# Abstracts

## Varactor-Tunable Uniplanar Ring Resonators

*J.A. Navarro and K. Chang. "Varactor-Tunable Uniplanar Ring Resonators." 1993 Transactions on Microwave Theory and Techniques 41.5 (May 1993 [T-MTT]): 760-766.*

In this paper, slotline and CPW ring resonators are introduced and integrated with varactor diodes to create electronically tunable uniplanar ring resonators. Varactors electronically tune the second resonant mode of the slotline ring over a 23% bandwidth from 3.03 to 3.83 GHz with a 4.5 ± 1.5 dB variation in insertion loss. Similarly, a CPW ring resonator was tuned over a 22% bandwidth from 2.88 to 3.59 GHz. Both resonators offer the ground plane and center conductor on the same side of the substrate to allow easy series or shunt insertion of solid-state devices. DC biasing is naturally integrated in the slotline structure and straight forward in CPW. Monolithic implementation of these resonators would not require via holes to ground solid-state devices which should reduce processing complexity and increase production yields.

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