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To: Holographers
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Subject: Long and shorter holography feeds

The computed patterns for the holography feeds are shown in the figure. The shorter horn has about 5 dB more illumination (or a total taper of 8 dB) at the edges of the dish compared with the long horn. Looking through the measured radiometry feed patterns I estimate the following taper (average for E, H, 45):

Freq. GHz	Taper
115	11 dB
112	10 dB
100	7 dB
90	6 dB

The shorter horn has a negligible astigmatism.

LONG HORN 10.02X7.08
SHORTER 8.1X5.6

10dB

18deg

— SHORTER

LONG —

H - PLANE

E - PLANE

45 - PLANE

6.7

0

6.7

CALCULATED PATTERNS FOR LONG AND SHORTER HORNS

