LoCo Lab EDGES Memo 192
Spectral Structure in Low- and Mid-Band Simulated Observations

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1 Description

Here we show the spectral structure obtained after fitting a 5-term foreground model to simulations of observations with three EDGES Low-Band systems as well as the Mid-Band system. The three Low-Band systems are 1) Low1 Extended ground plane, 2) Low2-87deg Extended ground plane, and 3) Low2-42deg Extended ground plane. The sky model was formed only with a foreground model and no 21-cm model. The nominal foreground model is the Haslam map (Remazeilles version) scaled down in frequency with a spatially-flat spectral index equal to -2.5. An alternative foreground model was used, which consists of the Haslam map scaled down in frequency with a spectral index that varies in a Gaussian way between -2.4 on the Galactic plane and -2.65 at high Galactic latitudes. A third simulation is computed for each system, which consists of the nominal foreground model and an antenna beam model assuming an infinite ground plane.

The 5-term foreground model for the fit is the EDGES polynomial because, in general, for these simulated observations, it leaves lower residuals for the same number of terms than the LinLog model or the Physical model.

Figures 1-12 show the results for the simulations at the raw LST and frequency resolution, which is 20 minutes and 2 MHz respectively. The frequency range used in these plots is 50-100 MHz for Low-Band and 60-130 MHz for Mid-Band.

Figures 13-24 show the results after binning the spectra in LST into 2-hour bins.

Figure 25 shows the result after binning the spectra from each system into a single 24-hour bin.

Tables 1-4 show the results of a grid search for a Gaussian absorption feature in the four nominal simulations binned into 2-hour bins. The foreground model in the fit is the 5-term EDGES polynomial. The main purpose of these fits is to see if the best-fit absorption is similar to the Nature feature. For this reason, and considering the high amplitude of the structure below 60 MHz, for Low-Band the fits were done in the restricted range 60-95 MHz. For Mid-Band they were done in the range 60-120 MHz. In the tables, the rows in red correspond to the closest results to the Nature feature, especially in terms of the center frequency.

Table 5 shows the result of a grid search for a Gaussian absorption feature in the four nominal simulations binned into a single 24-hour spectrum. For Low-Band the fits were done in the restricted range 60-95 MHz and for Mid-Band they were done in the range 60-120 MHz. The foreground model in the fits is the 5-term EDGES polynomial.

Table 1: Low-Band -7deg, Extended Ground Plane, Constant Spectral Index, EDGES polynomial, 5-terms, 60-95Hz.

Bin [h]	A [K]	ν_0 [MHz]	w [MHz]	τ
0	-0.125	78	21	5
2	-0.15	60	5	1
4	-0.225	86	32	9
6	-0.775	82	20	2
8	-1.2	84	32	8
10	-1.2	84	31	6
12	-0.575	60	16	6
14	-0.35	78	11	1
16	-0.775	66	10	1
18	-0.125	68	6	2
20	-0.35	84	20	9
22	-1.075	80	22	3

Table 2: Low-Band2 87deg, Extended Ground Plane, Constant Spectral Index, EDGES polynomial, 5-terms, 60-95MHz.

Bin [h]	A [K]	ν_0 [MHz]	w [MHz]	τ
0	-0.175	78	21	4
2	-0.125	76	16	8
4	-0.125	60	9	1
6	-0.625	76	18	1
8	-1.175	84	32	8
10	-0.975	82	27	7
12	-0.25	60	15	8
14	-1.2	68	26	4
16	-0.65	76	29	9
18	-1.0	92	16	1
20	-0.125	92	4	1
22	-0.15	70	6	1

Table 3: Low-Band2 42deg, Extended Ground Plane, Constant Spectral Index, EDGES polynomial, 5-terms, 60-95MHz.

Bin [h]	A [K]	ν_0 [MHz]	w [MHz]	τ
0	-0.125	78	21	5
2	-0.125	60	6	1
4	-0.125	60	13	2
6	-1.2	84	25	1
8	-1.2	82	25	3
10	-1.15	84	29	5
12	-0.475	60	16	5
14	-1.2	68	27	4
16	-1.075	60	17	3
18	-1.2	80	29	5
20	-0.125	92	4	1
22	-0.15	70	6	1

Table 4: Mid-Band 85deg, Extended Ground Plane, Constant Spectral Index, EDGES polynomial, 5-terms, 60-120MHz.

Bin [h]	A [K]	ν_0 [MHz]	w [MHz]	τ
0	-0.125	106	25	4
2	-0.175	60	5	1
4	-0.225	68	26	3
6	-0.125	78	14	3
8	-0.6	74	15	1
10	-0.45	74	12	2
12	-0.2	82	15	5
14	-0.3	78	10	1
16	-1.2	64	11	1
18	-0.925	70	16	1
20	-0.55	60	28	2
22	-0.65	60	4	1

Table 5: 24h Integrations, Extended Ground Plane, Constant Spectral Index, EDGES polynomial, 5-terms.

System	A [K]	ν_0 [MHz]	w [MHz]	τ	Freq range
Low-Band -7 deg	-0.1	85	24	4	60-95MHz
Low-Band2 87deg	-1.05	84	33	3	60-95MHz
Low-Band2 42deg	-0.1	75	14	1	60-95MHz
Mid-Band	-0.1	74	14	1	60-120MHz

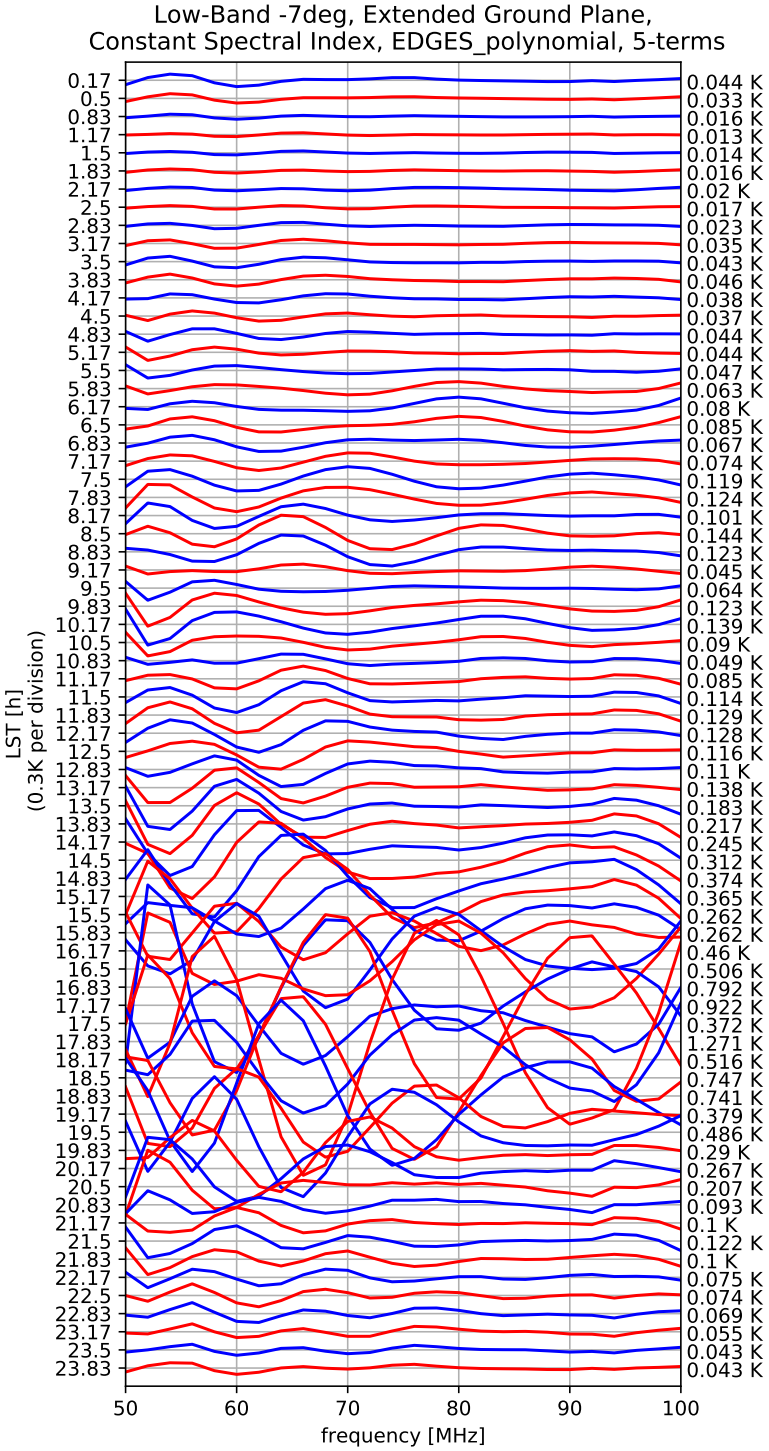
Low-Band -7deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.044 K
0.5 0.033 K
0.83 0.016 K
1.17 0.013 K
1.5 0.014 K
1.83 0.016 K
2.17 0.02 K
2.5 0.017 K
2.83 0.023 K
3.17 0.035 K
3.5 0.043 K
3.83 0.046 K
4.17 0.038 K
4.5 0.037 K
4.83 0.044 K
5.17 0.044 K
5.5 0.047 K
5.83 0.063 K
6.17 0.08 K
6.5 0.085 K
6.83 0.067 K
7.17 0.074 K
7.5 0.119 K
7.83 0.124 K
8.17 0.101 K
8.5 0.144 K
8.83 0.123 K
9.17 0.045 K
9.5 0.064 K
9.83 0.123 K
10.17 0.139 K
10.5 0.09 K
10.83 0.049 K
11.17 0.085 K
11.5 0.114 K
11.83 0.129 K
12.17 0.128 K
12.5 0.116 K
12.83 0.11 K
13.17 0.138 K
13.5 0.183 K
13.83 0.217 K
14.17 0.245 K
14.5 0.312 K
14.83 0.374 K
15.17 0.365 K
15.5 0.262 K
15.83 0.262 K
16.17 0.46 K
16.5 0.506 K
16.83 0.792 K
17.17 0.922 K
17.5 0.372 K
17.83 1.271 K
18.17 0.516 K
18.5 0.747 K
18.83 0.741 K
19.17 0.379 K
19.5 0.486 K
19.83 0.29 K
20.17 0.267 K
20.5 0.207 K
20.83 0.093 K
21.17 0.1 K
21.5 0.122 K
21.83 0.1 K
22.17 0.075 K
22.5 0.074 K
22.83 0.069 K
23.17 0.055 K
23.5 0.043 K
23.83 0.043 K
50
60
70
80
90
100
frequency [MHz]

Figure 1:

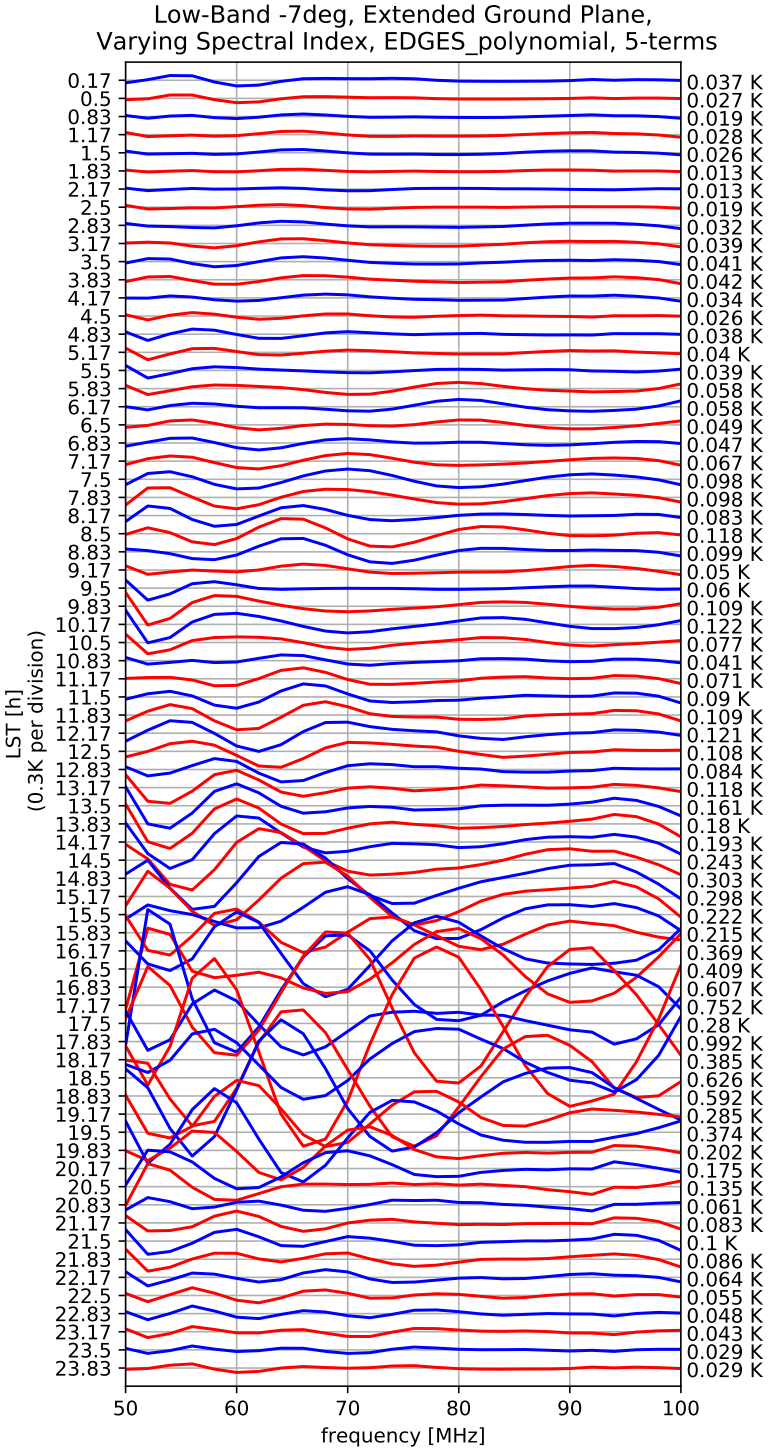
Low-Band -7deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.037 K
0.5 0.027 K
0.83 0.019 K
1.17 0.028 K
1.5 0.026 K
1.83 0.013 K
2.17 0.013 K
2.5 0.019 K
2.83 0.032 K
3.17 0.039 K
3.5 0.041 K
3.83 0.042 K
4.17 0.034 K
4.5 0.026 K
4.83 0.038 K
5.17 0.04 K
5.5 0.039 K
5.83 0.058 K
6.17 0.058 K
6.5 0.049 K
6.83 0.047 K
7.17 0.067 K
7.5 0.098 K
7.83 0.098 K
8.17 0.083 K
8.5 0.118 K
8.83 0.099 K
9.17 0.05 K
9.5 0.06 K
9.83 0.109 K
10.17 0.122 K
10.5 0.077 K
10.83 0.041 K
11.17 0.071 K
11.5 0.09 K
11.83 0.109 K
12.17 0.121 K
12.5 0.108 K
12.83 0.084 K
13.17 0.118 K
13.5 0.161 K
13.83 0.18 K
14.17 0.193 K
14.5 0.243 K
14.83 0.303 K
15.17 0.298 K
15.5 0.222 K
15.83 0.215 K
16.17 0.369 K
16.5 0.409 K
16.83 0.607 K
17.17 0.752 K
17.5 0.28 K
17.83 0.992 K
18.17 0.385 K
18.5 0.626 K
18.83 0.592 K
19.17 0.285 K
19.5 0.374 K
19.83 0.202 K
20.17 0.175 K
20.5 0.135 K
20.83 0.061 K
21.17 0.083 K
21.5 0.1 K
21.83 0.086 K
22.17 0.064 K
22.5 0.055 K
22.83 0.048 K
23.17 0.043 K
23.5 0.029 K
23.83 0.029 K
50
60
70
80
90
100
frequency [MHz]

