

# **Session S**

## **New Guided-Wave Leakage Effects**

**Chairman:**

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It is only within the past few years that it was realized that the dominant mode on printed circuit (planar) waveguides can become leaky under appropriate conditions. Such leakage occurs in the form of a surface wave or parallel plate wave that travels away at an angle from the guiding structure, and it can produce undesired crosstalk in an integrated circuit in addition to outright loss of power. As investigations proceed, we continue to find new and unexpected examples in which such leakage occurs. The papers in this session present two new geometries in which leakage occurs, surprisingly, down to zero frequency. An additional paper reveals interesting and unexpected leakage behavior for coplanar waveguide at higher frequencies. The last paper in this session deals with another class of complex modes, which are bound rather than leaky; a coupled-mode approach is used to explain physically the odd behavior of such modes.

**10:30 a.m.–12:00 p.m., Wednesday, June 12, 1991**  
**Ballroom C**