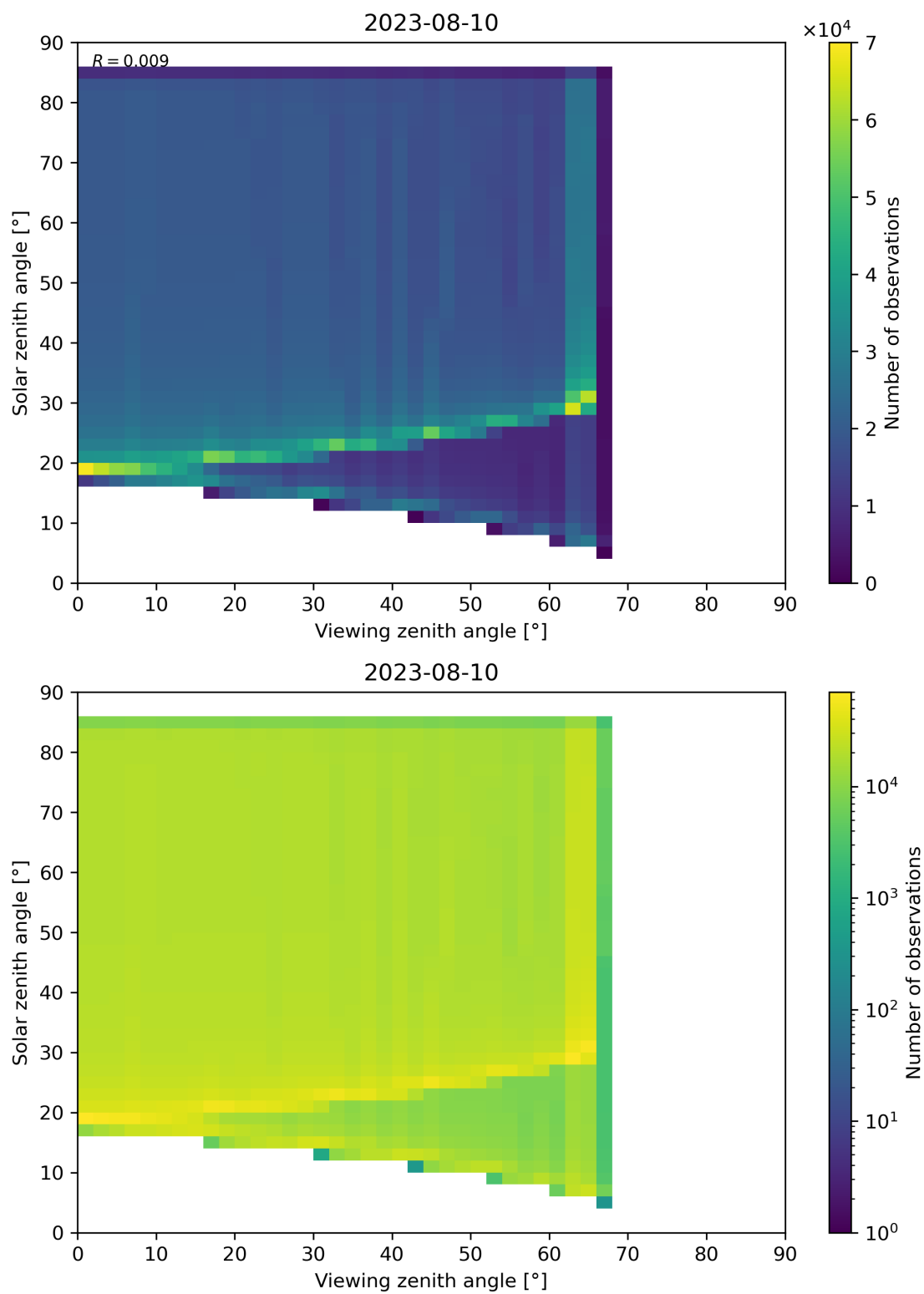


Figure 315: Scatter density plot of “Viewing zenith angle” against “Solar zenith angle” for 2023-08-09 to 2023-08-11.