Figure 2:

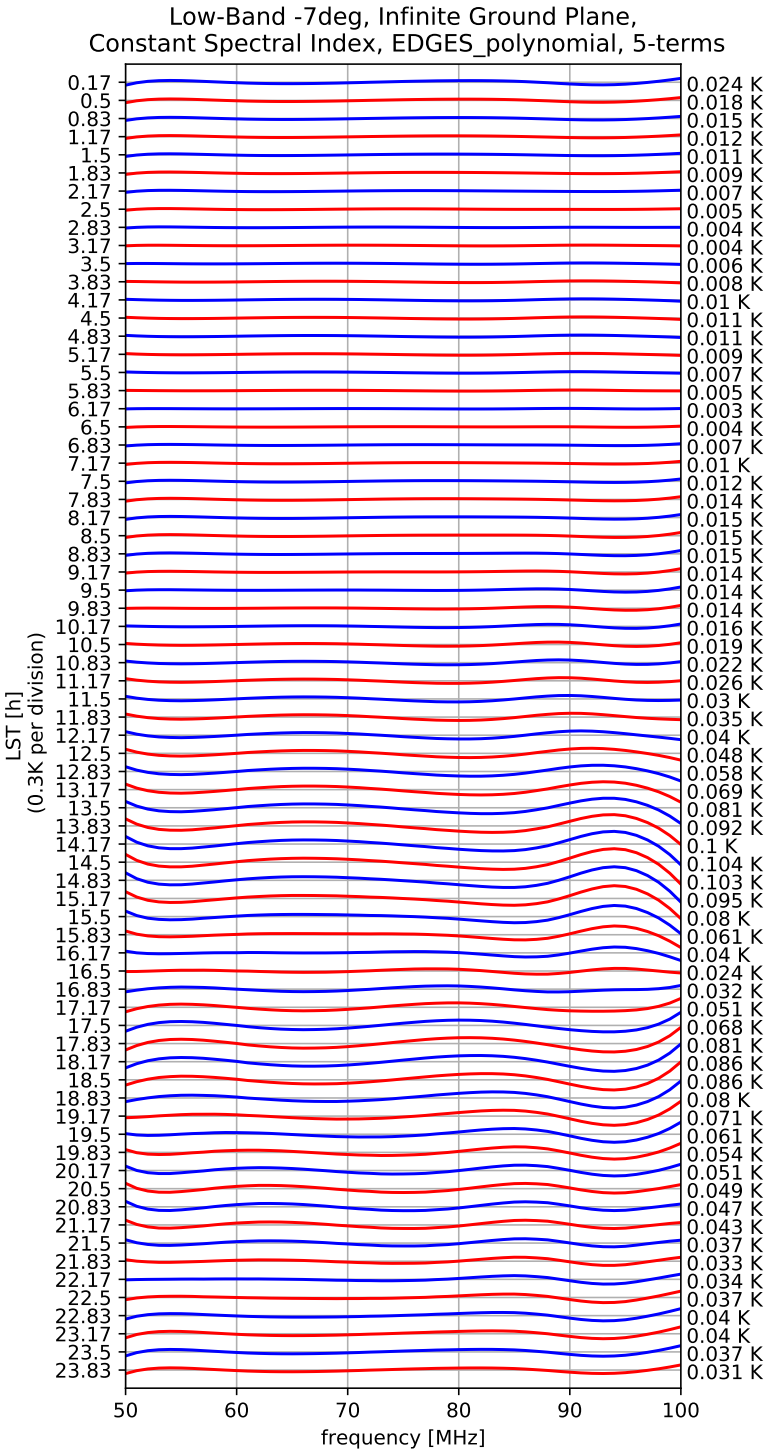
Low-Band -7deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.024 K
0.5 0.018 K
0.83 0.015 K
1.17 0.012 K
1.5 0.011 K
1.83 0.009 K
2.17 0.007 K
2.5 0.005 K
2.83 0.004 K
3.17 0.004 K
3.5 0.006 K
3.83 0.008 K
4.17 0.01 K
4.5 0.011 K
4.83 0.011 K
5.17 0.009 K
5.5 0.007 K
5.83 0.005 K
6.17 0.003 K
6.5 0.004 K
6.83 0.007 K
7.17 0.01 K
7.5 0.012 K
7.83 0.014 K
8.17 0.015 K
8.5 0.015 K
8.83 0.015 K
9.17 0.014 K
9.5 0.014 K
9.83 0.014 K
10.17 0.016 K
10.5 0.019 K
10.83 0.022 K
11.17 0.026 K
11.5 0.03 K
11.83 0.035 K
12.17 0.04 K
12.5 0.048 K
12.83 0.058 K
13.17 0.069 K
13.5 0.081 K
13.83 0.092 K
14.17 0.1 K
14.5 0.104 K
14.83 0.103 K
15.17 0.095 K
15.5 0.08 K
15.83 0.061 K
16.17 0.04 K
16.5 0.024 K
16.83 0.032 K
17.17 0.051 K
17.5 0.068 K
17.83 0.081 K
18.17 0.086 K
18.5 0.086 K
18.83 0.08 K
19.17 0.071 K
19.5 0.061 K
19.83 0.054 K
20.17 0.051 K
20.5 0.049 K
20.83 0.047 K
21.17 0.043 K
21.5 0.037 K
21.83 0.033 K
22.17 0.034 K
22.5 0.037 K
22.83 0.04 K
23.17 0.04 K
23.5 0.037 K
23.83 0.031 K
50
60
70
80
90
100
frequency [MHz]

Figure 3:

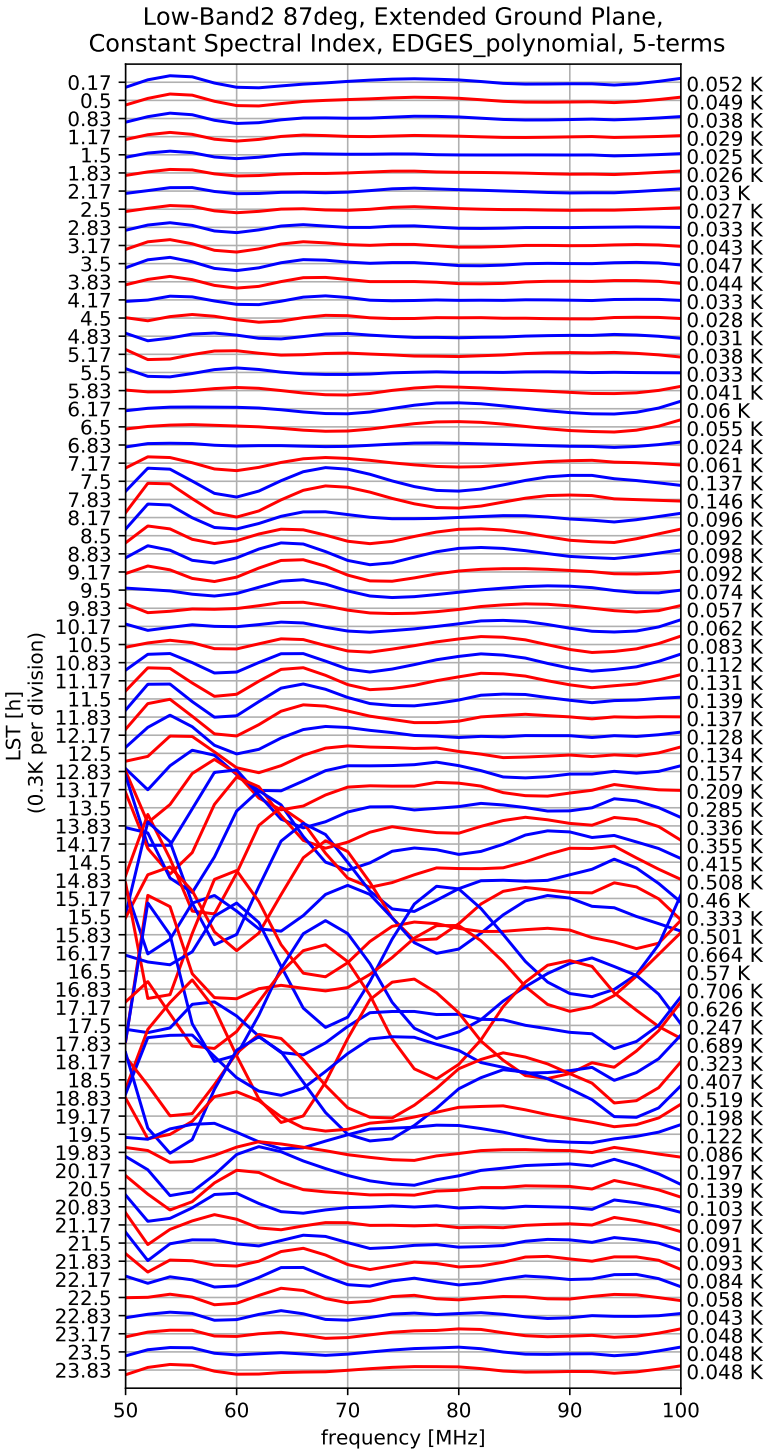
Low-Band2 87deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.052 K
0.5 0.049 K
0.83 0.038 K
1.17 0.029 K
1.5 0.025 K
1.83 0.026 K
2.17 0.03 K
2.5 0.027 K
2.83 0.033 K
3.17 0.043 K
3.5 0.047 K
3.83 0.044 K
4.17 0.033 K
4.5 0.028 K
4.83 0.031 K
5.17 0.038 K
5.5 0.033 K
5.83 0.041 K
6.17 0.06 K
6.5 0.055 K
6.83 0.024 K
7.17 0.061 K
7.5 0.137 K
7.83 0.146 K
8.17 0.096 K
8.5 0.092 K
8.83 0.098 K
9.17 0.092 K
9.5 0.074 K
9.83 0.057 K
10.17 0.062 K
10.5 0.083 K
10.83 0.112 K
11.17 0.131 K
11.5 0.139 K
11.83 0.137 K
12.17 0.128 K
12.5 0.134 K
12.83 0.157 K
13.17 0.209 K
13.5 0.285 K
13.83 0.336 K
14.17 0.355 K
14.5 0.415 K
14.83 0.508 K
15.17 0.46 K
15.5 0.333 K
15.83 0.501 K
16.17 0.664 K
16.5 0.57 K
16.83 0.706 K
17.17 0.626 K
17.5 0.247 K
17.83 0.689 K
18.17 0.323 K
18.5 0.407 K
18.83 0.519 K
19.17 0.198 K
19.5 0.122 K
19.83 0.086 K
20.17 0.197 K
20.5 0.139 K
20.83 0.103 K
21.17 0.097 K
21.5 0.091 K
21.83 0.093 K
22.17 0.084 K
22.5 0.058 K
22.83 0.043 K
23.17 0.048 K
23.5 0.048 K
23.83 0.048 K
50
60
70
80
90
100
frequency [MHz]

Figure 4:

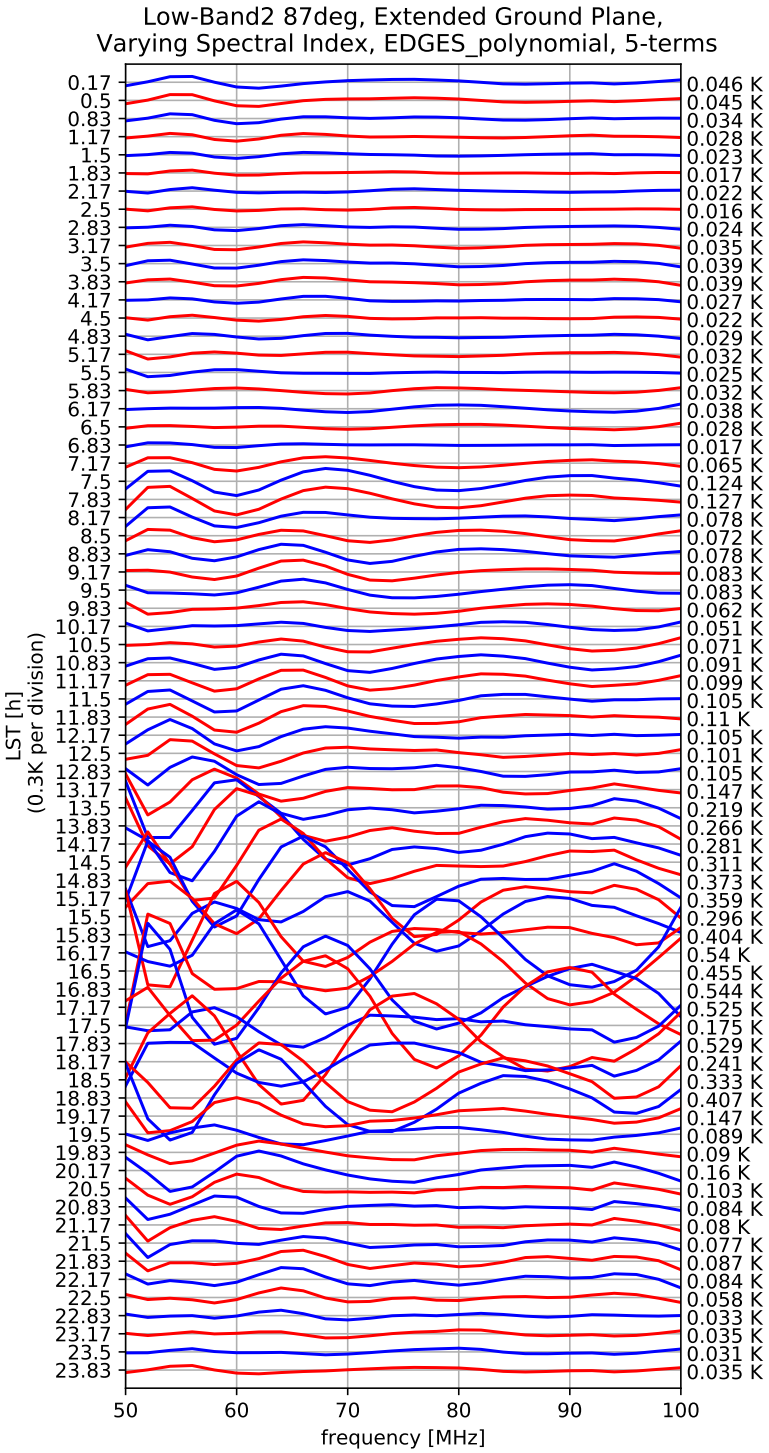
Low-Band2 87deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.046 K
0.5 0.045 K
0.83 0.034 K
1.17 0.028 K
1.5 0.023 K
1.83 0.017 K
2.17 0.022 K
2.5 0.016 K
2.83 0.024 K
3.17 0.035 K
3.5 0.039 K
3.83 0.039 K
4.17 0.027 K
4.5 0.022 K
4.83 0.029 K
5.17 0.032 K
5.5 0.025 K
5.83 0.032 K
6.17 0.038 K
6.5 0.028 K
6.83 0.017 K
7.17 0.065 K
7.5 0.124 K
7.83 0.127 K
8.17 0.078 K
8.5 0.072 K
8.83 0.078 K
9.17 0.083 K
9.5 0.083 K
9.83 0.062 K
10.17 0.051 K
10.5 0.071 K
10.83 0.091 K
11.17 0.099 K
11.5 0.105 K
11.83 0.11 K
12.17 0.105 K
12.5 0.101 K
12.83 0.105 K
13.17 0.147 K
13.5 0.219 K
13.83 0.266 K
14.17 0.281 K
14.5 0.311 K
14.83 0.373 K
15.17 0.359 K
15.5 0.296 K
15.83 0.404 K
16.17 0.54 K
16.5 0.455 K
16.83 0.544 K
17.17 0.525 K
17.5 0.175 K
17.83 0.529 K
18.17 0.241 K
18.5 0.333 K
18.83 0.407 K
19.17 0.147 K
19.5 0.089 K
19.83 0.09 K
20.17 0.16 K
20.5 0.103 K
20.83 0.084 K
21.17 0.08 K
21.5 0.077 K
21.83 0.087 K
22.17 0.084 K
22.5 0.058 K
22.83 0.033 K
23.17 0.035 K
23.5 0.031 K
23.83 0.035 K
50
60
70
80
90
100
frequency [MHz]

