Doppler DF Error Analysis

Contribution due to side arm mounting a DF antenna on a tower



Geometry of eight element circular array for 860 MHz as captured from the Antenna Model software.



Geometry of eight element circular array for 860 MHz near tower as captured from the Antenna Model software.



Averaged bearing error for the 150 MHz system with tower distance of 48 inches. The sixteen-term Fourier series approximation for the bearing error is also plotted. The bearing angle interval is 5 degrees.



Peak bearing error versus tower distance for 860 MHz system. An approximate trend curve is also plotted.



Peak bearing error versus tower distance for 450 MHz system. An approximate trend curve is also plotted.



Peak bearing error versus tower distance for 150 MHz system. An approximate trend curve is also plotted.

Minimum Side Arm Distance

Frequency	Distance for 5 deg peak error	Distance for 2 deg peak error
860 MHz	50 in (4.2 ft)	360 in (30 ft)
450 MHz	90 in (7.5 ft)	600 in (50 ft)
150 MHz	100 in (8.3 ft)	900 in (75 ft)