

# GAS CHROMATOGRAPHY OPTICAL DETECTOR

## BASED ON CAPILLARY OPTICAL FIBER

Keywords: gas chromatography, capillary column chromatography, gas analysis, distributed optical sensor, polarimetric interferometry

### TECHNOLOGY

INO's sensor allows real-time monitoring of the mixture separation process along the capillary column in gas chromatography (GC). Depending on its configuration, the optical fiber detector can determine the position of chemicals or their elution rates directly inside the capillary column. The technology is an add-on unit to standard chromatographs.

### APPLICATIONS

INO's optical detector allows monitoring of new parameters, such as elution rate of the gas mixture, and should complement standard gas chromatography equipment in various applications. INO's detector could potentially be useful in all the applications needing the use of a gas chromatograph, such as:

- \_ Industrial process monitoring
- \_ Automatic GC parameterization and control
- \_ Research in physical chemistry

### COMPETITIVE ADVANTAGES

Major advantages of INO's optical detector technology are:

- \_ Immediate *in-situ* detection and monitoring of the vapour mixture separation
- \_ Real-time optimization of the gas chromatography parameters
- \_ Traffic monitoring in microfluidics circuits

### INTELLECTUAL PROPERTY

*Optical fiber polarimetric chemical sensor,*  
US 7,403,673

### STATE OF DEVELOPMENT

The gas chromatography optical detector has been developed up to the prototype level and could be added on to any gas chromatograph working with capillaries. Detection and monitoring of hydrocarbons separations have been demonstrated.

On-going development of this technology will lead to novel GC configurations and applications.

### BUSINESS OPPORTUNITY

INO is looking for manufacturers already involved in the chromatography instrumentation to introduce this technology to the market.



### CONTACT

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For the complete list of technologies available for transfer  
[www.ino.ca/availabletechnologies](http://www.ino.ca/availabletechnologies)



CHALLENGING LIGHT  
FOR OUR PARTNERS

# TECHNOLOGIES READY FOR PARTNERS

INO (National Optics Institute) is Canada's leading center of expertise in industrial applications for optics/photonics. It is home to the largest concentration of skills in the field and serves clients of all sizes across Canada and around the world.

INO has a variety of technologies and innovative processes in its strong IP portfolio. These assets represent unique business opportunities for companies looking for innovative technologies to bring to the market place. These technology transfers are carried out mainly through licensing or intellectual property sales.

For the complete list of technologies available for transfer  
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