Figure 5:

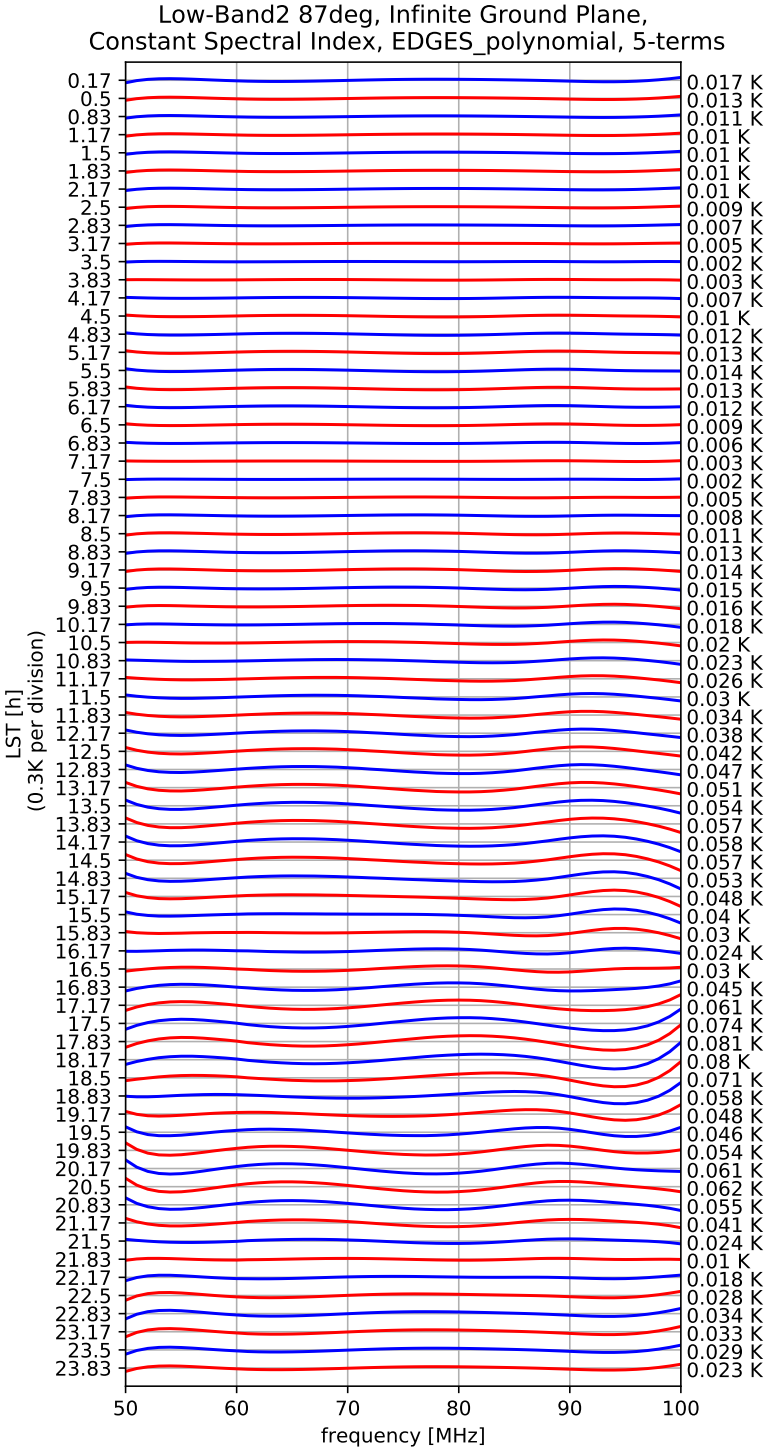
Low-Band2 87deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.017 K
0.5 0.013 K
0.83 0.011 K
1.17 0.01 K
1.5 0.01 K
1.83 0.01 K
2.17 0.01 K
2.5 0.009 K
2.83 0.007 K
3.17 0.005 K
3.5 0.002 K
3.83 0.003 K
4.17 0.007 K
4.5 0.01 K
4.83 0.012 K
5.17 0.013 K
5.5 0.014 K
5.83 0.013 K
6.17 0.012 K
6.5 0.009 K
6.83 0.006 K
7.17 0.003 K
7.5 0.002 K
7.83 0.005 K
8.17 0.008 K
8.5 0.011 K
8.83 0.013 K
9.17 0.014 K
9.5 0.015 K
9.83 0.016 K
10.17 0.018 K
10.5 0.02 K
10.83 0.023 K
11.17 0.026 K
11.5 0.03 K
11.83 0.034 K
12.17 0.038 K
12.5 0.042 K
12.83 0.047 K
13.17 0.051 K
13.5 0.054 K
13.83 0.057 K
14.17 0.058 K
14.5 0.057 K
14.83 0.053 K
15.17 0.048 K
15.5 0.04 K
15.83 0.03 K
16.17 0.024 K
16.5 0.03 K
16.83 0.045 K
17.17 0.061 K
17.5 0.074 K
17.83 0.081 K
18.17 0.08 K
18.5 0.071 K
18.83 0.058 K
19.17 0.048 K
19.5 0.046 K
19.83 0.054 K
20.17 0.061 K
20.5 0.062 K
20.83 0.055 K
21.17 0.041 K
21.5 0.024 K
21.83 0.01 K
22.17 0.018 K
22.5 0.028 K
22.83 0.034 K
23.17 0.033 K
23.5 0.029 K
23.83 0.023 K
50
60
70
80
90
100
frequency [MHz]

Figure 6:

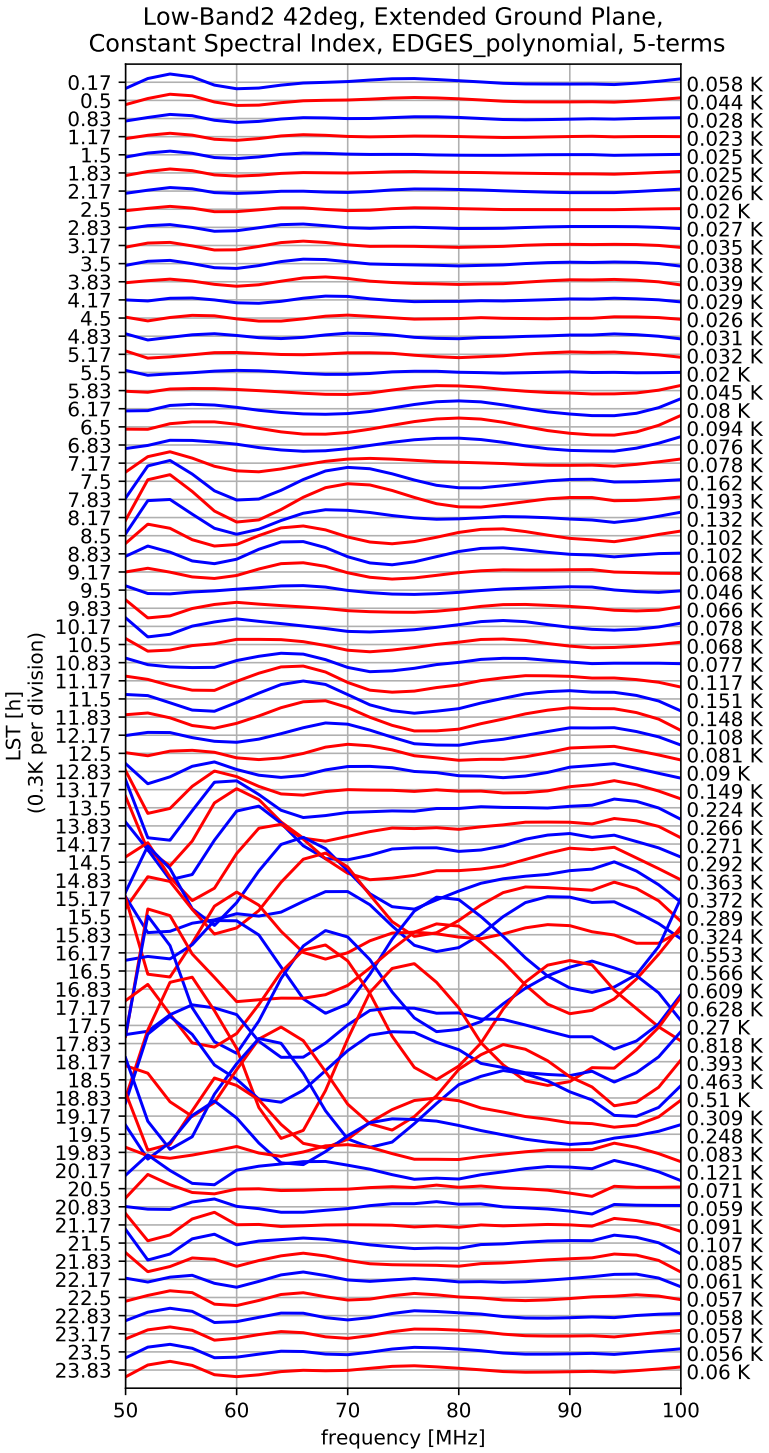
Low-Band2 42deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.058 K
0.5 0.044 K
0.83 0.028 K
1.17 0.023 K
1.5 0.025 K
1.83 0.025 K
2.17 0.026 K
2.5 0.02 K
2.83 0.027 K
3.17 0.035 K
3.5 0.038 K
3.83 0.039 K
4.17 0.029 K
4.5 0.026 K
4.83 0.031 K
5.17 0.032 K
5.5 0.02 K
5.83 0.045 K
6.17 0.08 K
6.5 0.094 K
6.83 0.076 K
7.17 0.078 K
7.5 0.162 K
7.83 0.193 K
8.17 0.132 K
8.5 0.102 K
8.83 0.102 K
9.17 0.068 K
9.5 0.046 K
9.83 0.066 K
10.17 0.078 K
10.5 0.068 K
10.83 0.077 K
11.17 0.117 K
11.5 0.151 K
11.83 0.148 K
12.17 0.108 K
12.5 0.081 K
12.83 0.09 K
13.17 0.149 K
13.5 0.224 K
13.83 0.266 K
14.17 0.271 K
14.5 0.292 K
14.83 0.363 K
15.17 0.372 K
15.5 0.289 K
15.83 0.324 K
16.17 0.553 K
16.5 0.566 K
16.83 0.609 K
17.17 0.628 K
17.5 0.27 K
17.83 0.818 K
18.17 0.393 K
18.5 0.463 K
18.83 0.51 K
19.17 0.309 K
19.5 0.248 K
19.83 0.083 K
20.17 0.121 K
20.5 0.071 K
20.83 0.059 K
21.17 0.091 K
21.5 0.107 K
21.83 0.085 K
22.17 0.061 K
22.5 0.057 K
22.83 0.058 K
23.17 0.057 K
23.5 0.056 K
23.83 0.06 K
50
60
70
80
90
100
frequency [MHz]

Figure 7:

