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(WO201827332)/PN
..SIMILARITY REFINE SS 1 RANKED 1
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3 AND MINES
4 AND DETECTION

11 Documents

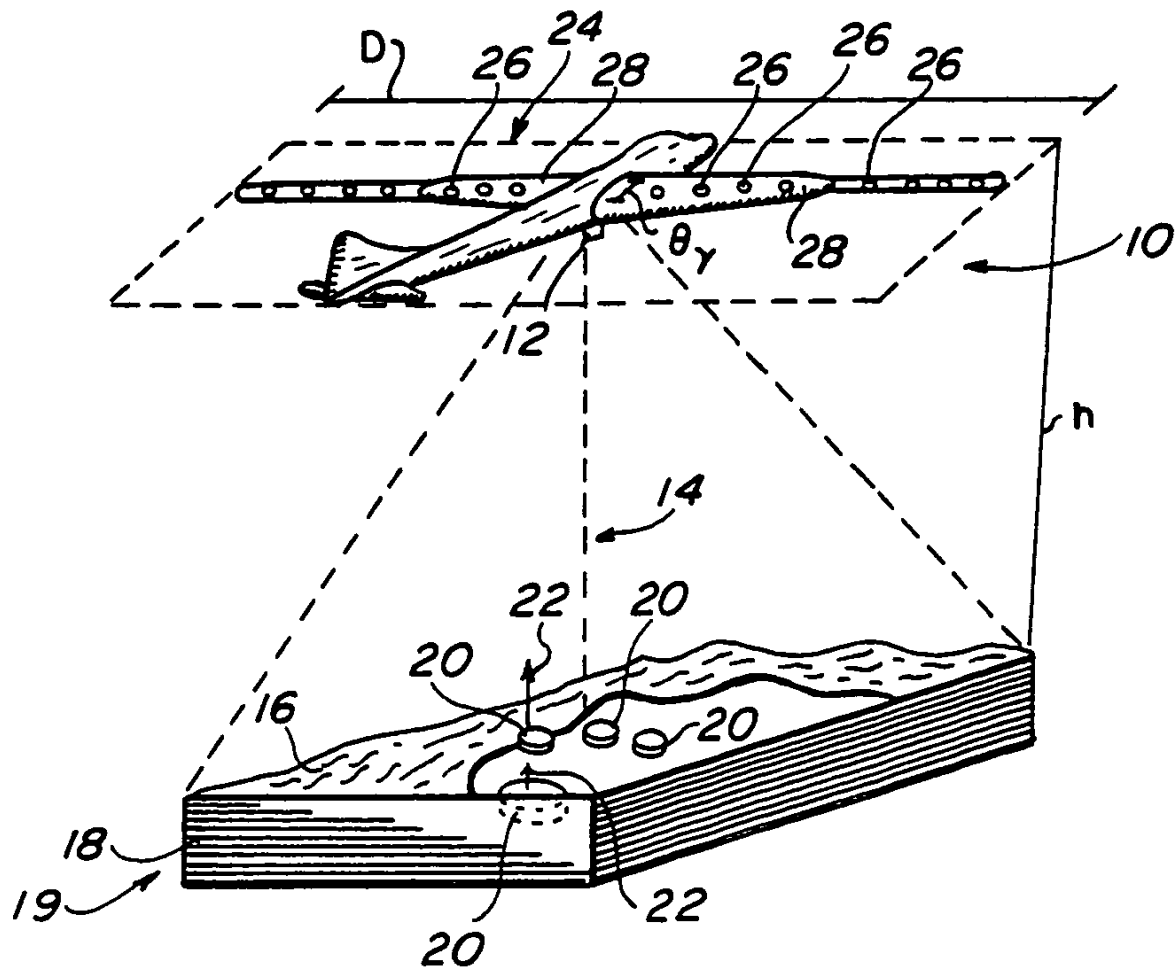
Publication numbers	Title	Current assignees
US20040118313 A1	Three-dimensional synthetic aperture radar for mine detection and other uses	US NAVY
US8063814 B1	Beat-product radio imaging method (rim)	STOLAR
WO201221923 A1	Work area monitor	GROUNDPROBE
US20140002292 A1	Almost real-time sampling for ground-penetrating radar impulses	TEKTRONIX
WO201263241 A1	System and method for detection of minefields	BUZAGLO YORESH AVI
US7492303 B1	Methods and apparatus for detecting threats using radar	PERSONNEL PROTECTION TECHNOLOGIES
WO2019115762 A1	Dual detector with transverse coils	MANNESCHI ALESSANDRO
EP2404187 A1	Detection of surface and buried objects	L3 COMMUNICATIONS SECURITY & DETECTION SYSTEMS
EP3426137 A1	Methods, apparatus, servers, and systems for vital signs detection and monitoring	ORIGIN WIRELESS
EP2244101 A1	System and method for detecting, locating and identifying objects located above ground or below ground in a pre-referenced area of interest	PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE
US20090232406 A1	Reducing false alarms in identifying whether a candidate image is from an object class	RAYTHEON

