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Chapter 11. Transport Solutions for Optically Amplified Network (Werner Weiershausen and Malte Schneiders)Chapter 12. Optical amplifier for maintenance friendly fiber networks (Glenn A. Wellbrock and Tiejun J. Xia); Chapter 13. Low Cost Optical Amplifiers (Bruce Nyman and Greg Cowle); Chapter 14. Semiconductor optical amplifiers for Metro and Access Networks (Leo Spiekman and David Piehler); Chapter 15. Market trends for optical amplifiers (Daryl Innis); Chapter 1  
Optical Amplifiers for Next Generation WDM Networks: A Perspective and Overview; 1.1 Introduction  
1.2 Optical amplifiers: recent developments1.3 Optical amplifiers: present status; 1.4 Chapter overviews; Acronyms; Acknowledgements; References; Chapter 2 ROADM-Based Networks; 2.1 Introduction; 2.2 Evolution of the ROADM component and network; 2.3 Impact on optical amplifiers requirements; 2.4 Increased density and functional integration of ROADM technology; 2.5 Emerging applications and uses of ROADM networks; 2.6 Summary; Acronyms; References; Chapter 3 Challenges and Opportunities in Future High-Capacity Optical Transmission Systems; 3.1 Introduction  
3.2 Recent developments in high-capacity transmission systems3.3 Technical challenges in future high-capacity transmission; 3.4 Estimating a "Shannon limit" for fiber optical systems; 3.5 Emerging technologies for increasing system capacity and reach; 3.6 Conclusion; Acknowledgments; Acronyms; References; Chapter 4 EDFAs, Raman Amplifiers and Hybrid Raman/EDFAs; 4.1 Introduction; 4.2 An overview of EDFAs, DRAs and hybrid Raman/DRA; 4.3 Gain spectra and DWDM applications; 4.4 EDFA dynamics; 4.5 Conclusions; List of Acronyms; References  
Chapter 5 Dynamic and Static Gain Changes of Optical Amplifiers at ROADM Nodes

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## Sommario/riassunto

With the advent of wavelength routing and dynamic, reconfigurable optical networks, new demands are being made in the design and operation of optical amplifiers. This book provides, for the first time, a comprehensive review of optical amplifier technology in the context of these recent advances in the field. It demonstrates how to manage the trade-offs between amplifier design, network architecture and system management and operation. The book provides an overview of optical amplifiers and reconfigurable networks before examining in greater detail the issues of importance to network op

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