

# Web of Science



Search Search Results

Tools Searches and alerts Search History Marked List

[Look Up Full Text](#)
[Full Text from Publisher](#)
[Find PDF](#)
[Export...](#)
[Add to Marked List](#)

◀ 2 of 2 ▶

## Single mode EDF fiber laser using an ultra-narrow bandwidth tunable optical filter

By: Razak, NF (Razak, N. F.)<sup>[1]</sup>; Ahmad, H (Ahmad, H.); Zulkifli, MZ (Zulkifli, M. Z.)<sup>[2]</sup>; Muhammad, FD (Muhammad, F. D.)<sup>[2]</sup>; Munajat, Y (Munajat, Y.)<sup>[1]</sup>; Harun, SW (Harun, S. W.)<sup>[2]</sup>

[View Web of Science ResearcherID and ORCID](#)

### OPTIK

Volume: 126 Issue: 2 Pages: 179-183

DOI: 10.1016/j.ijleo.2014.08.150

Published: 2015

Document Type: Article

[View Journal Impact](#)

### Abstract

Single longitudinal mode (SLM) erbium-doped fiber (EDF) laser operation using a commercialized ultra-narrow bandwidth optical filter has been demonstrated. A 2-m long EDF with an absorption coefficient of 24 dB m<sup>-1</sup> at the pump wavelength is used as gain medium. The ultra-narrow tunable filter is used for selection of a single longitudinal mode from the available spectrum of multiple modes, which originally exist in the FBG's reflection spectrum. Our approach provides a relatively simple and direct method for realization of SLM operation. A high-resolution optical spectral analyser with a resolution of 0.16 pm is used to observe the output spectrum. To verify the SLM operation, the delayed self-heterodyne method is used, giving a measured laser linewidth of 61.5 kHz. (C) 2014 Elsevier GmbH. All rights reserved.

### Keywords

**Author Keywords:** Single longitudinal mode (SLM); Ultra-narrow tunable filter; Delayed self-heterodyne method

**KeyWords Plus:** RING LASER; OPERATION

### Author Information

#### Reprint Address:

Universiti Teknologi Malaysia Univ Technol Malaysia, Fac Sci, Adv Photon Sci Inst, Dept Phys, Skudai 81310, Johor, Malaysia.

**Corresponding Address:** Razak, NF (corresponding author)

+ Univ Technol Malaysia, Fac Sci, Adv Photon Sci Inst, Dept Phys, Skudai 81310, Johor, Malaysia.

#### Addresses:

+ [ 1 ] Univ Technol Malaysia, Fac Sci, Adv Photon Sci Inst, Dept Phys, Skudai 81310, Johor, Malaysia

+ [ 2 ] Univ Malaya, Photon Res Ctr, Dept Phys, Kuala Lumpur 50603, Malaysia

**E-mail Addresses:** [nfarhah89@gmail.com](mailto:nfarhah89@gmail.com)

### Funding

| Funding Agency                           | Grant Number                              |
|--|---|
| University of Malaya under the HIR Grant | UM.C/625/1/HIR/MOHE/SCI/29<br>PV031/2012A |

[View funding text](#)

### Publisher

ELSEVIER GMBH, HACKERBRUCKE 6, 80335 MUNICH, GERMANY

### Journal Information

**Impact Factor:** [Journal Citation Reports](#)

### Categories / Classification

Research Areas: Optics

Web of Science Categories: Optics

### Citation Network

In Web of Science Core Collection

# 5

Times Cited

[Create Citation Alert](#)

#### All Times Cited Counts

6 in All Databases

[See more counts](#)

# 18

Cited References

[View Related Records](#)

#### Most recently cited by:

Wang, Lin; Shen, Zhenkun; Feng, Xinhuan; et al.

Tunable single-longitudinal-mode fiber laser based on a chirped fiber Bragg grating.

OPTICS AND LASER TECHNOLOGY (2020)

Guo, Mingxian; Wan, Jing; Sun, Feng; et al. Microfluidic Mach-Zehnder Filter.

14TH NATIONAL CONFERENCE ON LASER TECHNOLOGY AND OPTOELECTRONICS (LTO 2019) (2019)

[View All](#)

### Use in Web of Science

Web of Science Usage Count

# 0

Last 180 Days

[Learn more](#)

# 34

Since 2013

#### This record is from:

Web of Science Core Collection  
- Science Citation Index Expanded

#### Suggest a correction

If you would like to improve the quality of the data in this record, please [suggest a correction](#).