Title

(US6982666)

Three-dimensional synthetic aperture radar for mine detection and other uses

Images



Publication numbers with kind code & date

US6982666

B2 2006-01-03

US6982666

US20040118313

A1 2004-06-24

US20040118313



Abstract

(US20040118313)

A radar system for generating a three-dimensional image includes a radar transmitter which is operable to produce a radar signal of a frequency of at least three gigahertz. A plurality of radar receiving antennas from an antenna array. The antenna array is aerially translatable. For example, in one embodiment, the antenna array is disposed along the wings of an aircraft which, in operation, flies over the intended target area. A three-dimensional image is generated from a reflected radar signal returned from the surface of an object in response to the transmitted radar signal. The radar system may be incorporated into an aircraft and adapted to detect subsurface objects such as mines buried beneath the surface of the ground as the aircraft traverses over a target area.

Inventors

TEMES CLIFFORD L

PAVCO JOHN A

Latest standardized assignees - inventors removed

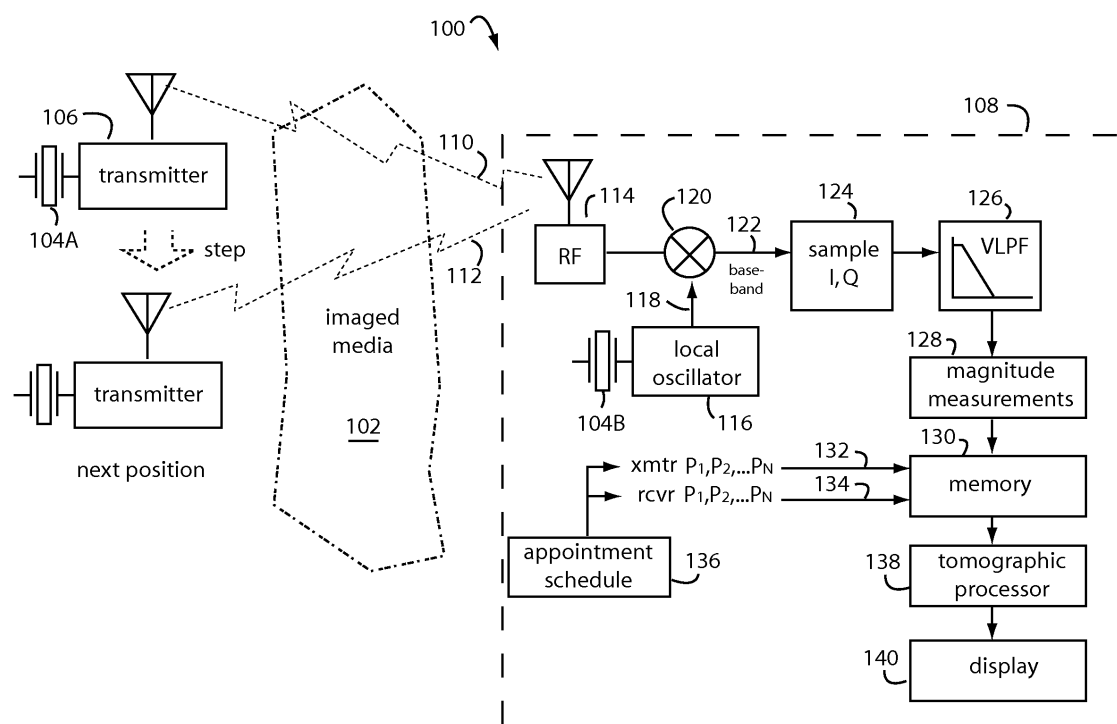
US NAVY

Family 2/11 - FAMPAT - ©Questel

Title

(US20110304495)

