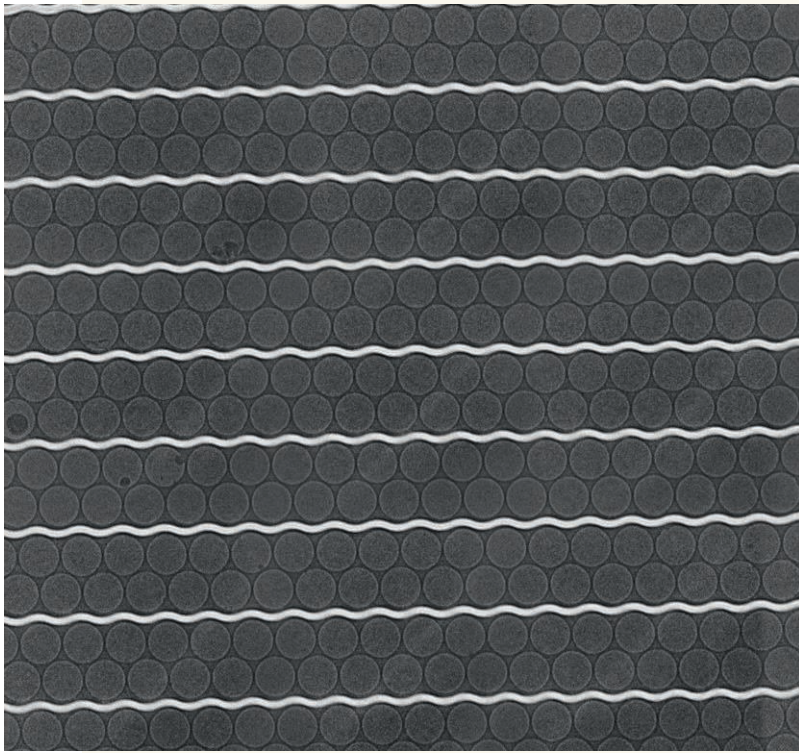
A Complementary Inspection Technique Based on High Resolution 2D X-Ray System and Plenoptic Camera for MEMS Components

Project Description

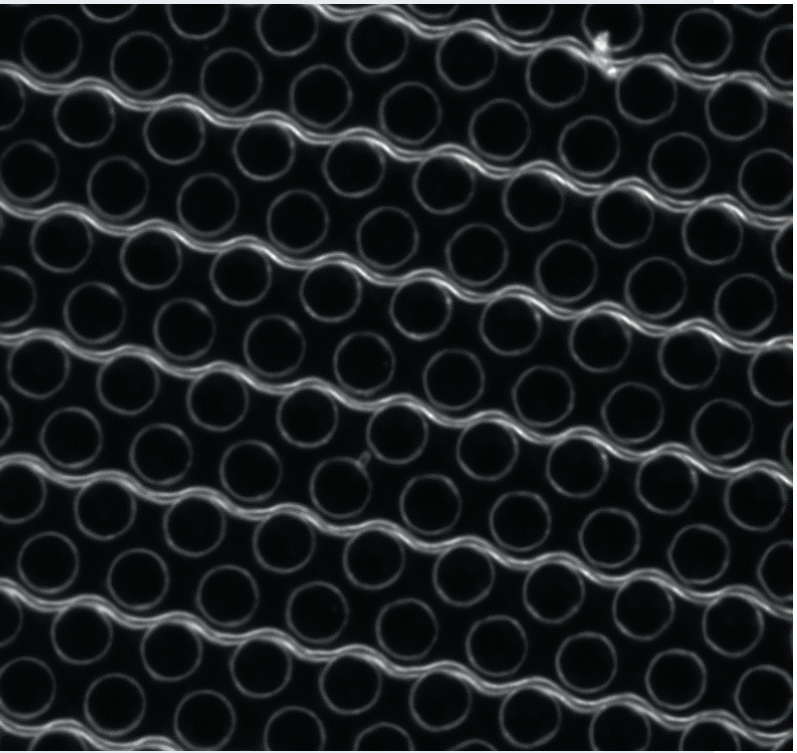
For the latest generation of micro-fabricated devices that are currently being developed, no suitable 100% in-line production inspection equipment is available, simply because current inspection equipment expects planar processing while most of the devices are often highly 3D in nature e.g. for medical devices.

CITCOM aims to develop an in-line inspection, measurement and control system for high reliability and detailed monitoring and inspection of MEMS, micro-components and micro-devices.



Philips CMUT

Plenoptic Camera



Philips CMUT

Technology

The CITCOM system will be based on optical and x-ray vision techniques combined with high accuracy radiography and advanced robotic systems capable of analysing defects that occur in production of micro components, for example stains, debris, fracture, abnormal displacements, chemical composition of surface coatings, surface traces etc.

Whereas the plenoptic camera is strong at detecting surface defects and controlling dimensional tolerances, the x-ray system has the potential to detect defects below the surface not usually observable with visible light.

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CITCOM NEWSLETTER

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