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S-band Q-switched thulium-doped fluoride fiber laser with reduced graphene oxide as saturable absorber

By

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Volume: 35 Issue: 11
DOI: 10.1088/1555-6611/ae1948

Article Number 115102

Published NOV 1 2025

Indexed 2025-11-19

Document Type Article

Jump to [↓ Enriched Cited References](#)

Abstract In this article, a Q-switched thulium-doped fluoride fiber (TDFF) laser operated in the S-band with reduced graphene oxide (GO) as saturable absorber (SA) has been demonstrated by experimental means. The excess pump from the TDFF via 1400 nm pumping has been addressed and discussed based on the energy level characteristics of the gain medium. To this end, a laser cavity reconfiguration has been proposed in order to resolve the excess pump issue. Moreover, an efficient preparation technique for reduced GOSA has been demonstrated on the basis of understanding its chemical properties.

Keywords **Author Keywords:** [Q-switched laser](#); [thulium-doped fluoride fiber](#); [saturable absorber](#); [fiber laser](#); [2D material](#); [graphene oxide](#)
Keywords Plus: [RAMAN-SPECTRA](#); [GLASSES](#)

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Categories/ Classification

Research Areas: Optics; Physics

Citation Topics: [5 Physics](#) > [5.38 Optical Electronics & Engineering](#) > [5.38.506 Fiber Lasers](#)

Web of Science Categories

[Optics; Physics, Applied](#)

Funding

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Funding agency	Grant number	Show All Details
Ministry of Higher Education, HiCoE	PRC-2022	
Universiti Malaya	RU001-2025A	Show details
UniKL Excellent Research Grant Scheme (UERGS)	UniKL/CoRI/UER23003	

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Journal information

LASER PHYSICS

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ISSN 1054-660X

eISSN 1555-6611

Current Publisher IOP Publishing Ltd, No.2 The Distillery, Glassfields, Avon Street, Bristol BS2 0GR, ENGLAND

1.1

Journal Impact
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Journal Citation
Indicator™ (2025)

