

Announcing a Second Special Issue on Guided Wave Technology to be Published in the IEEE JOURNAL OF QUANTUM ELECTRONICS and in the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES

The IEEE JOURNAL OF QUANTUM ELECTRONICS and the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES wish to announce a second Special Issue dedicated to Guided Wave Technology and scheduled for publication in October 1982 (first issue published in the April 1982 issue of the IEEE JOURNAL OF QUANTUM ELECTRONICS). These Special Issues are intended to explore and report on the trends and progress being realized in the development of optical guided wave technology. The IEEE recognizes the growth and importance of guided wave optics and the strong interest of its readers in the evolution of this technology. In response to this interest, this second issue will be published jointly in the IEEE JOURNAL OF QUANTUM ELECTRONICS and the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES so that the widest possible audience interested in optical guided wave technology may be reached.

This Special Issue will be subdivided into two topical areas: New Optoelectronic/Guided Wave Technology and Guided Wave Support Technology. The first category is intended to examine research issues in the development of new optoelectronic/guided wave technology from which future technological use of guided waves will evolve. Included in this subsection are: 1) fiber sensors—acoustic, magnetic, gyro, acceleration, temperature, etc. (description of the operating principle and experimental demonstrations will be examined); 2) optoelectronic devices—integration of sources and/or detection with electronic circuitry (performance and packaging advantages to be realized by this integration will be examined, as will new device concepts and configurations); and 3) integrated optics—for use as signal processors and terminals in data transmission links. Of particular interest here is the use of these devices and their operational capabilities. The development and demonstration of new planar waveguide concepts and componentry will also be examined.

The second subsection, guided wave support technology, is intended to present the reader with a continuing appraisal of achievements in the areas which are mainstream to optical guided wave data transfer technology. Topics to be examined here include: 1) fiber development—low loss/low dispersion fiber development and characterization; fiber theory (loss, polarization, dispersion, or noise characteristics, etc.), fiber cabling; 2) laser development—GaAlAs or quaternary laser development; laser characterization (noise, modulation characteristics, etc.), laser to optical waveguide coupling; color multiplexing, lifetime, and power characteristics; 3) fiber components—couplers, connectors, splicers, fiber filters, or multiplexers; and 4) optical fiber transmission link demonstrations—high performance links which illustrate the advanced capabilities achievable with optical technology or which illustrate limitations.

Investigators in the optical guided wave field are invited to submit original contributions, either as regular papers or as letters, which report and/or illustrate state-of-the-art capabilities and advances. Appropriate topics include all areas detailed in the preceding paragraphs.

The deadline for submission is March 1, 1982. Publication of the Special Issue is planned for October 1982. Additional information for authors may be found on the back cover of the current issues of the IEEE JOURNAL OF QUANTUM ELECTRONICS. Contributions to this Special Issue, consisting of the original manuscript plus two copies should be submitted directly to the Guest Editor of this Special Issue.

THOMAS G. GIALLORENZI
Guest Editor
Optical Sciences Division
Naval Research Laboratory
Washington, DC 20375