



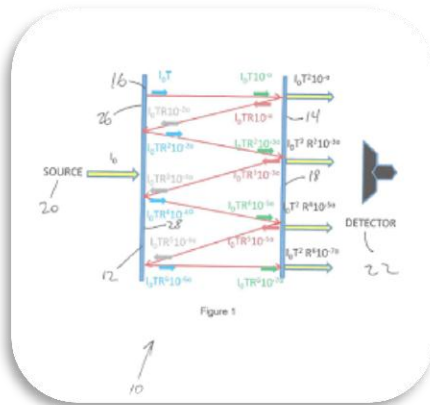
CAVITY ENHANCEMENT METHODS, SYSTEMS AND DEVICES, AND METHODS OF MEASURING SAME
(UTA 13-29)

Technology Need:

Absorption spectrometry is one of the most commonly used quantitation technique used for analysis. Detection sensitivity determines the accuracy of the analysis used in various applications such as pollution monitoring, breath analysis, atmospheric trace gas detection etc. Some of the usual methods of increasing detection sensitivity such as optimum chemistry and measurement wavelength require expensive detectors and mirrors with great reflectivity.

Solution/ Offering:

Researchers at UT Arlington have developed a system for increasing the light throughput in a cavity enhanced spectrometer. Entrance and exit mirrors are used as part of the setup to improve the light throughput. This results in the improvement of detection limits, even with mirrors of modest reflectivity and inexpensive detectors. This invention is not limited to any specific system or device, providing flexibility in the application.



Value Proposition:

- ✓ Better detection
- ✓ Flexibility in application
- ✓ Inexpensive mirrors used

Industrial application:

- ✓ Pollution monitoring
- ✓ Combustion diagnostics
- ✓ Atmospheric trace gas detection

Patent Status:

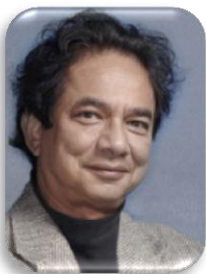
- ✓ Provisional

Current Stage:

- ✓ Lab Tested



Meet the Inventor



Purnendu K. Dasgupta is a Professor at the Department of Chemistry and Biochemistry at UT Arlington. He obtained his Ph.D. in Analytical Chemistry from Louisiana State University. He has authored more than 350 papers, in addition to book chapters and holds more than 20 patents. His current research interests include capillary scale liquid chromatography, novel detection and data transform schemes in chromatography, chip scale instruments.

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