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封面解读

封面展示了晶圆缺陷检测的基本原理,通过构造具有特定频率、幅值、波前、偏振态信息的照明模态及光学探测技术,来对晶圆上纳米级断线、桥接等缺陷进行检测。

封底解读

封面形象示意出了大型飞机装配中所应用到的高精度测量技术:装配大空间测量场高精度测量方法、飞机大部件装配外形数字化高精度测量方法以及面向复合材料装配缺陷的高精度检测技术。新一代飞机向着大型、重载、长寿等方向发展,其制造也向着高精度、低成本、柔性化、智能化等方向转变,对装配的精度、效率与质量均提出了更高的要求。封面中飞机在跑道上御风而起,翱翔天际代表着高精度测量技术将助力航空制造迈向新的辉煌。

内封面解读(封二)

封面以展示扫描白光干涉术的基本原理和工业应用为要点,描绘了使用双显微物镜的干涉仪架构以及测量微透镜阵列所产生的环状白光干涉条纹图,多层条纹图象征了沿光轴方向扫描采集干涉图的过程,左侧的信号展示了该技术特有的由相干包络调制的干涉信号,结合显微成像和干涉测量的优势,扫描白光干涉术被广泛应用于精密光学、航空航天以及先进半导体制造等领域。

内封面解读(封三)

封面展示了基于激光干涉测量技术的空间引力波探测方案,利用星载激光干涉系统实现两测试质量多自由度的超精密测量,从而探测黑洞合并、超新星爆发等宇宙结构活动引发的时空涟漪,为探索宇宙起源与演化提供新的观测手段。

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