

Search history

Search 1: TAC= (PHOTOACOUSTIC* AND MEASUR* AND CELL*) and PD<20181207 (Results 321)

Search 2: 1 and (micropho* and LED) (Results 37)

1) Family number: 63591930 (US2016270656A)

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Title: METHODS AND SYSTEMS FOR DIAGNOSING AND TREATING HEALTH AILMENTS

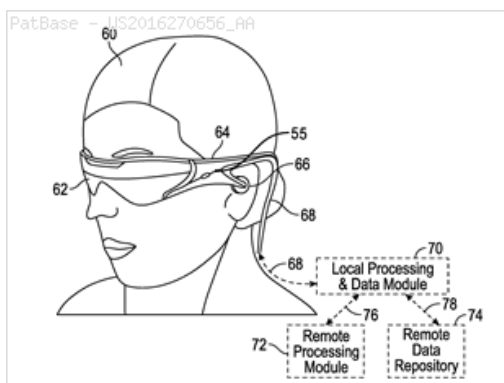
Abstract: Configurations are disclosed for a health system to be used in various healthcare applications, e.g., for patient diagnostics, monitoring, and/or therapy. The health system may comprise a light generation module to transmit light or an image to a user, one or more sensors to detect a physiological parameter of the user's body, including their eyes, and processing circuitry to analyze an input received in response to the presented images to determine one or more health conditions or defects.

Classifications:

International (IPC 8-9): A61B A61B3/00 A61B3/02 A61B3/024 A61B3/028 A61B3/032 A61B3/06 A61B3/08 A61B3/09 A61B3/10 A61B3/103 A61B3/11 A61B3/113 A61B3/12 A61B3/13 A61B3/135 A61B3/14 A61B3/16 A61B3/18 A61B5/00 A61B5/01 A61B5/046 A61B5/0476 A61B5/0496 A61B5/083 A61B5/145 A61B5/1455 A61B5/16 A61B8/00 A61B8/08 A61B8/10 A61F7/00 A61F9/00 A61F9/008 A61H1/00 A61H5/00 A61M11/02 A61M21/00 A61M21/02 A61N5/06 A61N5/067 G02B G02B21/00 G02B26/10 G02B27/00 G02B27/01 G02B27/02 G02B27/22 G02B6/26 G02C7/02 G06F19/00 G06K9/00 G06T11/00 G06T19/00 G06T3/40 G06T5/00 G06T7/00 G09G5/00 G10L25/66 G16H40/63 G16H40/67 G16H50/20 H04N7/18 (Advanced/Invention); A61B5/01 A61F7/00 A61F9/008 A61M21/00 A61N5/06 G02C7/02 (Advanced/Non-invention); G02B (Subclass/Invention)

CPC: A61B3/10 A61B3/102 A61B3/113 A61B3/12 A61B5/0066 A61B5/0077 A61B5/01 A61B5/0476 A61B5/14532 A61B2562/0204 A61B2562/0219 A61B2562/0247 A61M21/02 A61M2021/0022 A61M2021/0027 A61M2021/0066 A61M2205/3375 A61M2205/507 G02B27/0172 G02B27/0179 G02B2027/0138 G02B2027/014 G02B2027/0185 G02C7/027 G16H40/63 G16H40/67 A61B3/0008 A61B3/022 A61B3/024 A61B3/028 A61B3/063 A61B3/066 A61B3/08 A61B3/085 A61B3/1005 A61B3/1015 A61B3/1035 A61B3/1216 A61B3/13 A61B3/14 A61B3/165 A61B5/0059 A61B5/046 A61B5/0496 A61B5/1455 A61B5/14555 A61B5/6803 A61B8/10 A61B8/461 A61F9/0026 A61F2007/0004 A61F2007/004 A61F2009/00863 A61H2201/165 A61N2005/0648 G02B21/0032 G02B27/0093 G06T19/006 G06T2207/10024 G06T2207/10148 G06T2207/10152 G06T2207/30041 A61B3/005 A61B3/0025 A61B3/1241 A61B3/101

US: 1/1 128/200.14 345/633 348/62 348/63 351/201 351/203 351/206 351/209 351/211 351/221 351/222 351/224 351/237 600/27 600/301 600/318 600/459 604/20 607/91



Family:

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US20190562302	20190905				

Probable Assignee: MAGIC LEAP INC

Assignee(s): (std): ABOVITZ RONY ; BAERENRODT MARK ; HARRISES CHRISTOPHER M ; MAGIC LEAP INC ; SAMEC NICOLE ELIZABETH ; SCHOWENGERDT BRIAN T ; MACNAMARA JOHN GRAHAM

Assignee(s): TECHNICAL SOLUTIONS INC ; JP MORGAN CHASE BANK NA ; KAEHLER ADRIAN ; CITIBANK NA

Inventor(s): (std): SAMEC NICOLE ELIZABETH ; ABOVITZ RONY ; SCHOWENGERDT BRIAN T ; BAERENRODT MARK ; MACNAMARA JOHN GRAHAM ; HARRISES CHRISTOPHER M ; KAEHLER ADRIAN

Agent(s): DAVIES COLLISON CAVE PTY LTD; SIM AND MCBURNEY; MARKS AND CLERK; RICHES MCKENZIE AND HERBERT LLP; LECOMTE AND PARTNERS; DURAN CORRETJER SLP; ZHONGZI IP; LI WING HONG; AOKI ATSUSHI; KNOBBE MARTENS OLSON AND BEAR LLP; ALTMAN DANIEL E; LUNDMARK DAVID C

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN

2) Family number: 64694342 (US2017014035A)

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Title: SYSTEM AND METHOD FOR A BIOSENSOR MONITORING AND TRACKING BAND

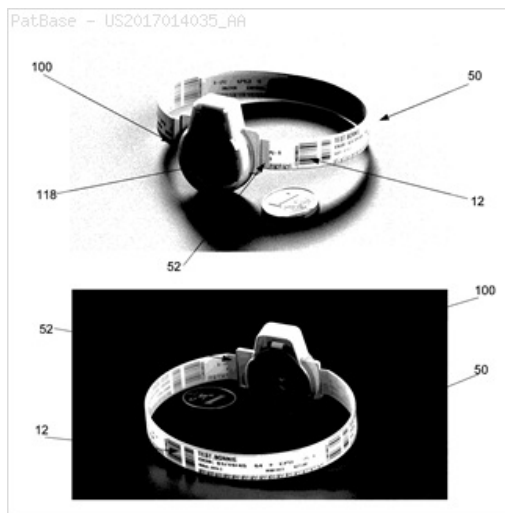
Abstract: A health care band operably attaches a biosensor to a patient. The biosensor includes one or more sensors for collecting vitals of a patient and a wireless transmitter that is configured to communicate with an EMR network that stores and maintains an EMR of the patient. The biosensor stores a unique identification associated with the patient's EMR such that vitals **measured** by the biosensor may be transmitted with the patient's unique identification for storage in the patient's EMR. The sensors in the biosensor may include a thermometer, motion detector/accelerometer, pulse detector and oximeter, etc. In an embodiment, one of the sensors in the biosensor includes a photoplethysmography (PPG) based sensor that may be configured to continuously or periodically **measure** a patient's vitals, such as heart rate, pulse, blood oxygen levels, blood glucose or insulin levels, or other blood analytics in vitro.

Classifications:

International (IPC 8-9): A24F47/00 A61B5/00 A61B5/01 A61B5/02 A61B5/0205 A61B5/021 A61B5/024 A61B5/026 A61B5/04 A61B5/0488 A61B5/06 A61B5/08 A61B5/11 A61B5/117 A61B5/145 A61B5/1455 A61B5/1459 A61B5/1464 A61B5/1495 A61B90/96 A61M11/00 A61M11/04 A61M15/00 A61M5/142 A61M5/145 A61M5/158 A61M5/172 A61M5/32 G06F19/00 G06F3/01 G06F3/03 G06K9/00 G16H40/63 G16H40/67 G16H50/20 (Advanced/Invention); A61B5/021 A61B5/024 A61B5/0402 A61B5/08 A61B5/11 A61B5/145 A61M5/145 B60R25/25 G06F1/16 (Advanced/Non-invention)

CPC: A61B90/98 A61B5/7278 A61B5/1495 A61B90/96 A61B5/002 A61B5/6823 A61B5/6825 A61M11/042 A24F47/008 A61M11/002 A61M11/005 A61M11/02 A61M15/0065 A61M15/0085 A61M15/06 A61M2016/0021 A61M2205/121 A61M2205/123 A61M2205/127 A61M2205/13 A61M2205/276 A61M2205/3317 A61M2205/3386 A61M2205/3389 A61M2205/3569 A61M2205/3592 A61M2205/8212 A61M2230/205 G06F19/30 A61M5/1452 G06F19/00 A61M2205/3303 A61M2205/3313 A61M2205/3368 A61M2205/3553 A61M2205/505 A61B5/4845 A61B5/0456 A61B5/00 A61B5/031 A61B5/024 G06F3/014 G06F3/015 G06F3/017 G06F3/0304 G06K9/00355 G06F1/163 A61B5/0488 A61B5/7225 A61B5/0077 A61B5/02007 A61B5/021 A61B5/0295 A61B5/7264 A61B2503/40 A61M5/1723 A61M2205/3306 A61M2205/502 A61M2205/52 A61M2230/63 A61M5/14248 A61M5/3298 A61M2205/8206 A61M2205/8268 A61M2230/06 A61M2230/50 A61B5/02055 A61B5/02427 A61B5/02438 A61B5/0402 A61B5/1113 A61B5/6824 A61B5/6829 A61B5/6831 A61B5/6832 A61B5/742 A61B2562/08 A61B5/1114 A61B2562/0219 A61B5/7267 G16H50/20 A61B5/01 A61B5/6816 A61B5/7246 A61B5/746 A61B2560/0214 G16H40/63 G16H50/30 A61B5/0002 A61B5/0008 A61B5/412 A61B5/6833 A61B5/7405 A61B5/0075 A24F47/00 A61B5/02416 A61B5/0261 A61B5/087 A61B5/1118 A61B5/14551 A61B5/4839 A61B5/4848 A61B5/682 A61B5/725 A61M11/041 A61M15/0021 A61M15/0028 A61M2205/3379 A61M2205/3584 A61M2206/14 A61M2230/005 A61M2230/04 A61M2230/20 A61M2230/30 A61M2230/42 A61B5/0004 A61B5/0022 A61B5/14546 A61B5/1455 A61B5/681 A61B5/6817 A61B5/6826 A61B5/7235 A61B5/743 A61B2560/0223 A61B2560/0228 G16H40/67 Y02A90/26 A61B5/0205 A61B5/02433 A61B5/0816 A61B5/117 A61B5/14532 A61B5/14552 A61B5/6893 A61B5/7257 A61B5/7275 A61B5/7282 A61B5/7475 A61B2503/22 B60R25/25 A61B3/12 A61B5/02

US: 1/1 128/200.18 600/301 600/314 600/316 600/483 604/66

**Family:**

Publication number	Publication date	Application number	Application date
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Probable Assignee: SANMINA CORP

Assignee(s): (std): SANMINA CORP

Assignee(s): US BANK NATIONAL ASSOCIATION NOT IN ITS INDIVIDUAL CAPACITY BUT SOLELY NOTES COLLATERAL AGENT AS ; SCI TECHNOLOGY ; SENSORWISE INC ; HADCO CORP ; HADCO SANTA CLARA ; NEWBERRY ROBERT STEVEN

Inventor(s): (std): NEWBERRY ROBERT STEVEN ; RODENCAL MATTHEW ; NEWBERRY ROBERT

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP; DREISS PATENTANWALTE PARTG MBB; LOZA AND LOZA LLP; JULIO; JULIO M; JESSICA W; JESSICA; LOZA JULIO; SMITH JESSICA; SMITH JESSICA W; LOZA JULIO M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 57408679 (US2015109427A)

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Title: SURGICAL IMAGING SYSTEMS

Abstract: Systems, methods and devices are provided for illuminating tissue with monochromatic or broadband light and imaging light that has been reflected back from the tissue. Imaging may be white-light imaging or hyperspectral imaging. The system can be a stand-alone hyperspectral imaging system, integrated as part of an external video scope, or as an auxiliary

imaging module on an external videoscope. Various elements of a video scope that is particularly suited for minimally invasive surgery is first presented and then its configurations suitable for hyperspectral imaging are explained.

Classifications:

International (IPC 8-9): A61B A61B1/00 A61B1/002 A61B1/01

A61B1/04 A61B1/045 A61B1/05 A61B1/06 A61B1/313 A61B10/00

A61B17/00 A61B17/34 A61B17/56 A61B19/00 A61B19/02

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G06Q50/24 G06T G06T1/60 G06T11/00 G06T11/20 G06T17/00

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G06T7/33 G06T7/70 G06T7/73 G09B G09B23/28 G09B23/30

G09G5/00 G16H10/00 G16H10/40 G16H20/40 G16H30/00

G16H40/63 G16H50/20 G16H50/50 G16H50/70 (Advanced/Invention);

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A61B6/03 A61B8/00 A61B8/08 A61B8/13 A61B90/00 A61B90/30 A61B90/50 G06F19/00 G06F3/0481 G06F3/0484

G06T1/60 (Advanced/Non-invention);

A61B B25J F21V G06F G06T G09B (Subclass/Invention)

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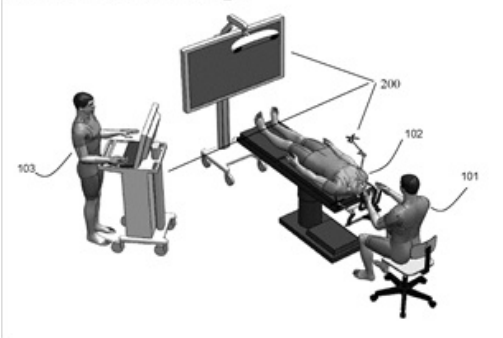
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Family:

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Probable Assignee: SYNAPTIVE MEDICAL BARBADOS INC

Assignee(s): (std): ALEXANDER SIMON ; BAI YANHUI ; DYER KELLY ; BAILEY BRENT ; CAMERON PIRON ; BAILEY BRENT ANDREW ; GALLOP DAVID ; HODGES WES ; HYNNA KAI ; GAL SELA ; DYER KELLY NOEL ; HYNNA KAI MICHAEL ; JAGGA ARUN VICTOR ; PIRON CAMERON ; RICHMOND JOSH ; MCFADYEN STEPHEN ; LAU WILLIAM ; PANTHER ALEX ; MCFADYEN STEPHEN ; JAGGA VICTOR ; PYO NORMAN ; MCFADYEN STEVE ; JOSHUA RICHMOND ; MURUGATHAS YUWARAJ ; MICHAEL WOOD ; MUGARATNAM NISHANTAN ; PIRON CAMERON ANTHONY ; MCFADYEN STEPHEN B E ; WOOD MICHAEL ; SYNAPTIVE MEDICAL BARBADOS INC ; SELA GAL ; YUWARAJ MURUGATHAS ; THOMAS MONROE M ; RICHMOND JOSHUA ; SHANMUGARATNAM NISHANTHAN ; THINGVOLD SHERYL ; STEPHEN MCFADYEN ; SELS GAL ; THOMAS MONROE M ; WOOD MICHAEL FRANK GUNTER ; RICHMOND JOSHUA LEE ; WOOD MICHAEL ; SAXENA ABHIJIT

