Abstracts

Foreword to the Special Issue on Optical Guided Wave Technology (Apr. 1982 [T-MTT])

T.G. Giallorenzi. "Foreword to the Special Issue on Optical Guided Wave Technology (Apr. 1982 [T-MTT])." 1982 Transactions on Microwave Theory and Techniques 30.4 (Apr. 1982 [T-MTT] (Joint Special Issue on Optical Guided Wave Technology)): 303-304.

During the past decade, optical guided wave technology has progressed from a laboratory endeavor to a commercial activity. With guided wave technology, one can realize greatly improved data handling and passive sensing capabilities with completely new devices such as represented by the family of sensors being developed using fiber-optical components. Building upon the substantial technological base developed in the 1970's, long, very high bandwidth unrepeatered links appear possible and will find application in long intercity links and undersea transmission cables. The componentry base already permits implementation of many practical intracity, intrabuilding, and intraplatform (e.g., aircraft, ships) links. A competitive and healthy market has been developed to service these opportunities. Just evolving is the fiber-sensor area in which magnetic, acoustic, gyro, temperature, acceleration, pressure, fluid level, flow, etc., sensors can be fabricated using optical fibers as sensing elements. While this area has not yet transitioned to commercial production, the capabilities demonstrated recently in several laboratories indicate that previously unachievable levels of sensor performance can now be realized, thus ensuring future commercial involvement.

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