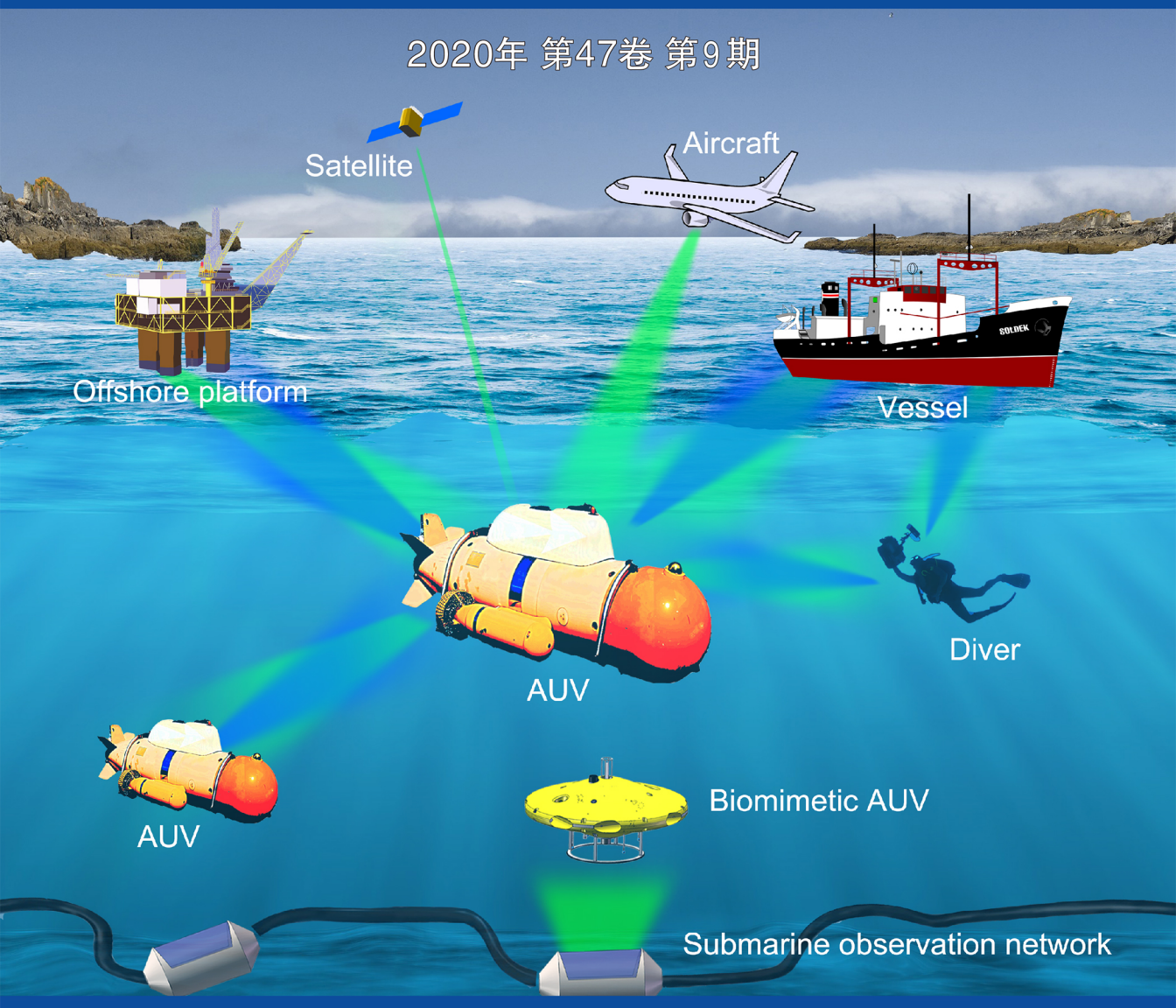
中文核心期刊
中国科技核心期刊

ISSN 1003-501X
CN 51-1346/O4
CODEN GUGOEC

光电工程

Opto-Electronic Engineering

2020年 第47卷 第9期



中国科学院光电技术研究所
万方数据
中国光学学会

光电工程
（Guangdian Gongcheng）

月刊　1974 年创刊
第 47 卷　第 9 期（总第 370 期）
2020 年 9 月

主管单位：中国科学院
主办单位：中国科学院光电技术研究所
　　中国光学学会
主　　编：罗先刚
编辑出版：《光电工程》编辑部
　　(四川省成都市双流区 350 信箱，邮编 610209)
电　　话：028-85100579
电子邮箱：oee@ioe.ac.cn
网　　址：http://www.oejournal.org
印　　刷：四川玖艺呈现印刷有限公司
国内发行：四川省报刊发行局
　　（邮发代号：62—296）
国外发行：中国国际图书贸易集团有限公司
　　（发行代号：M7114）
国内统一刊号：CN 51-1346/O4
国际标准刊号：ISSN 1003-501X
出版时间：每月 15 日

