Abstracts

Fundamental Considerations in Millimeter and Near-Millimeter Component Design Employing Magnetoplasmons

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The feasibility of using surface magnetoplasmons on semiconducting substrates to obtain circuit functions which match those of ferrite loaded devices at lower frequencies, is investigated. This article describes some initial results obtained in our study of performance characteristics using the best loss parameters available for GaAs materials. Canonical models are considered which relate directly to proposed configurations for differential phase shifters and isolators in the millimeter and near-millimeter ranges.

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