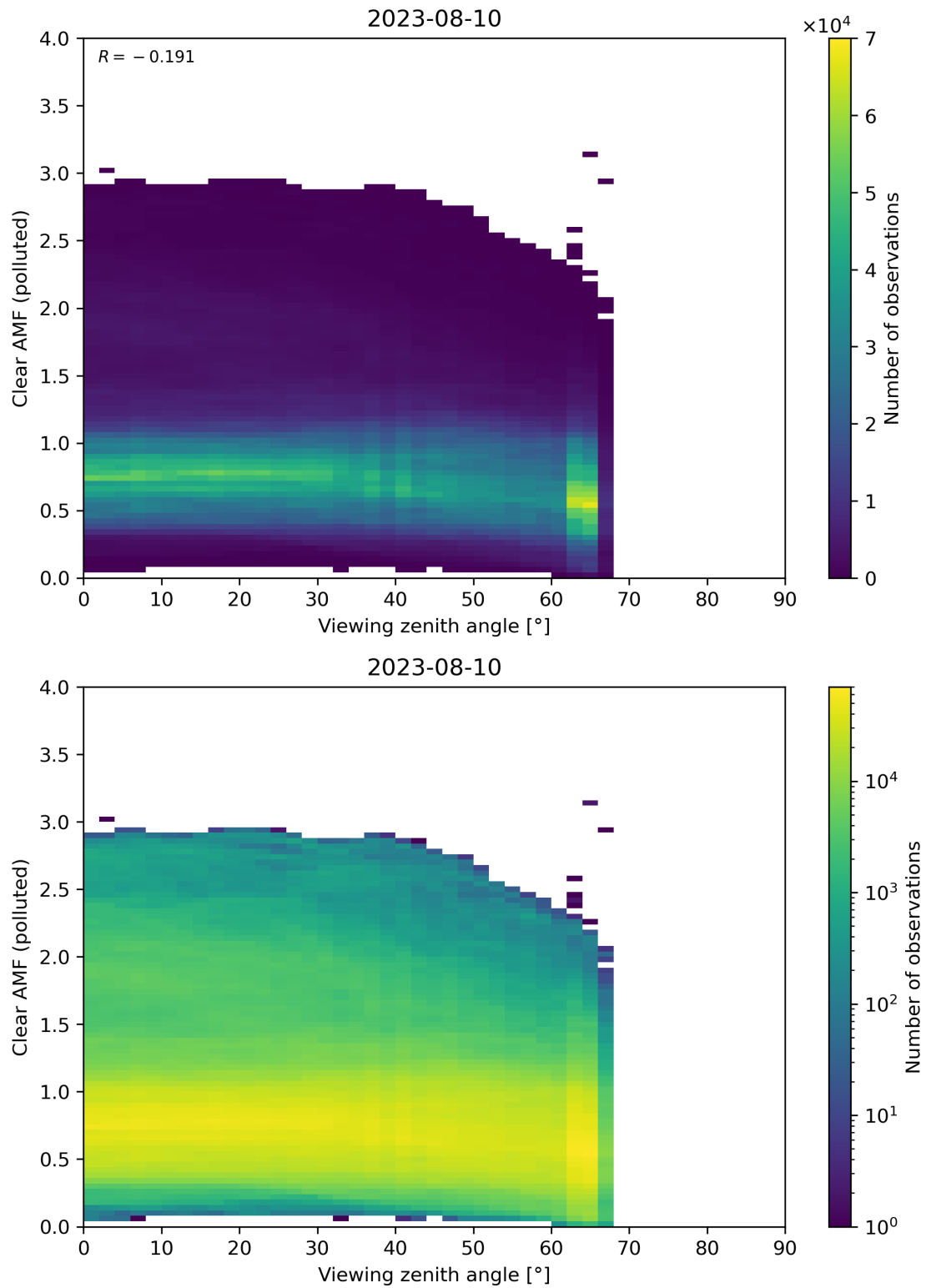


Figure 316: Scatter density plot of “Viewing zenith angle” against “Clear AMF (polluted)” for 2023-08-09 to 2023-08-11.

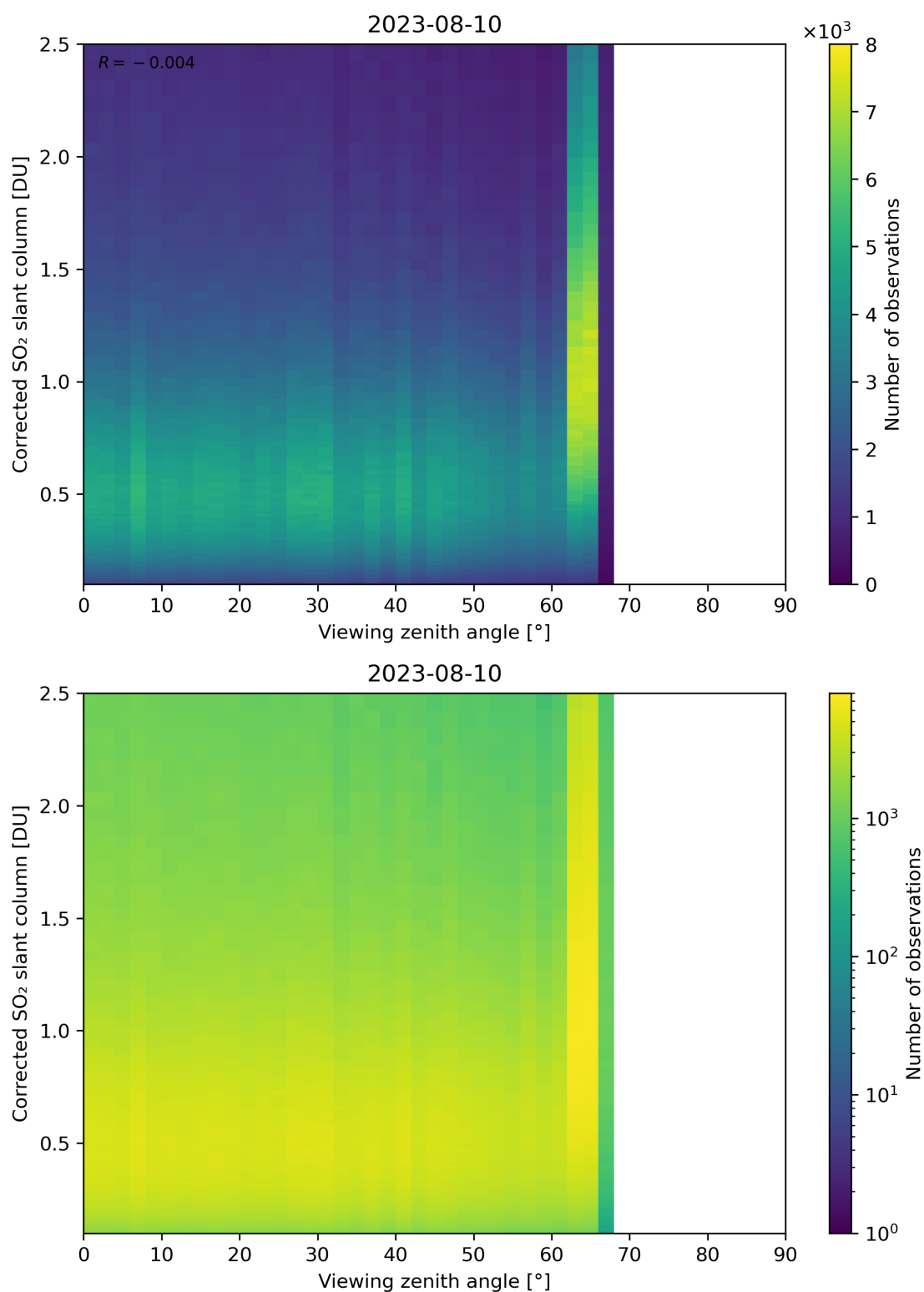


Figure 317: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column” for 2023-08-09 to 2023-08-11.