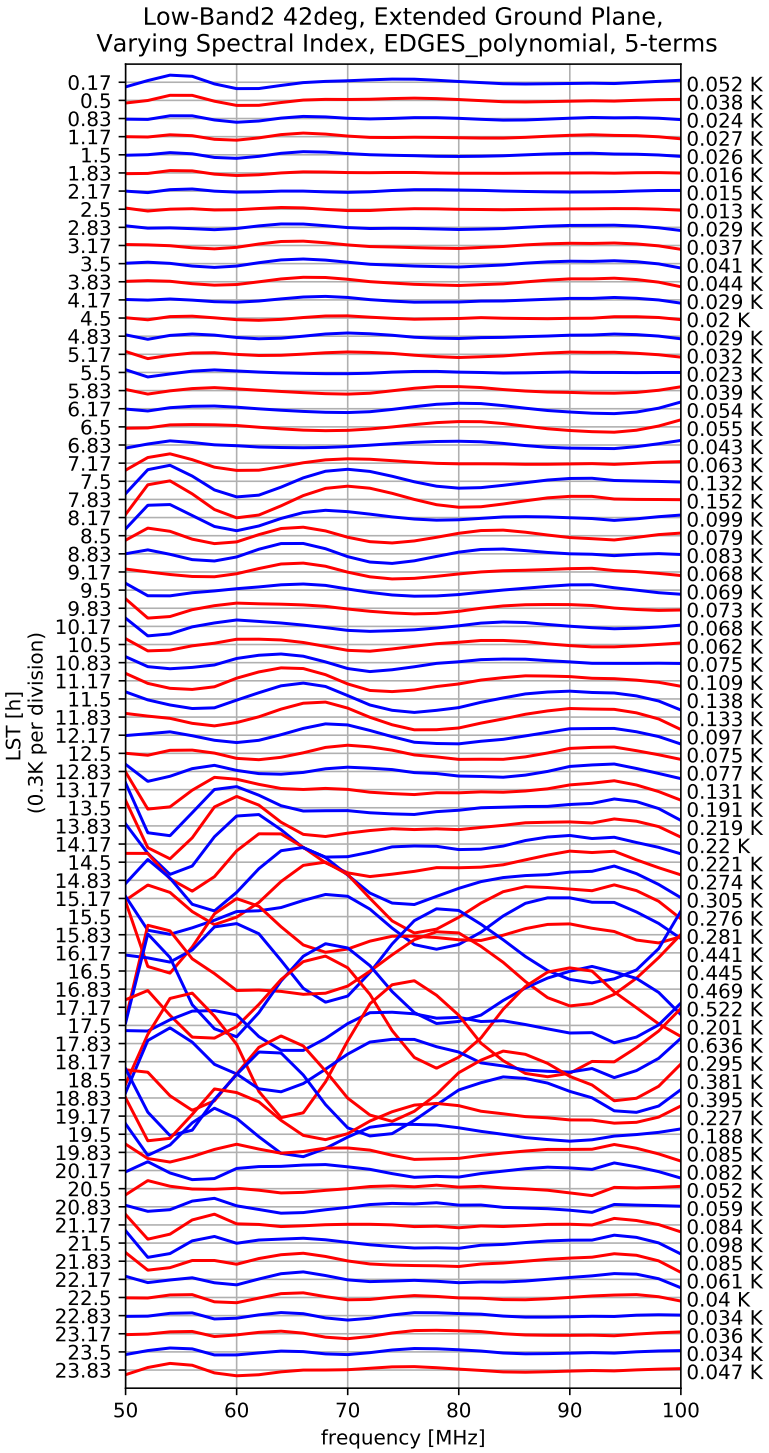
Low-Band2 42deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.052 K
0.5 0.038 K
0.83 0.024 K
1.17 0.027 K
1.5 0.026 K
1.83 0.016 K
2.17 0.015 K
2.5 0.013 K
2.83 0.029 K
3.17 0.037 K
3.5 0.041 K
3.83 0.044 K
4.17 0.029 K
4.5 0.02 K
4.83 0.029 K
5.17 0.032 K
5.5 0.023 K
5.83 0.039 K
6.17 0.054 K
6.5 0.055 K
6.83 0.043 K
7.17 0.063 K
7.5 0.132 K
7.83 0.152 K
8.17 0.099 K
8.5 0.079 K
8.83 0.083 K
9.17 0.068 K
9.5 0.069 K
9.83 0.073 K
10.17 0.068 K
10.5 0.062 K
10.83 0.075 K
11.17 0.109 K
11.5 0.138 K
11.83 0.133 K
12.17 0.097 K
12.5 0.075 K
12.83 0.077 K
13.17 0.131 K
13.5 0.191 K
13.83 0.219 K
14.17 0.22 K
14.5 0.221 K
14.83 0.274 K
15.17 0.305 K
15.5 0.276 K
15.83 0.281 K
16.17 0.441 K
16.5 0.445 K
16.83 0.469 K
17.17 0.522 K
17.5 0.201 K
17.83 0.636 K
18.17 0.295 K
18.5 0.381 K
18.83 0.395 K
19.17 0.227 K
19.5 0.188 K
19.83 0.085 K
20.17 0.082 K
20.5 0.052 K
20.83 0.059 K
21.17 0.084 K
21.5 0.098 K
21.83 0.085 K
22.17 0.061 K
22.5 0.04 K
22.83 0.034 K
23.17 0.036 K
23.5 0.034 K
23.83 0.047 K
50
60
70
80
90
100
frequency [MHz]

Figure 8:

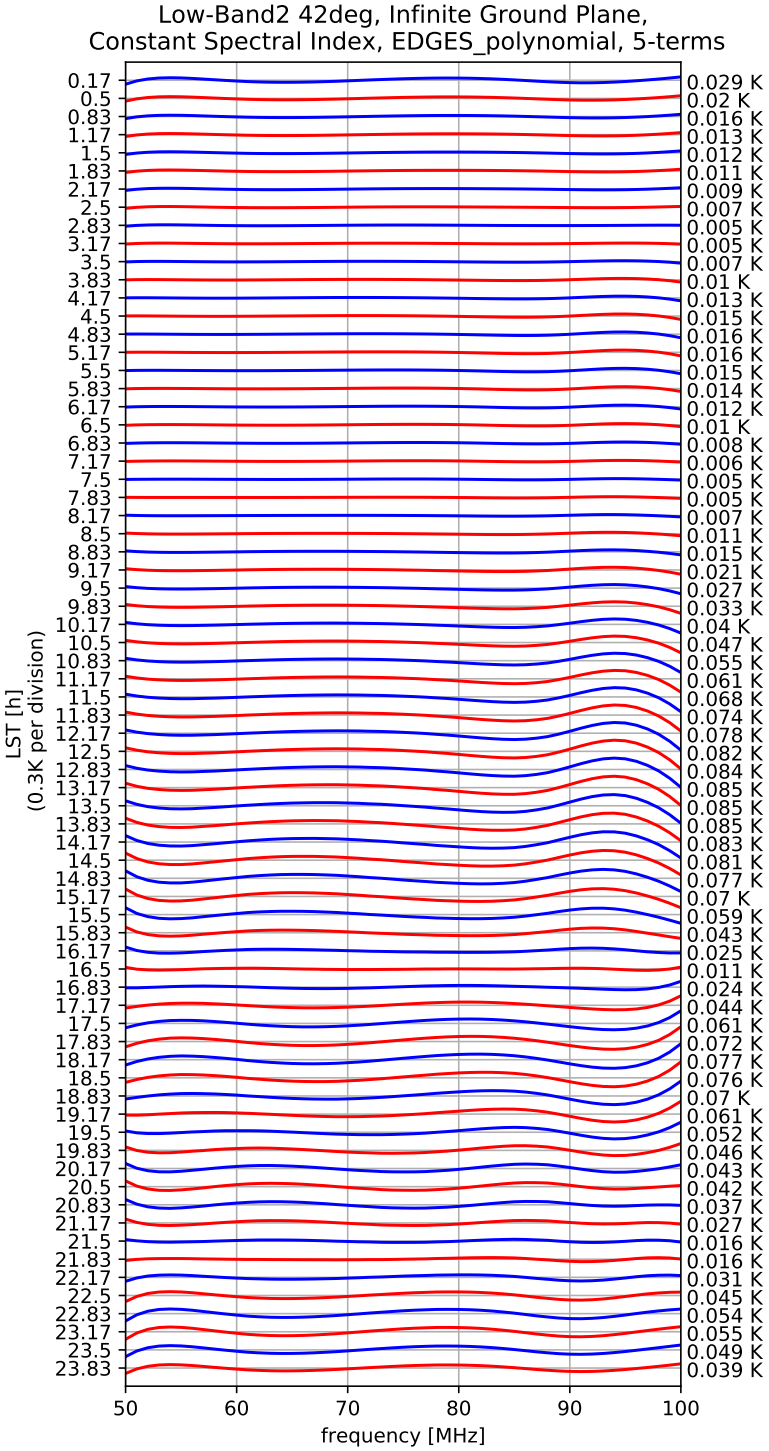
Low-Band2 42deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.029 K
0.5 0.02 K
0.83 0.016 K
1.17 0.013 K
1.5 0.012 K
1.83 0.011 K
2.17 0.009 K
2.5 0.007 K
2.83 0.005 K
3.17 0.005 K
3.5 0.007 K
3.83 0.01 K
4.17 0.013 K
4.5 0.015 K
4.83 0.016 K
5.17 0.016 K
5.5 0.015 K
5.83 0.014 K
6.17 0.012 K
6.5 0.01 K
6.83 0.008 K
7.17 0.006 K
7.5 0.005 K
7.83 0.005 K
8.17 0.007 K
8.5 0.011 K
8.83 0.015 K
9.17 0.021 K
9.5 0.027 K
9.83 0.033 K
10.17 0.04 K
10.5 0.047 K
10.83 0.055 K
11.17 0.061 K
11.5 0.068 K
11.83 0.074 K
12.17 0.078 K
12.5 0.082 K
12.83 0.084 K
13.17 0.085 K
13.5 0.085 K
13.83 0.085 K
14.17 0.083 K
14.5 0.081 K
14.83 0.077 K
15.17 0.07 K
15.5 0.059 K
15.83 0.043 K
16.17 0.025 K
16.5 0.011 K
16.83 0.024 K
17.17 0.044 K
17.5 0.061 K
17.83 0.072 K
18.17 0.077 K
18.5 0.076 K
18.83 0.07 K
19.17 0.061 K
19.5 0.052 K
19.83 0.046 K
20.17 0.043 K
20.5 0.042 K
20.83 0.037 K
21.17 0.027 K
21.5 0.016 K
21.83 0.016 K
22.17 0.031 K
22.5 0.045 K
22.83 0.054 K
23.17 0.055 K
23.5 0.049 K
23.83 0.039 K
50
60
70
80
90
100
frequency [MHz]

Figure 9:

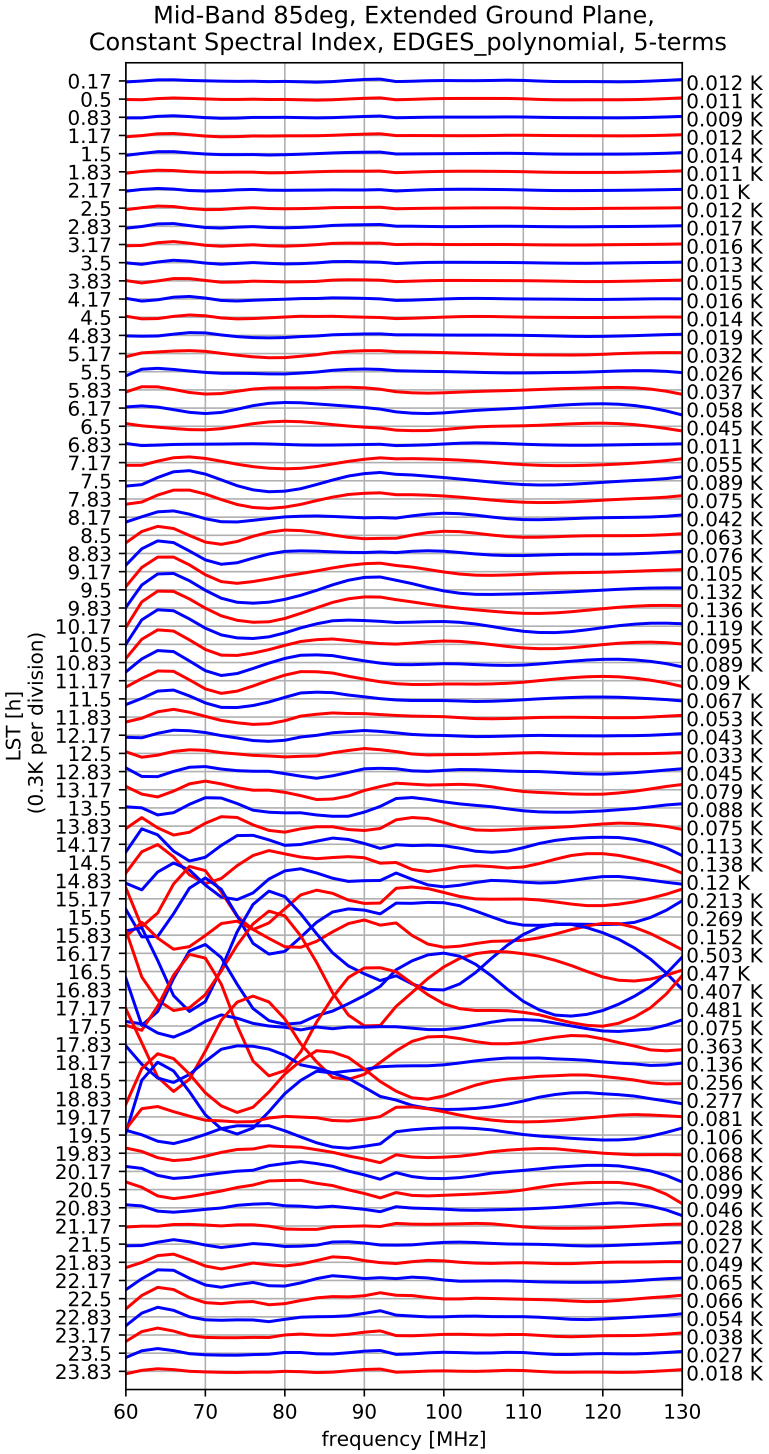
Mid-Band 85deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.012 K
0.5 0.011 K
0.83 0.009 K
1.17 0.012 K
1.5 0.014 K
1.83 0.011 K
2.17 0.01 K
2.5 0.012 K
2.83 0.017 K
3.17 0.016 K
3.5 0.013 K
3.83 0.015 K
4.17 0.016 K
4.5 0.014 K
4.83 0.019 K
5.17 0.032 K
5.5 0.026 K
5.83 0.037 K
6.17 0.058 K
6.5 0.045 K
6.83 0.011 K
7.17 0.055 K
7.5 0.089 K
7.83 0.075 K
8.17 0.042 K
8.5 0.063 K
8.83 0.076 K
9.17 0.105 K
9.5 0.132 K
9.83 0.136 K
10.17 0.119 K
10.5 0.095 K
10.83 0.089 K
11.17 0.09 K
11.5 0.067 K
11.83 0.053 K
12.17 0.043 K
12.5 0.033 K
12.83 0.045 K
13.17 0.079 K
13.5 0.088 K
13.83 0.075 K
14.17 0.113 K
14.5 0.138 K
14.83 0.12 K
15.17 0.213 K
15.5 0.269 K
15.83 0.152 K
16.17 0.503 K
16.5 0.47 K
16.83 0.407 K
17.17 0.481 K
17.5 0.075 K
17.83 0.363 K
18.17 0.136 K
18.5 0.256 K
18.83 0.277 K
19.17 0.081 K
19.5 0.106 K
19.83 0.068 K
20.17 0.086 K
20.5 0.099 K
20.83 0.046 K
21.17 0.028 K
21.5 0.027 K
21.83 0.049 K
22.17 0.065 K
22.5 0.066 K
22.83 0.054 K
23.17 0.038 K
23.5 0.027 K
23.83 0.018 K
60 70 80 90 100 110 120 130
frequency [MHz]

Figure 10:

