

论文

数字同轴全息颗粒场检测中的颗粒分割识别与独立聚焦

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摘要:

针对数字同轴全息颗粒场检测中不同层面颗粒的自动聚焦问题,通过分析颗粒场数字同轴全息记录与再现的特点,提出一种颗粒分割识别与独立聚焦方法.给出了对单个颗粒进行聚焦判断的独立聚焦判据函数、以及实现颗粒分割识别和独立聚焦的方法.通过单层单个、两层两个及多层多个颗粒场的实验,验证了所提出方法的正确性.

关键词: 同轴数字全息 颗粒场检测 聚焦判据函数 颗粒分割识别 独立聚焦

Segmentation Identification and Independent Focus for Digital In-Line Holography of Particle Fields

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Abstract:

A new autofocusing method for particles located in different plane in particle field detection with digital in-line holography is proposed and experimentally verified by analyzing the characters of recording and reconstructing about digital in line holography.The focus measure function and the operation procedure of particle segmentation identification and independent focusing are presented.The proposed method is verified through the experiments of one layer of one particle,two layers of two particles and multi-layers of multi-particles.

Keywords: Digital in-line holography Particles field detection Focus measure function Particles segmentation and identification Independent focusing

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