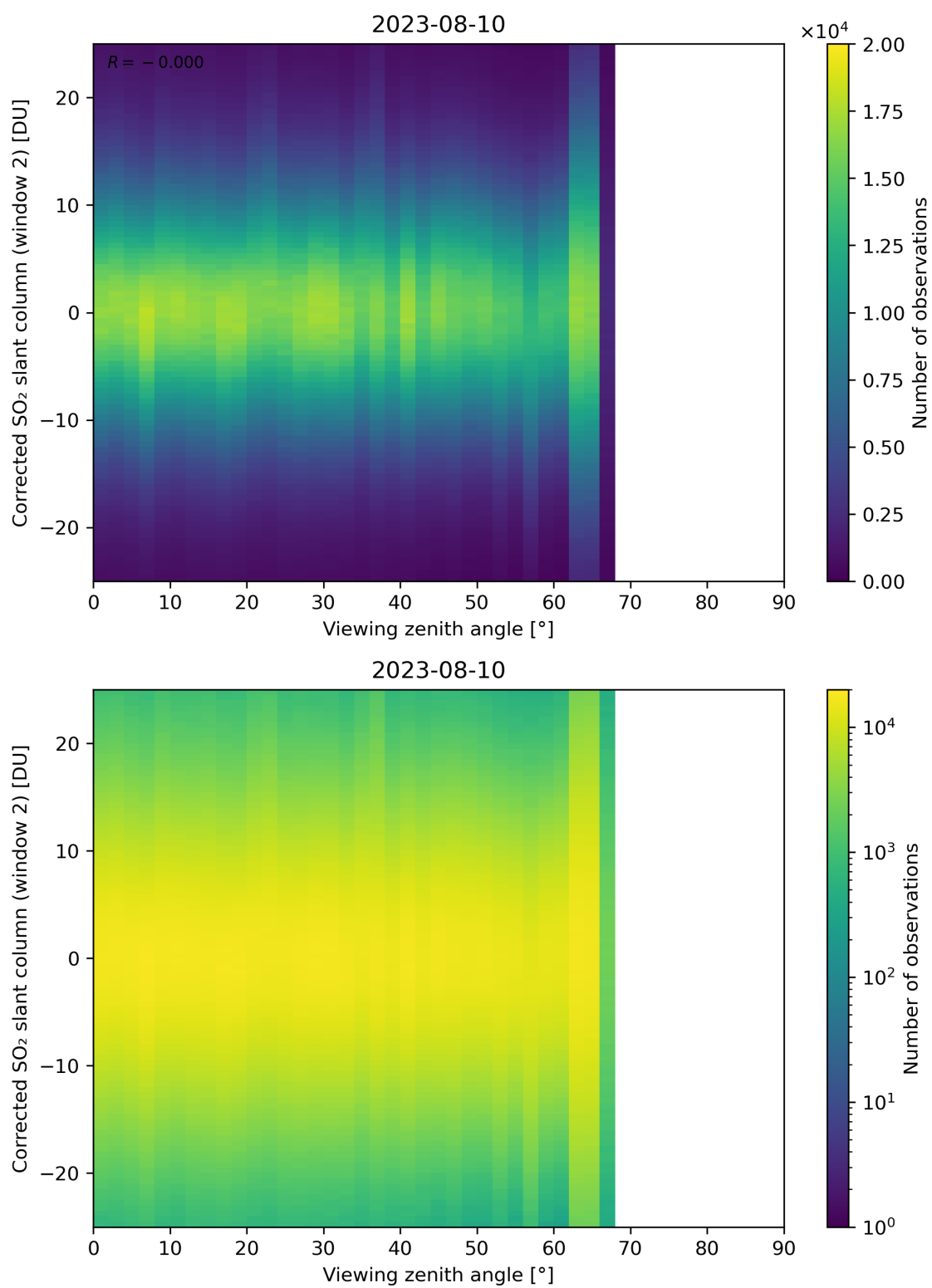


Figure 318: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column (window 2)” for 2023-08-09 to 2023-08-11.

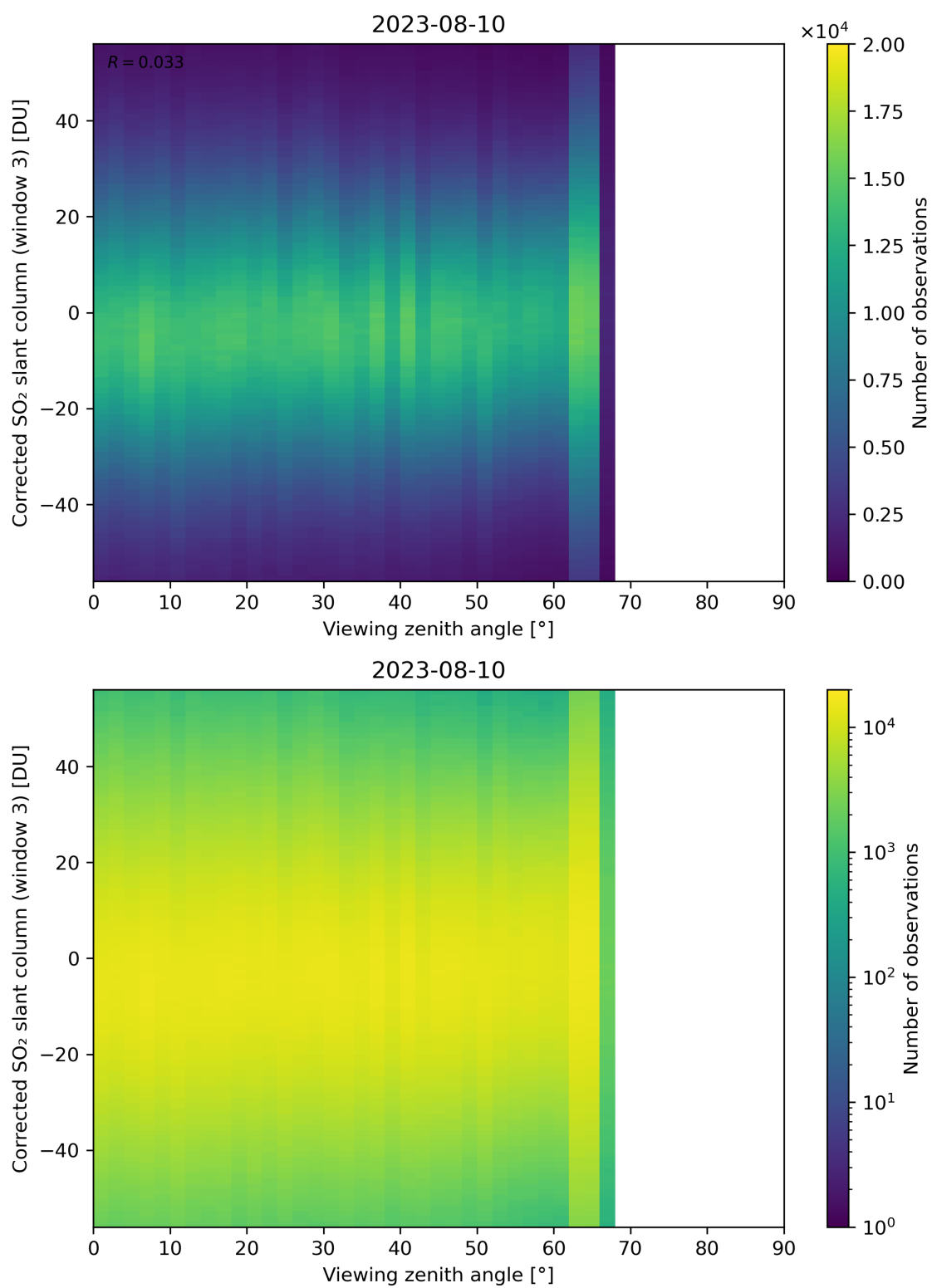


Figure 319: Scatter density plot of “Viewing zenith angle” against “Corrected SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

