

激光技术与器件

大能量高功率准分子激光的应用及关键技术

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摘要:

实用型大能量高功率准分子激光器广泛地应用于材料的加工及表面处理,介绍了其在液晶平板显示行业、太阳能光伏行业、半导体行业及汽车制造业的应用。分析了大能量高功率准分子激光器的关键技术,如大面积均匀放电技术,预电离技术,高压快脉冲激励技术以及为了得到更大的脉冲能量及功率输出而采用的双腔同步技术。

关键词: 激光技术 准分子激 大能量 高功率 磁脉冲压缩 激光退火

Application and key technology of high energy and high power excimer laser

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Abstract:

The practical large energy and high power excimer laser are widely used in materials processing and surface treatment. The applications of excimer lasers in the flat panel display industry, solar photovoltaic industry, semiconductor industry and automobile manufacturing industry were introduced. The key technologies employed to improve the performance of excimer lasers were analyzed, including the technology of large area uniform discharge, pre-ionization, and high voltage pulse technology. The dual-chamber synchronization technology was used to obtain higher energy and power.

Keywords: laser techniques excimer laser large energy high power magnetic pulse compression laser annealing

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