



激光与光电子学进展

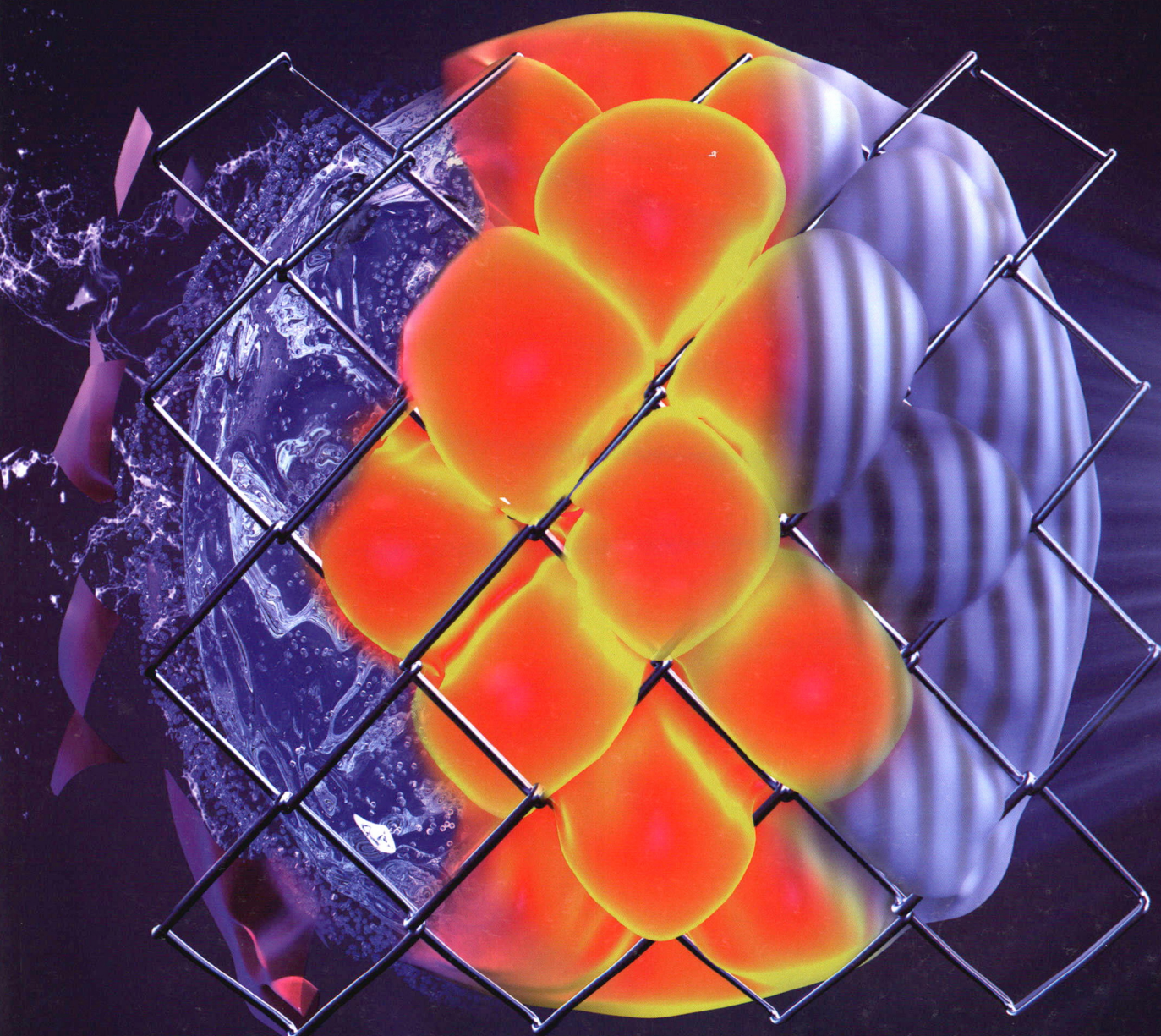
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高速三维测量

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中国科学院上海光学精密机械研究所 主办

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—— 先进成像 ——

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封面解读

流光瞬息物过隙,纹影重建形不逝。

条纹投影测量技术通过高速切换二值调制图案照明运动对象,完成对瞬态运动场景的定格与重建,还原其彩色形貌,让任意瞬态时刻都不再稍纵即逝,可全方位重现。

封底解读

低量智视扫描符,心脏微观清晰无?

