

您好, 欢迎访问中国光学期刊网! 请[登录](#) [免费注册](#)[账户](#) | [查询](#) | [帮助](#) | [留言](#) | [关于](#) | [English](#) | [RSS](#)

# 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

产品、论文、资讯查询

 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.073201)

## Switchable Q-switched and mode-locked erbium-doped fiber laser operating in the L-band region

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

Switchable Q-switched and mode-locked erbium-doped fiber laser operating in the L-band region

[Sin Jin Tan](#) [Sulaiman Wadi Harun](#) [Hamzah Arof](#) [Harith Ahmad](#)
**摘要**

 标 签 [320.0320](#) [140.0140](#)
**Abstract**

We demonstrate a switchable Q-switched and mode-locked erbium-doped fiber laser (EDFL) operating in the L-band region using the nonlinear polarization rotation effect. The switching operation is achieved by controlling intensity-dependent loss using a polarization controller. In Q-switching mode, the EDFL produces a pulse train with a repetition rate of 21.1 kHz, pulse width of 7.7 μs, and pulse energy of 13.6 nJ. The EDFL also generates a multi-wavelength comb with a very narrow and constant wavelength spacing of 0.045 nm and optical signal-to-noise ratio of at least 10 dB. During mode locking, the EDFL produces stretched pulses with 3-dB bandwidth of 26.2 nm, pulse width of 350 fs, repetition rate of 2.38 MHz, and pulse energy of 48.56 pJ.

 中图分类号 **DOI** 10.3788/col201311.073201

[我要下载](#)
[如何下载](#)
[FREE \(OA\)](#)


OJ QR V1.0 Beta

 所属栏目 [Ultrafast optics](#)

责任编辑 张雁

基金项目

收稿日期 2013/2/26

修改稿日期 2013/4/12

网络出版日期 2013/7/3

 联系人作者 [联系作者\(swharun@um.edu.my\)](#)

备注 This work was supported by the University of Malaya under the PPP grant scheme (No. PG139-2012B).

**引用该论文:** Sin Jin Tan, Sulaiman Wadi Harun, Hamzah Arof, Harith Ahmad. Switchable Q-switched and mode-locked erbium-doped fiber laser operating in the L-band region[J]. 光学快报, 2013, 11(7): 073201

论文评价



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] T. Y. Tsai and Y. C. Fang, *Opt. Express* 17, 1429 (2009).
- [2] H. A. Haus, *IEEE J. Sel. Top. Quantum Electron.* 6, 1173 (2000).
- [3] D. Lin, K. Xia, R. Li, X. Li, G. Li, K. Ueda, and J. Li, *Opt. Lett.* 35, 3574 (2010).
- [4] Z. Sun, A. G. Rozhin, F. Wang, V. Scardaci, W. I. Milne, I. H. White, F. Hennrich, and A. C. Ferrari, *Appl. Phys. Lett.* 93, 061114 (2008).
- [5] S. W. Harun, N. Tamchek, S. Shahi, and H. Ahmad, *Prog. Electromag. Res. C* 6, 1 (2009).
- [6] S. W. Harun, R. Akbari, H. Arof, and H. Ahmad, *Laser Phys. Lett.* 8, 449 (2011).
- [7] J. Du, S. Zhang, H. Li, Y. Meng, Y. Hao, and X. Li, *Opt. Laser Technol.* 46, 61 (2013).
- [8] A. Luo, Z. Luo, and W. Xu, *Laser Phys.* 21, 395 (2011).
- [9] Y. Bai, W. Xiang, P. Zu, and G. Zhang, *Chin. Opt. Lett.* 10, 111405 (2012).
- [10] B. Yao, W. Wang, K. Yu, G. Li, and Y. Wang, *Chin. Opt. Lett.* 10, 071402 (2012).
- [11] H. Zhang, D. Tang, L. Zhao, Q. Bao, and K. P. Loh, *Opt. Express* 17, 17630 (2009).
- [12] Y. K. Yap, R. M. De La Rue, C. H. Pua, S. W. Harun, and H. Ahmad, *Chin. Opt. Lett.* 10, 041405 (2012).
- [13] B. Dong, J. Hu, C. Yu, and J. Hao, *Opt. Commun.* 285, 3864 (2012).
- [14] M. A. Ismail, S. J. Tan, N. S. Shahabuddin, S. W. Harun, H. Arof, and H. Ahmad, *Chin. Phys. Lett.* 29, 054216 (2012).
- [15] N. B. Chichkov, K. Hausmann, D. Wandt, U. Morgner, J. Neumann, and D. Kracht, *Opt. Lett.* 35, 3081 (2010).
- [16] J. Tian, Y. Yao, J. Xiao, X. Xu, and D. Chen, *J. Appl. Phys.* 109, 113102 (2011).
- [17] W. Gao, M. Liao, H. Kawashima, T. Suzuki, and Y. Ohishi, *Opt. Commun.* 285, 3809 (2012).

























