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Front Matter: Volume 10268

, "Front Matter: Volume 10268," Proc. SPIE 10268, Optical Inspection and Testing: A Critical Review, 1026801 (1 June 1993); doi: 10.1117/12.2284874

SPIE.

Event: Applications in Optical Science and Engineering, 1992, Boston, MA, United States

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Preface

The field of optical inspection continues to evolve rapidly as we learn to integrate new lasers, sensors, and software with maturing optical technology. Increasingly fieldable hardware includes smaller, rugged, solid state lasers; fiber optics; holographic optical elements; and CCD arrays that operate from the ultraviolet to the infrared. Proven optical inspection methods range from the nondestructive testing of tiny electronic circuitry to the inspection of large aircraft wings. Inspection includes the search for defects as well as the characterization of parts under inspection.

This critical review of technology covers a number of rapidly advancing technologies in optical inspection and testing, including the following:

- Moiré techniques
- Interferometry
- Holography
- Velocimetry
- Thermography/Infrared Instrumentation
- Electronic and TV/ESPI Holography
- Shearography
- Industrial Optical Sensors.

This review features an international perspective, including well-known expert authors from France, Germany, Japan, and the United States. Therefore, the resulting collection provides a useful summary of the current worldwide state-of-the-art technology in optical measurement and testing.

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