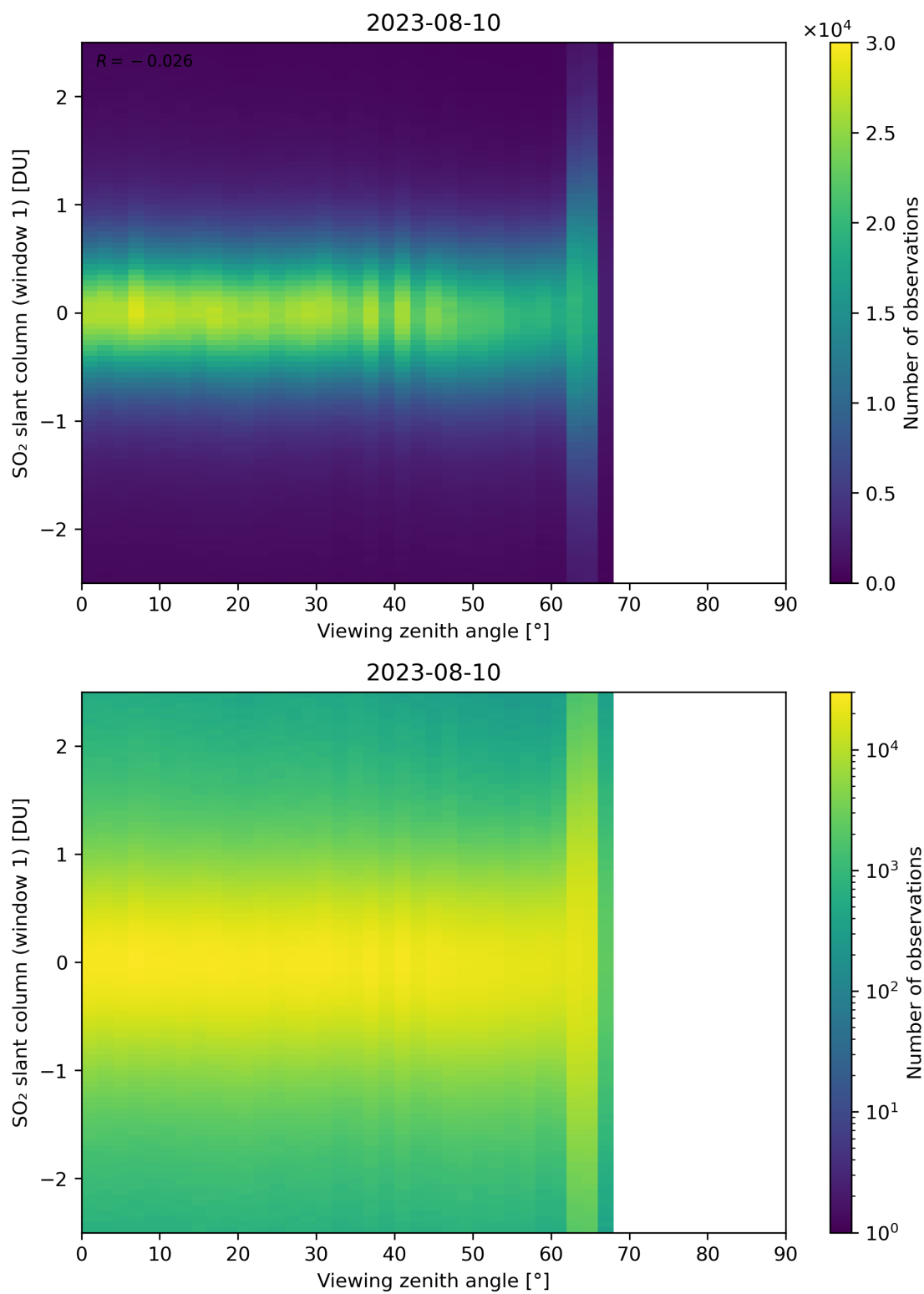


Figure 320: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column (window 1)” for 2023-08-09 to 2023-08-11.

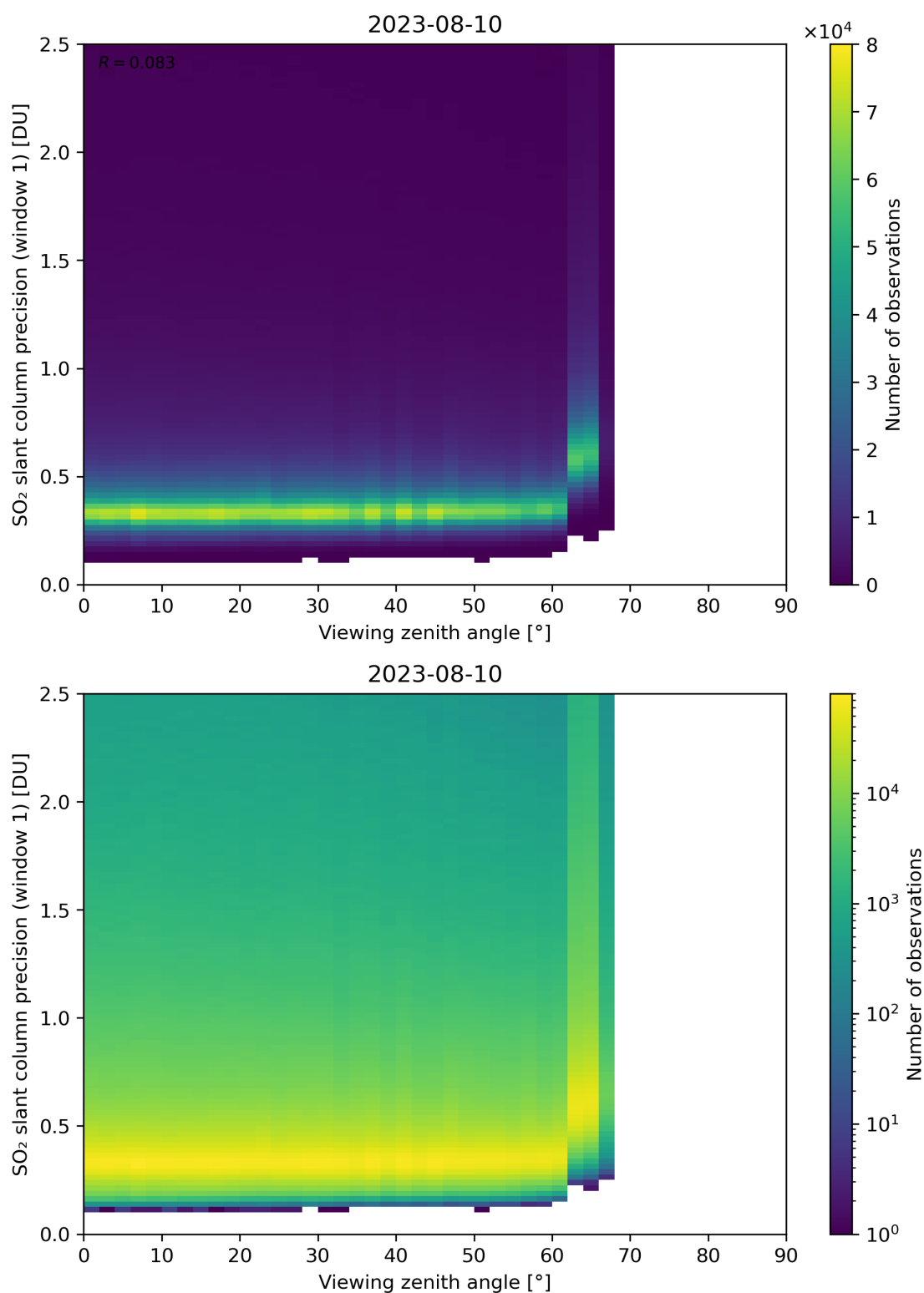


Figure 321: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window 1)” for 2023-08-09 to 2023-08-11.