Assignee(s): RICHMONG JOSH ; SYNAPTIVE MEDICAL BARBADOS INCC ; SELA GAI ; MCFADYEN STEPHEN BE ; HODGES WESLEY BRYAN

Inventor(s): (std): PIRON CAMERON ANTHONY ; RICHMOND JOSHUA LEE ; MCFADYEN STEPHEN B E ; HYNNA KAI MICHAEL ; BAILEY BRENT ANDREW ; THOMAS MONROE M M ; GALLOP DAVID ; WOOD MICHAEL ; THOMAS MONROE M ; SELA GAL ; PIRON CAMERON ; DYER KELLY ; YUWARAJ MURUGATHAS ; RICHMOND JOSH ; ALEXANDER SIMON ; HODGES WES ; MCFADYEN STEPHEN ; LAU WILLIAM ; RICHMOND JOSHUA ; PANTHER ALEX ; SHANMUGARATNAM NISHANTHAN ; RICHMONG JOSH ; WOOD MICHAEL FRANK GUNTER ; DYER KELLY NOEL ; HODGES WESLEY BRYAN ; JAGGA ARUN VICTOR ; MICHAEL WOOD ; GAL SELA ; MURUGATHAS YUWARAJ ; JOSHUA RICHMOND ; CAMERON PIRON ; STEPHEN MCFADYEN ; PIRON CAMERON ; THINGVOLD SHERYL ; MCFADYEN STEPHEN ; HYNNA KAI ; MCFADYEN STEVE ; SAXENA ABHIJIT ; BAI YANHUI ; BAILEY BRENT ; PYO NORMAN ; JAGGA VICTOR ; SELA GAI ; PIRON CAMERON ; MCFADYEN STEPHAN

Inventor(s): STEPHAN ; CAMERON ; MCFADYEN STEPHEN BE ; WOOD ; MICHAEL ; PIRON ; CAMERON ; YUWARAJ ; MURUGATHAS ; SELA ; GAL ; RICHMOND ; JOSHUA ; MCFADYEN ; STEPHEN ; PANTHER ; ALEX ; SHANMUGARATNAM ; NISHANTHAN ; LAU ; WILLIAM ; THOMAS ; MONROE ; M ; HODGES ; WES ; ALEXANDER ; SIMON ; GALLOP ; DAVID

Agent(s): DENNEMEYER AND ASSOCIATES; HILL AND SCHUMACHER; PERRY AND CURRIER; RIDOUT AND MAYBEE LLP; VUONG THANH VINH; SCHUMACHER LYNN C; DENNEMEYER AND ASSOCIATES SA; SMIT MARCO; MIRANDAH ASIA SINGAPORE PTE LTD; LYNN C; STEPHEN W

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

4) Family number: 12193147 (US5941821A)

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Title: Method and apparatus for noninvasive **measurement** of blood glucose by **photoacoustics**

Abstract: A method and apparatus for noninvasively **measuring** blood glucose levels provides an indirect, reagentless, differential, **photoacoustic** technique which responds to absorption in a thin surface layer. An excitation source provides electromagnetic energy which is utilized to irradiate the tissue, such as skin. The output of the radiation of the excitation source at the desired wavelength is coupled through a transmission device, such as a fiber optic bundle, which irradiates the electromagnetic energy onto the body surface. Upon irradiation, acoustic energy is generated by the absorption of the electromagnetic energy in a relatively thin layer of the sample to be **measured**, characterized by a heat-diffusing length. The acoustic energy is detected by the probe which includes a **measuring cell**, reference **cell**, window and differential **microphone**. Absorption of the light beam results in periodic heating of the tissue, at and near the tissue surface. The air in contact with the tissue surface in the **measuring cell** is in turn heated, and produces an acoustic emission in the **measuring cell**. This acoustic emission is detected with the differential **microphone**, one end of which is positioned in the **measuring cell** and the other end of which is positioned in the reference **cell**. A processor determines the concentration of the substance based upon the detected acoustic signal.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/145 A61B8/00 G01N21/00

G01N21/17 G01N29/00 (Advanced/Invention);

A61B5/00 (Advanced/Non-invention)

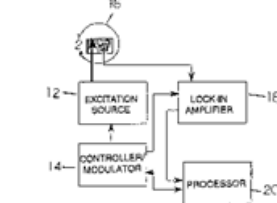
International (IPC 1-7): A61B5/00 A61B5/14 A61B5/145 A61B8/00

G01N21/00 G01N21/17 G01N29/00

CPC: A61B5/0095 A61B5/14532 A61B5/1455 G01N21/1702

European: A61B5/00T3 A61B5/1455 A61B5/145G G01N21/17B

US: 374/45 600/310 600/316 600/322



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FIG. 1

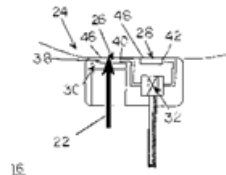


FIG. 2

Family:

Publication number	Publication date	Application number	Application date
DE69837425 D1	20070510	DE19986037425T	19981124
DE69837425 D1	20070510	DE19986037425	19981124
DE69837425 T2	20071213	DE19986037425T	19981124
EP0919180 A1	19990602	EP19980122125	19981124
EP0919180 B1	20070328	EP19980122125	19981124
EP1795120 A1	20070613	EP20070006087	19981124
JP11235331 A2	19990831	JP19980334070	19981125
JP3210632 B2	20010917	JP19980334070	19981125
KR19990045525 A	19990625	KR19980050442	19981124
TW408219 B	20001011	TW19980118706	19981110
US5941821 A	19990824	US19970978317	19971125
US6049728 A	20000411	US19980190940	19981112

Priority:

US19970978317 19971125 US19980190940 19981112 EP19980122125 19981124
 KR19980050442 19981124

Probable Assignee: NORTHROP GRUMMAN SYSTEMS CORP

Assignee(s): (std): NORTHROP GRUMMAN CORP ; TRW INC

Assignee(s): TRW AUTOMOTIVE U S LLC ; NORTHROP GRUMMAN CORPORAITON ; NORTHROP GRUMMAN CORPORAITON 1840 CENTURY PARK ; NORTHROP GRUMMAN SPACE AND MISSION SYSTEMS CORP ; NORTHROP GRUMMAN SYSTEMS CORP

Inventor(s): (std): CHOU MAU SONG ; MAU SONG CHOU

Designated states: AL DE FR GB LT LV MK RO SI

5) Family number: 43687049 (US2011026031A)

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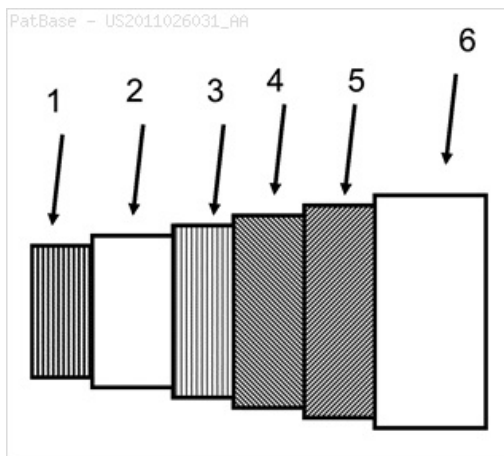
Title: PIPE SYSTEM, A FLUID SENSING SYSTEM FOR A PIPE SYSTEM, AND A METHOD OF DETERMINING A FLUID COMPONENT IN AN ANNULUS CAVITY OF A PIPE

Abstract: The invention relates to a pipe system comprising a) a pipe, b) a fluid sensing station and c) a remote light detector system. The pipe comprises a flow channel and an annular fluid cavity surrounding the flow channel. The fluid sensing station comprises a sensing fluid cavity which is in fluid communication with the annular fluid cavity, and the sensing fluid cavity comprises a light emitter and a light receiver placed at a distance from each other. The light emitter and the light receiver are optically connected to each other and optically connected to the remote light detector system. The invention also relates to a fluid sensing system for sensing a fluid in an annulus cavity of a pipe, said fluid sensing system comprises a fluid sensing station and a remote light detector system. The fluid sensing station comprises a sensing fluid cavity comprising a light emitter and a light receiver placed at a distance from each other and optically connected to each other. The remote light detector system comprises a light source and an analyzer. The light emitter is optically connected to the light source, and the light receiver being optically connected to the analyzer. The fluid sensing station is arranged to be connected to a pipe with an annular fluid cavity to provide a fluid communication between said annular fluid cavity and said sensing fluid cavity. The invention further relates to a method for sensing a fluid in an annulus cavity of a pipe.

Classifications:

International (IPC 8-9): E21B17/01 F16L11/08 F16L11/12 F16L11/20
 F17D5/06 G01M3/04 G01M3/18 G01M3/38 G01N21/00 G01N21/17
 G01N21/31 G01N29/24 (Advanced/Invention);
 G01N21/33 G01N21/35 G01N21/65 (Advanced/Non-invention);
 F16L11/00 F16L11/08 F16L11/12 F17D5/00 G01M3/00 G01M3/04
 G01M3/16 G01N21/17 G01N29/24 (Core/Invention)
CPC: F16L11/083 G01N21/31 G01N21/33 G01N21/35 G01N21/65
 G01N21/658 E21B17/015 F16L11/082 F16L11/12 F16L2011/047

G01M3/047 G01N21/1702 G01N29/2425 G01N2021/1704
G01N2021/1708 G01N2021/1793 G01N2021/8557 G01N2021/8578
G01N2201/084
European: F16L11/08D1 F16L11/08D2 F16L11/12 G01M3/04B2B
G01N21/17B G01N21/59 G01N29/24C1 R16L11/04F S01N201/08H
S01N21/17B2 S01N21/17B4 S01N21/17Y S01N21/85D S01N21/85G
US: 356/432 356/432S 356/436 356/440 356/440P 73/152.18
73/24.02 73/24.020P 73/64.48



Family:

Publication number	Publication date	Application number	Application date
AU2009254329 AA	20091210	AU20090254329	20090422
AU2009254329 BB	20140320	AU20090254329	20090422
BRPI0907534 A2	20150728	BR2009PI07534	20090223
BRPI0913413 A2	20151124	BR2009PI13413	20090422
CA2716795 AA	20090903	CA20092716795	20090223
CA2716795 C	20180731	CA20092716795	20090223
CA2725624 AA	20091210	CA20092725624	20090422
DK200801338 A5	20100327	DK20080001338	20080926
DK201001077 A5	20101126	DK20100001077	20101126
EP2265929 A1	20101229	EP20090713982	20090223
EP2286201 A1	20110223	EP20090757143	20090422
US2011026031 AA	20110203	US20090919070	20090223
US2011154884 AA	20110630	US20090995740	20090422
US8590365 BB	20131126	US20090995740	20090422
US8593636 BB	20131126	US20090919070	20090223
WO09106078 A1	20090903	WO2009DK00050	20090223
WO09146710 A1	20091210	WO2009DK50093	20090422

Priority:

DK20080000263 20080225 DK20080000766 20080603 DK20080001338 20080926
US20080101009P 20080929 US20080101009 20080929 WO2009DK00050 20090223
WO2009DK50093 20090422 US20090995740 20090422 DK20100001077 20101126

Probable Assignee: NKT FLEXIBLES I S

Assignee(s): (std): KRISTIANSEN MIKAEL ; NAT OILWELL VARCO DENMARK I S ; NAT OILWELL VARCO DENMARK IS ; NKT FLEXIBLES I S ; WEPPENAAR NICKY ; NKT FLEXIBLES IS

Assignee(s): NATIONAL OILWELL VARCO DENMARK I S

Inventor(s): (std): WEPPENAAR NICKY ; KRISTIANSEN MIKAEL ; MIKAEL KRISTIANSEN ; NICKY WEPPENAAR ; KRISTIANSEN MAKAE

Inventor(s): MAKAE KRISTIANSEN

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; FETHERSTONHAUGH AND CO; HEGNER ANETTE; PEARNE AND GORDON LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

6) Family number: 15510599 (US2003043880A)

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Title: Method, a **measuring cell** and a system for **measuring** very small heat changes in a sample

Abstract: The present invention relates to a method, a **measuring cell** and a system for **measuring** very small heat changes in a sample. The system comprises a **measuring cell** 16 for containing the sample during the **measurement** process, at least one electromagnetic radiation unit 14 for radiating one or several samples with modulated monochromatic or polychromatic radiation 46 inside said **measuring cell** 16. Said **measuring cell** 16 comprises at least one acoustic transducer 22 for generating a first output signal V(t) and at least one heat **measuring** device 24 for generating a second output signal T(t). Both signals are connectable to a combining unit 18 that generates an information signal by means of a reference signal f(t). Said information signal is connectable to a signal processing unit 20 for determining at least one relevant reaction parameter as a function of the **measured** heat change.

Classifications:

International (IPC 8-9): G01K17/00 G01N21/17

G01N25/48 (Advanced/Invention);

G01K17/00 G01N21/17 G01N25/20 (Core/Invention)

International (IPC 1-7): G01H5/00 G01K11/22 G01K13/00

G01K17/00 G01K17/20 G01N21/17 G01N29/00

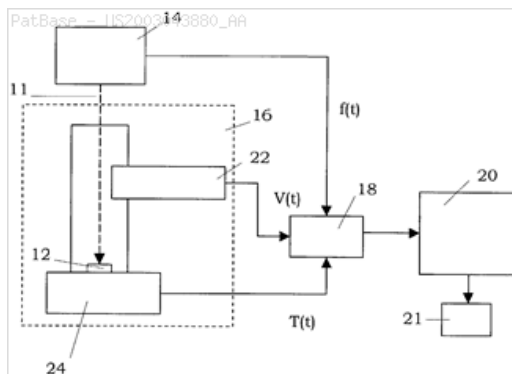
CPC: G01K17/00 G01N21/1702 G01N25/4813 G01N25/4826

G01N25/4846

European: G01K17/00 G01N21/17B G01N25/48A2 G01N25/48A4

G01N25/48B

US: 374/117 374/118 374/119 374/32 374/E17.001 73/597



Family:

Publication number	Publication date	Application number	Application date
GB200116354 A0	20010829	GB20010016354	20010704
GB2379743 A1	20030319	GB20010016354	20010704
GB2379743 B2	20050525	GB20010016354	20010704
US2003043880 AA	20030306	US20020185966	20020628
US6764215 BB	20040720	US20020185966	20020628

Priority:

GB20010016354 20010704

Probable Assignee: AMERSHAM BIOSCIENCES UK LTD

Assignee(s): (std): AMERSHAM BIOSCIENCES UK LTD ; AMERSHAM PHARM BIOTECH UK LTD ; LABARBE RUDI ; MEYLER PHIL

Assignee(s): AMERSHAM BIOSCIENCES UK LIMITED ; AMERSHAM PHARMACIA BIOTECH UK ; GE HEALTHCARE UK LTD

Inventor(s): (std): MEYLER PHIL ; LABARBE RUDI

Inventor(s): RUDI LABARBE ; PHIL MEYLER

7) Family number: 55974679 (US2015247788A)

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Title: DEVICE AND METHOD FOR MONITORING ROOMS EQUIPPED WITH HIGH-VOLTAGE APPARATUSES

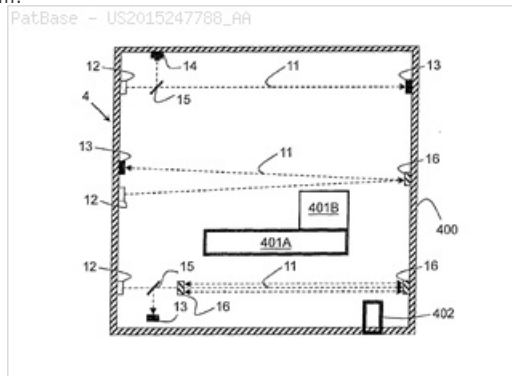
Abstract: A monitoring device for determining the concentration of a dielectric insulation fluid such as a perfluoroketones in a room housing at least one high-voltage electrical apparatus and being accessible by humans essentially without modifying the room conditions, for example the room being a part of an air-insulated substation, with the monitoring system including one or more sensors for determining an emission and/or absorption of the dielectric insulation fluid molecules at at least one wavelength or wavelength band of the electromagnetic wave spectrum.

