Application of Rotman Lenses in high resolution radar antennas for the mm-wave-range

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Abstract

This paper describes the design and development of a Rotman Lens, suitable for the application in high resolution scanning antennas in the mm-wave-range. The use of Rotman Lenses is discussed in contrast to other beam forming techniques in this frequency range and the essential parameter of the lens for realising small scan angles is described. Measured results from a scaled model at 12 GHz show a good agreement with values determined by the theoretical analysis.

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