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To: EDGES Group  
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Subject: Comparison of beam and lowband1 data in 2 hour LST blocks

The beam for lowband1 used in the H2 configuration of the Nature paper using data from 2016 day 250 to 2017 day 98 is analyzed in 2 hour blocks of LST using 5 physical terms and the Haslam map. Figure 1 shows the residuals with 5-terms removed for each 2 hour block and for all 24 hours for the data on the left, the beam convolved with the Haslam map with 408 with spectral index 2.5 in the middle and with the data plus the Nature feature on the right.

Table 1 gives the results of a 5 physical term fit for the Nature feature in the 24 hour average with and without the newniv.txt beam for low1 on the 30x30 ground plane which was used for the Nature paper. The antenna s11 used was S11\_blade\_low\_band\_2015\_342\_03\_14.txt.csv and the calibration used was from 2017 days 139 to 146.

	Center MHz	SNR	Amplitude K	Width MHz	rms1 mK	rms2 mK
With beam corr	78.5	32.4	0.71	20.7	69	21
Without beam corr	78.5	34.7	0.73	20.2	76	22
Nature Feature	78 +1,-1		0.5 +0.5,-0.2	19.0 +4,-0.2		
With beam corr	78.5	20.1	0.58	19.3	49	20

Table 1. Best fit feature over all LST for  $\tau = 7$  5-term fit 55 to 97 MHz last entry is 65 to 95 MHz

rms1 and rms2 are the rms of the residuals over 24 all LST 55 to 97 MHz before and after fitting the absorption feature last entry is for a reduced frequency range of 65 to 95 MHz for a grid search which leads to an absorption amplitude well within the errors of the Nature paper (2018).

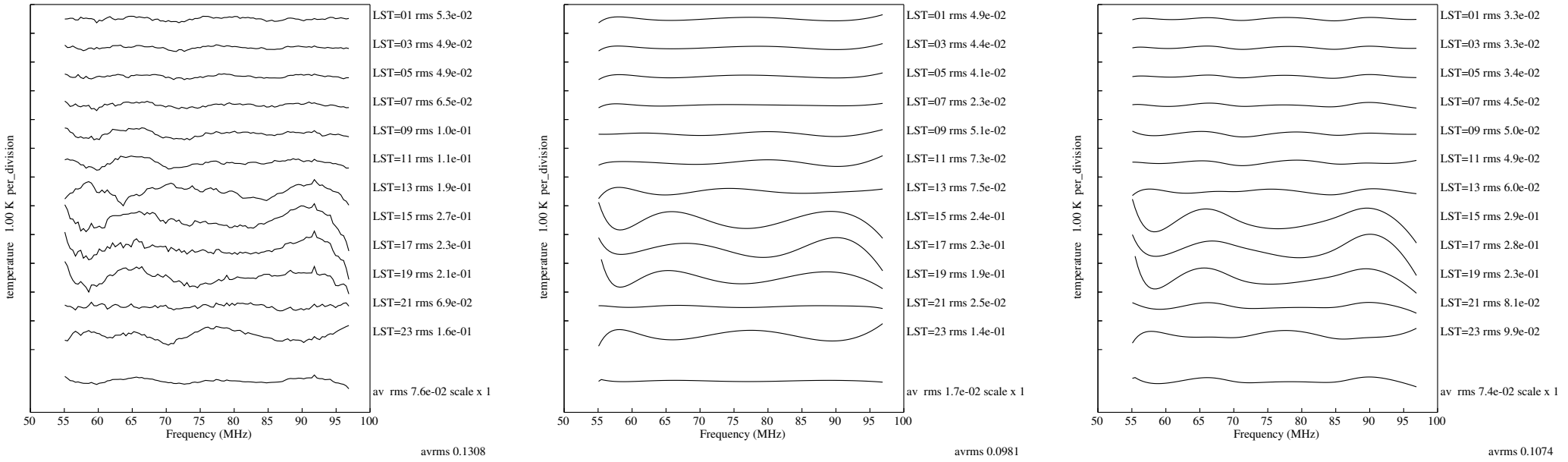


Figure 1. Plots of the residuals for 2 hour LST blocks centered at 1 to 23 hours and for all 24 hours. Plot on the left is the low l data without beam correction in the middle is the beam chromaticity using the Haslam map and on the right is from the Haslam map with the Nature feature added to the sky map using the parameters in the last row of table 1.