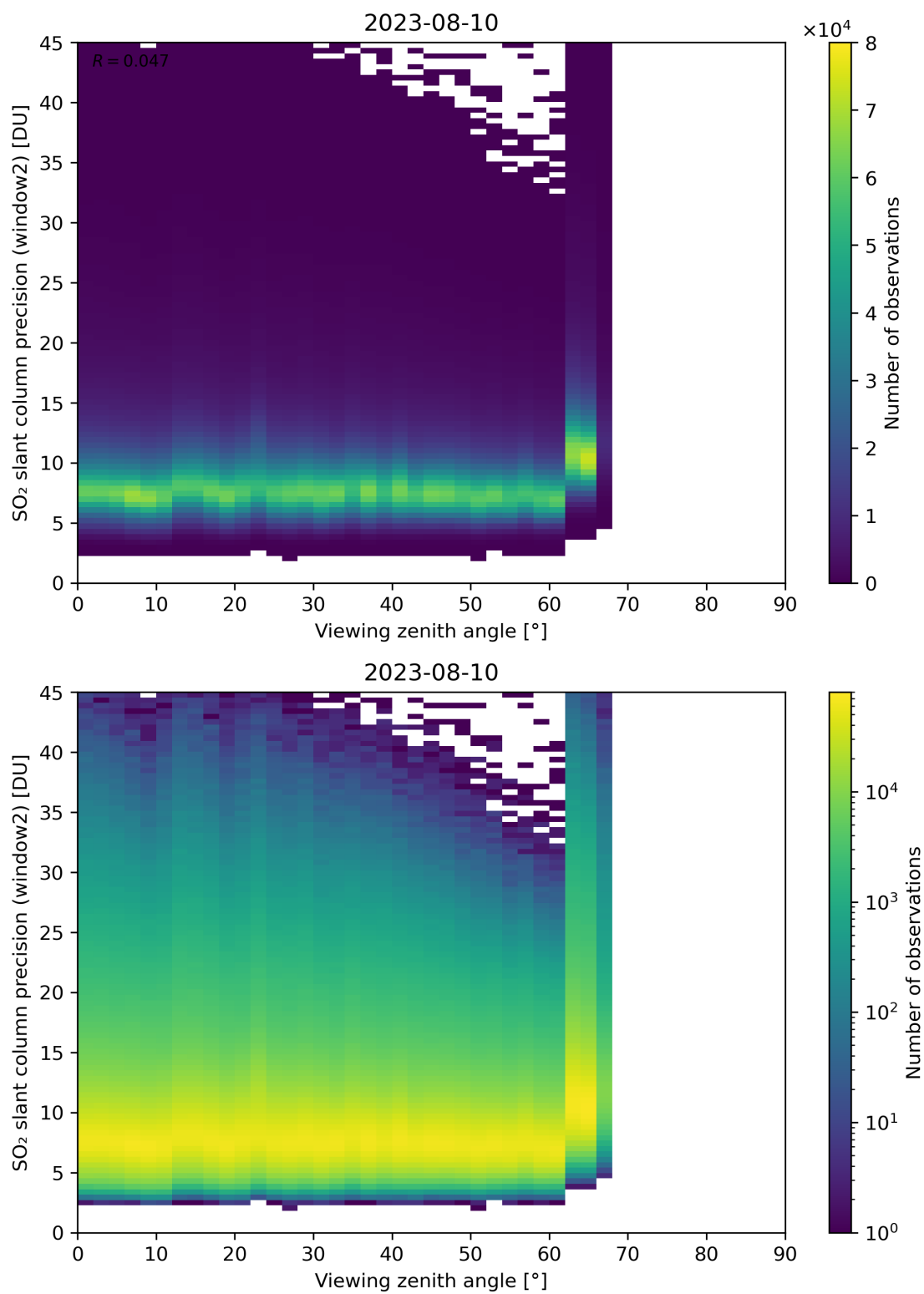


Figure 322: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window2)” for 2023-08-09 to 2023-08-11.

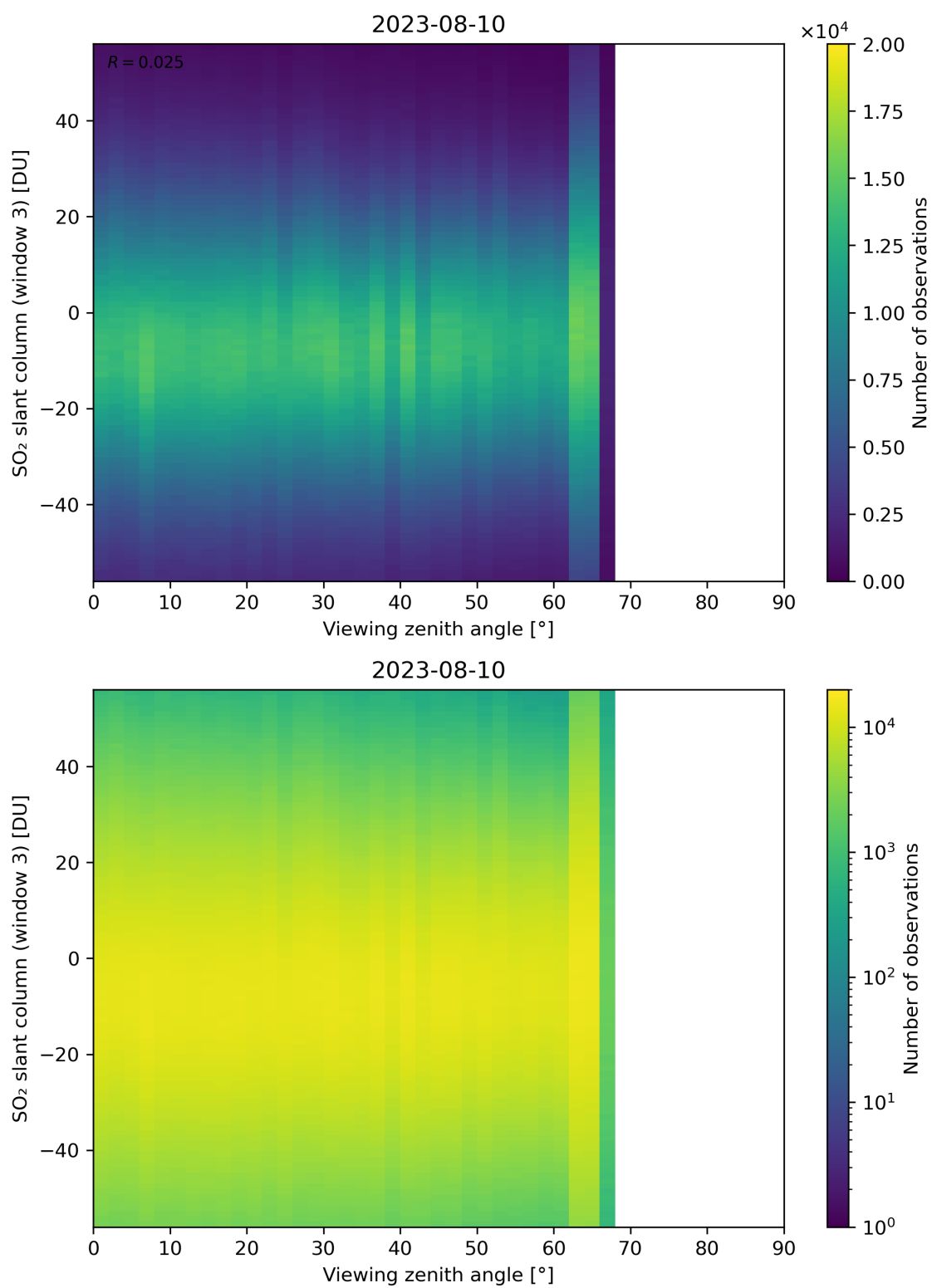


Figure 323: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column (window 3)” for 2023-08-09 to 2023-08-11.