Opto-Electronic Engineering

(Monthly, since 1974)
Volume 47, Issue 9　　September 2020

Managed by
　　Chinese Academy of Sciences
Sponsored by
　　Institute of Optics and Electronics, Chinese Academy of Sciences
　　The Chinese Optical Society
Editor-in-Chief　Luo Xiangang
Edited and Published by
　　Editorial Office of *Opto-Electronic Engineering*, P. O. Box 350, Shuangliu, Chengdu 610209, P.R.China
Tel　+86-28-85100579
E-mail　oee@ioe.ac.cn
Website　http://www.oejournal.org
Printed by Sichuan Joy Art Printing Co., Ltd.
Domestic Distributed by
　　Sichuan Provincial Newspaper & Periodical Subscription and Distribution Bureau (Code: 62–296)
Overseas Distributed by
　　China International Book Trading Corporation (Code: M7114)

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本期封面图片由浙江大学张雨凡(190734)提供

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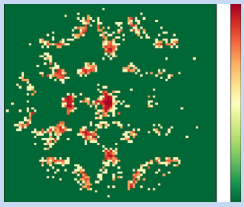
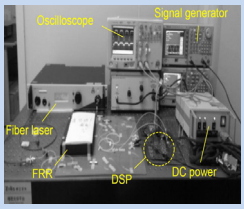


Optimizing the location of multiple laser guide stars in ground layer adaptive optical systems

190515

Li Caifeng, Jia Peng, Cai Dongmei

A method was proposed to obtain the optimal position of laser guide stars by using a genetic algorithm as the optimization algorithm and a simplified geometry model of the ground layer adaptive optic system as the evaluation function.

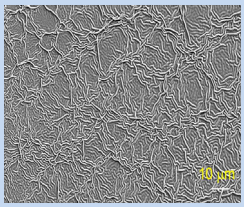


Research on laser frequency locking technology based on temperature and PZT control

190523

Lei Ming, Yu Huaiyong, Fang Yuan, Xiang Qiang, Yang Yi, Zhang Lizhe

A frequency tracking and locking control scheme based on laser temperature and PZT control was proposed. By taking advantages of the large range of laser temperature tuning as well as the high precision and high dynamicity of PZT tuning, tracking of the fiber laser's central frequency to the fiber ring resonator's resonance frequency was realized.

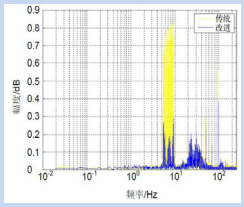


Impedance spectroscopy characteristics of nano ZnO doped liquid crystal/polymer film

190540

Zhu Qing, Liu Yourong, Jiang Zhipeng, Zheng Jihong

The electrical impedance spectroscopy characteristics of polymer dispersed liquid crystal doped with nano-zinc oxide rods and its sensing applications were studied. By doping nano-zinc oxide rods into the material, the sensing function of polar molecules such as ethanol gas can be realized through the analysis of electrical impedance spectroscopy.



Optimal design of Youla controller for vibration rejection in telescopes

190547

Niu Shuaixu, Jiang Jing, Tang Tao, Yang Tao, Bao Qiliang

On the concept of optimal force design, an improved wideband vibration rejection method based on Youla parameterization was proposed to mitigate vibrations for improving the closed-loop performance of telescopes.

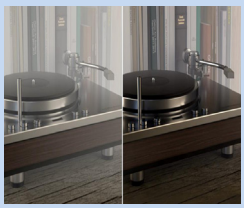


Image dehazing algorithm by combining light field multi-cues and atmospheric scattering model

190634

Wang Xin, Zhang Xudong, Zhang Jun, Sun Rui

Image captured in foggy weather often exhibits low contrast and poor image quality. Aiming at these problems, an image dehazing algorithm was proposed by combining light field technology with atmospheric scattering model.