Classifications:

International (IPC 8-9): E04H5/02 G01N15/06 G01N21/00 G01N21/31 G01N21/33 G01N21/35 G01N21/3504 G01N21/3581 G01N21/75 H01H33/22 H01H33/56 H02B5/00 (Advanced/Invention); H01H33/56 (Advanced/Non-invention)

CPC: H01H2033/566 H02B13/055 H01H33/22 G01N30/88 G01N2030/8845 G01N21/3577 G01N21/64 G01N21/85 G01N15/06 E04H5/02 G01N2015/0693 G01N21/31 G01N21/33 G01N21/3504 G01N21/3581 H01H33/563

US: 356/338 356/437 52/1



Family:

Publication number	Publication date	Application number	Application date
CN104755910 A	20150701	CN201380057418	20130904
CN104755910 B	20180216	CN201380057418	20130904
CN104756217 A	20150701	CN201380057447	20130904
CN104756217 B	20180119	CN201380057447	20130904
DE602013004664 D1	20160303	DE201360004664T	20130904
DE602013023463 D1	20170824	DE201360023463T	20130904
EP2893545 A1	20150715	EP20130758853	20130904
EP2893545 B1	20160113	EP20130758853	20130904
EP2893546 A1	20150715	EP20130766239	20130904
EP2893546 B1	20170712	EP20130766239	20130904
US2015247788 AA	20150903	US20150638712	20150304
US9513204 BB	20161206	US20150638712	20150304
WO14037030 A1	20140313	WO2012EP67219	20120904
WO14037395 A1	20140313	WO2013EP68276	20130904
WO14037399 A1	20140313	WO2013EP68281	20130904

Priority:

WO2012EP67219 20120904
EP20130758853 20130904

EP20130172591 20130619
WO2013EP68276 20130904

WO2013EP62683 20130619
EP20130766239 20130904

Probable Assignee: ABB TECHNOLOGY AG**Assignee(s):** (std): ABB SCHWEIZ AG ; ABB TECHNOLOGY AG ; BRAENDLE HUBERT ; BUERGLER MATHIAS DOMINIC ; COSSALTER OLIVER ; KRAMER AXEL ; MANTILLA JAVIER ; PAUL THOMAS ALFRED ; CLAESSENS MAX STEFFEN ; GROB STEPHAN ; KILLER ERIC ; INGOLD MATHIAS**Inventor(s):** (std): BUERGLER MATHIAS DOMINIC ; COSSALTER OLIVER ; KRAMER AXEL ; MANTILLA JAVIER ; BRAENDLE HUBERT ; PAUL THOMAS ALFRED ; CLAESSENS MAX STEFFEN ; GROB STEPHAN ; KILLER ERIC ; INGOLD MATHIAS**Agent(s):** ZIMMERMANN AND PARTNER PATENTANWAELTE MBB; ABB PATENT ATTORNEYS; ST ONGE STEWARD JOHNSTON AND REENS LLC; INGOLD MATHIAS**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**8) Family number: 41985222 (US2011056272A)**

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Title: SYSTEM FOR ANALYSING PLASMA**Abstract:** A system for analysing plasma. The system comprises at least one sensor which is co-operable with a plasma source for providing an analog signal representative of a characteristic of plasma from the plasma source, and a sound card installed on a computing means in communication with the sensor for converting the analog signal into a digital signal for facilitating digital processing thereof.**Classifications:****International (IPC 8-9):** G01N21/17 G01N27/62 G01N29/02

G01R19/00 H01J37/32 H05H1/00 (Advanced/Invention);

G01N27/62 G01N29/02 G01R19/00 H01J37/32

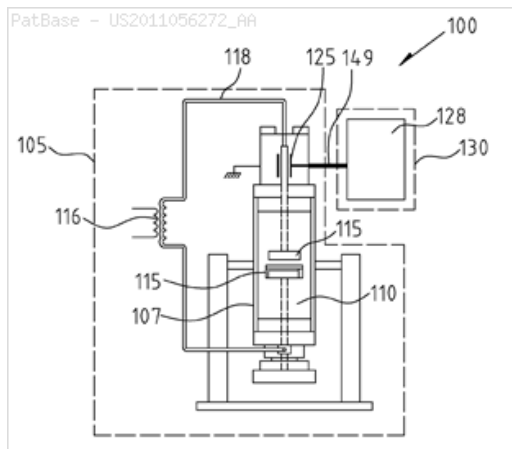
H05H1/00 (Core/Invention)

CPC: H01J37/32935 G01N27/62 G01N29/02 G01R19/0061

H05H1/0006 H05H1/0081 H05H1/0093

European: G01N27/62 G01N29/02 G01R19/00E3 H01J37/32D1C1

H01J37/32S4 H05H1/00A H05H1/00A4 H05H1/00A6 T01J237/32SF

US: 73/24.02 73/24.020P 73/240.2**Family:**

Publication number	Publication date	Application number	Application date
DE602009019627 D1	20131219	DE200960019627T	20090507
EP2283511 A1	20110216	EP20090742137	20090507
EP2283511 B1	20131023	EP20090742137	20090507
GB200808249 A0	20080611	GB20080008249	20080507
GB2459858 A1	20091111	GB20080008249	20080507
US2011056272 AA	20110310	US20090991407	20090507
WO09135919 A1	20091112	WO2009EP55565	20090507

Priority:

GB20080008249 20080507 EP20090742137 20090507 WO2009EP55565 20090507

Probable Assignee: DUBLIN CITY UNIV**Assignee(s):** (std): DANIELS STEPHEN ; LAW VICTOR JOHN ; MCNALLY PATRICK ; UNIV DUBLIN CITY**Assignee(s):** DUBLIN CITY UNIV ; DUBLIN CITY UNIVERSITY**Inventor(s):** (std): DANIELS STEPHEN ; LAW VICTOR JOHN ; MCNALLY PATRICK**Inventor(s):** VICTOR JOHN LAW ; STEPHEN DANIELS**Agent(s):** K AND H BONAPAT; KEANE PAUL FACHTNA; MOORE BARRY; KEANE PAUL ET AL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**9) Family number: 57187625 (WO14122135A1)**

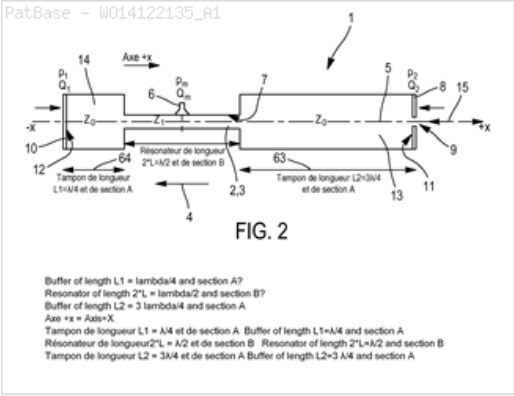
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Title: PHOTOACOUSTIC CELL WITH IMPROVED DETECTION ACCURACY AND GAS ANALYSER COMPRISING SUCH A CELL**Abstract:** The present invention concerns a photo-acoustic cell (1), comprising: an acoustic resonator (2), said resonator comprising a resonator recess (3) in the form of a tube extending in a longitudinal detection (4); an input mirror (8) and an end mirror (10) aligned with the resonator (2) along an optical axis (5) of the cell parallel to the longitudinal direction (4); between the input mirror and the resonator, an input acoustic buffer (13); and between the end mirror and the resonator, an end acoustic buffer (14). According to a first aspect of the cell according to the invention, the lengths (63, 64) of the input and end acoustic buffers, measured in the longitudinal direction, are preferably asymmetrical. According to a second aspect of the cell according to the invention, the input mirror and the end mirror are preferably arranged to reflect a light beam (15) entering the cell through the input window (9) in the longitudinal direction, being centred on the optical axis (5), such that after each reflection on each of these mirrors, the reflected light beam remains centred on the optical axis (5). The invention

also concerns a gas analyser comprising a cell according to the invention.

Classifications:

International (IPC 8-9): G01N21/17 G01N29/24 (Advanced/Invention)
CPC: G01N21/031 G01N21/1702 G01N29/2425 G01N2021/1704 G01N2291/021



Family:

Publication number	Publication date	Application number	Application date
EP2954311 A1	20151216	EP20140707340	20140204
FR3002040 A1	20140815	FR20130051082	20130208
FR3002040 B1	20170825	FR20130051082	20130208
WO14122135 A1	20140814	WO2014EP52171	20140204

Priority:

FR20130051082 20130208 WO2014EP52171 20140204

Probable Assignee: BLUE IND AND SCIENCE

Assignee(s): (std): BLUE IND AND SCIENCE

Inventor(s): (std): NGUYEN JOEL ; COLIN ALEXIS ; CAMPREDON THIBAUT ; MIKLOS ANDRAS

Inventor(s): JOEL NGUYEN ; ANDRAS MIKLOS ; THIBAUT CAMPREDON ; ALEXIS COLIN

Agent(s): PONTET ALLANO AND ASSOCIES; CABINET PONTET ALLANO AND ASSOCIES SELARL; IPAZ

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

10) Family number: 34556963 (US2007167832A)

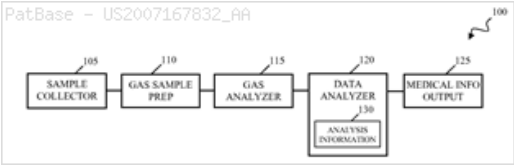
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Title: ANALYSIS OF GASES

Abstract: Systems and techniques for the analysis of gases for medical purposes are described. In one aspect, a system includes a sample collector to collect a physical sample associated with an individual and present a gas sample for analysis, a gas analysis device to analyze the gas sample presented by the sample collector to determine a concentration of one or more non-aqueous gases in the gas sample, a data storage device that includes information reflecting a correlation between concentration of the one or more non-aqueous gases in the gas sample and a disease state, and a data analysis device to determine a medical condition of the individual based on the concentration of one or more non-aqueous gases in the gas sample and the information.

Classifications:

International (IPC 8-9): G01N21/31 G01N21/85 A61B5/08 A61B5/097 A61B5/1455 A61B6/00 G01N21/00 G01N21/27 G01N21/35 G01N29/00 G01N29/02 G01N33/497 (Advanced/Invention); A61B5/08 A61B6/00 G01N21/00 G01N21/25 G01N21/31 G01N29/00 G01N29/02 (Core/Invention)
CPC: A61B5/14551 G01N2291/0427
European: A61B5/1455N S01N291/042J
US: 600/475 600/475P 73/23.3



Family:

Publication number	Publication date	Application number	Application date
AT508685 E	20110515	AT20060846500T	20061206
CA2632186 AA	20080508	CA20062632186	20061206
DE602006021959 D1	20110622	DE200660021959T	20061206
EP1976431 A2	20081008	EP20060846500	20061206
EP1976431 A4	20091104	EP20060846500	20061206
EP1976431 B1	20110511	EP20060846500	20061206
ES2366230 T3	20111018	ES20060846500T	20061206
JP2009518654 T2	20090507	JP20080544640T	20061206
JP5341519 B2	20131113	JP20080544640T	20061206
TW200738217 A	20071016	TW20060145459	20061206
TWI414274 B	20131111	TW20060145459	20061206
US2007167832 AA	20070719	US20060566919	20061205
US2012266653 AA	20121025	US20120535813	20120628
US8903474 BB	20141202	US20060566919	20061205
WO07067922 A2	20070614	WO2006US61674	20061206
WO07067922 A3	20080410	WO2006US61674	20061206

Priority:

US20050742580P 20051206 US20060566919 20061205 EP20060846500 20061206
WO2006US61674 20061206 US20120535813 20120628

Probable Assignee: NANO PROPRIETARY INC

Assignee(s): (std): NANO PROPRIETARY INC ; PEN INC ; SOUNDARRAJAN PRABHU ; YANIV ZVI ; APPLIED NANOTECH HOLDINGS INC

Assignee(s): APPLIED NANOTECH HOLDINGS INC AUSTIN

Inventor(s): (std): YANIV ZVI ; SOUNDARRAJAN PRABHU

Inventor(s): YANIV ZVI AUSTIN ; SOUNDARRAJAN PRABHU VALENCIA

Agent(s): KIRBY EADES GALE BAKER; PATENTANWALTSKANZLEI MEYER; HARRISON GODDARD FOOTE; FISH AND RICHARDSON PC; KELLY; MATHESON KEYS AND KORDZIK PLLC

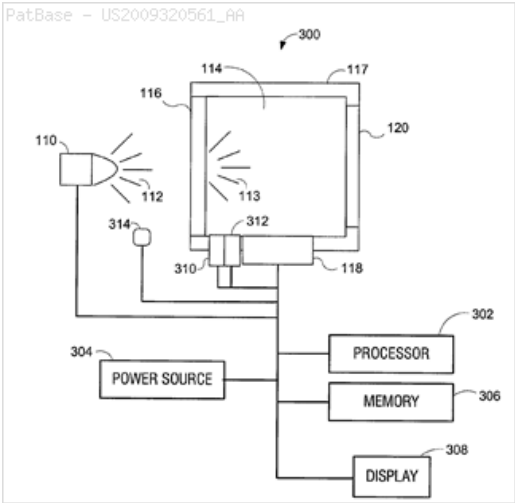
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

11) Family number: 43842302 (US2009320561A) © PatBase

Title: PHOTOACOUSTIC CELL

Abstract: Embodiments of the apparatus, systems, and methods relate to a photoacoustic cell including an excitation source, a chamber, and a quantum dot substrate between the excitation source and the chamber. The excitation source generates a light spectrum. The quantum dot substrate, when subjected to the light spectrum, emits a specific wavelength of light to be received by the chamber. The photoacoustic cell apparatus may be part of a portable gas sensing system, and may be used to detect and measure the concentration of one or more gases. Additional apparatus, systems, and methods are disclosed.

Classifications:
International (IPC 8-9): G01N21/00 G01N21/17 G01N21/61 G01N29/02 (Advanced/Invention); G01N21/00 (Core/Invention)
CPC: B82Y20/00 G01N21/1702 G01N2021/1704
European: B82Y20/00 G01N21/17B S01N21/17B2
US: 356/432 356/437 73/24.02 73/24.020P 977/774 977/774S



Family:

Publication number	Publication date	Application number	Application date
EP2110659 A2	20091021	EP20090157446	20090406
EP2110659 A3	20100106	EP20090157446	20090406
US2009320561 AA	20091231	US20080105241	20080417
US7895880 BB	20110301	US20080105241	20080417

Priority:
US20080105241 20080417

Probable Assignee: HONEYWELL INT INC

Assignee(s): (std): HONEYWELL INT INC

Assignee(s): HONEYWELL INTERNATIONAL INC

Inventor(s): (std): FRITZ BERNARD S ; MARCUS MATTHEW S

Agent(s): BUCKLEY GUY JULIAN; HONEYWELL INT INC PATENT SERVICES; SCHWEGMAN LUNDBERG AND WOESSNER PA

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

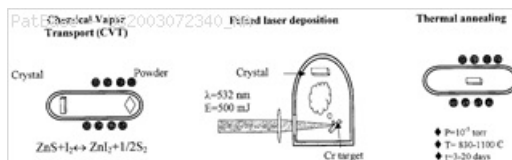
12) Family number: 28439355 (US2003072340A) © PatBase

Title: MID-IR MICROCHIP LASER: ZNS:CR2+ LASER WITH SATURABLE ABSORBER MATERIAL

Abstract: A method of fabrication of laser gain material and utilization of such media includes the steps of introducing a transitional metal, preferably Cr2+ thin film of controllable thickness on the ZnS crystal facets after crystal growth by means of pulse laser deposition or plasma sputtering, thermal annealing of the crystals for effective thermal diffusion of the dopant into the crystal volume with a temperature and exposition time providing the highest concentration of the dopant in the volume without degrading laser performance due to scattering and concentration quenching, and formation of a microchip laser either by means of direct deposition of mirrors on flat and parallel polished facets of a thin Cr:ZnS wafer or by relying on the internal reflectance of such facets. The gain material is susceptible to utilization of direct diode or fiber laser pumping of a microchip laser with a level of power density providing formation of positive lens and corresponding cavity stabilization as well as threshold population inversion in the laser material. Multiple applications of the laser material are contemplated in the invention.