相关信息

标题	相关频次
Amplified spontaneous emission contrast of CPA laser	2
Impact of propagation effects on intersubband Rabi flopping in semiconductor quantum wells	2
Multi-pulse operation of a Kerr-lens mode-locked femtosecond laser	2
Natural population inversion in a gaseous molecular filament	2
Phase evolution of the reemitted field in the semiconductor quantum wells under the femtosecond pulse train intersubband excitation	2
Self-starting harmonic mode-locked Tm-Bi co-doped germanate fiber laser with carbon nanotube-based saturable absorber	2

**OPHIR**  
Photonics  
激光测量领导者

**TEQ 先锋科技**  
Titan 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

 Study on the circuit producing high-speed pulse with high peak current	2
 1.82- $\mu$ m distributed feedback lasers with InGaAs/InGaAsP multiple-quantum wells for a H <sub>2</sub> O sensing system	1
 20-GHz optical pulse source based on cascaded electroabsorption modulators	1
 40-GHz wavelength tunable mode-locked SOA-based fiber laser with 40-nm tuning range	1
 5.1-ps passively mode-locked Nd:Gd <sub>0.42</sub> Y <sub>0.58</sub> VO <sub>4</sub> laser with a LT-GaAs absorber	1
 589-nm yellow laser generation by intra-cavity sum-frequency mixing in a T-shaped Nd:YAG laser cavity	1
 808-nm fiber coupled module with a CW output power up to 130 W	1
 A double wavelength DFB laser with an identical active area for CWDM	1
 A method of narrow the optical line-width of the fiber laser	1
 A method to obtain pulse contrast on a single shot	1
 A new method to generate flattened Gaussian beam by incoherent combination of cosh Gaussian beams	1
 A novel hybrid surface micromachined segmented mirror for large aperture laser applications	1
 A novel type of solitons in electron-ion plasmas	1
 Acousto-optic Q-switched cladding-pumped ytterbium-doped fiber laser	1
 Air-breathing mode laser propulsion with a long-pulse TE CO <sub>2</sub> laser	1
 AlInGaAs/AlGaAs/GaAs strained quantum well lasers with high characteristic temperature	1
 All solid-state passively Q-switched frequency-doubled intra-cavity Nd:GdVO <sub>4</sub> /KTP laser	1
 All-solid-state narrow-linewidth 455-nm blue laser based on Ti:sapphire crystal	1
 An adaptive laser beam shaping technique based on a genetic algorithm	1
 An approach to form the dome shape by 3D laser forming	1
 Analysing the pulse formation of Q-switched Nd:YAG laser with super-Gaussian mirror resonator	1
 Analysis of laser induced thermal mechanical relationship of HfO <sub>2</sub> /SiO <sub>2</sub> high reflective optical thin film at 1064 nm	1
 Approximate formulas of temperature and stress distributions and thermal induced effects in a heat capacity slab laser	1
 Approximate formulas of temperature and stress distributions and thermal induced effects in a heat capacity slab laser	1
