

TECHNOLOGY READINESS LEVEL: 5

US PATENT # 7,049,622

KEY ELEMENTS HAVE BEEN DEMONSTRATED IN RELEVANT ENVIRONMENTS.

TECHNOLOGY SUMMARY

Sandia National Laboratories has developed a continuously monitoring fluid interface optical sensor. The method of determining the liquid level through a single immersed optical wave guide allows for a simple and mobile solution to fluid monitoring systems. Current technologies use monitored floating devices and require mechanical or magnetic coupling, which can pose problems for mobility and hazardous fluids. Current technologies employ a non-contact method for sensing transparency of liquid which lack the precision and safety of a single optical waveguide method.

The fiber optic technology of this Sandia invention utilizes the principal of dual-fluorescence, where a primary and secondary fiber are used to compare emitted to absorbed light in the system and calculate the position of the interface between opaque and clear fluids.



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POTENTIAL APPLICATIONS

- Measurements of hazardous materials or contamination
- Crude oil levels
- Bio fuels
- Water waste and treatment

TECHNOLOGICAL BENEFITS

- Mobile and simplistic
- No moving parts
- Continuous monitoring
- Safe for use with flammable or hazardous liquid
- Can operate over a wide range of wavelengths

TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

ip@sandia.gov

Refer to SD # 7466

or visit

<https://ip.sandia.gov>