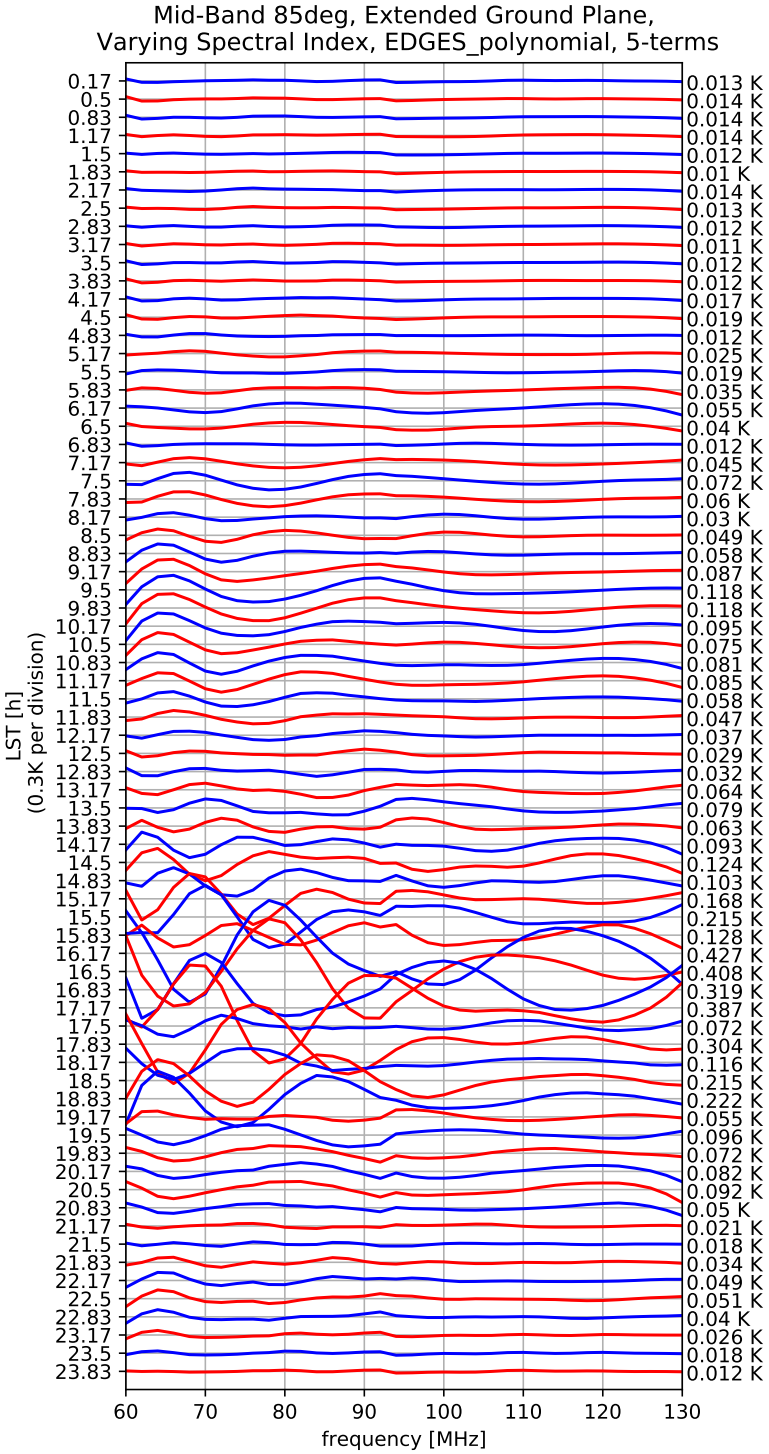
Mid-Band 85deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.013 K
0.5 0.014 K
0.83 0.014 K
1.17 0.014 K
1.5 0.012 K
1.83 0.01 K
2.17 0.014 K
2.5 0.013 K
2.83 0.012 K
3.17 0.011 K
3.5 0.012 K
3.83 0.012 K
4.17 0.017 K
4.5 0.019 K
4.83 0.012 K
5.17 0.025 K
5.5 0.019 K
5.83 0.035 K
6.17 0.055 K
6.5 0.04 K
6.83 0.012 K
7.17 0.045 K
7.5 0.072 K
7.83 0.06 K
8.17 0.03 K
8.5 0.049 K
8.83 0.058 K
9.17 0.087 K
9.5 0.118 K
9.83 0.118 K
10.17 0.095 K
10.5 0.075 K
10.83 0.081 K
11.17 0.085 K
11.5 0.058 K
11.83 0.047 K
12.17 0.037 K
12.5 0.029 K
12.83 0.032 K
13.17 0.064 K
13.5 0.079 K
13.83 0.063 K
14.17 0.093 K
14.5 0.124 K
14.83 0.103 K
15.17 0.168 K
15.5 0.215 K
15.83 0.128 K
16.17 0.427 K
16.5 0.408 K
16.83 0.319 K
17.17 0.387 K
17.5 0.072 K
17.83 0.304 K
18.17 0.116 K
18.5 0.215 K
18.83 0.222 K
19.17 0.055 K
19.5 0.096 K
19.83 0.072 K
20.17 0.082 K
20.5 0.092 K
20.83 0.05 K
21.17 0.021 K
21.5 0.018 K
21.83 0.034 K
22.17 0.049 K
22.5 0.051 K
22.83 0.04 K
23.17 0.026 K
23.5 0.018 K
23.83 0.012 K
60 70 80 90 100 110 120 130
frequency [MHz]

Figure 11:

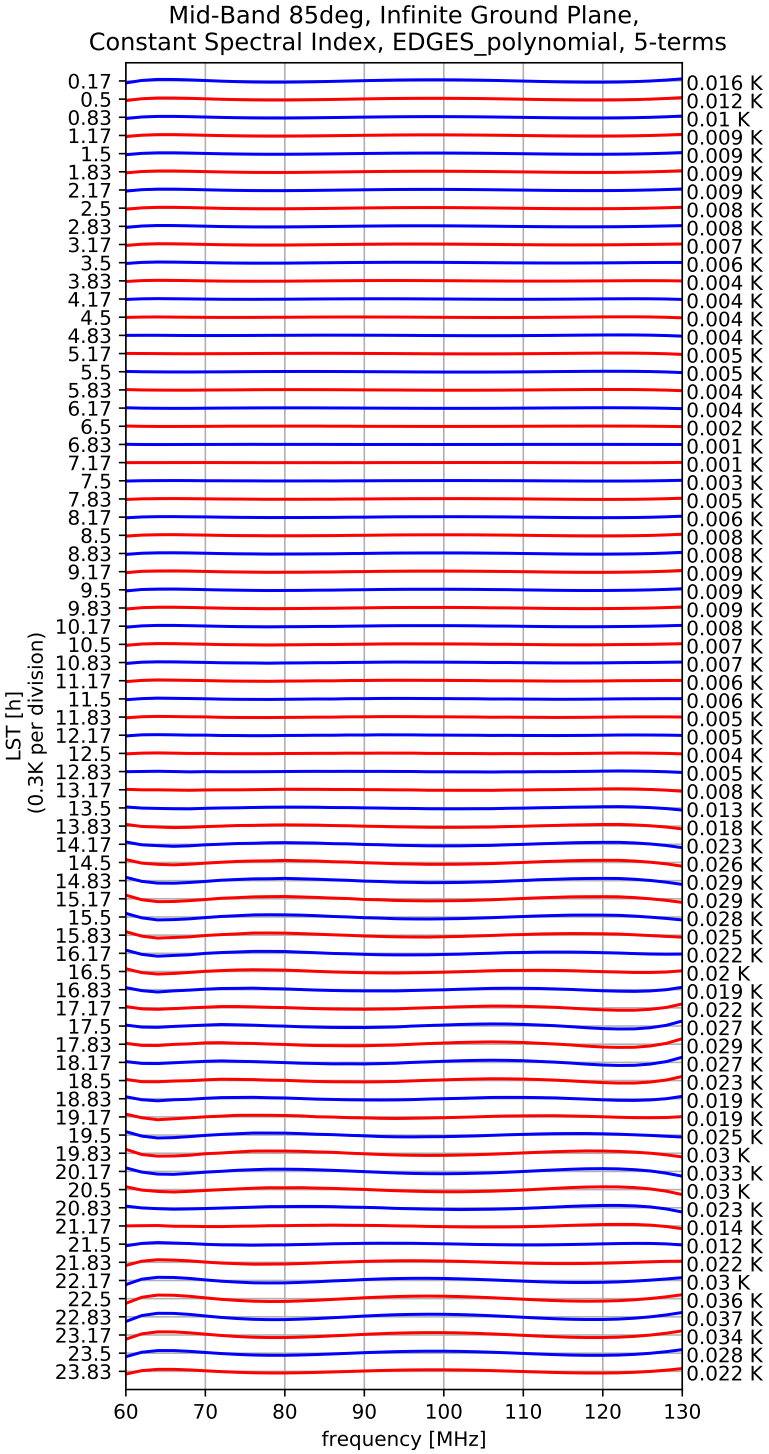
Mid-Band 85deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
LST [h]
(0.3K per division)
0.17 0.016 K
0.5 0.012 K
0.83 0.01 K
1.17 0.009 K
1.5 0.009 K
1.83 0.009 K
2.17 0.009 K
2.5 0.008 K
2.83 0.008 K
3.17 0.007 K
3.5 0.006 K
3.83 0.004 K
4.17 0.004 K
4.5 0.004 K
4.83 0.004 K
5.17 0.005 K
5.5 0.005 K
5.83 0.004 K
6.17 0.004 K
6.5 0.002 K
6.83 0.001 K
7.17 0.001 K
7.5 0.003 K
7.83 0.005 K
8.17 0.006 K
8.5 0.008 K
8.83 0.008 K
9.17 0.009 K
9.5 0.009 K
9.83 0.009 K
10.17 0.008 K
10.5 0.007 K
10.83 0.007 K
11.17 0.006 K
11.5 0.006 K
11.83 0.005 K
12.17 0.005 K
12.5 0.004 K
12.83 0.005 K
13.17 0.008 K
13.5 0.013 K
13.83 0.018 K
14.17 0.023 K
14.5 0.026 K
14.83 0.029 K
15.17 0.029 K
15.5 0.028 K
15.83 0.025 K
16.17 0.022 K
16.5 0.02 K
16.83 0.019 K
17.17 0.022 K
17.5 0.027 K
17.83 0.029 K
18.17 0.027 K
18.5 0.023 K
18.83 0.019 K
19.17 0.019 K
19.5 0.025 K
19.83 0.03 K
20.17 0.033 K
20.5 0.03 K
20.83 0.023 K
21.17 0.014 K
21.5 0.012 K
21.83 0.022 K
22.17 0.03 K
22.5 0.036 K
22.83 0.037 K
23.17 0.034 K
23.5 0.028 K
23.83 0.022 K
60 70 80 90 100 110 120 130
frequency [MHz]

Figure 12:

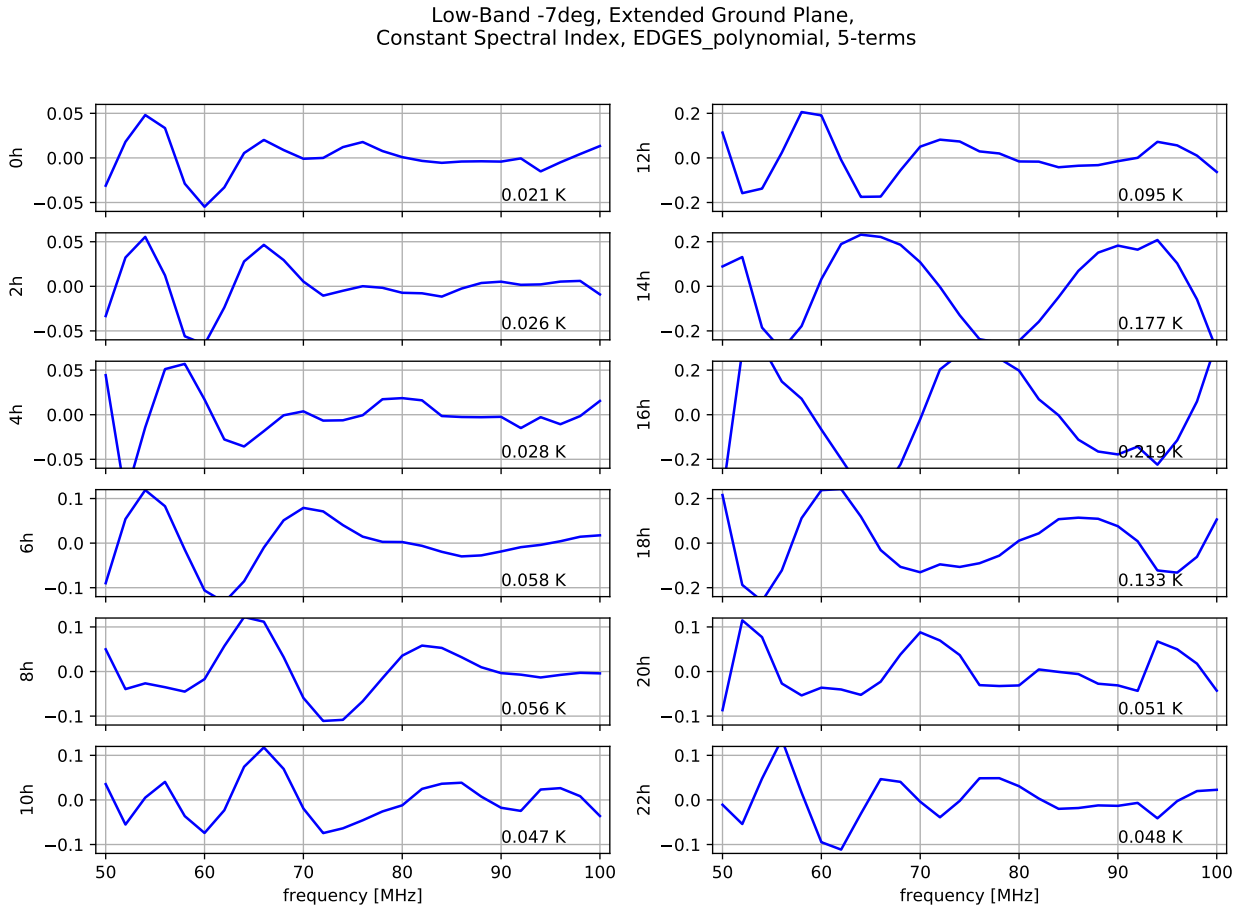
Low-Band -7deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.021 K
12h
0.095 K
2h
0.026 K
14h
0.177 K
4h
0.028 K
16h
0.219 K
6h
0.058 K
18h
0.133 K
8h
0.056 K
20h
0.051 K
10h
0.047 K
22h
0.048 K
frequency [MHz]
frequency [MHz]

Figure 13:

