



High-Order Modulation for Optical Fiber Transmission

By Matthias Seimetz

Springer Okt 2010, 2010. Taschenbuch. Book Condition: Neu. 235x155x17 mm. This item is printed on demand - Print on Demand Titel. Neuware - The deployment of high-order modulation formats in optical fiber transmission systems is presently seen as a promising way of increasing spectral efficiency and of making better use of the capacity of currently existing fiber infrastructure. Catering to this interest, this book presents possible ways of generating and detecting optical signals with high-order phase and quadrature amplitude modulation and characterizes their system and transmission properties. Several implementation options for high-order modulation optical transmitters are possible. Their optical and electrical parts are described and their individual signal properties are discussed. Receiver concepts with direct detection, homodyne differential detection and homodyne synchronous detection are illustrated, starting with optical frontends and ending with concrete data recovery. The description of transmitters and receivers provided in the first part of the book not only helps to demonstrate their functioning, but also allows their complexity and practicability to be estimated and compared. To advance understanding of the system and transmission behavior of high-order modulation formats for optical fiber transmission, various system parameters such as noise performances, optimal receiver filter bandwidths, required laser linewidths and...



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