Abstracts

Frequency dependent characteristics of radiation from a voltage source on a covered microstrip line

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The fields radiated from the currents induced on a covered microstrip transmission line by a finite-gap voltage source are presented. The character of these radiated fields has been examined in detail as the frequency is varied. It is shown that there is a smooth transition in the total radiation field from the spectral-gap region at lower frequencies to higher frequencies where a physical leaky mode exists. A characteristic leakage beam develops gradually as the frequency increases. When the leakage beam first develops, the observed radiation angle is greater than that predicted by the leaky mode alone. Crosstalk radiation can be significant even before the leaky mode becomes physical.

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