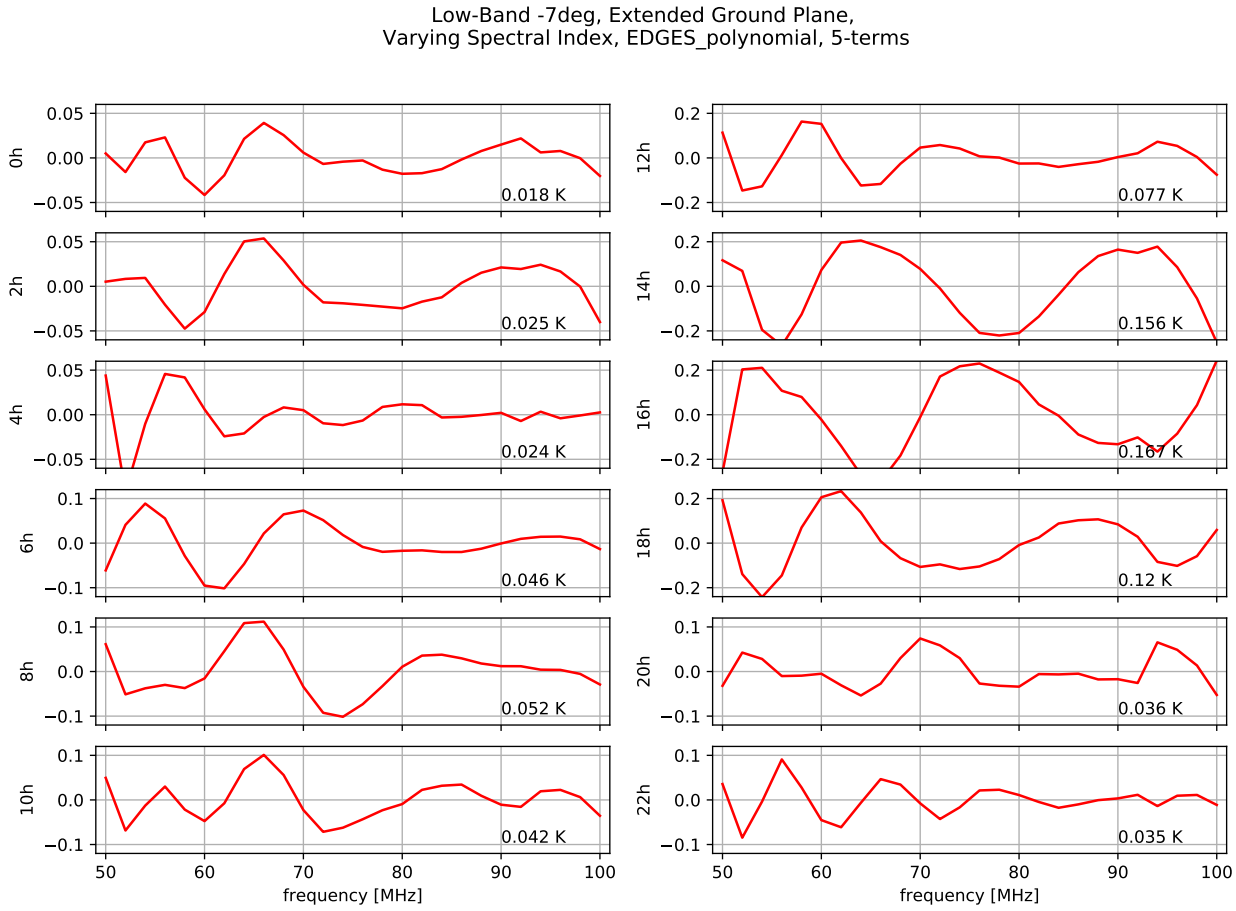
Low-Band -7deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
0h
0.018 K
2h
0.025 K
4h
0.024 K
6h
0.046 K
8h
0.052 K
10h
0.042 K
12h
0.077 K
14h
0.156 K
16h
0.167 K
18h
0.12 K
20h
0.036 K
22h
0.035 K
frequency [MHz]
frequency [MHz]

Figure 14:

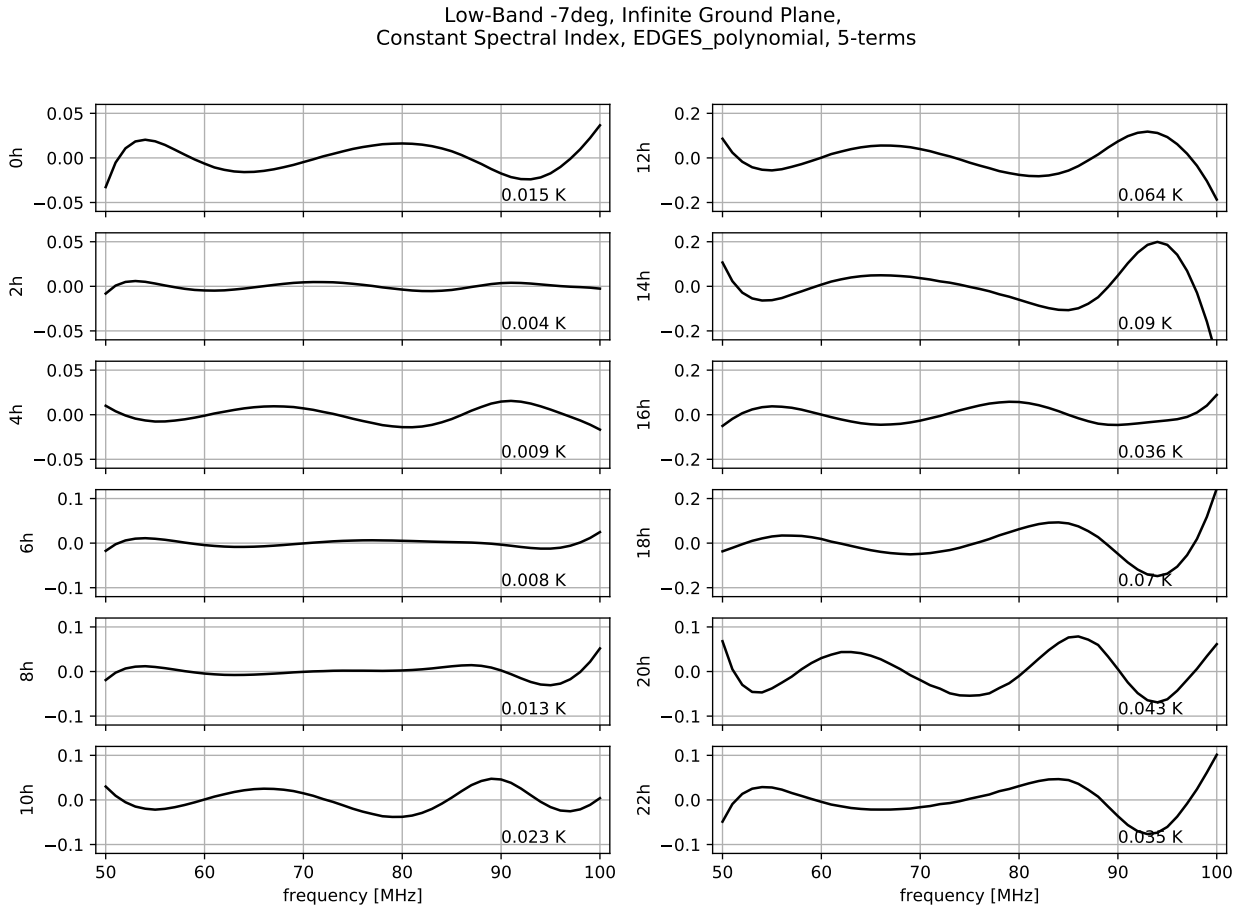
Low-Band -7deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.015 K
2h
0.004 K
4h
0.009 K
6h
0.008 K
8h
0.013 K
10h
0.023 K
12h
0.064 K
14h
0.09 K
16h
0.036 K
18h
0.07 K
20h
0.043 K
22h
0.035 K
frequency [MHz]
frequency [MHz]

Figure 15:

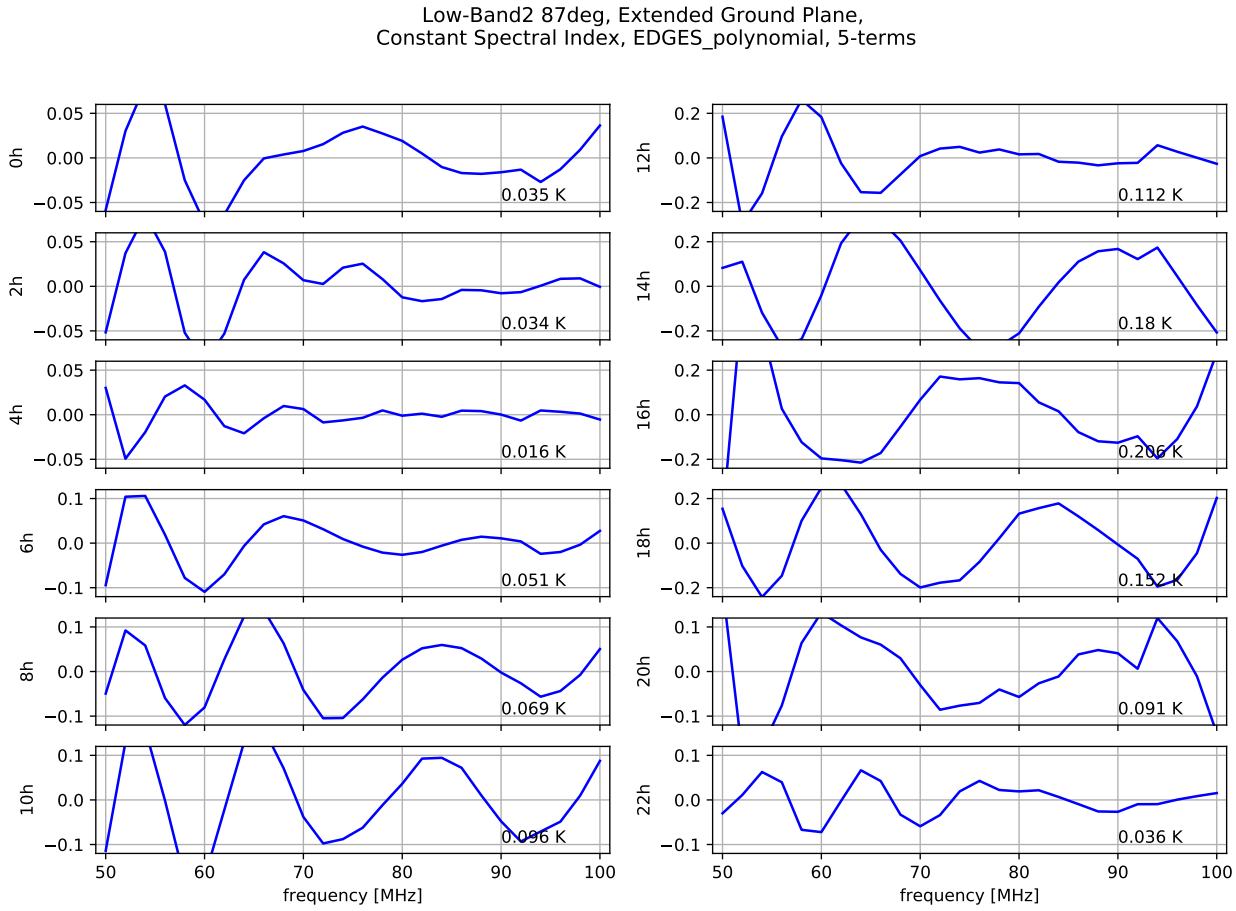
Low-Band2 87deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.035 K
2h
0.034 K
4h
0.016 K
6h
0.051 K
8h
0.069 K
10h
0.096 K
12h
0.112 K
14h
0.18 K
16h
0.206 K
18h
0.152 K
20h
0.091 K
22h
0.036 K
frequency [MHz]
frequency [MHz]

Figure 16:

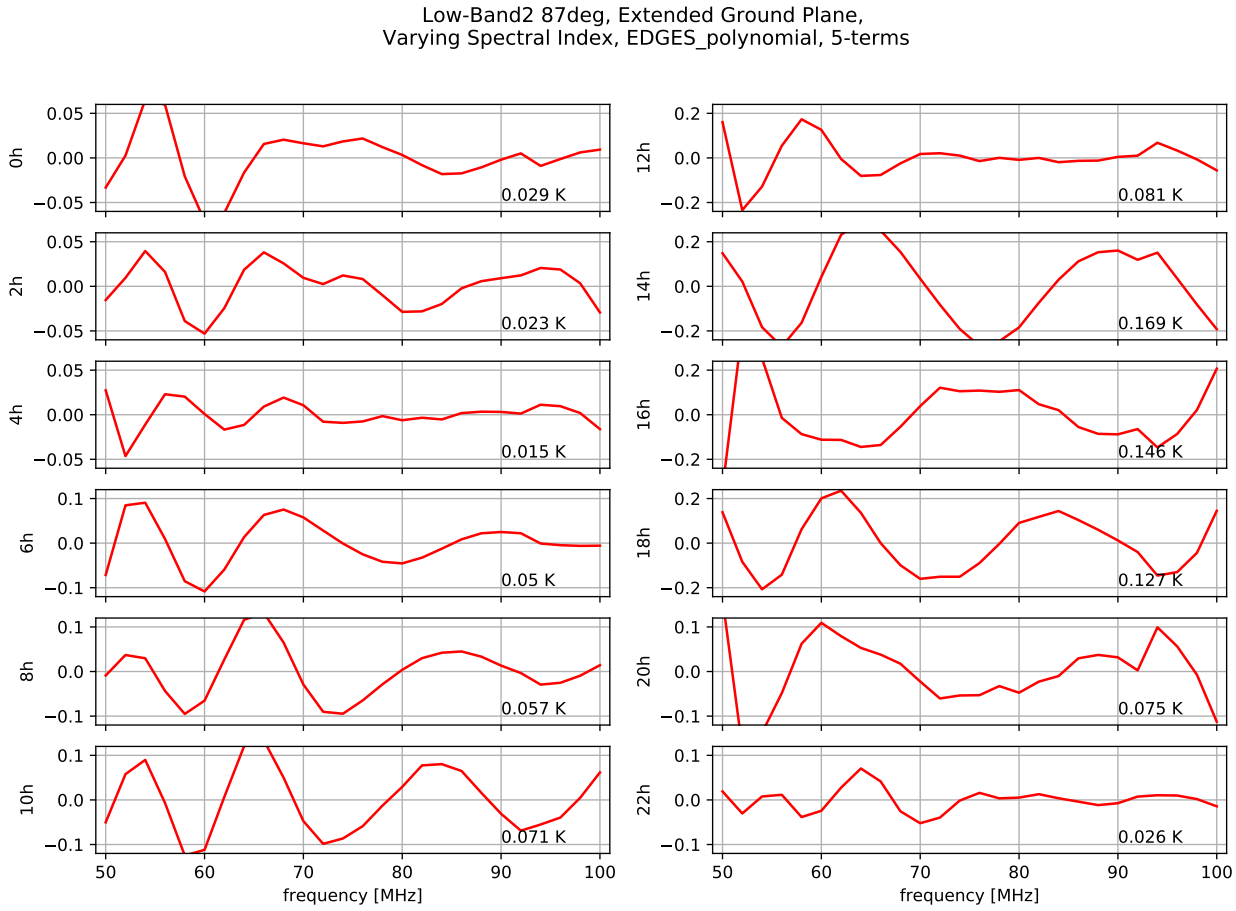
Low-Band2 87deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
0h
0.029 K
2h
0.023 K
4h
0.015 K
6h
0.05 K
8h
0.057 K
10h
0.071 K
12h
0.081 K
14h
0.169 K
16h
0.146 K
18h
0.127 K
20h
0.075 K
22h
0.026 K
frequency [MHz]
frequency [MHz]

Figure 17:

