



Manipulating Light with Fibre Bragg Gratings

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Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Nanosecond Switching Using In-Fibre Electrodes and Ultra-Narrow Filtering of Millimetre-wave Signals | FBGs are key components for a vast number of applications in optical communications, microwave photonics systems and optical sensors. This book is about FBGs applications in direct microwave optical filtering and high speed switching. A comparison is made between the extensively researched incoherent optical filters and a technique based on a direct spectral filtering of microwave signals transmitted optically. The example of a double-peaked superimposed FBG used in reflection is analysed to illustrate the latter technique, which can be used in RoF systems. The main focus of the book is on research of a new class of photonic devices, where gratings are rendered active in fibres with internal electrodes. Electric control of light in fibres is exploited in dynamic measurements in the nanosecond regime. Numerical simulations give an accurate description of the physics behind the birefringence switching process. Such grating devices have potential application in Q-switched fibre lasers and other fields, and are bound to be widely exploited in the near future. This book will be of special interest for professionals or researchers working on RoF systems and photonic devices. | Format: Paperback | Language/Sprache: english | 92 pp.



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