Beat-product radio imaging method (rim)

Images**Publication numbers with kind code & date**

US8847813	B2	2014-09-30	US8847813
US20120062408	A1	2012-03-15	US20120062408
US20110304495	A1	2011-12-15	US20110304495
US8063814	B1	2011-11-22	US8063814

**Abstract**

(US8063814)

A beat-product radio imaging method (RIM) system uses a matched continuous wave (CW) transmitter and receiver to electronically image material in between. Signal attenuation measurements are taken from a number of different transmitter and receiver perspectives around the material. The transmitter and receiver each have a crystal oscillator rated at 10-ppm or better frequency uncertainty. The receiver's crystal oscillator is used as a local oscillator to beat down the transmitter's carrier frequency to baseband. The frequency error between the local oscillator and the transmitter carrier frequencies produces a beat product of less than one Hertz in frequency and its magnitude is inversely proportional to the path attenuation between the transmitter and receiver. An extremely low-pass filter is used to remove everything above one Hertz in the detector. The receiver sensitivity is therefore extraordinarily high.

Inventors

BAUSOV IGOR

STOLARCZYK GERALD

STOLARCZYK LARRY G

Latest standardized assignees - inventors removed

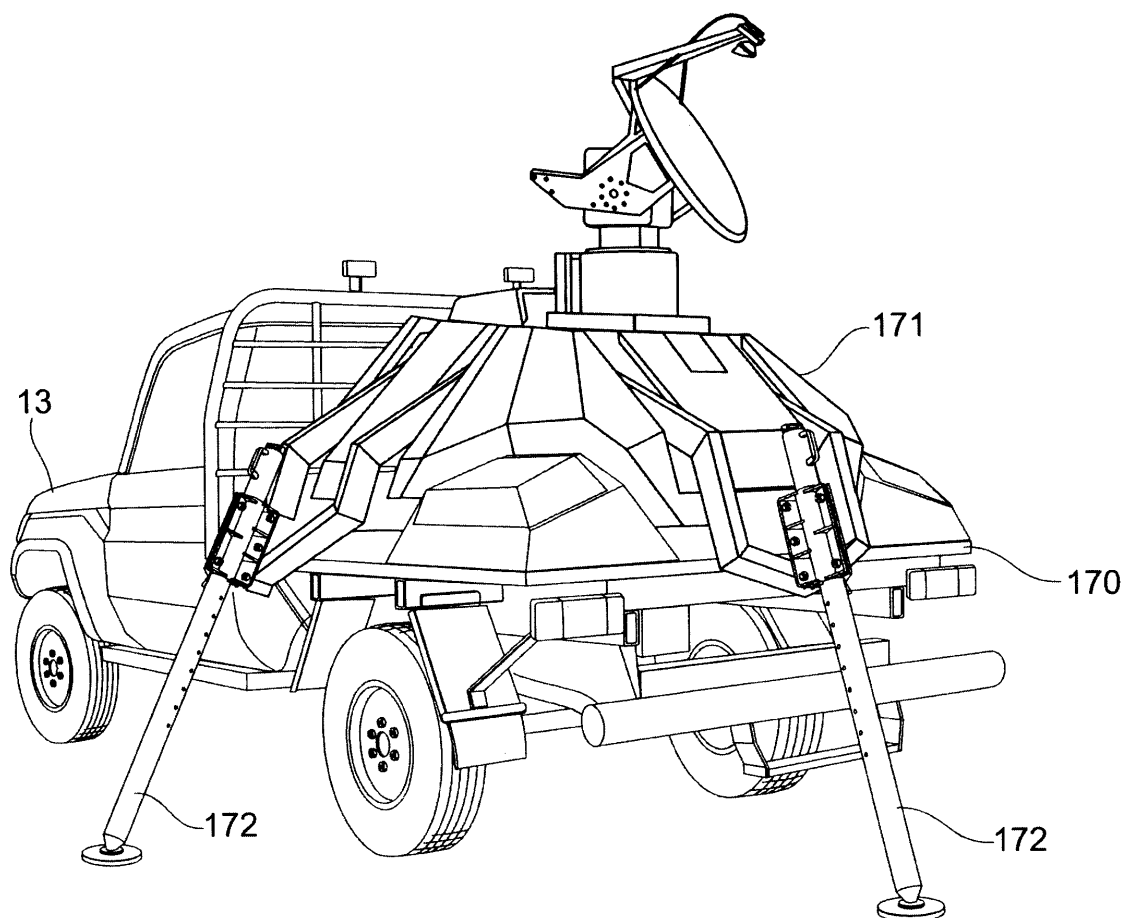
STOLAR

Family 3/11 - FAMPAT - ©Questel

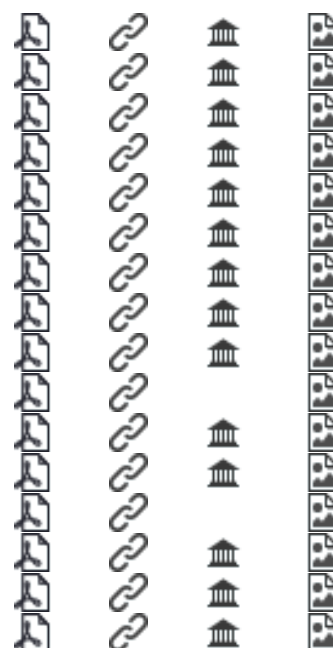
Title

(WO201221923)

Work area monitor

Images**Publication numbers with kind code & date**

BR112013003720	A2	2019-12-10	BR112013003720
AU2011291432	B8	2016-10-27	AU2011291432
AU2011291432	B2	2016-06-30	AU2011291432
IN0635/CHENP/2013	A	2016-05-20	IN2013CN00635
US8994576	B2	2015-03-31	US8994576
US20150015433	A1	2015-01-15	US20150015433
US8902099	B2	2014-12-02	US8902099
BR112013003720	A1	2013-12-31	BR112013003720
CN103354911	A	2013-10-16	CN103354911
ZA201208400	B	2013-08-28	ZA201208400
US20130120182	A1	2013-05-16	US20130120182
AU2012101711	B4	2013-05-02	AU2012101711
CL2013000452	A1	2013-04-19	CL2013000452
AU2011291432	A1	2013-01-17	AU2011291432
AU2012101711	A4	2012-12-20	AU2012101711
WO2012/021923	A1	2012-02-23	WO201221923

**Abstract**

(WO2012/021923)

A Work Area Monitor comprising a radar module mounted on a motorised vehicle. The Work Area Monitor provides early

warning of slope failure in a work area by generating an alarm if movement detected in movement data derived from interferometrically processed radar images exceeds a threshold.

