

自動視差式三維檢測系統 Autostereoscopic In-situ 3D Measurement System

體積輕巧、結合三維結構測量與機上測量的高精度檢測系統

A compact and highly accurate detection system that combines 3D measurement and on-machine measurement

專利申請編號: ZL201410357264.2 (中國)

特色與優點

- 以單鏡及單次成像為基礎的非接觸式三維光學測量方案
- 精準的線上、機上即時三維檢測
- 卓越的客製化能力：可按不同的生產種類、智慧瑕疵辨識功能、生產線上的預報功能訂製
- 整套光學檢測系統藏於小巧的機殼中，可按不同行業的特性進行高難度、高精度的檢測工作

應用

- 汽車引擎螺栓裝配智能檢測
- 半導體晶片鐳線質量檢測
- 汽車擋風玻璃塗層質量3D智能檢測
- 微發光二極體巨量轉移質量檢測

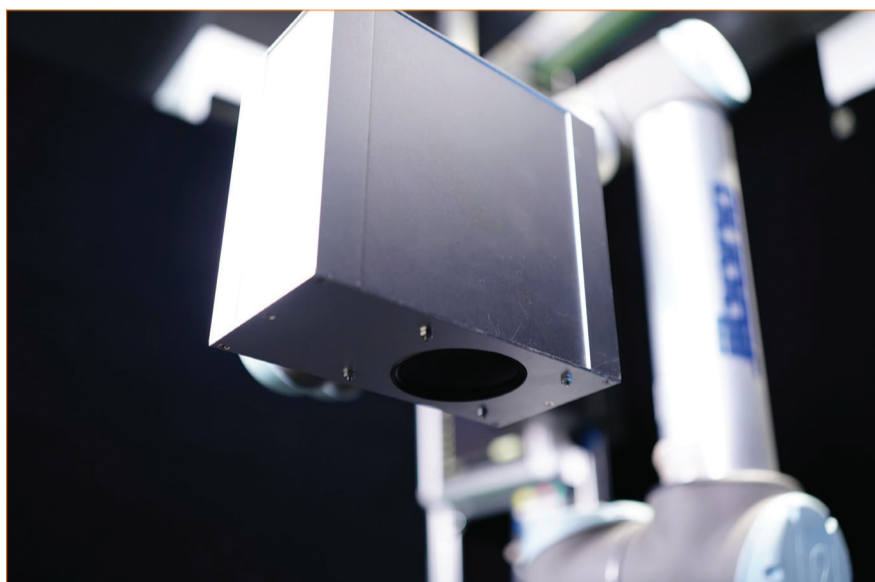
獎項

中國光學工程學會- 國家級創新獎 (2016年)

本系統透過以非接觸單鏡進行單拍，直接而準確地檢測三維立體物件，針對智能製造及高端精密生產流程的需要，例如高精度的三維尺寸定量測量、視覺特徵的智能識別、機械人的視覺定位和引導等，為先進製造提供新一代檢測方案，大大提高檢測速度及精準度。



2D視覺產品
2D optic product



3D智能傳感器
3D Intelligent sensor

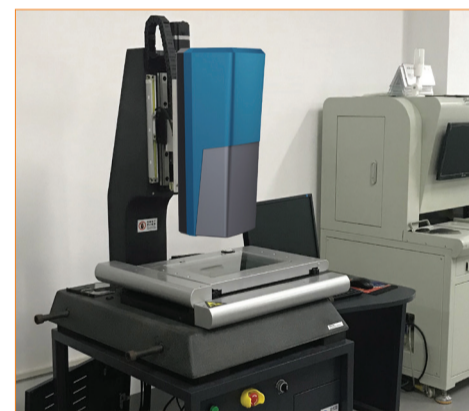
The system can directly and accurately detect 3D stereo objects by taking single snapshot with a non-contact single lens, greatly improving inspection speed and accuracy. It provides a new generation of inspection solutions for advanced manufacturing, addressing the needs of intelligent manufacturing and high-end precision production processes, such as high-precision quantitative 3D measurement, intelligent identification of visual features, and visual positioning and guidance in the field of robotics.

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3D精密測量設備
3D Precision measuring equipment



3D智能測量設備
3D Intelligent measuring equipment

Patent Application No. and Country: ZL201410357264.2 (China)

Special Features and Advantages

- A contactless 3D optical measurement solution based on single lens and single snapshots
- Instant online and on-machine 3D inspection with high accuracy
- High customisability to match different manufacturing natures, smart defect recognition functions, and alert features for product lines
- A comprehensive optical measurement system housed in a compact box, which can perform highly difficult and accurate inspection according to the characteristics of various industries

Applications

- Smart inspection of bolt assembly for vehicle engines
- Quality inspection of wirebonding in semiconductor manufacturing
- Smart 3D quality inspection of car windshield coating
- Quality inspection of mass transfer for micro-LEDs

Award

National Innovation Awards – Chinese Society for Optical Engineering (2016)

PolyU-supported start-up



PlusD Tech.



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