Estimating the phase centre of two dimensional radiators

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Abstract

A method has been introduced for determining the phase center of two dimensional radiators. This method involves the determination of the phase errors against the angle at the far field of the radiator with reference to the center of the aperture of the radiator. The phase center is than estimated by equating the phases at the broadside and at a chosen angle. The results show that there is almost no phase error over the range of angles of interest for the estimated phase center at the design frequency. The position of the phase center does not vary with the distance from the radiator, which means that there are no phase errors as the distance from the radiator varies. Although there are some phase errors as the frequency varies, these errors are not significant over a wide band of frequencies.

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