

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 micro fluidics circuits.

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.

INTELLECTUAL PROPERTY

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



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For the complete list of technologies available for transfer
www.ino.ca/availabletechnologies