Inventors

NOON DAVID

BELLETT PATRICK

Latest standardized assignees - inventors removed

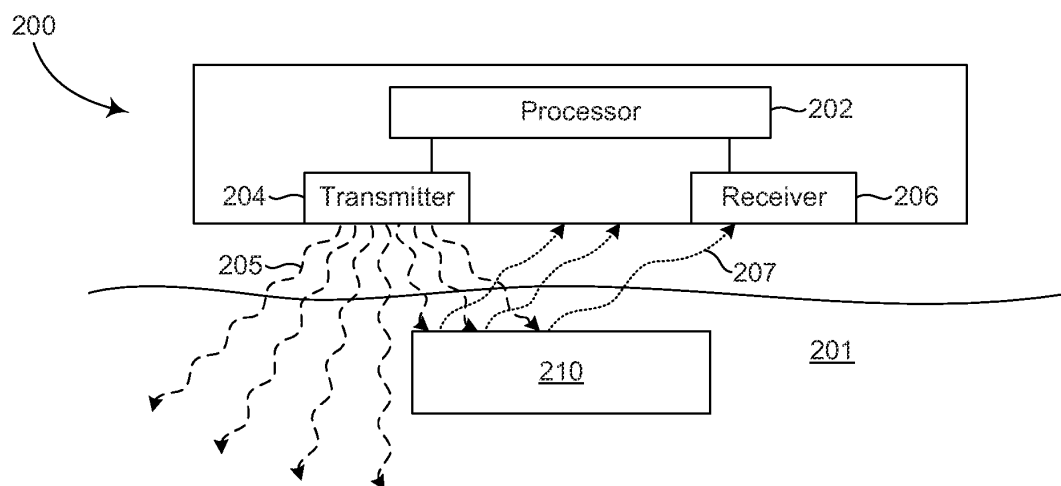
GROUNDPROBE

Family 4/11 - FAMPAT - ©Questel

Title

(US9581690)

Almost real-time sampling for ground-penetrating radar impulses

Images**Publication numbers with kind code & date**[US9581690](#)

B2 2017-02-28

US9581690

[US20140002292](#)

A1 2014-01-02

US20140002292

**Abstract**

(US20140002292)

A ground-penetrating RADAR-based system can include a transmitter configured to transmit multiple RADAR impulses and a receiver configured to receive a signal comprising return waves generated responsive to the transmitted RADAR impulses. The signal can include a direct wave portion and a reflected wave portion. The system can also include a processing unit configured to analyze the return waves by determining the direct wave portion, fitting the direct wave portion to determine parametric information corresponding to the return waves, determining the reflected wave portion, determining characteristics of the reflected wave portion based on the parametric information, and comparing the determined characteristics against known characteristics.

Inventors

KNIERIM DANIEL G

Latest standardized assignees - inventors removed

TEKTRONIX

Family 5/11 - FAMPAT - ©Questel

Title

(WO201263241)

System and method for **detection** of minefields**Images**

Fig. 15

Publication numbers with kind code & date[ZA201303377](#)

B

2014-07-30

ZA201303377

[WO2012/063241](#)

A1

2012-05-18

WO201263241



Abstract

(WO2012/063241)

A system for identification and location of a minefield in a geographical region of interest (ROI), said system comprising: c. a sensing unit for receiving the electromagnetic radiation of said ROI and generating at least one image of said electromagnetic radiation of said ROI, said ROI being characterized by a specific geographical location; and, d. an analyzing unit adapted to classify the probability of said at least one image to be a minefield by using one or more spectral parameters associated with at least one exposed chemical of said ROI; wherein said spectral parameters are selected from the group consisting of: SR, NDVI, PVI, SAVI, NLI, RDVI, MSR, WDV, MNLI, NDVI*SR, SAVI*SR, TSAVI, green-ratio, Red-NIR parameters, NIR-SWIR1 slope, SAM algorithm in SWIR2, PPI, Nitrogen spectral index, and any combination thereof