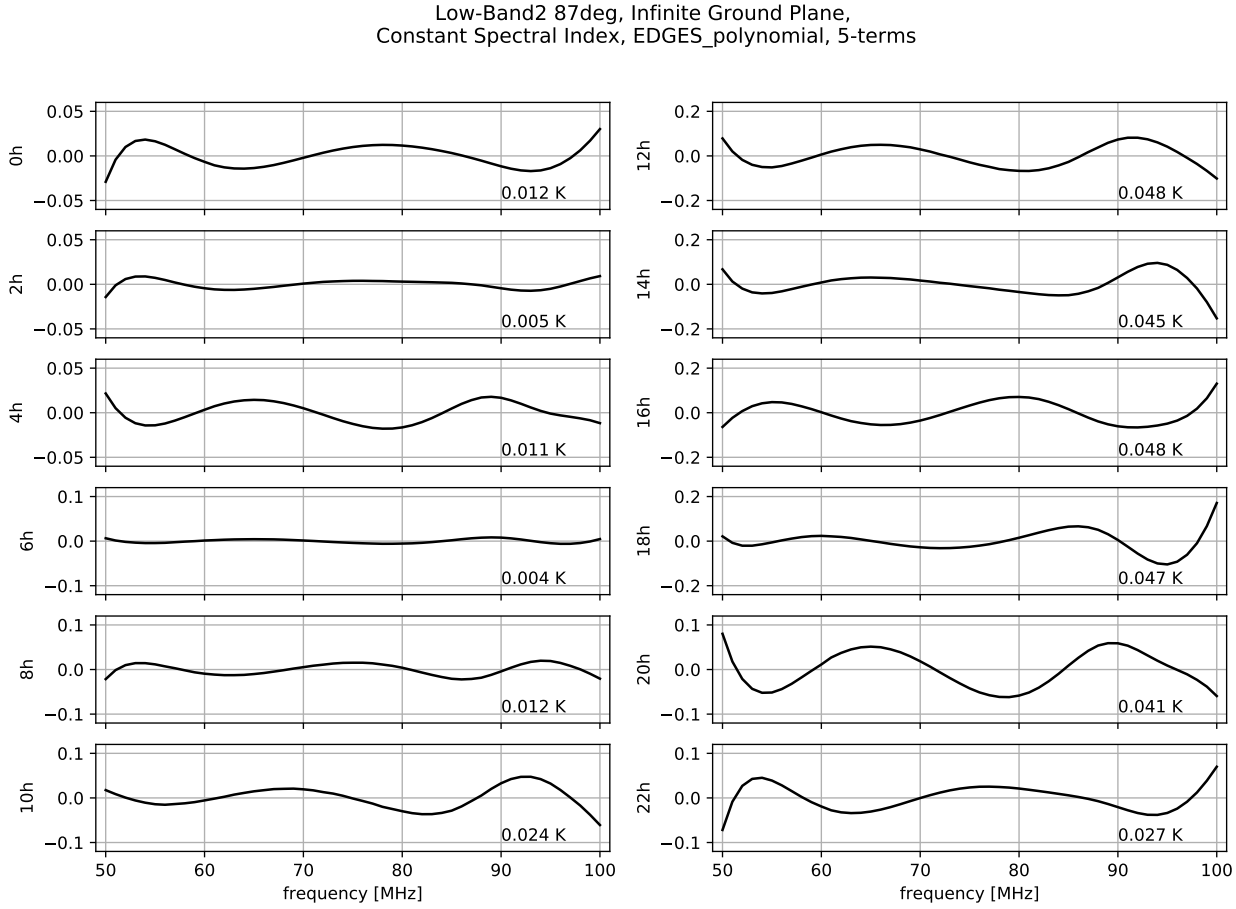
Low-Band2 87deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.012 K
2h
0.005 K
4h
0.011 K
6h
0.004 K
8h
0.012 K
10h
0.024 K
12h
0.048 K
14h
0.045 K
16h
0.048 K
18h
0.047 K
20h
0.041 K
22h
0.027 K
frequency [MHz]
frequency [MHz]

Figure 18:

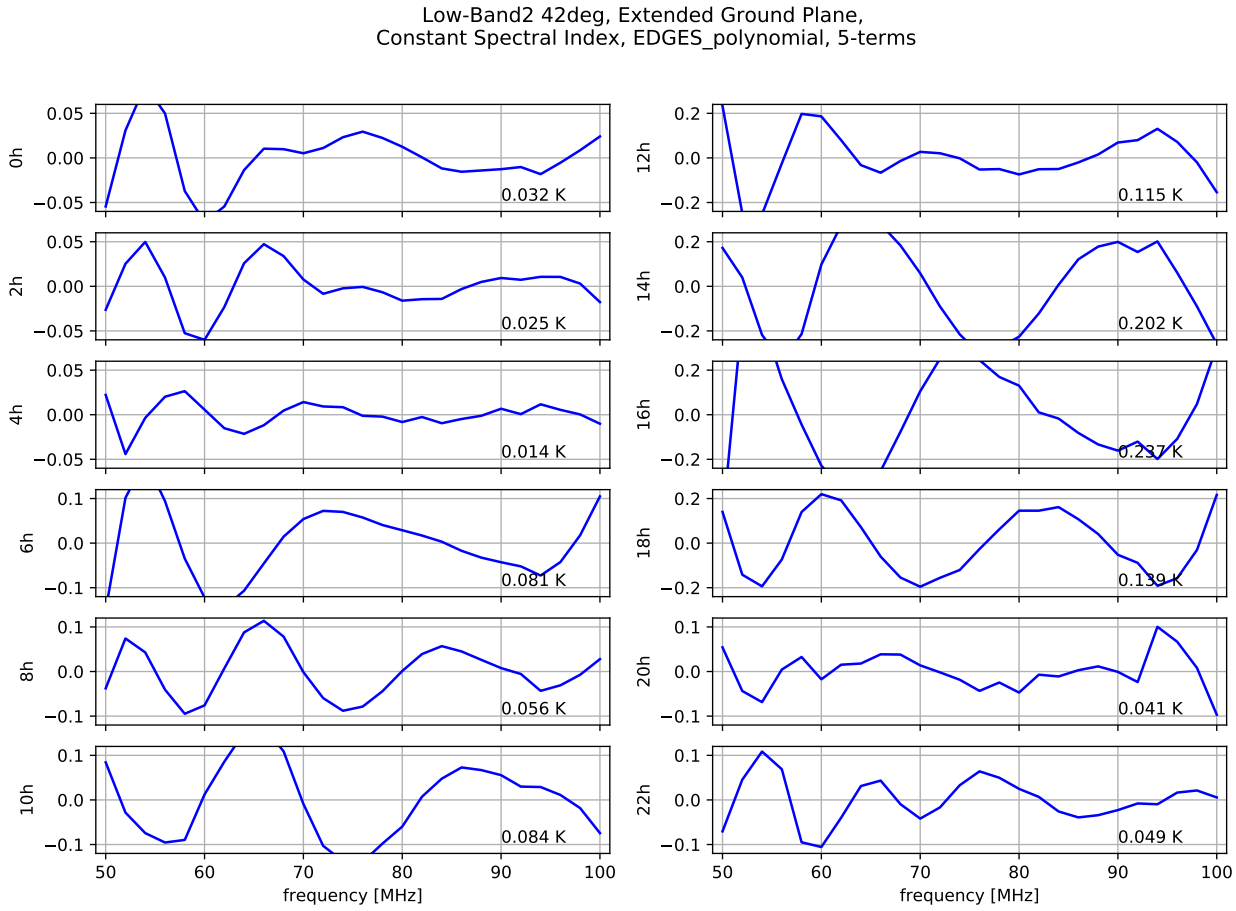
Low-Band2 42deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.032 K
12h
0.115 K
2h
0.025 K
14h
0.202 K
4h
0.014 K
16h
0.237 K
6h
0.081 K
18h
0.139 K
8h
0.056 K
20h
0.041 K
10h
0.084 K
22h
0.049 K
frequency [MHz]
frequency [MHz]

Figure 19:

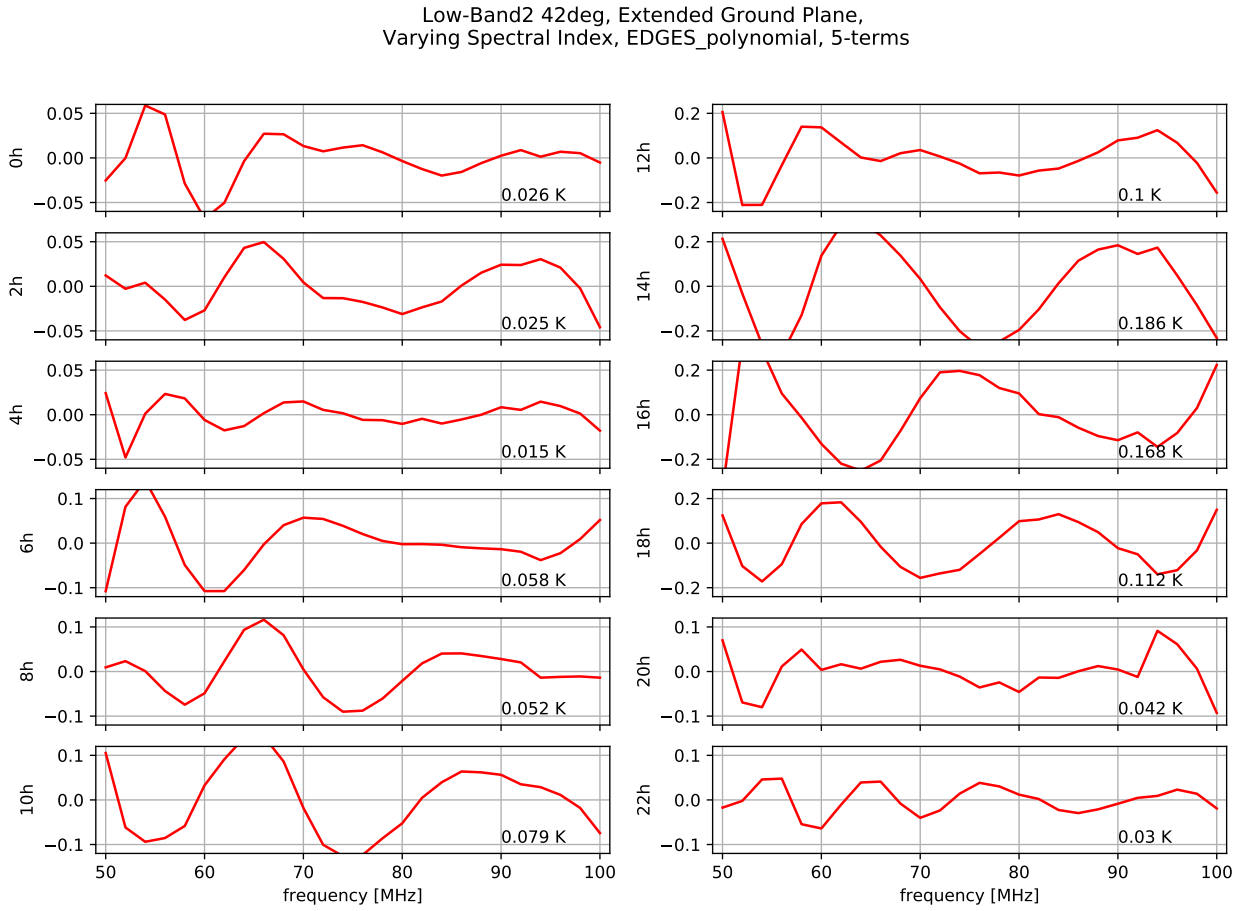
Low-Band2 42deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
0h
0.026 K
2h
0.025 K
4h
0.015 K
6h
0.058 K
8h
0.052 K
10h
0.079 K
12h
0.1 K
14h
0.186 K
16h
0.168 K
18h
0.112 K
20h
0.042 K
22h
0.03 K
frequency [MHz]
frequency [MHz]

Figure 20:

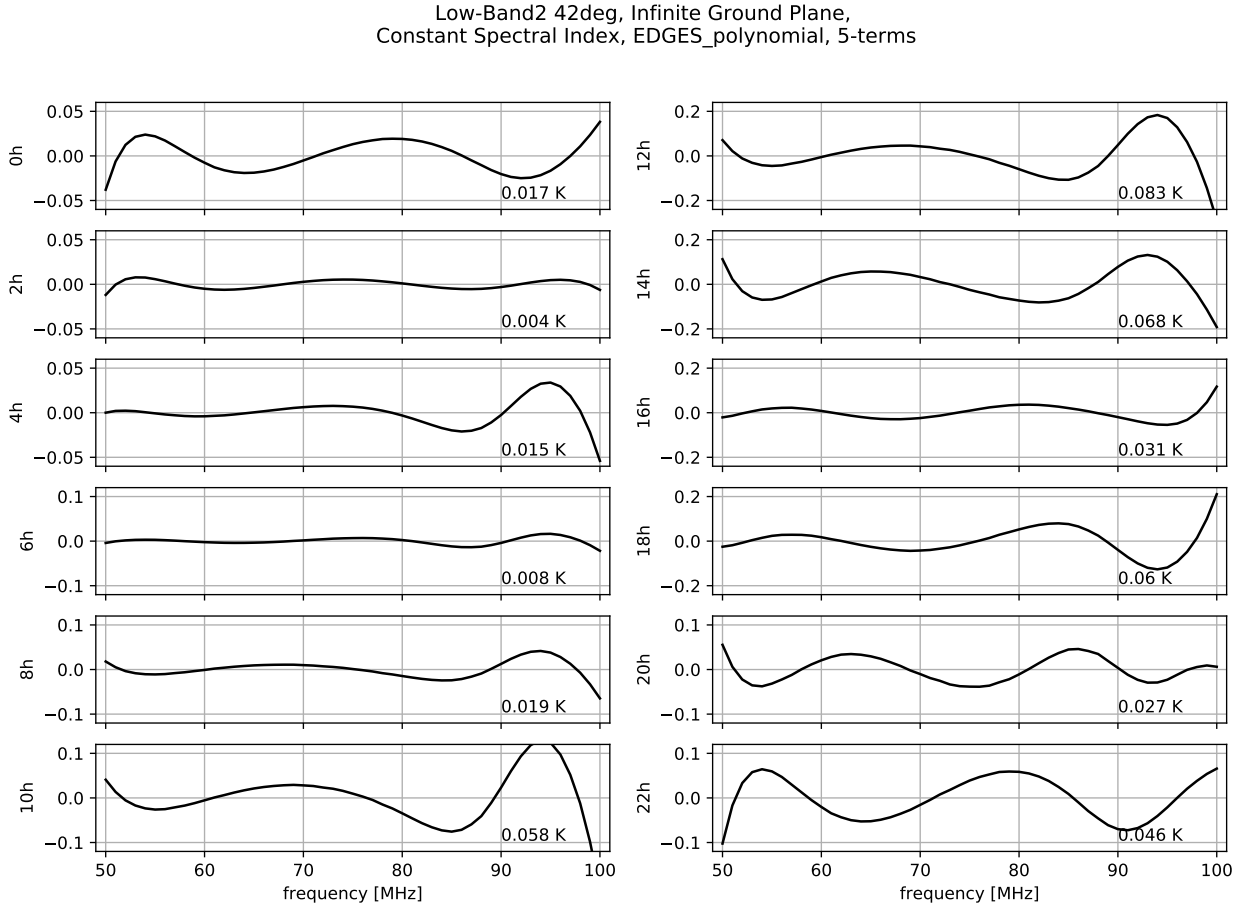
Low-Band2 42deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.017 K
2h
0.004 K
4h
0.015 K
6h
0.008 K
8h
0.019 K
10h
0.058 K
12h
0.083 K
14h
0.068 K
16h
0.031 K
18h
0.06 K
20h
0.027 K
22h
0.046 K
frequency [MHz]
frequency [MHz]

