

*The Agency of Industrial Science and Technology (AIST) of Japan has developed and patented a method and device for laser-inspection of surface conditions.*

**KEY FEATURE OF THE OPPORTUNITY**

The system accurately detects and measures surface flaws, defects, and stains, not only on a flat surface, but also on an irregular or undulating surface.

**PATENTED TECHNOLOGY: US 5,125,741**

The technology is protected by U.S. Patent No. 5,125,741. Its claims describe the system and methods for inspection of varying surface conditions as follows.

- A spot-like laser beam is collimated and deflected by mirrors to the surface of a specimen.
- Photoelectric transducers and a photodetector are employed to detect and record location, size, and nature of surface flaws that are present on the specimen as it is scanned.
- The image is monitored through a TV camera, which also functions to maintain the inspecting surface at a constant height.

The technology capitalizes on the known relationship between surface condition and light diffraction patterns.

**KEY APPLICATIONS**

The patented techniques are adaptable to both flat and undulating surfaces in a variety of non-destructive testing applications such as:

- Metal or glass sheets;
- Machine components;
- Electrical appliances and instruments;
- Crack detection
- CDs, diskettes, and semiconductor wafers.

The system may be tailored by altering the diameter and number of optical fibers, as well as



to accommodate specific situations where high speeds may be required.

**INTELLECTUAL CAPITAL**

On April 1, 2001, Japan's National Institute of Advanced Industrial Science and Technology began operations as the "new" AIST.

The new AIST is a research organization that comprises 15 research institutes previously under the former Agency of Industrial Science and Technology in the Ministry of International Trade and Industry and the Weights and Measures Training Institute.

AIST is Japan's largest public research organization with research facilities and more than 3,200 employees across Japan.

**FOR MORE INFORMATION**

AIST is seeking to license these technologies and assist with their commercialization success to qualified organizations.

Consideration will be provided to a range of financial, strategic, and commercial investment options.

Certain circumstances will warrant consideration for modest funding from AIST.

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