



前沿激光制造

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——前沿激光制造——

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封面解读

封面展示了 GHz 皮秒脉冲序列烧蚀透明介质。在高于烧蚀阈值的双脉冲辐照下,烧蚀形貌表现出“同心环”的特征。第一个子脉冲产生的冲击波对第二个子脉冲激光起到空间调制作用,从而产生了环状烧蚀结构。通过亚纳秒间隔皮秒激光脉冲序列的时域整形,可实现对透明介质材料烧蚀的精密调控。

封底解读

封面呈现了铝锂合金激光填丝焊接的基本原理。通过在 2195 铝锂合金专用焊丝中添加 TiC 纳米颗粒,改善了铝锂合金激光焊接结晶组织的均匀性,进而提升了焊缝金属的综合性能。激光填丝焊接工艺可保障载人运载火箭等在高强度、高可靠性、特种服役载荷性能等方面的需求。

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