

激光与光电子学进展

第 60 卷
第 7 期

Laser & Optoelectronics Progress

[总第 738 期]

2023.4(上)



激光卫星互联网

DOI: 10.3788/LOP221390

ISSN 1006-4125



9 771006 412234

万方数据

中国科学院上海光学精密机械研究所 主办

激光与光电子学进展

第 60 卷 第 7 期 2023 年 4 月 10 日

(总第 738 期)

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封面解读

封面描绘了基于激光通信的卫星互联网蓝图, 利用卫星网络广覆盖、低时延优势, 并通过激光传输为网络扩容提速。星载光天线体积、功耗小, 波束集中, 在远距离传输中具有明显优势, 卫星之间利用激光链路组网来承载各种互联网业务。

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超精密测量技术

60卷第3期 | 2023年2月

科学家门捷列夫说：“科学是从测量开始的。”“现代热力学之父”开尔文有一条著名结论：“只有测量出来，才能制造出来。”超精密测量是指测量精度达到纳米量级的先进测量技术、系统与仪器，是现代科技发展与高端装备制造的基石，是工业生产的倍增器。近年来，随着现代光学与光电子学的快速发展（如微纳光学、极短波长光学、量子光学），出现了若干新的光学测量原理与方法，推动了超精密测量向更高分辨、更高精度、更高效率和更高性能等方向不断发展。

建设高端超精密测量强国在我国具有十分突出的必要性和紧迫性，它是科学探索的“眼睛”、高端制造的“尺子”。为集中展示国内外超精密测量在原理方法、技术、仪器及其应用等方面的研究进展，促进学术交流，推动相关领域纵深发展，《激光与光电子学进展》推出“超精密测量技术”专题，其中包括1篇特邀导言、16篇特邀综述和8篇特邀研究论文。



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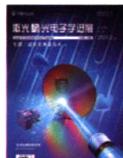


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封面文章



封面文章 先进节点图案化晶圆缺陷检测技术

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封底文章 大型飞机装配中的高精度测量技术研究进展

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内封面文章 用于表面形貌测量的扫描白光干涉技术进展(内封面文章)

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内封面文章 空间引力波探测中的激光外差干涉多自由度超精密测量技术研究进展

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