



中国激光杂志社入选首批数字出版转型示范单位

JOURNAL 期刊

期刊集群 加盟 订购
各刊动态 过刊 查询

CONFERENCE & EXHIBITION 会议&展览

会议 展览 展播平台
热门 发布 参加会议

TRAINING 培训

光学设计 光学检测 光学前沿
红外成像 数字出版 更多培训

PRODUCTION & SERVICE 产品&服务

期刊集群系统 光学资源库™
汇同会议系统 数字出版整合

首页 > 期刊论文 > 论文摘要

首页 ▾ | 期刊 ▾ | 论文 ▾ | 企业 ▾ | 社区 ▾ | 资讯 ▾ | 专题 | 培训 ▾ | 会展

站点公告: [中国激光杂志社诚聘高级编辑 \(期刊出版百人计划\)](#) [高级查询](#) 热门搜索: [光](#) [表面](#) [等离子体](#)

首页 > 期刊论文 > Chinese Optics Letters > 11卷 > 7期 (pp:071401)

Q-switched pulse generation from an all-fiber distributed Bragg reflector laser using graphene as saturable absorber

[XML](#) [HTML](#) [EndNote](#) [REF](#) [PDF](#) [+](#) [ERROR](#)

Q-switched pulse generation from an all-fiber distributed Bragg reflector laser using graphene as saturable absorber

H. Ahmad F. D. Muhammad M. Z. Zulkifli S. W. Harun

摘要

标签 [140.0140](#) [140.3500](#) [140.3540](#)

Abstract

A Q-switched distributed Bragg reflector fiber laser using a graphene passive saturable absorber is proposed in a cavity consisting of a fiber Bragg grating and Faraday rotator mirror as end mirrors, together with a highly doped erbium-doped fiber as a gain source. The laser has a Q-switched threshold of about 28 mW and a tunable repetition rate of 10.4–18.0 kHz with varying pump power. The shortest pulse width obtained from the system is 3.7 μs, with a maximum pulse energy and peak power of 22.2 nJ and 3.4 mW, respectively.

中图分类号 **DOI** 10.3788/col201311.071401

[我要下载](#) [如何下载](#) [FREE \(OA\)](#)



所属栏目 [Lasers and laser optics](#)

责任编辑 张雁

基金项目

收稿日期 2013/3/16

修改稿日期 2013/4/3

网络出版日期 2012/7/3

联系人作者 联系作者(harith@um.edu.my)

备注 This work was supported by the Ministry of Higher Education /University of Malaya (Nos. UM.C/HIR /MOHE/SC/01 and UPGP 2012).

引用该论文: H. Ahmad, F. D. Muhammad, M. Z. Zulkifli, S. W. Harun. Q-switched pulse generation from an all-fiber distributed Bragg reflector laser using graphene as saturable absorber[J]. 光学快报, 2013, 11(7): 071401

论文评价

慕尼黑上海光博会
LASER World of PHOTONICS CHINA

马上预登记
注册获取电子胸卡

轻松打印, 无须换卡
参观更便捷

Your company here ...

热点专题

- [第九届全国激光技术与光电子学学术会议暨国](#)
- [2013中国光学优秀产品评选活动](#)
- [行业培训](#)
- [聚焦中国光电 走进实验室](#)
- [光学设计培训班十周年](#)
- [光学前沿——第五届全国信息光学与光子学学](#)
- [年度中国光学重要成果](#)
- [中国光学资源数据库](#)
- [光学前沿系列会议](#)
- [大珩杯光学期刊优秀论文评选](#)

共有0人对该论文发表了看法, 其中:

<input type="text"/>	0人认为该论文很差
<input type="text"/>	0人认为该论文较差
<input type="text"/>	0人认为该论文一般
<input type="text"/>	0人认为该论文较好
<input type="text"/>	0人认为该论文很好

您对本文的评价:

