# Abstracts

## Semiconductor Junction Circulators

*L.E. Davis and R. Sloan. "Semiconductor Junction Circulators." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. I [MWSYM]): 483-486.*

Modern ferrite circulators operating above 40GHz, are narrowband devices, due to the ferrite materials available today. Tracking operation of junction circulators above 60GHz are, in principle possible employing magnetoplasmons. Theoretical results are presented showing broadband operation for idealised Gallium Arsenide cooled to 77K, and an example is shown for the frequency range 92-100 GHz. A narrowband, solution is also given where the losses due to electron collisions are modelled. The circulation conditions in the latter example are designed using intersecting impedance curves rather than the tracking solutions achieved in the lossless case.

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