Classifications:
International (IPC 8-9): B05D1/00 B05D3/00 C23C14/18 C30B29/48 C30B31/00 C30B31/02 G01N21/17 G01N21/39 G02F1/39 H01L21/06 H01L21/10 H01L21/71 H01S3/00 H01S3/06 H01S3/063 H01S3/08 H01S3/092 H01S3/094 H01S3/0941 H01S3/10 H01S3/1055

H01S3/108 H01S3/11 H01S3/113 H01S3/115 H01S3/117 H01S3/16
H01S3/23 H01S5/00 H01S5/10 H01S5/30
H01S5/327 (Advanced/Invention);
G01N21/17 G02F1/35 H01L21/00 H01L21/22 H01S3/00 H01S3/08
H01S3/081 H01S3/094 H01S3/0941 H01S3/1055 H01S3/113
H01S3/115 H01S3/117 H01S3/16 H01S3/23 (Advanced/Non-invention);
G01N21/31 G02F1/35 H01L21/02 H01S3/094 H01S3/10 H01S3/11
H01S3/16 H01S5/00 (Core/Invention)



International (IPC 1-7): H01L21/00 H01L21/06 H01L21/10 H01S3/08 H01S3/094 H01S3/14 H01S3/16 H01S5/00
CPC: H01S3/092 H01S3/1608 H01S3/1696 H01S3/1698 B05D1/60 B05D3/007 C23C14/185 G02F1/3523 H01S3/164
H01S2301/00 H01S3/11 H01S3/163 Y10S438/917 H01S3/0617 H01S3/0805 H01S3/094046 H01S3/108 H01S3/115
H01S3/117 C30B31/00 C30B31/02 G01J3/10 G01N21/1702 G01N21/39 G01N2021/1704 G01N2021/399 G02F1/39
G02F2001/392 H01S3/0014 H01S3/0604 H01S3/0627 H01S3/08009 H01S3/08086 H01S3/094038 H01S3/094042
H01S3/094061 H01S3/09415 H01S3/10092 H01S3/1055 H01S3/113 H01S3/161 H01S3/162 H01S3/1623 H01S3/1628
H01S3/2308 H01S3/2375 H01S3/2383 H01S2301/04

European: C30B31/00 C30B31/02 G01J3/10 G01N21/17B G01N21/39 G02F1/39 H01S3/06A3 H01S3/06M H01S3/10S2
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US: 1/1 204/192.25 257/E21.07 257/E21.070S 257/E21.536 257/E21.536S 356/437 372/10 372/102 372/10P 372/11 372/11P
372/12 372/20 372/20P 372/20S 372/21 372/23 372/25 372/39 372/39P 372/40 372/41 372/41P 372/43 372/43.01
372/43.010S 372/49.01 372/50.1 372/50.11 372/50.121 372/50.23 372/75 427/209 427/532 438/102 438/102P 438/22
438/22S 438/45 438/45S 438/46 438/558 438/558S 438/796 438/796S 438/917

Family:

Publication number	Publication date	Application number	Application date
AU2002326968 AA	20030401	AU20020326968	20020919
AU2007217879 AA	20070830	AU20070217879	20070213
AU2007217879 BB	20130207	AU20070217879	20070213
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CA2461096 C	20140218	CA20022461096	20020919
CA2641240 AA	20080815	CA20072641240	20070213
CA2641240 C	20151027	CA20072641240	20070213
CA2783176 AA	20030327	CA20022783176	20020919
CA2783176 C	20140520	CA20022783176	20020919
CN1589513 A	20050302	CN20028022948	20020919
DE602007023357 D1	20120809	DE200760023357T	20070213
EP1436865 A1	20040714	EP20020761727	20020919
EP1436865 A4	20051228	EP20020761727	20020919
EP1436865 B1	20190605	EP20020761727	20020919
EP1997198 A2	20081203	EP20070750904	20070213
EP1997198 A4	20110119	EP20070750904	20070213
EP1997198 B1	20120613	EP20070750904	20070213
JP2005504437 T2	20050210	JP20030529589T	20020919
JP2009527775 T2	20090730	JP20080555378T	20070213
JP5137855 B2	20130206	JP20080555378T	20070213
NZ571254 A	20120112	NZ20070571254	20070213
US2003072340 AA	20030417	US20020247272	20020919
US2005281301 AA	20051222	US20050140271	20050527
US2007064748 AA	20070322	US20060375601	20060313
US2008101423 AA	20080501	US20070925148	20071026
US2010022049 AA	20100128	US20090485826	20090616
US2010246610 AA	20100930	US20090582667	20091020
US2012224599 AA	20120906	US20110309496	20111201
US2014362879 AA	20141211	US20140469547	20140826
US2015333470 AA	20151119	US20140321553	20140701
US2016294151 AA	20161006	US20160182384	20160614
US2018175579 AA	20180621	US20180884271	20180130
US6960486 BB	20051101	US20020247272	20020919
US7548571 BB	20090616	US20050140271	20050527
US7606274 BB	20091020	US20060375601	20060313
US8233508 BB	20120731	US20090582667	20091020
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US9391424 BB	20160712	US20140469547	20140826
US9887510 BB	20180206	US20140321553	20140701
US10027085 BB	20180717	US20160182384	20160614
WO03026086 A1	20030327	WO2002US29707	20020919
WO07098034 A2	20070830	WO2007US04102	20070213
WO07098034 A3	20080612	WO2007US04102	20070213
WO08052161 A2	20080502	WO2007US82662	20071026
WO08052161 A3	20080814	WO2007US82662	20071026

Priority:

US20010323551P	20010920	CA20022461096	20020919	CA20022783176	20020919
US20020247272	20020919	WO2002US29707	20020919	US20050140271	20050527
US20060774952P	20060217	US20060776242P	20060223	US20060375601	20060313
US20060863268P	20061027	EP20070750904	20070213	WO2007US04102	20070213
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US20140469547	20140826	US20160182384	20160614	US20180884271	20180130

Probable Assignee: UAB RESEARCH FOUNDATION

Assignee(s): (std): FEDEROV VLADIMIR V ; FEDOROV VLADIMIR ; MIROV SERGEY ; MARTINEZ ALAN ; GALLIAN ANDREW ; FEDOROV VLADIMIR V ; MIROV SERGEY B ; FEDOROV VLASIMIR ; UNIV ALABAMA RES FOUND ; FEDOROV VLADIMIR ; MIRROR SERGEY B ; MOSKALEV IGOR ; UNIVERSITY OF ALABAMA AT BIRMINGHAM RESEARCH FOUND ; UNIV ALABAMA AT BRIMINGHAM RES ; UAB RESEARCH FOUNDATION ; UNIV OF ALABAMA AT BIRMINGHAM RESEARCH FOUNDATION ; UAB RES FOUND ; UAB

Assignee(s): RES FOUNDATION
NATIONAL SCIENCE FOUNDATION ; UNIVERSITY OF ALABAMA AT BRIMINGHAM RESEARCH FOUND ;
UNIVERSITY OF ALABAMA AT BIRMINGHAM RESEARCH FOUNDATION ; UNIVERSITY OF ALABAMA AT
BRIMINGHAM RESEARCH FOUNDATION ; OF ALABAMA BIRMINGHAM RESEARCH FOUNDATION
BIRMINGHAM UNIV ; MOSKALEV IGOR BIRMINGHAM ; OF ALABAMA AT BRIMINGHAM RESEARCH
FOUNDATION UNIV ; THE UAB RESEARCH FOUNDATION ; UNIV ; ALABAMA AT BIRMINGHAM RESEARCH
FOUNDATION UNIV OF ; FEDEROV VLADIMIR BIRMINGHAM ; AL AMA AT BIRMINGHAM RESEARCH FOU
AB ; ALABAMA AT BIRMINGHAM RESEARCH FOUNDATION UNIV ; ALABAMA AT BRIMINGHAM
RESEARCH FOUNDATION UNIV ; OF ALABAMA AT BIRMINGHAM RESEARCH FOUNDATION UNIV

Inventor(s): (std): FEDEROV VLADIMIR V ; FEDEROV VLADIMIR V ; FEDEROV VLADIMIR ; FEDEROV VLASIMIR ; MIROV
SERGEY B ; MIRROR SERGEY B ; MIROV SERGEY ; MOSKALEV IGOR ; MARTINEZ ALAN ; GALLIAN
ANDREW ; FEDEROV VLADIMIR

Inventor(s): FEDEROV VLADIMIR BIRMINGHAM ; IGOR MOSKALEV ; MIROV SERGEY BIRMINGHAM ; SERGEY MIROV
VLADIMIR FEDEROV ; MOSKALEV IGOR BIRMINGHAM

Agent(s): PIZZEYS ; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD ; RIDOUT AND MAYBEE LLP ; SMART
AND BIGGAR ; KRAUS AND WEISERT PATENTANWALTE PARTGMBB ; J A KEMP ; PETERREINS FRANK ;
FORSYTHE DOMINIC ; SUMIYOSHI KATSUHIKO ; CHIBA AKIO ; MASUI CHUJI ; SHAMOTO ICHIO ;
KOBAYASHI YASUSHI ; TOMITA HIROYUKI ; SMITH GAMBRELL AND RUSSELL LLP ; SMITH GAMBRELL AND
RUSSELL ; FISH AND RICHARDSON PC ; PERKINS COIE LLP ; KILPATRICK TOWNSEND AND STOCKTON
LLP ; VEAL ROBERT

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY
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TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

13) Family number: 57260003 (US2014245816A)

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Title: GAS MEASUREMENT DEVICE

Abstract: A gas measurement device for measuring the concentration of a plurality of gas components by means of absorption measurement comprising a light source for infrared radiation (3) or a thermal radiator (4) as a light source (5), an optics (22) for bundling the light of the light source (5), a band pass filter (4) and a photoacoustic measurement cell (12) for measuring a plurality of gas concentrations, wherein a Fabry-Perot filter (6) is provided in front of the photoacoustic measurement cell (12) in addition to the band pass filter (4) for selecting the absorption spectra

Classifications:

International (IPC 8-9): G01N21/17 G01N21/35

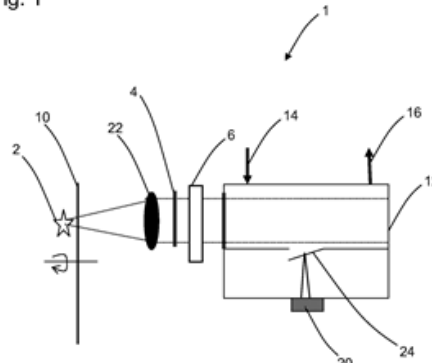
G01N21/3504 (Advanced/Invention)

CPC: G01N2021/1704 G01N21/3504 G01N21/1702

US: 1/1 73/24.02

PatBase - US2014245816_AA

Fig. 1



Family:

Publication number	Publication date	Application number	Application date
DE502013001871 D1	20160317	DE201350001871T	20130225
EP2770319 A1	20140827	EP20130156530	20130225
EP2770319 B1	20160203	EP20130156530	20130225
US2014245816 AA	20140904	US20140179050	20140212
US9360417 BB	20160607	US20140179050	20140212

Priority:

EP20130156530 20130225

Probable Assignee: SICK AG

Assignee(s): (std): SICK AG

Inventor(s): (std): DISCH ROLF

Agent(s): LUDEWIGT CHRISTOPH ; RURY L ; JERALD L ; NATH GOLDBERG AND MEYER

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR

14) Family number: 28183046 (US2002035327A)

© PatBase

Title: PHOTOACOUSTIC BREAST SCANNER

Abstract: Methods and apparatus for measuring and characterizing the localized electromagnetic wave absorption properties of biologic tissues in vivo, using incident electromagnetic waves to produce resultant acoustic waves. Multiple acoustic transducers are acoustically coupled to the surface of the tissue for measuring acoustic waves produced in the tissue when the tissue is exposed to a pulse of electromagnetic radiation. The multiple transducer signals are then combined

to produce an image of the absorptivity of the tissue, which image may be used for medical diagnostic purposes. In specific embodiments, the transducers are moved to collect data from multiple locations, to facilitate imaging. Specific arrangements of transducers are illustrated. Also, specific mathematical reconstruction procedures are described for producing images from transducer signals.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/05 A61B6/02 A61B8/00 A61B8/08 G01N29/00 (Advanced/Invention); A61B5/00 A61B5/05 A61B8/00 G01N29/00 (Advanced/Non-invention); A61B5/00 A61B6/02 A61B8/00 A61B8/08 G01N29/00 (Core/Invention); A61B5/05 (Core/Non-invention)

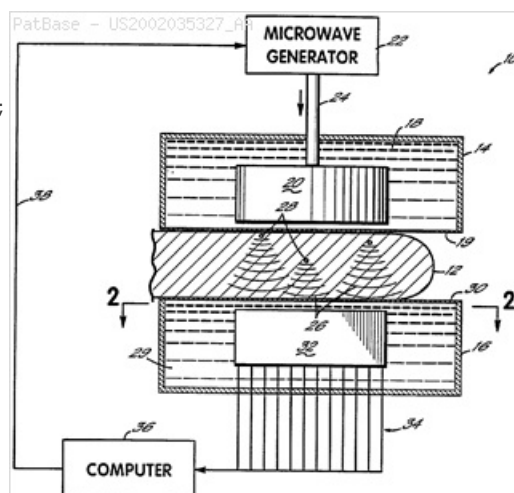
International (IPC 1-7): A61B5/00 A61B6/03 A61B8/00 A61B8/14

CPC: A61B5/0091 A61B5/0095 A61B5/0507 A61B5/4312

A61B5/7239 A61B8/4281

European: A61B5/00P12F A61B5/00T3 A61B5/43F2 A61B8/08F K61B5/05

US: 128/653.1 128/660.07 600/407 600/425 600/430 600/437 600/437P 600/443 600/459



Family:

Publication number	Publication date	Application number	Application date
AT408374 E	20081015	AT19970944607T	19971001
AU199746066 A1	19980424	AU19970046066	19971001
AU725072 B2	20001005	AU19970046066	19971001
BRPI9712262 A	20000125	BR1997PI12262	19971001
CA2187701 AA	19980404	CA19962187701	19961011
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DE69738998 D1	20081030	DE19976038998	19971001
EP0942683 A1	19990922	EP19970944607	19971001
EP0942683 A4	19991124	EP19970944607	19971001
EP0942683 B1	20080917	EP19970944607	19971001
JP2001507952 T2	20010619	JP19980516884T	19971001
JP4341987 B2	20091014	JP19980516884T	19971001
US2002035327 AA	20020321	US20010954332	20010917
US5713356 A	19980203	US19960719736	19961004
US6102857 A	20000815	US19980076968	19980513
US6292682 BA	20010918	US20000604752	20000627
WO9814118 A1	19980409	WO1997US17832	19971001

Priority:

US19960719736 19961004 CA19962187701 19961011 WO1997US17832 19971001
US19980076968 19980513 US20000604752 20000627 US20010954332 20010917

Probable Assignee: SENTRON MEDICAL INC

Assignee(s): (std): KRUGER ROBERT A ; OPTOSONICS INC

Assignee(s): OPTOSONICS INC ; SENTRON MEDICAL INC ; SENCO BRANDS INC ; LBC CREDIT PARTNERS III LP AGENT AS ; BANK OF AMERICA NA ; BANK OF AMERICA NA AGENT AS

Inventor(s): (std): KRUGER ROBERT A ; ROBERT A KRUGER ; KRUGER ROBERT

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; MACRAE AND CO; FINDLAY ALICE ROSEMARY ET AL

Designated states: AL AM AT AU AZ BA BB BE BG BR BY CA CH CN CU CZ DE DK EE ES FI FR GB GE GH GR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SL SZ TJ TM TR TT UA UG US UZ VN YU ZW

15) Family number: 33538380 (WO06111443A1)

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Title: OPTOACOUSTIC **MEASURING** ARRANGEMENT FOR DETECTING GASES AND/OR AEROSOLS

Abstract: The invention relates to an optoacoustic **measuring** arrangement (BM) for detecting gases and/or aerosols, said arrangement containing a resonance tube (9) which acts as a **measurement** and reference **cell** and is provided with a **measurement microphone** and a reference **microphone** (3 and 4), and at least one radiation source (10, 11) for acting on the resonance tube (9) in a modulated manner. The wavelength of the radiation emitted by the at least one radiation source (10, 11) is less than 500 nanometer and preferably between 300 nm and 450 nm. Preferably, two light sources, a first light source (1) and a second light source (11), are provided, the first light source (10) emitting radiation in the wavelength range of between 200 and 500 nm, for detecting white and black smoke, and the second light source (11) emitting radiation in the wavelength range of between 3.0 and 4.8 micrometres, for detecting combustible substances or hazardous gases.

