Petermann

Laser Diode Modulation and Noise

Laser diodes represent a key element in the emerging field of opto electronics which includes, for example, optical communication, optical sensors or optical disc systems. For all these applications, information is either transmitted, stored or read out. The performance of these systems depends to a great deal on the performance of the laser diode with regard to its modulation and noise characteristics. Since the modulation and noise characteristics of laser diodes are of vital importance for optoelectronic systems, the need for a book arises that concentrates on this subject. This book thus closes the gap between books on the device physics of semiconductor lasers and books on system design. Complementary to the specific topics concerning modulation and noise, the first part of this book reviews the basic laser characteristics, so that even a reader without detailed knowledge of laser diodes may follow the text. In order to understand the book, the reader should have a basic knowledge of electronics, semiconductor physics and optical communica tions. The work is primarily written for the engineer or scientist working in the field of optoelectronics; however, since the book is self-contained and since it contains a lot of numerical examples, it may serve as a textbook for graduate students. In the field of laser diode modulation and noise a vast amount has been published during recent years. Even though the book contains more than 600 references, only a small part of the existing literature is included.

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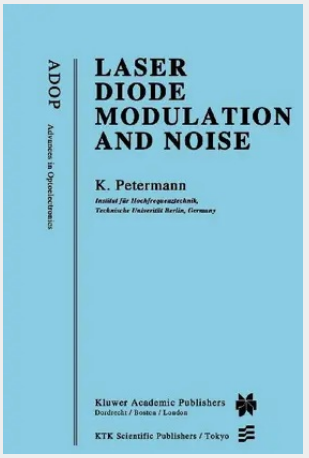

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