766
标题: CW parametric generation in polarization maintaining PCF pumped by Yb-doped fiber laser
作者: Zlobina, EA (Zlobina, Ekaterina A.); Kablukov, SI (Kablukov, Sergey I.); Babin, SA (Babin, Sergey A.)
编者: Kalli K; Mendez A
来源出版物: MICROSTRUCTURED AND SPECIALTY OPTICAL FIBRES?? 丛书: Proceedings of SPIE??卷: 8426??文献号: 842613??DOI: 10.1117/12.922240??出版年: 2012??
在 Web of Science 中的被引频次: 0
被引频次合计: 0
引用的参考文献数: 35
摘要: Phase matching curves for parametric generation in four wave mixing (FWM) processes of different types are studied experimentally and numerically for a polarization maintaining photonic crystal fiber (PCF) pumped by a tunable continuous wave (CW) ytterbium doped fiber laser near 1 mu m. Parametric frequency shifts up to 100 THz for scalar and pump-divided vector FWM processes are observed providing generation of idler wave with wavelengths as short as 765 and 758 nm for the two processes respectively. Explicit analytical solutions for scalar and polarization phase matching in vicinity of the zero dispersion wavelength have been also deduced. They are based on phase mismatch Taylor series expansion taking into account the polarization contribution. A good quantitative agreement between experimental and calculated frequency shifts is demonstrated.
入藏号: WOS:000304196300035
语种: English
文献类型: Proceedings Paper
会议名称: Conference on Microstructured and Specialty Optical Fibres
会议日期: APR 17-19, 2012
会议地点: Brussels, BELGIUM
会议赞助商: SPIE, Brussels Photon Team (B-PHOT), Brussels-Capital Reg, Fonds Wetenschappelijk Onderzoek (FWO), Int Commiss Opt (ICO), Ville Bruxelles
作者关键词: Yb-doped fiber laser; FWM; PCF; polarization maintaining fiber; phase matching; parametric convertor
KeyWords Plus: PHOTONIC CRYSTAL FIBERS; SINGLE-MODE FIBERS; MICROSTRUCTURED OPTICAL FIBERS; MODULATIONAL INSTABILITY; MULTIPOLE METHOD; OSCILLATOR; DISPERSION; RANGE; SUPERCONTINUUM; AMPLIFICATION
地址: [Zlobina, Ekaterina A.; Kablukov, Sergey I.; Babin, Sergey A.] Russian Acad Sci, Inst Automat & Electrometry, Novosibirsk 630090, Russia
通讯作者地址: Zlobina, EA (通讯作者),Russian Acad Sci, Inst Automat & Electrometry, 1 Koptyug Ave, Novosibirsk 630090, Russia
电子邮件地址: ZlobinaKaterina@gmail.com
出版商: SPIE-INT SOC OPTICAL ENGINEERING
出版商地址: 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA
Web of Science 分类: Optics
学科类别: Optics
IDS 号: BAH87
ISSN: 0277-786X

ISBN: 978-0-8194-9118-3
29 字符的来源出版物名称缩写: PROC SPIE
来源出版物页码计数: 12