Classifications:

International (IPC 8-9): G01N21/17 (Advanced/Invention); G01N21/17 (Core/Invention)

CPC: G01N21/1702 G01N2021/1704

European: G01N21/17B S01N21/17B2

Title: PHOTOACOUSTIC GAS SENSOR DEVICE WITH MULTIPLE MEASURING CELLS

Abstract: The invention relates to a photoacoustic gas sensor device (30, 50, 60) with: a measurement chamber (16) for accommodating a medium to be measured, a radiation source (10), a first photoacoustic measuring cell (32) which is connected to the measurement chamber (16) and which is designed to detect a first gas (33), and an optical device for conducting radiation emitted from the radiation source (10) through the measurement chamber (16) to the first photoacoustic measuring cell (32). To be able to solve multiple sensor problems with a compact unit, it is recommended that at least a second photoacoustic measuring cell (34), designed to detect at least one second, different gas (35) to be measured, is connected to the measurement chamber (16), and that the optical device conducts radiation (12) emitted by the radiation source (10) through the measurement chamber (16) to the first and to the second measuring cell (32, 34).

Classifications:

International (IPC 8-9): G01N21/03 G01N21/35 G01N21/61

G01N29/24 G08B17/107 (Advanced/Invention);

G01N21/03 G01N21/31 G01N21/59 G01N29/24

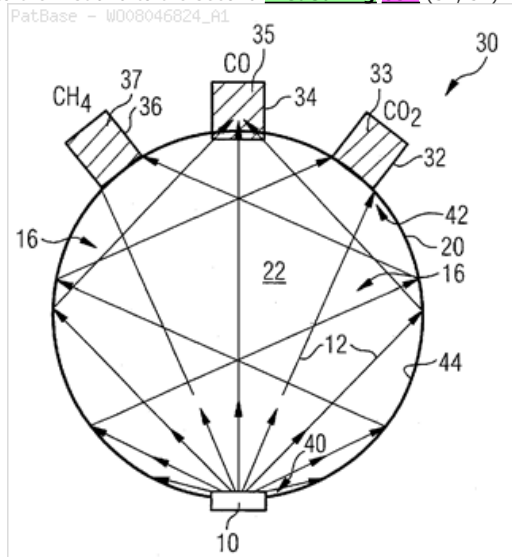
G08B17/103 (Core/Invention)

CPC: G01N21/03 G01N21/1702 G01N21/3504 G01N29/2418

G01N2021/0378 G01N2021/513 G01N2201/06186 G01N2201/0637

European: G01N21/03 G01N21/17B G01N21/35B G01N29/24C

S01N201/061L S01N201/063H2 S01N21/03S S01N21/51C



Family:

Publication number	Publication date	Application number	Application date
DE102006048839 A1	20080424	DE200610048839	20061016
DE102006048839 B4	20100107	DE200610048839	20061016
WO08046824 A1	20080424	WO2007EP61025	20071016

Priority:

DE200610048839 20061016

Probable Assignee: EADS DEUTSCHLAND GMBH

Assignee(s): (std): EADS DEUTSCHLAND GMBH ; LLOYD MARTIN ; MICRO HYBRID ELECTRONIC GMBH ; MUELLER GERHARD ; SCHULZ OLAF ; SUPHAN KARL HEINZ

Inventor(s): (std): LLOYD MARTIN ; SCHULZ OLAF ; SUPHAN KARL HEINZ ; MUELLER GERHARD

Agent(s): KASTEL STEFAN ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PHOTOACOUSTIC GAS SENSOR

Abstract: A photoacoustic gas sensor has a measuring cell (1) and a reference cell (2), an emitter and a difference (1, 2) noise cancelling microphone (3) of the kind found in cellphones. The microphone has concentric circular ring electrodes within a cylindrical housing whose base is the microphone front side. The rear face has a bead to fix a rear plate. The difference microphone is fixed to a print (8) with a detent for the beading.

Classifications:

International (IPC 8-9): G01L13/02 G01N G01N21/17 G01N29/00

G01N29/02 H04R H04R9/02 (Advanced/Invention);

G01N21/17 G01N29/00 (Advanced/Non-invention);

G01L13/00 G01N21/17 G01N29/00 G01N29/02

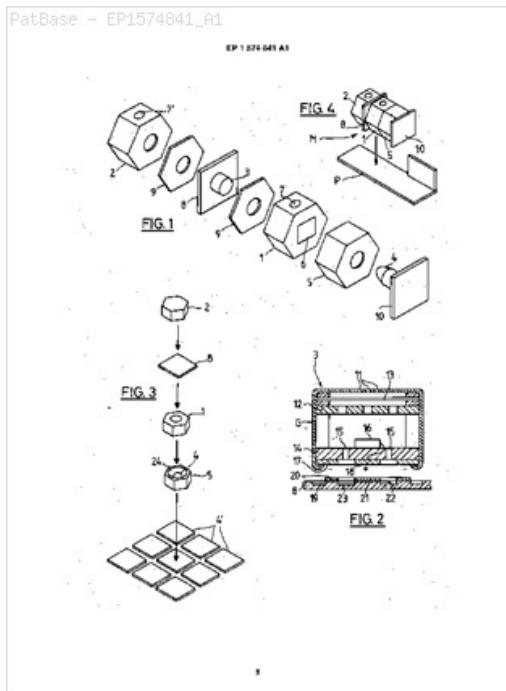
H04R9/00 (Core/Invention)

International (IPC 1-7): G01L13/02 G01N21/17 G01N29/00

G01N29/02 H04R9/02

CPC: G01N21/1702

European: G01N21/17B

**Family:**

Publication number	Publication date	Application number	Application date
AU2005200839 AA	20050922	AU20050200839	20050224
CN100514031 C	20090715	CN200510054500	20050308
CN1667396 A	20050914	CN200510054500	20050308
EP1574841 A1	20050914	EP20040005482	20040308
HK1083123 A1	20060623	HK20060103097	20060310
HK1083123 A3	20060623	HK20060103097	20060310
IN00335DE2005 A	20070831	IN2005DE00335	20050216
KR20060043530 A	20060515	KR20050019244	20050308
PL373064 A1	20050919	PL20050373064	20050222

Priority:

EP20040005482 20040308

Probable Assignee: SIEMENS AG**Assignee(s):** (std): SIEMENS BUILDING TECH AG ; SIEMENS BUILDING TECHNOLOGIES AG**Assignee(s):** SIEMENS BUILDING TECHNOLOGIES AG ; SIEMENS SCHWEIZ AG ; SIEMENS AG**Inventor(s):** (std): PLEISCH ROLF ; STEINER PETER ; ROLF PLEISCH ; PETER STEINER**Agent(s):** SMOORENBURG PINI PATENT AND TRADE MARK ATTORNEYS; SMOORENBURG PATENT AND TRADE MARK ATTORNEYS; CHINA PATENT AGENT HK LTD**Designated states:** AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR**19) Family number: 1894492 (US4399689A)**

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Title: Temperature-controlled sample **cell** for **photoacoustic** spectroscopy

Abstract: A **cell** for **photoacoustic** spectroscopy has a metal heat conductive rod immersed at one end in a liquid coolant and another end forming part of the sample-receiving **cell** for accurate control of the temperature to eliminate thermal distortion of the **measurements**.

Classifications:**International (IPC 8-9):** F17C13/02 G01N21/00 G01N21/17

G01N29/00 (Advanced/Invention);

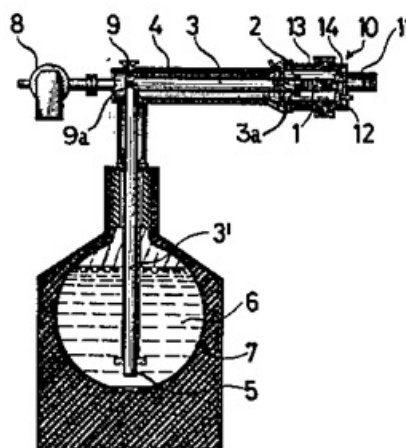
F17C13/00 G01N21/00 G01N21/17 G01N29/00 (Core/Invention)

International (IPC 1-7): F25D3/10 F25D31/00 G01N21/00

G01N21/31 G01N29/00

CPC: F17C13/026 G01N21/1702**European:** F17C13/02T G01N21/17B**US:** 73/24 73/24.02 73/579

PatBase - US4399689_A



Family:

Publication number	Publication date	Application number	Application date
DE3008546 A1	19810910	DE19803008546	19800306
DE3008546 C2	19831124	DE19803008546	19800306
GB2071297 A1	19810916	GB19810007155	19810306
GB2071297 B2	19840531	GB19810007155	19810306
JP56137245 A2	19811027	JP19810029999	19810304
US4399689 A	19830823	US19810240544	19810304

Priority:

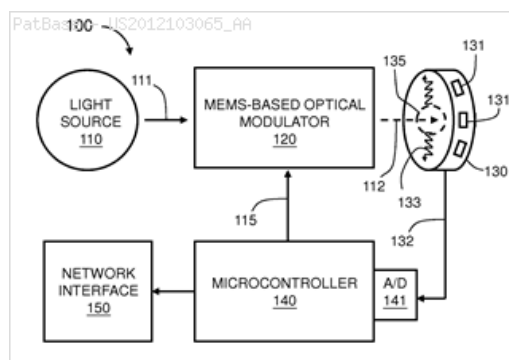
DE19803008546 19800306

Probable Assignee: KERNFORSCHUNGSANLAGE JUELICH**Assignee(s):** (std): KERNFORSCHUNGSANLAGE JUELICH**Assignee(s):** KERNFORSCHUNGSANLAGE JUELICH GMBH ; KERNFORSCHUNGSANLAGE JUELICH GMBH 5170 JUELICH DE ; KERNFORSCHUNGSANLAGE JULICH GMBH ; FORSCHUNGSZENTRUM JULICH GMBH**Inventor(s):** (std): BECHTOLD PAUL S DIPL PHYS DR ; CHATZIPETROS JOHANN DIPL ING ; YOHAN SHATSUIPETOROSU ; BECHTOLD PAUL S ; CHATZIPETROS JOHANN ; PAURU JIGUFURIIDO BEHITORUTO ; YOHAN SHIYATSUIPETOROSU ; BECHTOLD PAUL S DIPL PHYS DR**Inventor(s):** S ; S DIPL PHYS DR BECHTOLD PAUL ; CHATZIPETROS JOHANN DIPL ING 5020 FRECHEN DE ; BECHTOLD PAUL S DIPL PHYS DR 5024 PULHEIM DANKSWEI**20) Family number: 51042334 (US2012103065A)**

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Title: PHOTOACOUSTIC SENSOR

Abstract: A photoacoustic gas sensor, system and method is generally described. In some examples, a photoacoustic gas sensor includes a MEMS-based wavelength-selective optical modulator and a ring array of acoustic sensors. The MEMS-based optical modulator can be adapted to provide flexible wavelength selectivity such that a large number of chemical compounds may be detected. The ring array of acoustic sensors can be adapted to measure photoacoustically generated acoustic signals without the need for resonant enhancement of a photoacoustic cell of the gas sensor. In some examples, a unique uncorrelated and deterministic signal may be used to modulate each light wavelength of interest. Signal processing may be used that allows the simultaneous measurement of the absorption spectra of multiple optical wavelengths as well as the rejection of unwanted acoustic noise.

Classifications:**International (IPC 8-9):** G01J3/02 G01J3/06 G01J3/12 G01J3/18 G01J3/433 G01J3/45 G01N21/00 G01N21/17 G01N21/31 G01N29/00 G01N29/02 G01N29/24 (Advanced/Invention)**CPC:** G01J3/18 G01J3/4338 G01N21/1702**European:** G01J3/18 G01J3/433K G01N21/17B**US:** 356/432 356/437 73/24.02 73/24.020P**Family:**

Publication number	Publication date	Application number	Application date
CN103180698 A	20130626	CN201080069829	20101028
CN103180698 B	20150729	CN201080069829	20101028
EP2633278 A1	20130904	EP20100859075	20101028
EP2633278 A4	20140528	EP20100859075	20101028
JP2013541012 T2	20131107	JP20130534886T	20101028
JP5669950 B2	20150218	JP20130534886T	20101028
US2012103065 AA	20120503	US20100202356	20101028
US8561454 BB	20131022	US20100202356	20101028
WO12057760 A1	20120503	WO2010US54417	20101028

Priority:

US20100202356 20101028 WO2010US54417 20101028

Probable Assignee: EMPIRE TECHNOLOGY DEVELOPMENT LLC**Assignee(s):** (std): EMPIRE TECHNOLOGY DEV LLC ; MUEHLEISEN RALPH**Assignee(s):** CRESTLINE DIRECT FINANCE LP ; EMPIRE TECHNOLOGY DEVELOPMENT LLC**Inventor(s):** (std): MUEHLEISEN RALPH**Agent(s):** GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER; REN SHENG INT; SU GENE**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**21) Family number: 30054300 (WO03100393A1)**

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Title: PHOTOACOUSTIC DETECTION METHOD FOR MEASURING CONCENTRATION OF A NON-HYDROCARBON COMPONENT OF A METHANE-CONTAINING GAS MIXTURE

Abstract: The present invention relates to a **photoacoustic** detection method for **measuring** concentration of a non-hydrocarbon component of a methane-containing gas mixture. The essence of the method is that the **photoacoustic** absorption spectrum for the gas mixture is recorded over a suitably chosen wavelength range while the gas mixture is continuously flowing through the **measuring** apparatus, and then for determining the concentration of the non-hydrocarbon component the thus obtained spectrum is used in combination with a **photoacoustic** signal generated by a reference **cell** (3) filled with a gas having predefined properties. The methane-containing gas mixture and the non-hydrocarbon component are preferably chosen to be natural gas to be sent out to gas lines and water vapour, respectively. The invention hence allows high-precision detection, even under industrial conditions, of water vapour content present in concentrations as low as about 0.5 ppm in natural gas.