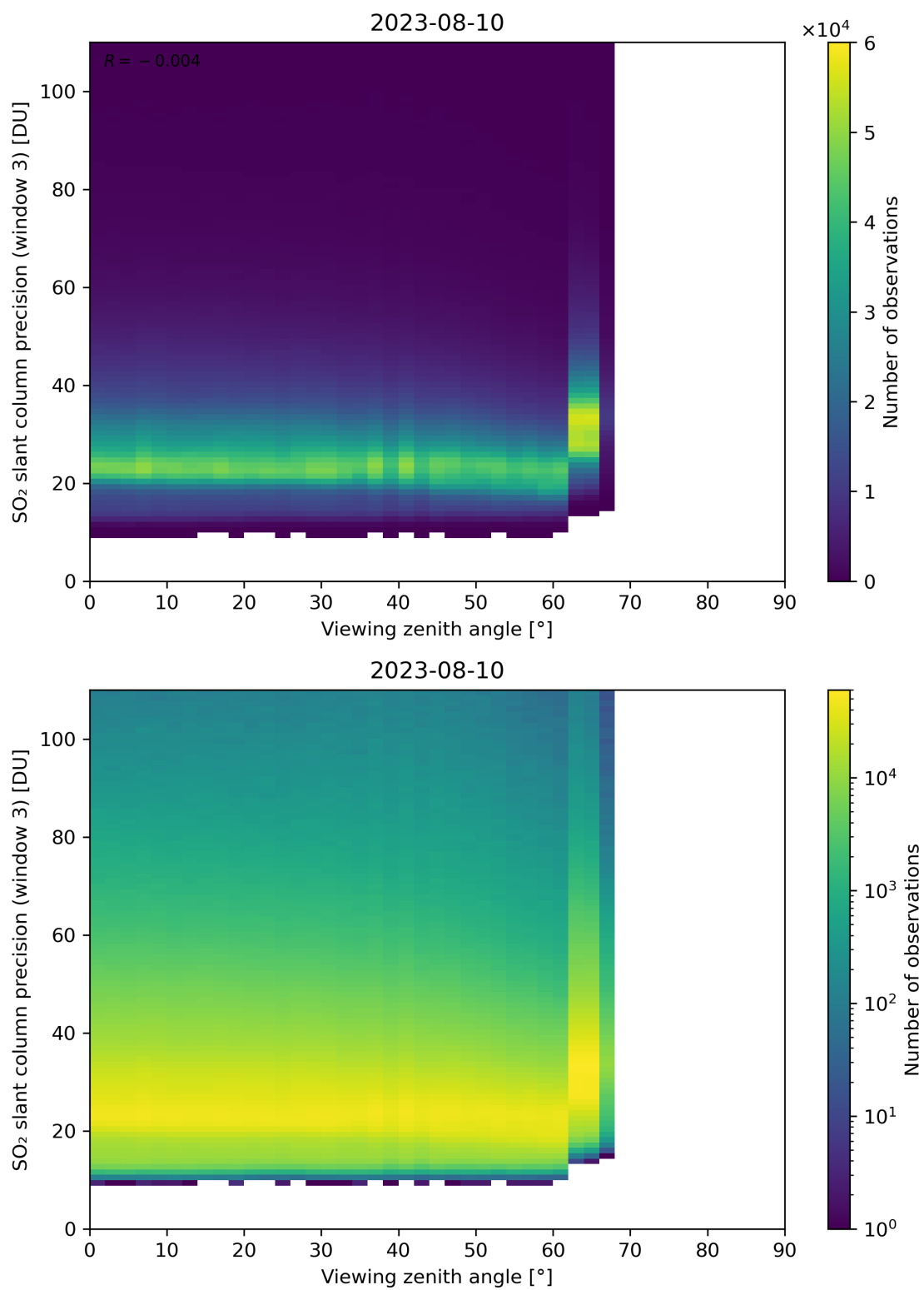


Figure 324: Scatter density plot of “Viewing zenith angle” against “SO₂ slant column precision (window 3)” for 2023-08-09 to 2023-08-11.

