VI-1. GUIDED-WAVE RESEARCH IN BRITISH UNIVERSITIES

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Following a brief resume of general microwave research in British Universities, topics in guided wave propagation will be discussed. These will include studies of both uniform and periodic inhomogeneously-filled waveguides containing either dielectric or ferrite, and homogeneously-filled waveguides of arbitrary cross-section. Recent theoretical and experimental results obtained for backward-wave uniform inhomogeneous structures will be presented, together with a description of their applications in delay lines for pulse-compression radar. A finite-difference technique for the determination of the propagation coefficient of rectangualr waveguide containing longitudinally-magnetized ferrite will be described, the technique being applied to ferrite phase-shifter configurations. Another finite-difference technique developed by J. B. Davies of Sheffield treats waveguides of arbitrary cross-section; this technique and its applications will also be discussed.