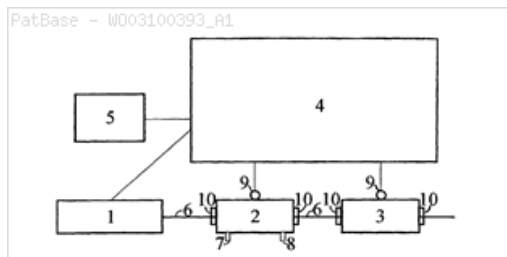
Classifications:

International (IPC 8-9): G01N1/00 G01N21/17 G01N21/31
G01N21/37 G01N29/02 G01N33/00 (Advanced/Invention);
G01N21/00 (Core/Non-invention)

International (IPC 1-7): G01N1/00 G01N21/17

CPC: G01N21/1702 G01N33/0047 G01N2021/1704

European: G01N21/17B G01N33/00D2D4G S01N21/17B2



Family:

Publication number	Publication date	Application number	Application date
AU2003232375 AA	20031212	AU20030232375	20030526
AU2003232375 AH	20031212	AU20030232375	20030526
DE10392663 T5	20050901	DE20031092663T	20030526
EG23784 A	20070813	EG20040000128	20041124
EP1511987 A1	20050309	EP20030755237	20030526
HU0201751 A0	20020828	HU20020001751	20020524
HU0201751 AB	20031229	HU20020001751	20020524
HU225660 B1	20070529	HU20020001751	20020524
MA27505 A1	20050901	MA20040027960	20041123
RU2004137093 A	20050720	RU20040137093	20030526
RU2336518 C2	20081020	RU20040137093	20030526
TNSN04232 A1	20070312	TN2004SN00232	20041123
W003100393 A1	20031204	WO2003HU00038	20030526

Priority:

HU20020001751 20020524 WO2003HU00038 20030526

Probable Assignee: MOL MAGYAR OLAJ ES GAZIPARI RESZVENYTARSASAG

Assignee(s): (std): BOR ZSOLT ; BOZOKI ZOLTAN ; MOHACSI ARPAD ; MOL MAD JAR OLAJ ESH GAZIPARI ; MOL MAGYAR OLAJ AND GAZIPARI RT ; MOL MAGYAR OLAJ ES GAZIPARI RESZVENYTARSASAG ; MOL MAGYAR OLAJ ES GAZIPARI RT ; PUSKAS SANDOR ; SZEGEDI TUDOMANYEGYETEM ; SZABO GABOR ; SZAKALL MIKLOS ; SZEGEDI TUDOM NYEGYETEM ; YETEM NYEG ; TUDOMA SZEGEDI

Assignee(s): MOL MAGYAR OLAJ ES GAZIPARI RT BUDAPEST ; MOL MAD JAR OLAJ ESH GAZIPARI RESVEN TARSHASHAG

Inventor(s): (std): ARPAD MOHACSI ; BOR ZHOLT ; BOR ZSOLT ; BOR ZSOLT DR ; BOZ KI ZOLTAN ; BOZOKI ZOL TAN ; BOZOKI ZOLTAN ; BOZOKI ZOLTAN DR ; GABOR SZABO ; MIKLOS SZAKALL ; MOH CSI RPAD ; MOHACSI ARPAD ; MOKHACHI ARPAD ; PUSHKASH SHANDOR ; PUSK S SANDOR ; PUSKAS SANDOR ; PUSKAS SANDOR DR ; SABO GABOR ; SAKALL MIKLOSH ; SANDOR PUSKAS ; SZAB GABOR ; SZABO GABOR ; SZABO GABOR DR ; SZAK LL MIKLOS ; SZAKALL MIKLOS ; ZOLTAN BOZOKI ; ZSOLT BOR

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

22) Family number: 28993050 (US6608683B)

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Title: Acoustic resonance phase locked **photoacoustic** spectrometer

Abstract: A **photoacoustic** spectroscopy method and apparatus for maintaining an acoustic source frequency on a sample **cell** resonance frequency comprising: providing an acoustic source to the sample **cell** to generate a **photoacoustic** signal, the acoustic source having a source frequency; continuously **measuring** detection phase of the **photoacoustic** signal with respect to source frequency or a harmonic thereof; and employing the **measured** detection phase to provide magnitude and direction for correcting the source frequency to the resonance frequency.

Classifications:

International (IPC 8-9): G01N21/17 (Advanced/Invention);
G01N21/27 (Advanced/Non-invention);
G01N21/25 (Core/Non-invention)

International (IPC 1-7): G01N21/00

CPC: G01N21/1702 G01N2021/1704 G01N21/274

European: G01N21/17B S01N21/17B2 S01N21/27E

US: 250/339.09 356/432 356/437

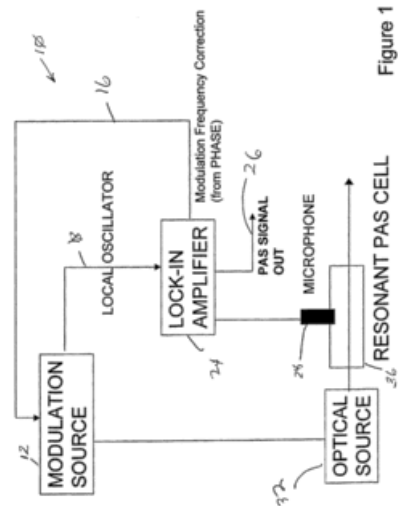


Figure 1

Family:

Publication number	Publication date	Application number	Application date
US6608683 BA	20030819	US20010782137	20010212
US6618148 BA	20030909	US20010782138	20010212

Priority:

US20000181610P 20000210 US20010782137 20010212 US20010782138 20010212

Probable Assignee: SOUTHWEST SCIENCES INC

Assignee(s): (std): SOUTHWEST SCIENCES INC

Assignee(s): SOUTHWEST SCIENCES INCORPORATION ; UNITED STATES DEPARTMENT OF ENERGY ; US DEPARTMENT OF ENERGY

Inventor(s): (std): SILVER JOEL A ; BOMSE DAVID S ; PILGRIM JEFFREY S

23) Family number: 58857332 (US2015092194A)

Title: SPECTROMETER FOR GAS ANALYSIS

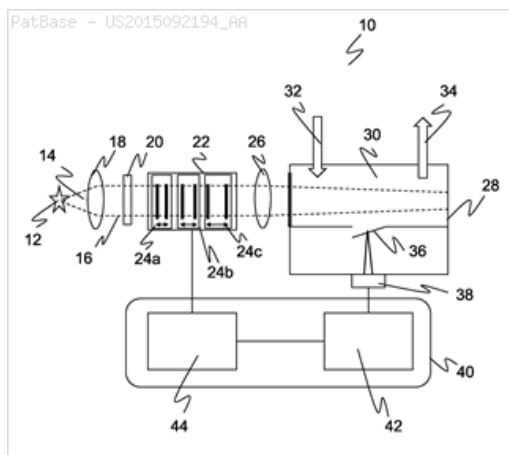
Abstract: A spectrometer (10) for gas analysis is provided, the spectrometer comprising a **measurement cell** (28) having a gas to be investigated, a light source (12) for the transmission of light (14) into the **measurement cell** (28) on a light path (16), a filter arrangement (22) having a Fabry-Perot filter (24a-c) in the light path (16), in order to set frequency properties of the light (14) by means of a transmission spectrum of the filter arrangement (22), as well as a detector (36, 38) which **measures** the absorption of the light (14) by the gas (30) in the **measurement cell** (28). In this connection the filter arrangement (22) has a plurality of Fabry-Perot filters (24a-c) arranged behind one another in the light path (14) and a control unit (44) for the filter arrangement (22) is provided in order to change the transmission spectrum by setting at least one of the Fabry-Perot filters (24a-c).

Classifications:

International (IPC 8-9): G01J3/02 G01J3/12 G01J3/26 G01J3/28
G01J3/42 G01J3/433 G01N21/17 G01N21/35 G01N21/3504

G01N21/59 G01N33/00 G02B5/28 (Advanced/Invention)

CPC: G01J3/0205 G01N33/0062 G01J3/28 G01J3/0235 G01J3/12
G01J3/26 G01J3/433 G01J2003/1282 G01N21/3504

US: 356/454

Family:

Publication number	Publication date	Application number	Application date
■ CN104515745 A	20150415	CN201410521849	20140930
■ CN104515745 B	20170517	CN201410521849	20140930
■ DE502013001233 D1	20151105	DE201350001233T	20131002

EP2857811 A1	20150408	EP20130187159	20131002
EP2857811 B1	20150923	EP20130187159	20131002
KR101621903 B1	20160517	KR20140133363	20141002
KR20150039587 A	20150410	KR20140133363	20141002
US2015092194 AA	20150402	US20140488608	20140917
US9752931 BB	20170905	US20140488608	20140917

Priority:

EP20130187159 20131002

Probable Assignee: SICK AG

Assignee(s): (std): SICK AG

Inventor(s): (std): DISCH ROLF ; WALDMANN TORSTEN ; ROLF DISCH ; TORSTEN WALDMANN

Agent(s): LUDEWIGT CHRISTOPH; NATH GOLDBERG AND MEYER; JERALD L

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

24) Family number: 69208423 (WO18065958A1)

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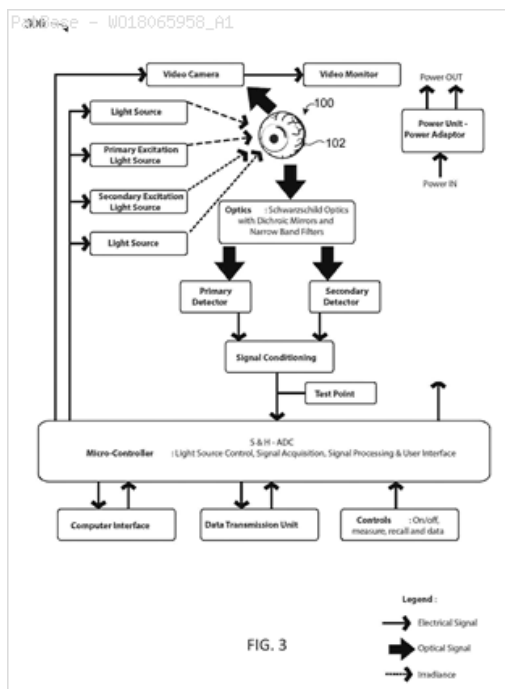
Title: METHOD AND APPARATUS FOR A SPECTRAL DETECTOR FOR NONINVASIVE DETECTION AND MONITORING OF A VARIETY OF BIOMARKERS AND OTHER BLOOD CONSTITUENTS IN THE CONJUNCTIVA

Abstract: A specialized spectrometer comprises a light source to generate a monochromatic light beam to generate resonance Raman peaks or resonance near infrared absorption peaks from a region of the subject and a reference light source to illuminate the region with a reference light beam. The light energy from the resonance Raman peaks can be **measured** with a detector coupled to an optical wavelength separator. A portion of the reference beam scattered from the region can be **measured** with a reference detector. An amount of the constituent can be determined with a processor in response to the resonance Raman peaks **measured** with the detector and the portion of the reference beam **measured** with the reference detector. The illumination of the region with reference beam with the monochromatic beam allows accurate determination of the amount of the constituent, and the amount may comprise a concentration, such as an amount per unit volume.

Classifications:

International (IPC 8-9): A61B3/10 A61B5/1455 (Advanced/Invention)

CPC: A61B5/14555 A61B5/0075 A61B5/6803 A61B5/70



Family:

Publication number	Publication date	Application number	Application date
WO18065958 A1	20180412	WO20171856189	20171006

Priority:

US20160405152P 20161006

Probable Assignee: LIVSPEK MEDICAL TECH INC

Assignee(s): (std): LIVSPEK MEDICAL TECH INC

Assignee(s): LIVSPEK MEDICAL TECHNOLOGIES INC

Inventor(s): (std): RAWICZ ANDREW ; MOGHADDAMJOO SARA ; JAGGI BRUNO ; MODIR JAMAL

Agent(s): PERRY AND CURRIER ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

25) Family number: 8628986 (WO9607899A1)

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Title: PROCESS AND DEVICE FOR DETERMINING GAS CONCENTRATIONS IN A GAS MIXTURE

Abstract: The proposal is for a process for determining gas concentrations in gas mixtures in the monitoring of flue gases of heating installations. According to the invention, one determines in a **measuring** system (100) comprising a sensor system (110), a control and evaluation unit (120) and data lines (130), the concentration in a gas mixture in the sensor system (110) of a first gas component, especially CO₂, in an acoustic resonator (10) and of a second gas component, especially CO, in a photo-acoustic **cell** (20). The sensor system is controlled by a computer unit (80) to which the **measurement** signals (52, 62, 72) are also transmitted for evaluation after suitable preparation in the signal processing units (50, 60, 70). The computer unit provides the **measured** values (81) of the gas concentrations, especially those of CO₂ and CO, for display or further use. To implement said process there are **measuring** devices, one of which integrates the acoustic resonator (10) and the photoacoustic **cell** (20) in a single **measuring cell**. This embodiment particularly compact and easy to construct. The process and device of the kind described may be used in flue gas monitoring and especially for the control of heating installations.

Classifications:

International (IPC 8-9): G01N29/024

G01N29/24 (Advanced/Invention);

G01N29/02 G01N29/24 (Core/Invention)

International (IPC 1-7): G01N21/17 G01N29/02 G01N29/18

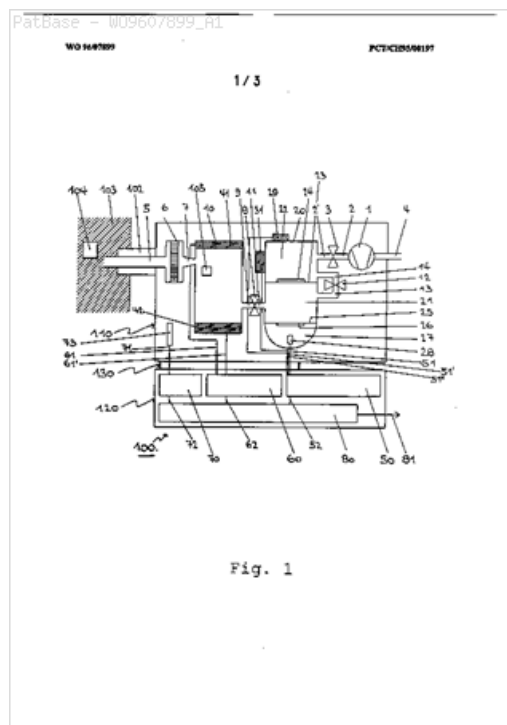
CPC: G01N21/1702 G01N2021/1704 G01N29/2418 G01N29/024

G01N2291/011 G01N2291/014 G01N2291/0212 G01N2291/02809

G01N2291/105

European: G01N29/024 G01N29/24C S01N291/01B S01N291/01D

S01N291/021B S01N291/028C S01N291/105



Family:

Publication number	Publication date	Application number	Application date
AU199532513 A1	19960327	AU19950032513	19950907
CH685889 A	19951031	CH19940002732	19940907
WO9607899 A1	19960314	WO1995CH00197	19950907

Priority:

CH19940002732 19940907 WO1995CH00197 19950907

Probable Assignee: SCR CREVOISERAT S A

Assignee(s): (std): RUEETSCHI ANDREAS ; SCR CREVOISERAT S A

Assignee(s): SCR CREVOISERAT SA

Inventor(s): (std): RUEETSCHI ANDREAS ; RUEETSCHI ANDREAS

Inventor(s): ANDREAS RUEETSCHI

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LK LR LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG TJ TM TT UA UG US UZ VN

26) Family number: 42390566 (DE102007018846A1)

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Title: PHOTO-ACOUSTIC ABSORPTION SIMULTANEOUS **MEASUREMENT** DEVICE, HAS LASER SOURCE PROVIDING LASER LIGHT, AND PHOTO-ACOUSTIC **MEASURING CELLS** USING LASER LIGHT FOR ABSORPTION **MEASUREMENT** OF NITROUS OXIDE GAS AND AEROSOL

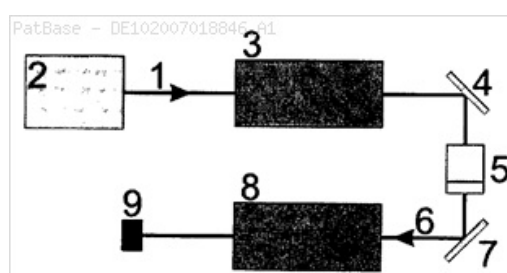
Abstract: The device has a laser source (2) providing laser light which is guided through totally or partly reflecting optical elements (4) and is totally or partly changed into light of wavelengths. Photo-acoustic **measuring cells** (3, 8) uses the laser light for absorption **measurement** of nitrous oxide gas and aerosol. The laser source is modulated and operated. A modulating frequency of the light is selected so that a photo-acoustic effect in the **cells** is reinforced by acoustic resonances. The optical elements and elements for wavelength and frequency conversion are arranged in an optical resonator. An independent claim is also included for a method for simultaneous photo-acoustic absorption **measurement** of gas and aerosol.

Classifications:

International (IPC 8-9): G01N21/37 (Advanced/Invention)

CPC: G01N21/1702 G01N2021/1704

European: G01N21/17B S01N21/17B2



Family:

Publication number	Publication date	Application number	Application date
DE102007018846 A1	20081023	DE200710018846	20070420

Priority:

DE200710018846 20070420

Probable Assignee: HAISCH CHRISTOPH**Assignee(s):** (std): HAISCH CHRISTOPH**Inventor(s):** (std): HAISCH CHRISTOPH ; NIESNER REINHARD**27) Family number: 41978413** (US2008159341A)

© PatBase

Title: TUNABLE QUANTUM CASCADE LASERS AND **PHOTOACOUSTIC** DETECTION OF TRACE GASES, TNT, TATP AND PRECURSORS ACETONE AND HYDROGEN PEROXIDE

Abstract: Methods and apparatus for broad tuning of single wavelength quantum cascade lasers and the use of light output from such lasers for highly sensitive detection of trace gases such as nitrogen dioxide, acetylene, and vapors of explosives such as trinitrotoluene (TNT) and triacetone triperoxide (TATP) and TATP's precursors including acetone and hydrogen peroxide. These methods and apparatus are also suitable for high sensitivity, high selectivity detection of other chemical compounds including chemical warfare agents and toxic industrial chemicals. A quantum cascade laser (QCL) system that better achieves single mode, continuous, mode-hop free tuning for use in L-PAS (laser **photoacoustic** spectroscopy) by independently coordinating gain chip current, diffraction grating angle and external cavity length is described. An all mechanical method that achieves similar performance is also described. Additionally, methods for improving the sensor performance by critical selection of wavelengths are presented.