很差

较差

一般

较好

很好

分享论文



参考文献

- [1] W. H. Loh, B. N. Samson, L. Dong, G. J. Cowle, and K. Hsu, *J. Lightwave Technol.* 16, 114 (1998).
- [2] G. Bonfrate, F. Vaninetti, and F. Negrisolo, *IEEE Photon. Technol. Lett.* 10, 1109 (1998).
- [3] S. Pradhan, G. E. Town, and K. J. Grant, *IEEE Photon. Technol. Lett.* 18, 1741 (2006).
- [4] W. H. Chung, H. Y. Tam, M. S. Demokan, P. K. A. Wai, and C. Lu, *IEEE Photon. Technol. Lett.* 13, 951 (2001).
- [5] W. Liu, T. Guo, A. C-L. Wong, H.-Y. Tam, and S. He, *Opt. Express* 18, 17834 (2010).
- [6] R. Slavik, I. Castonguay, S. La Rochelle, and S. Doucet, *IEEE Photon. Technol. Lett.* 16, 1017 (2004).
- [7] G. A. Ball and W. W. Morey, *Opt. Lett.* 17, 420 (1992).
- [8] S. Pradhan, G. E. Town, and K. J. Grant, *Electron. Lett.* 42, 963 (2006).
- [9] S. Pradhan, G. E. Town, D. Wilson, and K. J. Grant, *Opt. Lett.* 31, 2963 (2006).
- [10] B. Yao, X. Liu, X. Yu, X. Duan, Y. Ju, and Y. Wang, *Chin. Opt. Lett.* 11, 031405 (2013).
- [11] Y. K. Yap, R. M. De La Rue, C. H. Pua, S. W. Harun, and H. Ahmad, *Chin. Opt. Lett.* 10, 041405 (2012).
- [12] P. P. Vasil'ev, I. H. White, and J. Gowar, *Rep. Prog. Phys.* 63, 1997 (2000).
- [13] B. J. Thedrez, S. E. Sadow, Y. Q. Liu, C. Wood, R. Wilson, and C. H. Lee, *IEEE Photon. Technol. Lett.* 5, 19 (1993).
- [14] M. Xia, C. H. Kwok, R. V. Pentyl, I. H. White, K. H. Hasler, B. Sumpf, and G. Erbert, in *Proceedings of CLEO/QELS 2009 1* (2009).
- [15] F. Bonaccorso, Z. Sun, T. Hasan, and A. C. Ferrari, *Nat. Photon.* 4, 611 (2010).
- [16] D. Popa, Z. Sun, T. Hasan, F. Torrisi, F. Wang, and A. C. Ferrari, *App. Phys. Lett.* 98, 073106 (2011).
- [17] W. Cao, H. Wang, A. Luo, Z. Luo, and W. Xu, *Laser Phys. Lett.* 9, 54 (2011).
- [18] Z. Luo, M. Zhou, J. Weng, G. Huang, H. Xu, C. Ye, and Z. Cai, *Opt. Lett.* 35, 3709 (2011).
- [19] L. Wei, D. Zhou, H. Fen, and W. Liu, *IEEE Photon. Technol. Lett.* 24, 309 (2012).
- [20] B. Dong, J. Hu, C. Y. Liaw, J. Hao, and C. Yu, *Appl. Opt.* 50, 1442 (2011).
- [21] A. Martinez, K. Kazuyuki, B. Xu, and S. Yamashita, *Opt. Express* 18, 23054 (2010).
- [22] F. Wang, A. G. Rozhin, V. Scardaci, Z. Sun, F. Hennrich, I. H. White, W. I. Milne, and A. C. Ferrari, *Nat. Nanotechnol.* 3, 738 (2008).
- [23] H. Zhang, D. Tang, R. J. Knize, L. Zhao, Q. Bao, and K. P. Loh, *App. Phys. Lett.* 96, 111112 (2010).
- [24] Z. Sun, T. Hasan, F. Torrisi, D. Popa, G. Privitera, F. Wang, F. Bonaccorso, D. M. Basko, and A. C. Ferrari, *ACS Nano* 4, 803 (2010).

