353.
标题: High-power, Yb-fiber-laser-pumped, picosecond parametric source tunable across 752-860 nm
作者: Kumar, SC (Kumar, S. Chaitanya); Kimmelma, O (Kimmelma, O.); Ebrahim-Zadeh, M (Ebrahim-Zadeh, M.)
来源出版物: OPTICS LETTERS 卷: 37 期: 9 页: 1577-1579 出版年: MAY 1 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: 12
摘要: We report a stable, high-power source of picosecond pulses in the near-infrared based on intracavity second harmonic generation (SHG) of a MgO:PPLN optical parametric oscillator synchronously pumped at 81 MHz by a mode-locked Yb-fiber laser. By exploiting the large spectral acceptance bandwidth for Type I (oo -> e) SHG in beta-BaB2O4 and a 5 mm crystal, we have generated picosecond pulses over 752-860 nm spectral range under minimal angle tuning, with as much as 3.5 W of output power at 778 nm and >2 W over 73% of the tuning range, in good beam quality with TEM00 spatial profile and M-2 < 1.4. The SHG output pulses have durations of 15.2 ps, with a spectral bandwidth of similar to 3.4 nm at 784 nm. In addition, the oscillator simultaneously provides a signal power of >1 W over 1505-1721 nm (25 THz) and idler power >1.8 W over 2787-3630 nm (25 THz), corresponding to a total (signal plus idler) tuning range of 1059 nm. The SHG, signal, and idler output exhibit passive long-term power stability better than 1.6%, 1.3%, and 1.6% rms, respectively, over 14 h. (C) 2012 Optical Society of America
入藏号: WOS:000303662200062
语种: English
文献类型: Article
KeyWords Plus: TI/SAPPHIRE LASER; OSCILLATOR; MICROSCOPY
地址: [Kumar, S. Chaitanya; Kimmelma, O.; Ebrahim-Zadeh, M.] ICFO Inst Ciencies Foton, Barcelona 08860, Spain
[Ebrahim-Zadeh, M.] Inst Catalana Recerca & Estudis Avancats ICREA, Barcelona 08010, Spain
通讯作者地址: Kumar, SC (通讯作者),ICFO Inst Ciencies Foton, Mediterranean Technol Pk, Barcelona 08860, Spain
电子邮件地址: chaitanya.suddapalli@icfo.es
出版商: OPTICAL SOC AMER
出版商地址: 2010 MASSACHUSETTS AVE NW, WASHINGTON, DC 20036 USA
Web of Science 分类: Optics
学科类别: Optics
IDS 号: 937MI
ISSN: 0146-9592
29 字符的来源出版物名称缩写: OPT LETT
ISO 来源出版物缩写: Opt. Lett.
来源出版物页码计数: 3