

Two- and Three-Dimensional Methods for Inspection and Metrology VI (OP309)

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This conference will focus on methods, analysis, and applications of two- and three-dimensional machine vision as applied to non-optical components, with particular emphasis on industrial applications.

The field of two- and three-dimensional optical methods such as machine vision has grown to wide acceptance for many applications of inspection and measurements in industrial applications. The advances in machine vision have provided compact, smart camera systems, new cameras and lighting systems, and better ways of communicating with the outside world. Three-dimensional methods have seen wide use in the electronics industry, but have also made advances in traditional manufacturing areas such as automotive and aerospace manufacturing. These methods are being used for defect inspection, precision measurements, and the detection of flaws. Modern computing power has made analysis methods such as phase shifting a viable tool for fast on-line inspection for process control and metrology applications. This conference is intended to address the areas of the optics, lighting, and methods of two- and three-dimensional machine vision, including optical gauging methods as they are applied to practical applications of industry.

Papers are sought in the following areas:

- machine vision methods, architectures and applications
- lighting methods and systems for inspection

- surface inspection methods
- special optical systems for inspection and measurements
- 3D machine vision methods and applications
- 3D data manipulation
- micro-scale measurement methods
- structured light methods and applications
- interferometric techniques applied to industrial inspection of non-optical parts
- phase shifting methods applied to industrial inspection of non-optical parts.

Papers on 'unique applications' of machine vision, 3D, and metrology techniques are also sought:

- surface inspection applications
- on-line and process control measurements
- web inspection applications
- reverse engineering applications
- on-machine tool measurements of shape and finish
- high-resolution and high-speed inspection applications.

Abstract Due Date: 28 January 2008

Manuscript Due Date: 14 July 2008

Submission of Abstracts for Optical Engineering + Applications

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- A full-length manuscript (8-12 pages) for any accepted oral or poster presentation will be submitted for publication in the SPIE Digital Library and conference Proceedings.

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- Commercial papers, papers with no new research/development content, and papers where supporting data or a technical description cannot be given for proprietary reasons will not be accepted for presentation in this conference.

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