借问何来穿透术,稀疏投影断层图。

内封面解读(封二)

封面形象展示了一种基于超表面的三维成像技术的原理:利用超表面的亚波长尺寸和高空间带宽积,赋予三维空间的编码能力,结合计算机视觉相关算法设计,实现亚毫米甚至亚微米级别的高精度三维重建,可广泛应用在自动驾驶、机器视觉等虚拟现实技术中,发挥超表面体积小和信息量大的优势,为未来物联网片上集成光电子设备提供可靠的技术基础。

内封面解读(封三)

封面揭示了基于垂直腔面发射激光器(VCSEL)投影阵列的散斑结构光三维成像技术作为“工业视觉之眼”可应用于工业智能检测领域的用途。所研制的小型化三维结构光传感器通过集成3个散斑投影模组投影一组空间位置不同的散斑图案,实现对汽车表面的快速“数字化”,有望在零件分拣、工件装配和焊接加工等方面得以广泛应用。

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— Advanced Imaging —

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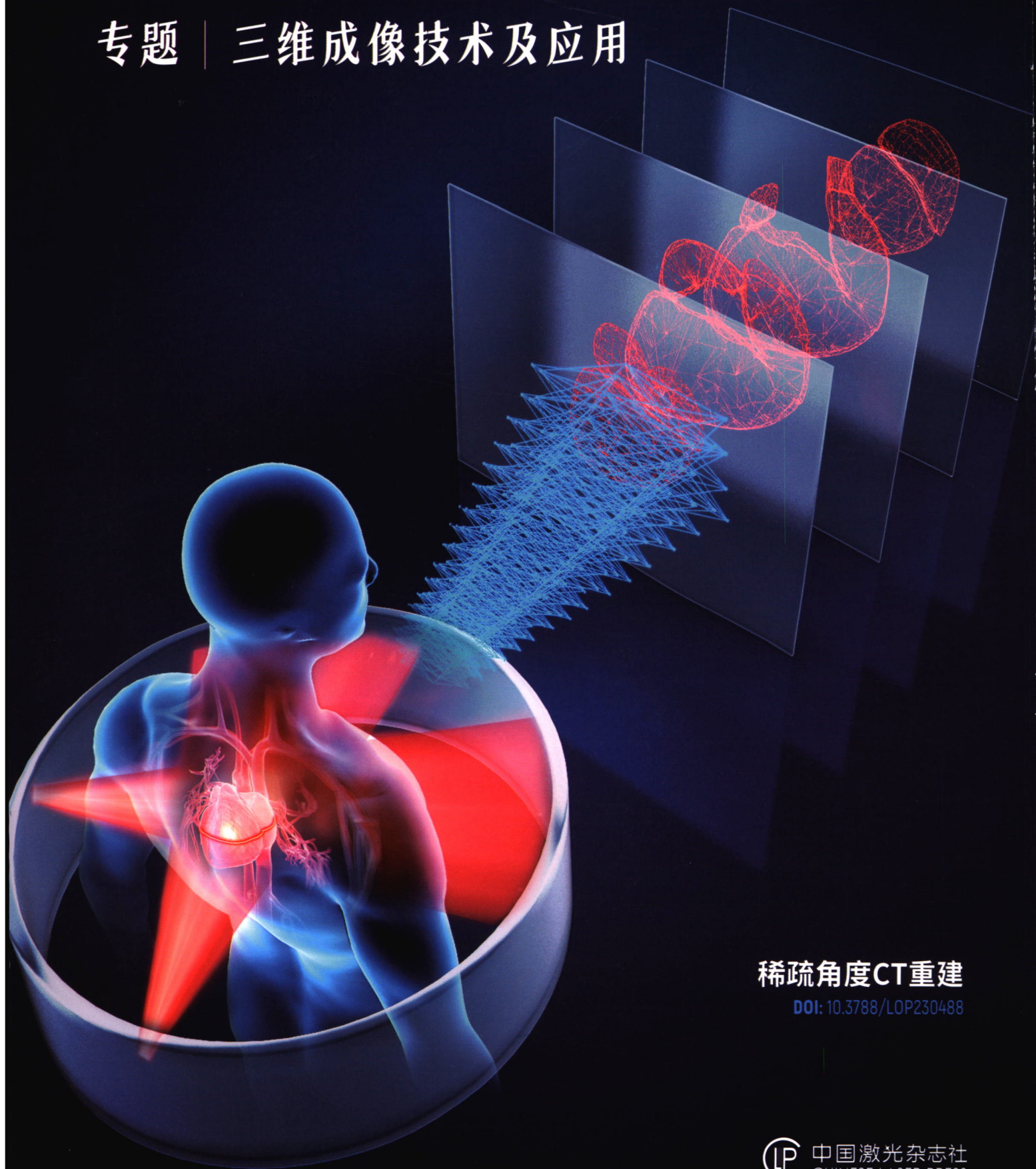
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稀疏角度CT重建

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