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MICROWAVE THEORY AND TECHNIQUES SOCIETY

SPECIAL TRANSACTIONS ISSUE

ON

"Microwave Aspects and Applications of GHz/Gbit Optical Technology"

Fiber optical telecommunications systems with data rates of hundreds of megabits per second have become commonplace, gigabit systems are under development, and several gigabits have been demonstrated in research laboratories. Microwave engineering techniques are obviously critical to the design, fabrication, and packaging of the transmitters and receivers for such systems.

Although most of the research and development efforts in wideband optical technology have been directed towards applications in data communications, it has been recognized for some time that there are several attractive applications in traditional microwave systems. For example, optical fibers can replace metallic waveguides for transmission of analog microwave signals. Fibers can be used as delay lines in signal processors for microwave signals, providing orders of magnitude improvement in time-bandwidth product. Novel optical approaches have also been developed for generating microwave signals, and for injection-locking of microwave oscillators.

The IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES is planning to publish a special issue on "Microwave Aspects and Applications of GHz/Gbit Optical Technology" in March, 1987. Topics of interest include but are not limited to the following areas:

Microwave Aspects of GHz/Gbit Optical Technology

- o High-speed modulation of diode lasers
- o Wideband photodetector technology
- o High-bit-rate transmitter/receiver design
- o Analog transmitter/receiver design
- o Microwave characteristics of lasers/photodetectors
- o Receiver preamplifier design
- o MIC/MMIC modulation circuit design
- o Devices and circuit packaging

Microwave Applications

- o Optical transmission of microwave signals
- o Fiber optic delay line processors
- o Optical generation of microwave signals
- o Optical control of microwave oscillators

Authors are requested to send four (4) copies of their manuscript by July 1, 1986 to:

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