OPHIR
Photonics
A Newport Corporation Brand
激光测量领导者

TEQ 先锋科技
Tian Electro-Optics Co., Ltd.
http://www.teo.com.cn
北京市海淀区中关村大街19号
新中关B座1701-1706室
电话:010 62634840
邮编:100086 邮箱:sales@teo.com.cn

SIOM 中国科学院上海光学精密机械研究所
Shanghai Institute of Optics and Fine Mechanics Chinese Academy of Sciences































荣获2010中国光学优秀产品评选
年度创新产品奖

[25] P. N. Kean, B. D. Sinclair, K. Smith, W. Sibbett, C. J. Rowe, and D. C. J. Reid, *J. Mod. Opt.* 35, 397 (1988).

[26] A. E. Siegman, *Lasers* (University Science Books, Mill Valley, 1986).

[27] O. Svelto, *Principles of Lasers* (Plenum, New York, 1998).

相关信息

标题	相关频次
 High power dual-wavelength tunable fiber laser in linear and ring cavity configurations	6
 Graphene-based Q-switched pulsed fiber laser in a linear configuration	5
 Self-starting harmonic mode-locked Tm-Bi co-doped germanate fiber laser with carbon nanotube-based saturable absorber	5
 Ytterbium-sensitized thulium-doped fiber laser with a single-mode output operating at 1900-nm region	4
 采用四波混频效应获得多波长掺铒光纤激光器	3
 A method of narrow the optical line-width of the fiber laser	2
 A self-seeded fiber laser incorporated with a fiber Bragg grating external cavity semiconductor laser	2
 Acousto-optic Q-switched cladding-pumped ytterbium-doped fiber laser	2
 Acousto-optic Q-switched laser performances of Er ³⁺ :Yb ³⁺ :LuAl ₃ (BO ₃) ₄ crystal at 1.5–1.6 μm	2
 Analysing the pulse formation of Q-switched Nd:YAG laser with super-Gaussian mirror resonator	2
 Cladding-pumped Er/Yb co-doped Q-switched all fiber laser	2
 Demonstration of fiber pulsed light source at 1.6 microns with adjustable pulse duration	2
 Efficient intracavity optical parametric oscillator with diode side-pumped electro-optic Q-switched laser	2
 End-pumped all solid-state high repetition rate Tm,Ho:LuLF laser	2
 Energy reduction: a technique for seed-injection locking of single-axial-mode Q-switched Nd:YAG laser	2
 Erbium-doped CW and Q-switched fiber ring laser with fiber grating Michelson interferometer	2
 Fiber Laser Source for Dense Wavelength Division Multiplexed System	2
 Fiber-coupled diode end-pumped Q-switched Tm,Ho:YLiF ₄ laser	2
 LD pumped 2-μm CW laser from Tm,Ho:GdVO ₄	2
 LD侧向泵浦声光调Q Tm,Ho:LuLF激光器	2
 Photonic crystal fiber-based multi-wavelength Brillouin fiber laser with dual-pass amplification configuration	2
 Resonantly pumped Q-switched Er:GdVO ₄ laser	2
 Stopping and storing light pulses within a fiber optic ring resonator	2
 Thermal distortion and birefringence in repetition-rate plasma electrode Pockels cell for high average power	2
 1.82-μm distributed feedback lasers with InGaAs/InGaAsP multiple-quantum wells for a H ₂ O sensing system	1
 20-GHz optical pulse source based on cascaded electroabsorption modulators	1
 20-kHz watt-level green laser with LGS crystal electro-optic Q-switch	1
 40-GHz wavelength tunable mode-locked SOA-based fiber laser with 40-nm tuning range	1
 47-wavelength flat erbium-doped fiber ring laser with reduced operation power	1
 5.1-ps passively mode-locked Nd:Gd _{0.42} Y _{0.58} VO ₄ laser with a LT-GaAs absorber	1