Classifications:**International (IPC 8-9):** G01J3/00 G01J3/30 G01N21/00 H01S3/04 H01S3/098 H01S3/10 H01S3/104 H01S3/108

H01S3/13 (Advanced/Invention);

G01N21/00 H01S3/10 H01S3/104 H01S3/108 (Core/Invention)

CPC: B82Y20/00 G01N21/1702 H01S5/06255 H01S5/0654

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European: B82Y20/00 G01N21/17B H01S5/0625F H01S5/14B

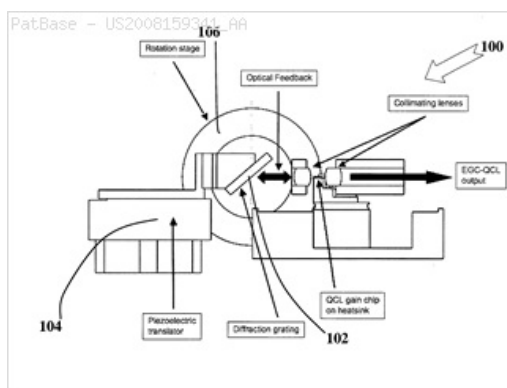
H01S5/34A T01S5/065C4S T01S5/10W

US: 356/300 356/300S 356/318 356/318P 356/437 356/437S

372/102 372/102S 372/19 372/19P 372/20 372/20P 372/20S 372/23

372/23S 372/29.014 372/29.021 372/29.021P 372/29.021S 372/36

372/36P 372/36S 372/45.01 372/45.010S 372/97

**Family:**

Publication number	Publication date	Application number	Application date
US2008159341 AA	20080703	US20070821528	20070622
US2011102788 AA	20110505	US20100917399	20101101
US2011103411 AA	20110505	US20100917383	20101101
US2011103412 AA	20110505	US20100917406	20101101
US2011103416 AA	20110505	US20100917376	20101101
US2011158270 AA	20110630	US20110042248	20110307
US7903704 BB	20110308	US20070821528	20070622

Priority:

US20060816245P 20060623 US20060873649P 20061208 US20070821528 20070622

US20100917399 20101101 US20100917383 20101101 US20100917406 20101101

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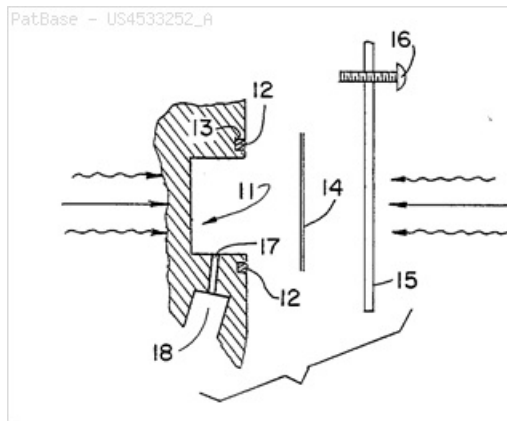
Probable Assignee: PRANALYTICA INC**Assignee(s):** (std): DUNAYEVSKIY ILYA ; DUNAYEVSKIY ILYA ; GO ROWEL C ; MAULINI RICHARD ; PATEL C KUMAR N ; PRANALYTICA INC ; TSEKOUN ALEXEI ; PRASANNA MANU ; PUSHKARSKY MICHAEL**Inventor(s):** (std): GO ROWEL C ; TSEKOUN ALEXEI ; PATEL C KUMAR N ; DUNAYEVSKIY ILYA ; MAULINI RICHARD ; PRASANNA MANU ; PUSHKARSKY MICHAEL ; DUNAYEVSKIY ILYA**Agent(s):** CISLO AND THOMAS LLP**28) Family number: 4830391** (US4533252A)

© PatBase

Title: Device and method and **measurement** of photosynthetic activity by **photoacoustic** spectroscopy

Abstract: A portable device for **photoacoustic** spectroscopy of plants and other photosynthetic tissues, **cells** and organelles is provided. There is further provided a method of **measuring** photosynthesis of such tissues, **cells** and organelles.

Classifications:**International (IPC 8-9):** G01N21/17 (Advanced/Invention)**International (IPC 1-7):** G01N21/17 G01N21/64 G02F**CPC:** G01N21/1702 G01N2021/8466**European:** G01N21/17B S01N21/84N**US:** 356/432 356/440

**Family:**

Publication number	Publication date	Application number	Application date
IL63053 A0	19810913	IL19810063053	19810605
IL63053 A1	19871020	IL19810063053	19810605
US4533252 A	19850806	US19820381767	19820525

Priority:

IL19810063053 19810605

Probable Assignee: YEDA RES AND DEV**Assignee(s):** (std): YEDA RES AND DEV**Assignee(s):** YEDA RESEARCH AND DEVELOPMENT CO LTD ; YEDA RESEARCH AND DEVELOPMENT COMPANY LTD**Inventor(s):** (std): BULTS GERARD ; CAHEN DAVID ; HORWITZ BENJAMIN ; MALKIN SHMUEL**29) Family number: 50077553 (WO11152747A1)**

© PatBase

Title: **PHOTOACOUSTIC** MATERIAL ANALYSIS

Abstract: Disclosed is a method and apparatus for determining the concentration of an interest component in a medium by phase-conjugated **photoacoustic** spectroscopy with probe and reference light beams having predetermined different wavelengths of equidistant short pulses having variable frequency, number, and power. The wavelength of the probe beam is selected so as to be absorbed by the component of interest. The wavelength of the reference beam is selected so as to be absorbed by the other components, which absorption bands overlapping with absorption band of the interest component. Upon irradiation, acoustic oscillations are generated by the absorbed light in a relatively thin layer of the medium, characterized by a heat-diffusing length. The frequency repetition of the short pulses of the probe beam is chosen equal to be in-phase with a natural acoustic oscillations in the medium. The frequency repetition of the short pulses of the reference beam is chosen equal to be anti-phase or independent to acoustic oscillations excited by the probe beam. **Measuring** of the amplitude and the frequency of the phase-conjugated **photoacoustic** oscillations determine the concentration of interest component. The method and apparatus are suitable monitoring of blood components, especially glucose.

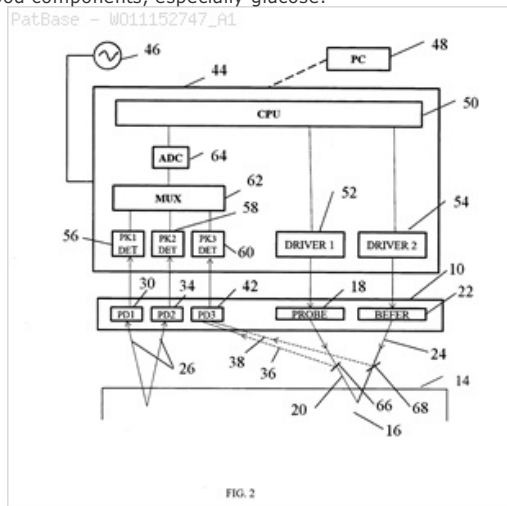
Classifications:**International (IPC 8-9):** A61B5/00 A61B5/145 G01N21/00

G01N21/17 G01N29/00 (Advanced/Invention);

A61B5/00 (Advanced/Non-invention)

CPC: A61B5/0059 A61B5/0095 A61B5/14532 G01N21/1702**European:** A61B5/00T3 A61B5/145G G01N21/17B K61B5/00P

PatBase - WO11152747_A1

**Family:**

Publication number	Publication date	Application number	Application date
RU2435514 C1	20111210	RU20100127771	20100601
WO11152747 A1	20111208	WO2010RU00281	20100601

Priority:

RU20100127771 20100601 WO2010RU00281 20100601

Probable Assignee: KH L KH JUMAN LAZER LTD**Assignee(s):** (std): ALIEV DZHOMART FAZYLOVICH ; H L HUMAN LASER LTD ; KH L KH JUMAN LAZER LTD ; PRISTUPNITSKIY ALEXANDR SERGEEVICH ; KRAVETS ANATOLY**Assignee(s):** KHL KH JUMAN LAZER LTD ; KH L KH JUMAN LAZER LIMITED ; H L HUMAN LASER LIMITED**Inventor(s):** (std): ALIEV DZHOMART FAZYLOVICH ; KRAVETS ANATOLIY NAUMOVICH ; KRAVETS ANATOLY ; PRISTUPNITSKIY ALEKSANDR SERGEEVICH ; PRISTUPNITSKIY ALEXANDR SERGEEVICH

Agent(s): NOSOVA INNA ANDREEVNA

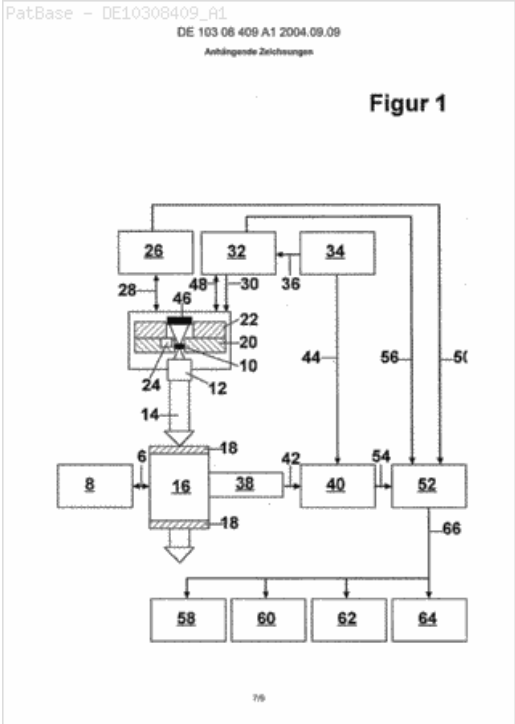
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

30) Family number: 30896863 (DE10308409A1) © PatBase

Title: **MEASUREMENT** OF CONCENTRATION OR CONCENTRATION RATIOS OF GAS COMPONENTS, FOR POTENTIAL USE IN BREATH ANALYSIS OF A PATIENT'S DIGESTION/METABOLISM, USES A STRUCTURED LASER BEAM WHERE SOUND WAVES ARE DETECTED AND EVALUATED

Abstract: The technique is for **measurement** of the concentration or concentration ratios of gas components for potential use in breath test analysis. The sample is held in a **measurement cell** (16), where a single-mode spectral modulated laser beam (14) is provided using an operating current (32,34). The technique is for **measurement** of the concentration or concentration ratios of gas components for potential use in breath test analysis. The sample is held in a **measurement cell** (16), where a single-mode spectral modulated laser beam (14) is provided using an operating current (32,34). The radiation is passed through the **measurement cell** by a temperature-controlled laser diode (10) with an optical system (12), working with a temperature sensor (24), a thermo-electric cooler (22) and a control circuit (26). The sound waves generated by the absorbed laser energy are detected by a **microphone** (38), with a phase-sensitive amplifier (40) for the **microphone** signals. The laser diode emission wavelength is set to be mode jump-free, controlled spectrally on an absorption line of the gas component for detection using the operating temperature or current, for the resulting photo-acoustic signals to be evaluated.

Classifications:
International (IPC 8-9): G01N29/032 G01N29/22
G01N29/24 (Advanced/Invention);
G01N29/02 G01N29/22 G01N29/24 (Core/Invention)
International (IPC 1-7): A61B5/083 G01N29/02
CPC: G01N21/1702 G01N29/032 G01N29/223 G01N29/2418
G01N2021/1704 G01N2291/0215
European: G01N21/17B G01N29/032 G01N29/22L G01N29/24C
S01N21/17B2 S01N291/021C



Family:

Publication number	Publication date	Application number	Application date
DE10308409 A1	20040909	DE20031008409	20030227

Priority:

DE20031008409 20030227

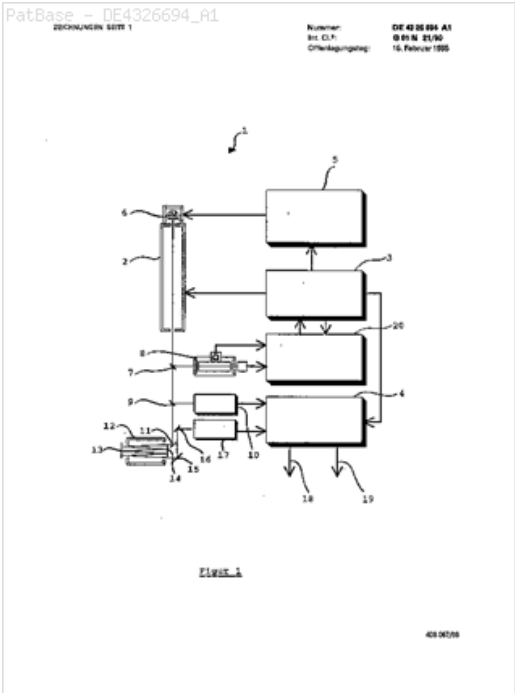
Probable Assignee: GRONINGA HINRICH
Assignee(s): (std): GRONINGA HINRICH ; WOLFF MARCUS
Inventor(s): (std): WOLFF MARCUS ; HARDE HERMANN ; GRONINGA HINRICH

31) Family number: 11403247 (DE4326694A1) © PatBase

Title: Device for detecting urine in containers

Abstract: The invention relates to a device for detecting urine in containers such as bottles, in particular in the food and beverage industry, and especially for sorting and separating bottles in beverage bottling lines. For reliable detection of urine, provision is made according to the invention for the device to have at least one clocked radiation source, in particular a CO₂ laser, which periodically radiates radiation in temporal succession with different wavelengths, a first detector used as a reference detector, on which the radiation, of one wavelength, used as reference radiation, is incident after bypassing a **measurement** cuvette, a second detector, used as **measurement** detector, on which the radiation, of the other wavelength, used as **measurement** radiation is incident after passing through the **measurement** cuvette,; a device for electronic signal processing of the intensities received by the detectors and a device, by means of which the wavelength of the radiation emitted by at least one radiation source is regulated to a predetermined set value, radiation of each wavelength being incident on this device.

Classifications:
International (IPC 8-9): G01N21/39 (Advanced/Invention);
G01N21/31 (Core/Invention)
International (IPC 1-7): B08B9/46 G01D1/16 G01D3/028 G01J5/00
G01L7/00 G01N21/27 G01N21/90 G01N33/493 G05D25/02



Family:

Table with 4 columns: Publication number, Publication date, Application number, Application date. It lists patent entries for DE4326694 A1 and C2.

Priority:

DE19934326694 19930810

Probable Assignee: KRIEG GUNTHER

Assignee(s): (std): KRIEG GUNTHER

Assignee(s): KRIEG GUNTHER PROF DR ING 76227 KARLSRUHE DE

Inventor(s): (std): KOUKOLITSCHKE KARL DIPL ING ; KRIEG GUNTHER PROF DR ING ; MAIER WILFRIED ; KRIEG GUNTHER ; KOUKOLITSCHKE KARL

Inventor(s): MAIER WILFRIED 75056 SULZFELD DE ; KRIEG GUNTHER PROF DR ING 76227 KARLSRUHE DE ; KOUKOLITSCHKE KARL DIPL ING FH 76189 KARLSRUHE D ; KOUKOLITSCHKE KARL DIPL ING FH 76189 KARLSRUHE DE

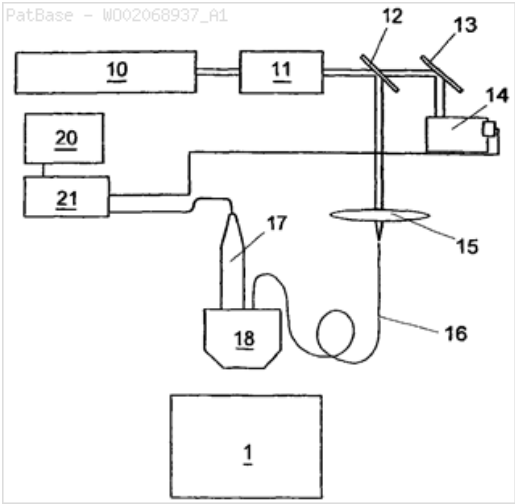
32) Family number: 23646976 (W002068937A1) © PatBase

Title: DEVICE AND METHOD FOR MEASURING THE CONCENTRATION OF AT LEAST ONE SUBSTANCE IN A SAMPLE

Abstract: The invention relates to a device and method for measuring the concentration of at least one substance in a sample, particularly in human skin. The inventive device comprises a means for exciting at least one substance by means of electromagnetic radiation and comprises a measuring cell for carrying out a detection based on the excitation of generated acoustic waves out of and/or inside the substrate. A calculating means serves to automatically convert the fluctuations in pressure that are induced by temperature changes on a surface of the sample into at least one measure that is dependent on the concentration of at least one of the substances. This enables a concentration measurement to be carried out in a rapid and precise manner by using the photoacoustic effect.

Classifications:

International (IPC 8-9): G01N21/17 (Advanced/Invention); A61B5/00 (Advanced/Non-invention)
International (IPC 1-7): A61B5/00 G01N21/17 G01N21/37 G01N33/483
CPC: A61B5/0095 A61B5/14532 A61B5/7207 G01N21/1702
European: A61B5/00T3 G01N21/17B K61B5/145G K61B5/72B2



Family:

Table with 4 columns: Publication number, Publication date, Application number, Application date. It lists patent entries for AU2002250806 AA and DE10143783 A1.

Priority:

DE20011010351 20010227 DE20011043783 20010831 WO2002DE000738 20020226

Probable Assignee: LOHMANN THERAPIE SYST LTS

Assignee(s): (std): IBA INST F BIOPROZES U AN ; IBA INST FUER BIOPROZES UND AN ; LOHMANN THERAPIE SYST LTS ; INST BIOPROZESS U ANALYSENTE ; SCHMIDT KAI ; LAUCKNER GERALD ; BECKMANN DIETER ; INST BIOPROZESS UND ANALYSENTE

Assignee(s): FUR BIOPROZESS U ANALYSENMESSTECHNIK EV INST ; INSTITUT FUER BIOPROZESS UND ANALYSENTECHNIK E V ; LTS LOHMANN THERAPIE SYSTEME AG ; IBA INSTITUT FUER BIOPROZES UND ANALYSENMESTECHNIK ; IBA INSTITUT FUER BIOPROZES UND ANALYSENMESTECHNIK E V

Inventor(s): (std): SCHMIDT KAI ; LAUCKNER GERALD ; BECKMANN DIETER

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

33) Family number: 32841623 (DE102004053480B3)

© PatBase

Title: PHOTO-ACOUSTIC PROCESS FOR ANALYSIS AND DETERMINATION OF CONCENTRATION OF SAMPLE LIQUID BY COMPARISON WITH REFERENCE SAMPLE

Abstract: In a photo-acoustic process to analyse and determine the concentration of a liquid sample in a cell (14), the sample is subjected to a modulated emission (12) whose reflected signal is monitored by a microphone (20) and phase-amplified (22). The emitter (10) signal is modified to generate a longitudinal standing wave in the cell. The microphone is located at a point of constructive interference of the resonance. The standing longitudinal wave is generated in an elongated spiral cylindrical cell. The emission (12) passes through a point of constructive interference within the cell. The cell comprises two upright cells (14, 16) in line, one (14) of which acts as the resonator and also holds the microphone, while the other (16) forms the emission attenuation section. The emission passes through a section (14) incorporating a buffer volume to reduce external noise emissions. Alternatively process uses one or more microphones and a second reference cell holding a reference sample. Both the first emission and comparative reference signal are reflected by a mirror.

Classifications:

International (IPC 8-9): G01N21/37 G01N29/02 G01N29/03

G01N29/036 (Advanced/Invention);

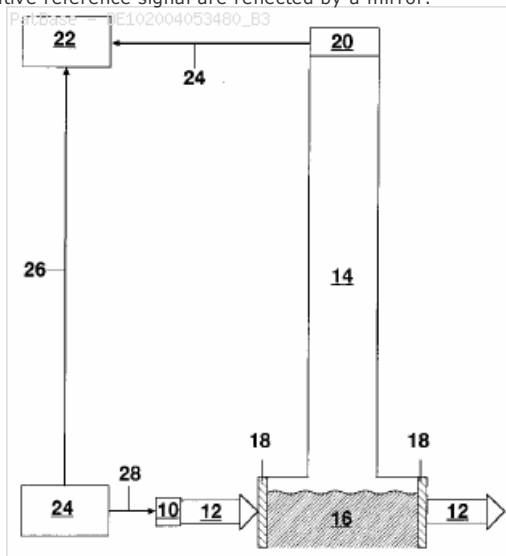
G01N21/31 G01N29/02 (Core/Invention)

CPC: G01N21/1702 G01N29/12 G01N29/222 G01N29/223 G01N29/30

G01N29/38 G01N2291/0215 G01N2291/0421 G01N2291/045

European: G01N21/17B G01N29/12 G01N29/22F G01N29/22L

G01N29/30 G01N29/38 S01N291/021C S01N291/042B S01N291/045



Family:

Publication number	Publication date	Application number	Application date
DE102004053480 B3	20060420	DE200410053480	20041105

Priority:

DE200410053480 20041105

Probable Assignee: PAS TECH GMBH

Assignee(s): (std): PAS TECH GMBH

Inventor(s): (std): WOLFF MARCUS ; GRONINGA HINRICH

34) Family number: 8699456 (US6082178A)

© PatBase

Title: Photoacoustic gas detector

Abstract: PCT No. PCT/NO96/00024 Sec. 371 Date Dec. 5, 1997 Sec. 102(e) Date Dec. 5, 1997 PCT Filed Feb. 2, 1996 PCT Pub. No. WO96/24831 PCT Pub. Date Aug. 15, 1996A photoacoustic detector including a chamber (1) for receiving the gas, a path for pulsed or modulated IR radiation (2) into, through and out of the chamber, and a pressure sensor (3A-B) adapted to measure pressure changes in the chamber caused by the applied IR radiation. The chamber is formed by joining together at least two major semiconductor elements, in particular, silicon or quartz elements (4A-B) made in planar technology. At least a first element from a major surface (9A-B) has an etched recess which constitutes a substantial proportion of the volume of the chamber. At least one of the elements is provided with a membrane for the pressure sensor, and the space (7) in front of the membrane communicates with the chamber.

Classifications:

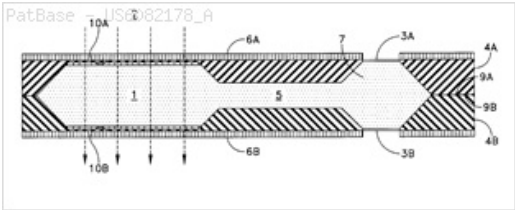
International (IPC 8-9): G01N21/17 (Advanced/Invention);

G01N21/17 (Core/Invention)

International (IPC 1-7): G01N21/00 G01N21/17 G01N21/35

G01N21/37

CPC: G01N21/1702 G01N2021/1704



Family:

Publication number	Publication date	Application number	Application date
AT196197 E	20000915	AT19960903273T	19960202
AU199647334 A1	19960827	AU19960047334	19960202
DE69610225 D1	20001012	DE19966010225	19960202
DE69610225 T2	20010104	DE19966010225T	19960202
EP0871860 A1	19981021	EP19960903273	19960202
EP0871860 B1	20000906	EP19960903273	19960202
NO300078 B1	19970401	NO19950000505	19950210
NO950505 A	19960812	NO19950000505	19950210
NO950505 A0	19950210	NO19950000505	19950210
NO950505 L	19960812	NO19950000505	19950210
US6082178 A	20000704	US19970875883	19971205
WO9624831 A1	19960815	WO1996NO00024	19960202

Priority:

NO19950000505 19950210 WO1996NO00024 19960202

Probable Assignee: SINVENT AS

Assignee(s): (std): BERNSTEIN RALPH ; FERBER ALAIN ; LEIV EIRIKSSON NYFOTEK AS ; NYFOTEK A S OSLO ; OEHLCKERS PER A ; NYFOTEK AS ; NYFOTEK AS OSLO ; SINVENT AS

Assignee(s): SI NV ; NYFOTEK OSLO AS ; NYFOTEK A S POSTBOKS ; LEIV EIRIKSSON NYFOTEK POSTBOKS AS ; NYFOTEK A S

Inventor(s): (std): BERNSTEIN RALPH ; OEHLCKERS PER A ; FERBER ALAIN ; OEHLCKERS A ; OEHLCKERS PER A ; BERNSTEIN RALPH W

Inventor(s): RALPH BERNSTEIN ; ALAIN FERBER ; PER A OEHLCKERS

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

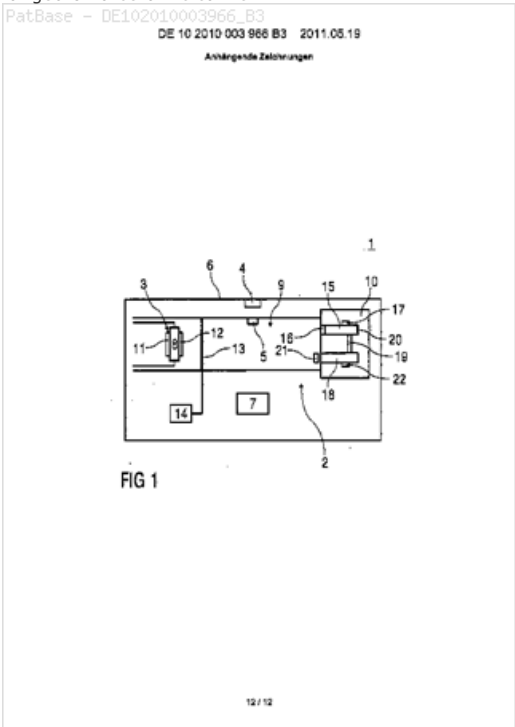
35) Family number: 48890261 (DE102010003966B3) © PatBase

Title: SENSOR ARRANGEMENT I.E. MULTIFUNCTIONAL SENSOR, FOR DETERMINING COMFORT-RELEVANT DATA TO CONTROL E.G. AIR-CONDITIONING IN MOTOR VEHICLES, HAS GAS-SENSITIVE SEMICONDUCTOR SENSOR WITH GAS-SENSITIVE SEMICONDUCTOR METAL OXIDE LAYER

Abstract: The arrangement (1) has an optical gas sensor (2) comprising a radiation source (8), a measuring cell (9) and a detector device (10), where the source emits infrared radiation. The device comprises a photoacoustic radiation detector. The cell is filled with gas mixture to be analyzed and is radiated by the radiation. The source comprises a heating and/or measuring resistor of a chemical gas sensor (3), which is formed as a gas-sensitive semiconductor sensor and comprises a gas-sensitive semiconductor metal oxide layer (11). The resistor is arranged on a ceramic carrier.

Classifications:

International (ipc 8-9): G01N21/35 (Advanced/Invention)
CPC: G01N21/3504 G01N21/37 G01N27/121 G01N33/0032 G01N2201/121
European: G01N21/35B G01N21/37 G01N27/12B S01N201/121 S01N33/00D2D4C



Family:

Publication number	Publication date	Application number	Application date
DE102010003966 B3	20110519	DE201010003966	20100102

Priority:

DE201010003966 20100102

Probable Assignee: UST UMWELTSENSORTECHNIK GMBH
Assignee(s): (std): UST UMWELTSENSORTECHNIK GMBH
Inventor(s): (std): KIESEWETTER OLAF

36) Family number: 42607569 (DE102007025914A1)

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Title: DEVICE FOR REGULATION OR MONITORING OF RADIANT ABSORPTION CHARACTERISTICS OF OPTICAL ELEMENT, PARTICULARLY OPTICAL SUBSTRATE OR OPTICAL COATING, HAS INTENSITY-MODULATED OPTICAL RADIATION EMITTING OPTICAL RADIATION SOURCE

Abstract: The device (10) has an intensity-modulated optical radiation emitting optical radiation source for illuminating the optical element. An acoustic receipt unit is provided for receiving consequence of the irradiation of optical element to develop acoustic signal. Output equipment is provided for spending an output signal representing **measure** for the signal portion determined by an investigation unit. An independent claim is also included for a method for regulation or monitoring of radiant absorption characteristics of an optical element, particularly an optical substrate or an optical coating.

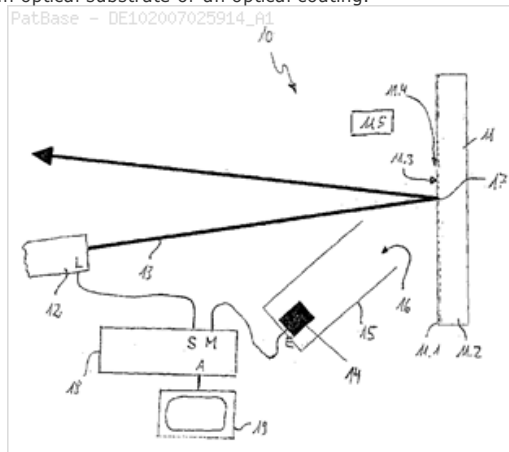
Classifications:

International (IPC 8-9): G01N21/37 (Advanced/Invention);

G01N21/31 (Core/Invention)

CPC: G01M11/005

European: G01M11/00C



Family:

Publication number	Publication date	Application number	Application date
DE102007025914 A1	20081204	DE200710025914	20070602

Priority:

DE200710025914 20070602

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37) Family number: 55885079 (US2014058244A)

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Title: **PHOTOACOUSTIC** MONITORING

Abstract: A system comprising a **photoacoustic** module, an ablation module, and a processor. The **photoacoustic** module includes a light emitter and an acoustic sensor. The acoustic sensor is configured to provide a sensor output corresponding to a modulated pressure detected in a target tissue in response to light from the emitter. The ablation module is associated with the **photoacoustic** module. The ablation module has an energy discharge port configured to contact the tissue at an ablation target and is configured to ablate the ablation target. The processor is coupled to the ablation module and coupled to the **photoacoustic** module. The processor is configured to execute an algorithm to provide an output signal indicative of the ablation progress and is configured to control the ablation module based on the sensor output.

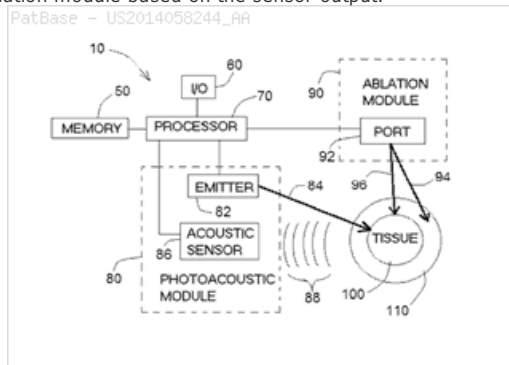
Classifications:

International (IPC 8-9): A61B18/12 A61B5/00 (Advanced/Invention)

CPC: A61B5/0095 A61B18/12 A61B5/4836 A61B5/6848 A61B18/02

A61B18/20 A61B2018/00577 A61B2018/00613

US: 600/407 606/34



Family:

Publication number	Publication date	Application number	Application date
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 US2014058244 AA	20140227	US20130972571	20130821
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Priority:

US20120691667P 20120821 US20130972571 20130821

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