

Chapter 8 by Herezfeld deals with photonic systems and photonic devices. High speed fibre optics links for microwave signal transmission are considered in this chapter. Photonic approach improves maximum frequency and bandwidth, radiofrequency gain, signal-to-noise ratio, dynamic range and system weight for microwave signal transmission. That microwave devices such as PIN diodes and metal gate field-effect transistors can be controlled by optical signals, have been explained in this chapter.

Like electronic integrated circuits (IC), photonic devices are also integrated to give optical integrated circuit (OIC) or optoelectronic integrated circuits (OEIC). Chapter 9 focuses on the need of photonic integrated circuits besides other devices discussed earlier.

Optical communication and data transmission network is one of the principal applications of photonics and the concluding chapter by Charles S Ih has elaborated on single mode fibre communication systems and high speed wide bandwidth systems. The techniques of multiplexing to couple many channels of information signals such as wavelength division multiplexing, frequency division multiplexing and subcarrier multiplexing network have been explained.

In the Indian context, many universities and institutes in this country in recent years, have modified their postgraduate courses in optics and spectroscopy to include optoelectronics or have introduced new courses in optics and optoelectronics. This book will be found very useful to the students and the teachers pursuing/involvement in these courses. For the researchers in photonics and optoelectronics, availability of this book is a must in their personal as well as in their institutional libraries.

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