Figure 21:

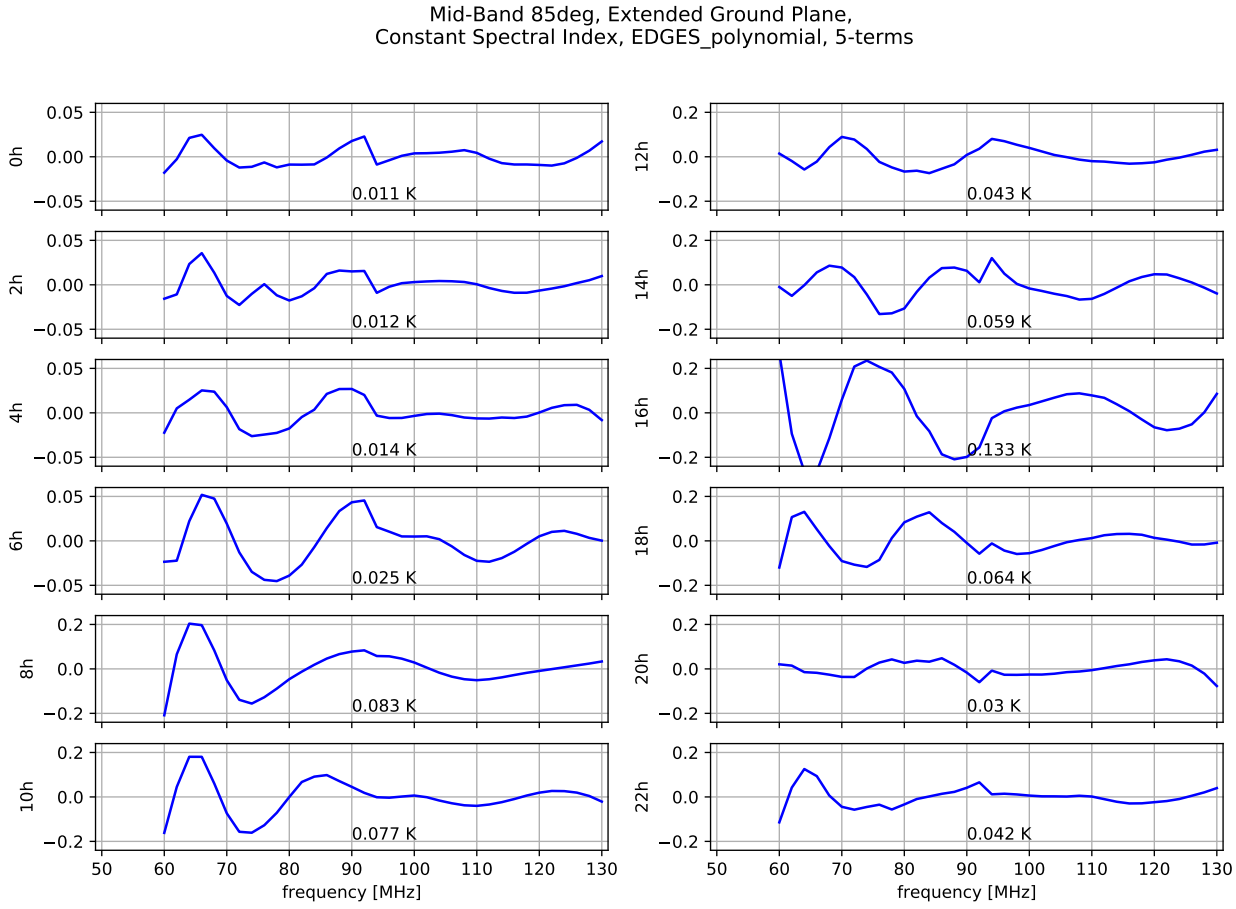
Mid-Band 85deg, Extended Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.011 K
2h
0.012 K
4h
0.014 K
6h
0.025 K
8h
0.083 K
10h
0.077 K
12h
0.043 K
14h
0.059 K
16h
0.133 K
18h
0.064 K
20h
0.03 K
22h
0.042 K
frequency [MHz]
frequency [MHz]

Figure 22:

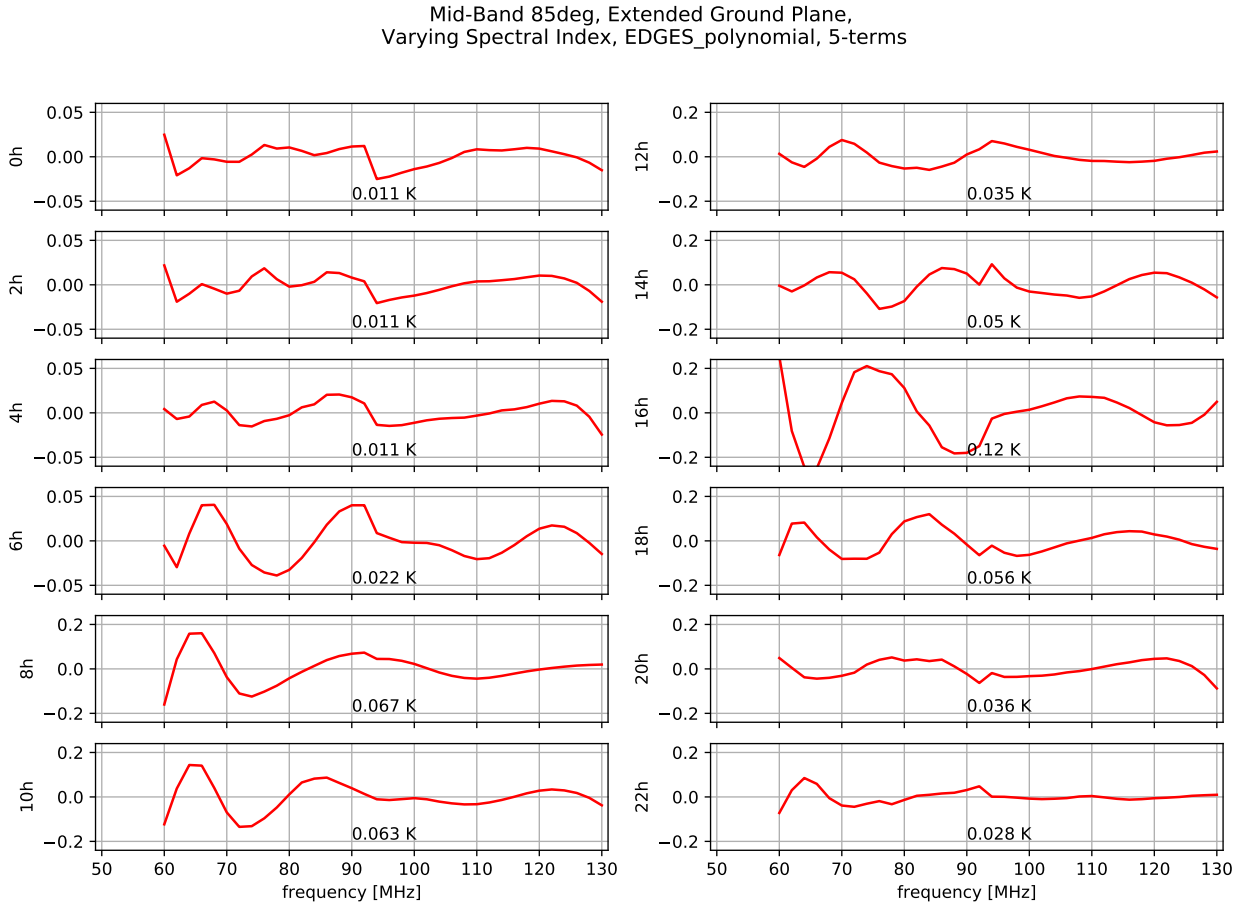
Mid-Band 85deg, Extended Ground Plane,
Varying Spectral Index, EDGES_polynomial, 5-terms
0h
0.011 K
2h
0.011 K
4h
0.011 K
6h
0.022 K
8h
0.067 K
10h
0.063 K
12h
0.035 K
14h
0.05 K
16h
0.12 K
18h
0.056 K
20h
0.036 K
22h
0.028 K
frequency [MHz]
frequency [MHz]

Figure 23:

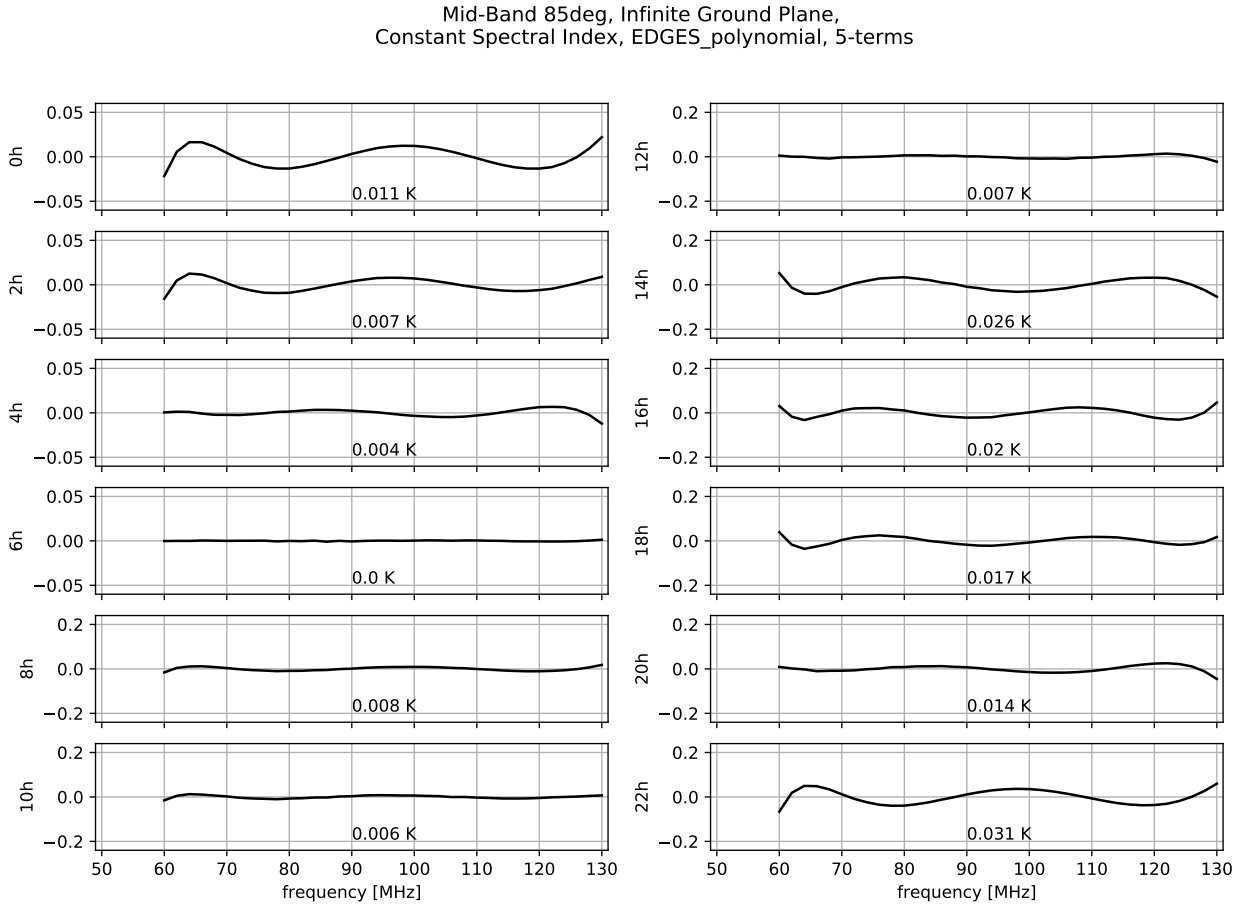
Mid-Band 85deg, Infinite Ground Plane,
Constant Spectral Index, EDGES_polynomial, 5-terms
0h
0.011 K
12h
0.007 K
2h
0.007 K
14h
0.026 K
4h
0.004 K
16h
0.02 K
6h
0.0 K
18h
0.017 K
8h
0.008 K
20h
0.014 K
10h
0.006 K
22h
0.031 K
frequency [MHz]
frequency [MHz]

Figure 24:

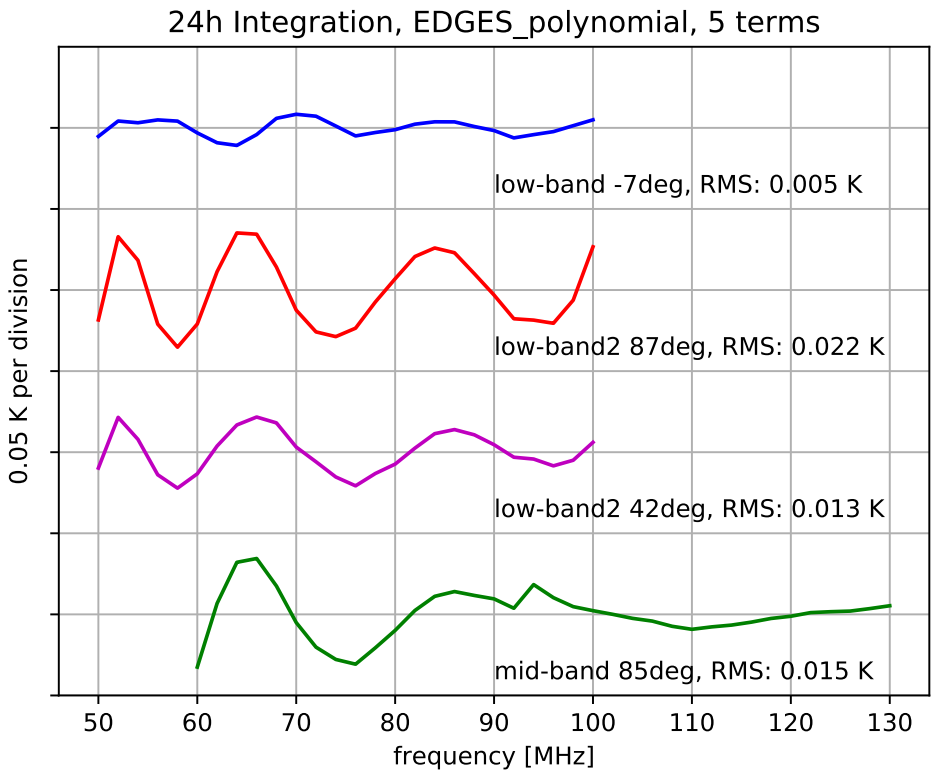
24h Integration, EDGES_polynomial, 5 terms
low-band -7deg, RMS: 0.005 K
low-band2 87deg, RMS: 0.022 K
low-band2 42deg, RMS: 0.013 K
mid-band 85deg, RMS: 0.015 K
0.05 K per division
50
60
70
80
90
100
110
120
130
frequency [MHz]

Figure 25: