

目 次

✧ 结构设计 ✧

- 1 一种新型有源相控阵天线结构方案..... 姚 斌,王 伟,冯树飞
5 雷达结构精度影响因素与测量的分析研究..... 刘炳辉,程春红,袁海平
11 大型钢结构天线结构力学设计与优化..... 胡劲松,查金水,张根焯,朱志远
15 基于波导合成大功率组件一体化结构设计..... 谢金祥,罗 青

✧ 环境适应性设计 ✧

- 20 长波天线大跨越导线的防微风振动设计 谢 飞
25 光纤激光器电源模块有限元热分析研究 彭兴文,冯志刚,王 冬
29 基于动力吸振原理的随机振动减振优化 江 雄,张吴蔚,金大元
33 溢流微通道热沉优化设计 边燕飞,蔡 萌,童立超,李 石,武胜璇

✧ 制造工艺 ✧

- 37 多层复合泡棉吸波材料应用技术研究..... 漆中华,张永红,唐飞熊,王 宇,陈 良,程海洋
42 LTCC 用钎系电阻浆料特性分析 谢廉忠,游 韬,王 锋
46 T/R 组件硅铝合金支耳裂纹仿真分析与改进..... 陈以金,陈 波,焦春旺,张登材

✧ 创新与探索 ✧

- 50 光电互联电路中激光器与光纤间接耦合仿真分析
..... 毛久兵,杨 伟,冯晓娟,吴圣陶,杨 平,刘 恒,杨 剑
55 柔性光电器件光电特性分析..... 陈小勇,周德俭,余雨来,梁添寿
60 基于 Modelica 的卫星动力学与控制系统仿真方法研究 姚 骏,王志瑾,陈 阳

✧ 简 讯 ✧

- 41 普渡大学研制出可自我校准的微机电系统
59 特殊纳米材料可将太阳能高效转化为电能

CONTENTS

Structure Design

A Novel Structure Scheme for Large Active Phased Array Antenna YAO Bin, WANG Wei, FENG Shu-fei (1)

Analysis and Research of Effect Factor and Measurement of Radar Structure Precision
LIU Bing-hui, CHENG Chun-hong, YUAN Hai-ping (5)

Mechanical Design and Optimization of Large Steel Framework Antenna
HU Jin-song, ZHA Jin-shui, ZHANG Gen-xuan, ZHU Zhi-yuan (11)

Structure Design of Integrated High-power Modules Based on Waveguide Power Synthesizers
XIE Jin-xiang, LUO Qing (15)

Environment Adaptability Design

Design of Anti-breeze Vibration for Long-wave Antenna with Large Span Conductor XIE Fei (20)

Thermal Analysis for Power Module of Fiber Laser Based on FEM PENG Xing-wen, FENG Zhi-gang, WANG Dong (25)

Optimization of Random Vibration Reduction Based on Dynamic Vibration Absorbing Principle
JIANG Xiong, ZHANG Wu-wei, JIN Da-yuan (29)

Optimization Design of Microchannel Heat Sink with Overflow Structure
BIAN Yan-fei, CAI Meng, TONG Li-chao, LI Shi, WU Sheng-xuan (33)

Manufacturing Processing Technique

Research on Application Technology of Multilayer Composite Foam Absorbent Material
QI Zhong-hua, ZHANG Yong-hong, TANG Fei-xiong, WANG Yu, CHEN Liang, CHENG Hai-yang (37)

Characteristic Analysis of Ruthenium System Resistor Paste for LTCC XIE Lian-zhong, YOU Tao, WANG Feng (42)

Crack Simulation Analysis and Improvement of T/R Module Silicon-Aluminum Alloy Supporting Lug
CHEN Yi-jin, CHEN Bo, JIAO Chun-wang, ZHANG Deng-cai (46)

Innovation and Exploration

Simulation and Analysis of Indirect Coupling for Laser and Optical Fiber in Electro-optical Interconnection Circuit
MAO Jiu-bing, YANG Wei, FENG Xiao-juan, WU Sheng-tao, YANG Ping, LIU Heng, YANG Jian (50)

Electrical and Optical Properties Analysis of Flexible Optoelectronic Devices
CHEN Xiao-yong, ZHOU De-jian, SHE Yu-lai, LIANG Tian-shou (55)

Study on Simulation Method of Satellite Dynamics and Control System Based on Modelica
YAO Jun, WANG Zhi-jin, CHEN Yang (60)

Sponsored by:

Nanjing Research Institute of Electronics Technology

Edited and Published by:

Editorial Board of ELECTRO-MECHANICAL ENGINEERING

Chief Editor: DENG Da-song

Post Code: 210039

Address: No. 8 Guorui Road Nanjing, China

P. O. Box: 3918-110, Nanjing, China

Tel: (025) 51821078

Fax: (025) 51821053