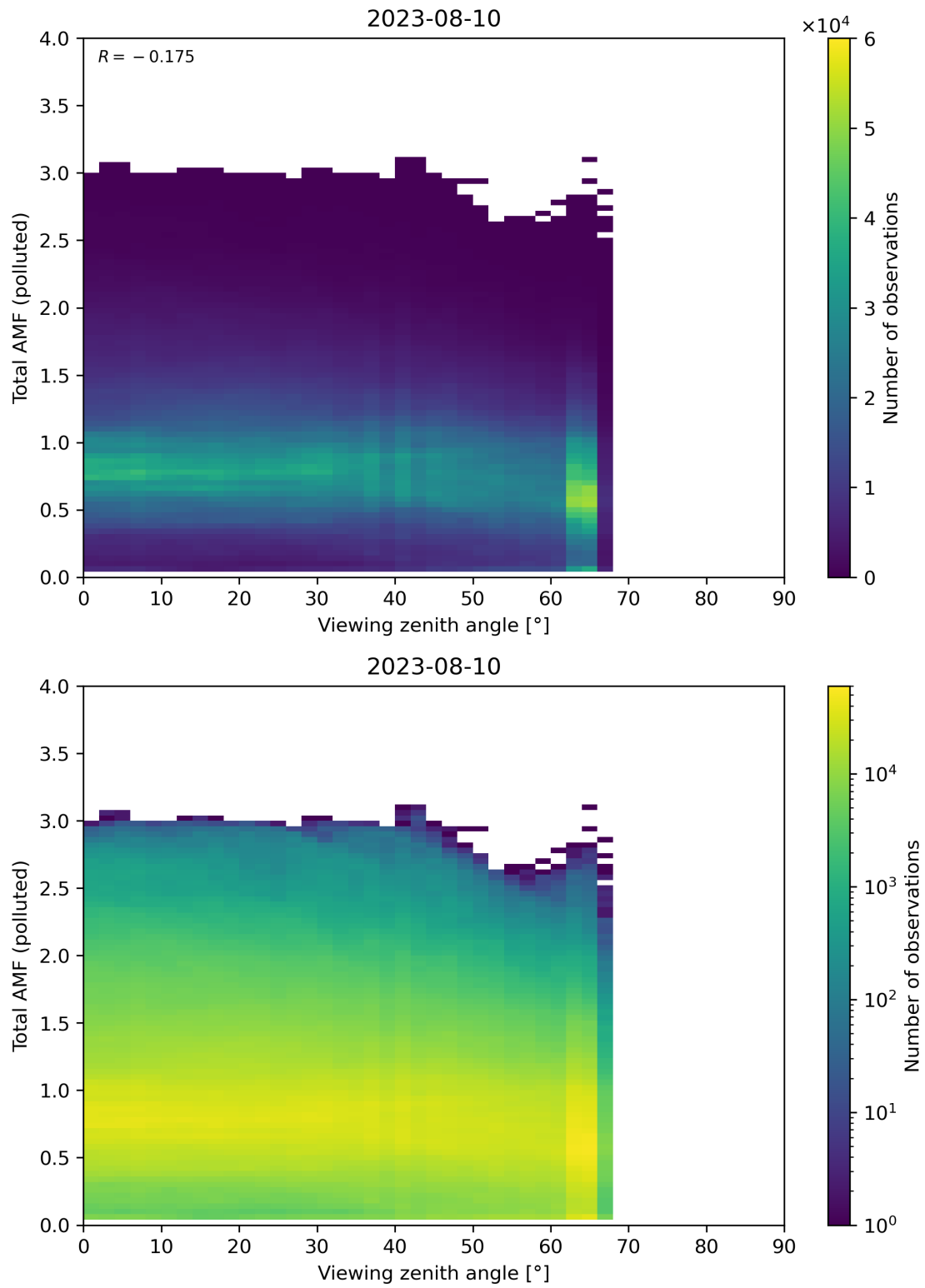


Figure 325: Scatter density plot of “Viewing zenith angle” against “Total AMF (polluted)” for 2023-08-09 to 2023-08-11.

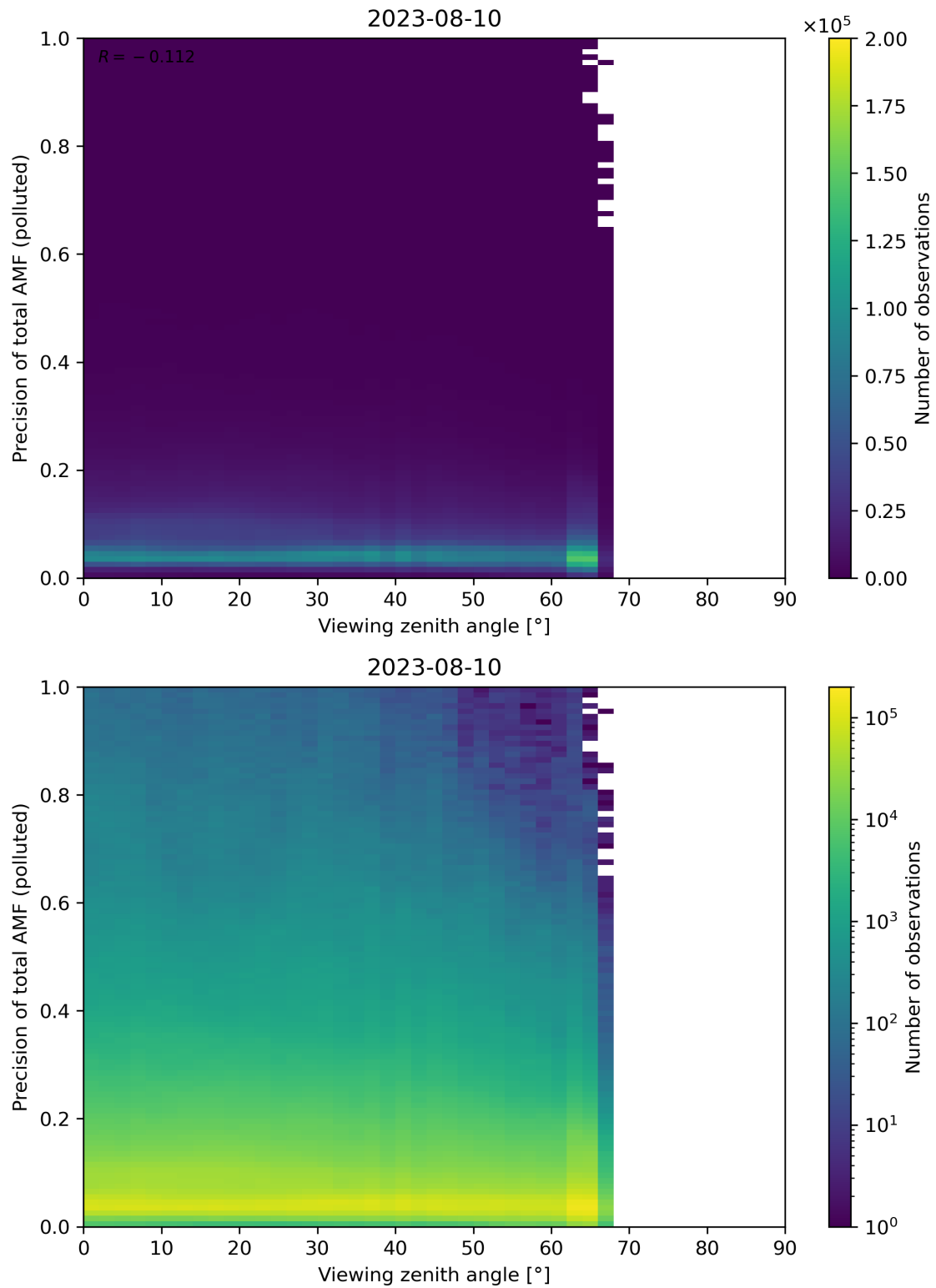


Figure 326: Scatter density plot of “Viewing zenith angle” against “Precision of total AMF (polluted)” for 2023-08-09 to 2023-08-11.

