

High-Spatial-Multiplicity Multicore Fibers for Future Dense Space-Division-Multiplexing Systems - DTU Orbit (09/11/2017)

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Multicore fibers and few-mode fibers have potential application in realizing dense-space-division multiplexing systems. However, there are some tradeoff requirements for designing the fibers. In this paper, the tradeoff requirements such as spatial channel count, crosstalk, differential mode delay, and cladding diameter are discussed. Further, the design concept and transmission characteristics of high-core-count single-mode multicore fibers are discussed. A heterogeneous multicore fiber with 30 cores and quasisingle-mode multi-core fibers with 31 cores are developed.

General information

State: Published

Organisations: Department of Photonics Engineering, High-Speed Optical Communication, Centre of Excellence for Silicon Photonics for Optical Communications, Fujikura Ltd., Hokkaido University, NTT Corporation

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Pages: 1464-1475

Publication date: 2016

Main Research Area: Technical/natural sciences

Publication information

Journal: Journal of Lightwave Technology

Volume: 34

Issue number: 6

ISSN (Print): 0733-8724

Ratings:

BFI (2017): BFI-level 2

Web of Science (2017): Indexed yes

BFI (2016): BFI-level 2

Scopus rating (2016): CiteScore 3.87 SJR 1.233 SNIP 1.881

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 2

Scopus rating (2015): SJR 1.689 SNIP 1.955 CiteScore 4.15

Web of Science (2015): Indexed yes

BFI (2014): BFI-level 2

Scopus rating (2014): SJR 1.801 SNIP 2.423 CiteScore 4.23

Web of Science (2014): Indexed yes

BFI (2013): BFI-level 2

Scopus rating (2013): SJR 1.533 SNIP 2.341 CiteScore 4.03

ISI indexed (2013): ISI indexed yes

Web of Science (2013): Indexed yes

BFI (2012): BFI-level 2

Scopus rating (2012): SJR 1.711 SNIP 2.335 CiteScore 3.21

ISI indexed (2012): ISI indexed yes

Web of Science (2012): Indexed yes

BFI (2011): BFI-level 2

Scopus rating (2011): SJR 1.605 SNIP 2.758 CiteScore 3.2

ISI indexed (2011): ISI indexed yes

Web of Science (2011): Indexed yes

BFI (2010): BFI-level 2

Scopus rating (2010): SJR 1.802 SNIP 2.411

Web of Science (2010): Indexed yes

BFI (2009): BFI-level 1

Scopus rating (2009): SJR 2.312 SNIP 2.761

Web of Science (2009): Indexed yes

BFI (2008): BFI-level 2

Scopus rating (2008): SJR 2.371 SNIP 2.423

Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 2.467 SNIP 2.114
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 2.149 SNIP 2.603
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 2.939 SNIP 3.016
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 2.496 SNIP 2.741
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 2.947 SNIP 2.87
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 3.174 SNIP 2.605
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 3.056 SNIP 2.114
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 2.273 SNIP 1.832
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 2.232 SNIP 1.677

Original language: English

Optical fiber, Optical fibers communication

DOIs:

10.1109/JLT.2015.2508928

Source: PublicationPreSubmission

Source-ID: 123622265

Publication: Research - peer-review › Journal article – Annual report year: 2016