



Microstructured fibers and waveguides for mid-infrared Photonics

By Ajanta Barh

LAP Lambert Academic Publishing Jun 2016, 2016. Taschenbuch.
Book Condition: Neu. 220x150x17 mm. This item is printed on demand - Print on Demand Neuware - The book contains analysis on chalcogenide (Ch) glass-based 'microstructured optical fiber' (MOF) for applications at mid-IR regime (~ 2 - 10 μ m). Optical nonlinearities are explored in index-guided Ch-MOFs for new mid-IR source generation (over the range 3 ~ 6.5 μ m) and high power parabolic pulse generation. Ch-MOF based ultra-large mode area fiber is designed for high power light guidance (3 - 5 μ m) and photonic band-gap guided MOFs are studied for mid-IR filter/sensing applications. In parallel, some portion of the book is devoted to emerging applications of silicon (Si)-photonics as a promising candidate for chip-scale infrared optics. Si waveguides along with dielectric substrate/cover (silica, air etc.), provide high refractive index contrast, which enables strong confinement of light within very small dimension, low bend loss and low foot print. Moreover, its good transparency over 1.1 ~ 7 μ m, makes it suitable for mid-IR applications. In this book, two aspects of Si-photonics have been explored; polarization rotator/converter and unconventional trace gas sensor. 276 pp. Englisch.



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