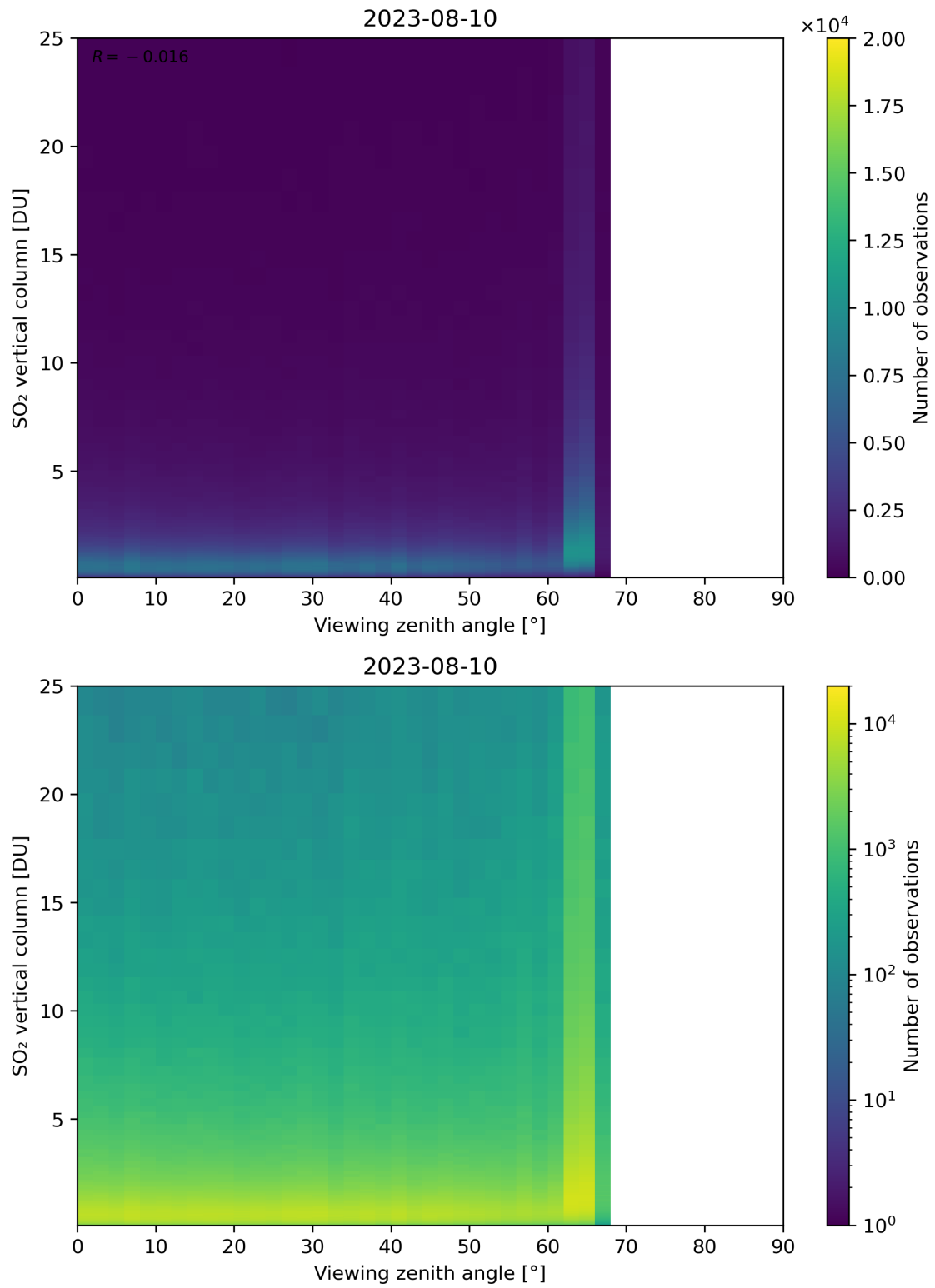


Figure 327: Scatter density plot of “Viewing zenith angle” against “SO₂ vertical column” for 2023-08-09 to 2023-08-11.

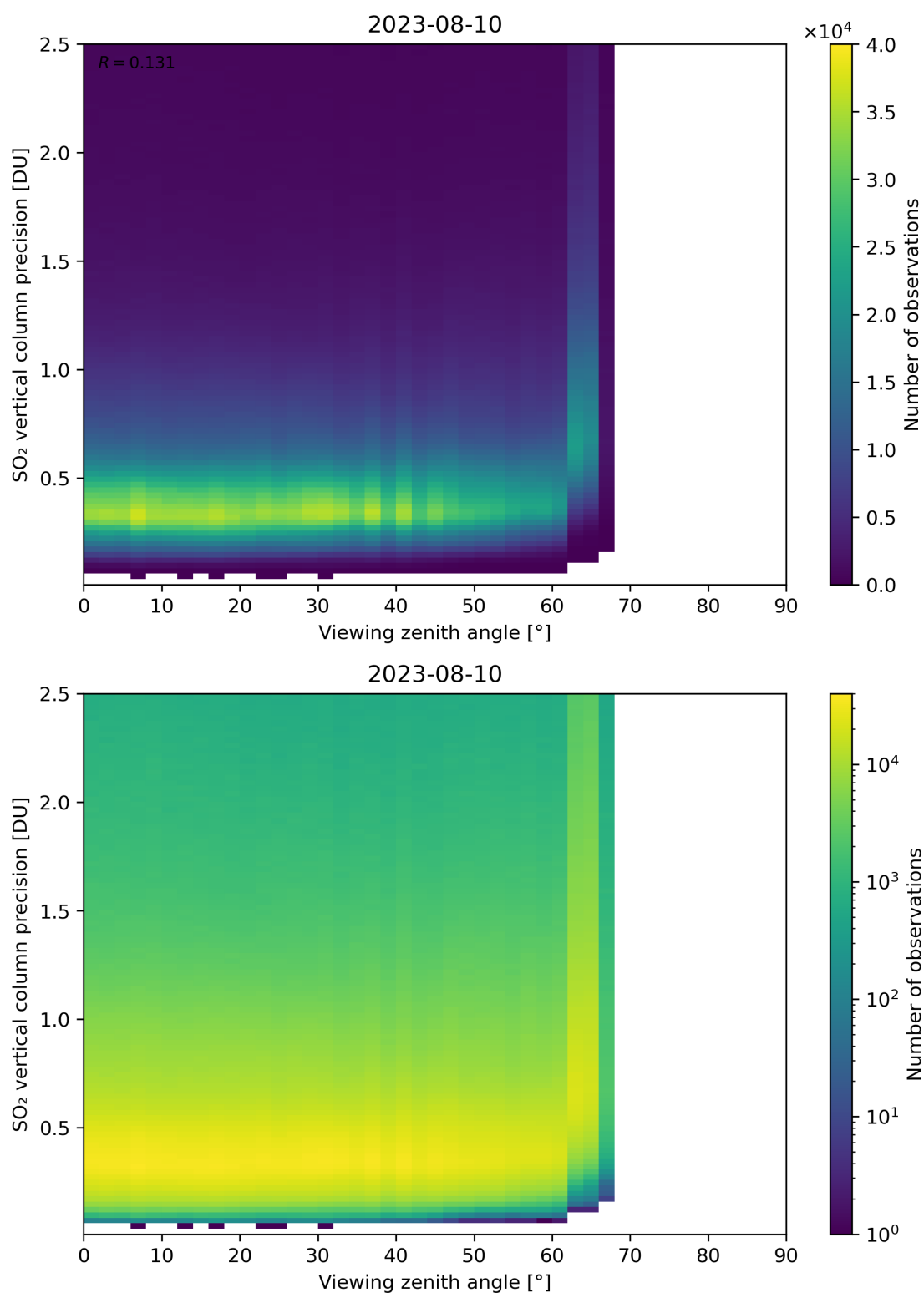


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