Inventors

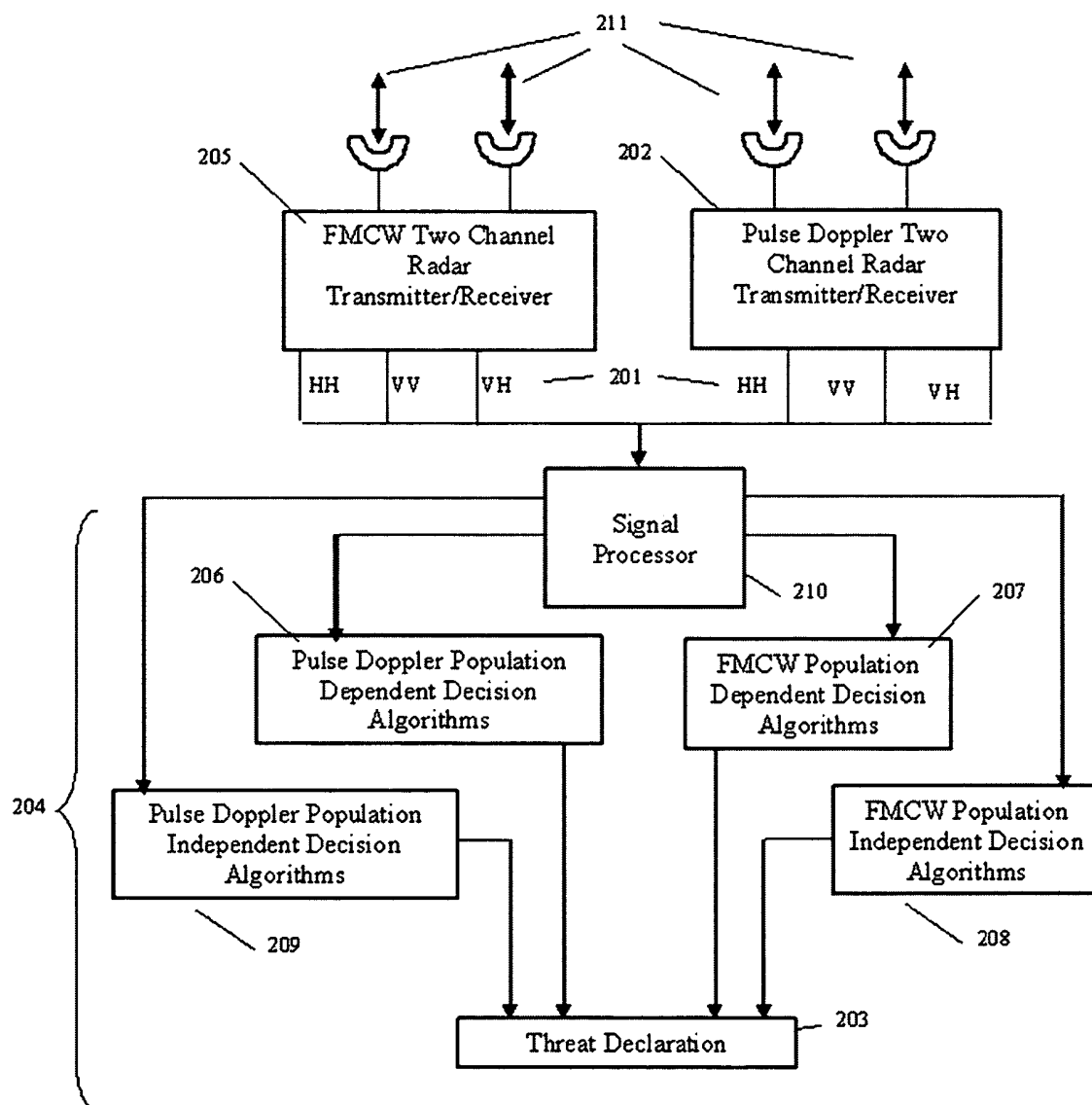
BUZAGLO YORESH AVI

Family 6/11 - FAMPAT - ©Questel

Title

(US20090058710)

Methods and apparatus for detecting threats using radar

Images**Publication numbers with kind code & date**[US20090058710](#)

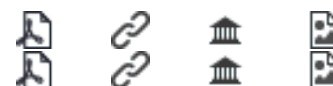
A1 2009-03-05

US20090058710

[US7492303](#)

B1 2009-02-17

US7492303

**Abstract**

(US7492303)

Methods and apparatus for early **detection** and identification of a threat such as individuals carrying hidden explosive materials, land mines on roads, etc. are disclosed. One method comprises illuminating a target with radiation at a first polarization, collecting first radiation reflected from the target which has the same polarization as the first polarization, illuminating a target with radiation at a second polarization, and collecting second radiation reflected from the target which has the same polarization as the second polarization. A threat determination is then made based on the difference between the energy values of the first and second collected radiations. In other embodiments, the difference between energy values is used in conjunction with an evaluation of the returned energy in comparison with returned energy from other targets in order to additionally assess whether the primary target is a threat.

Inventors

LEVITAN ARTHUR C

KOSOWSKY LESTER

Latest standardized assignees - inventors removed

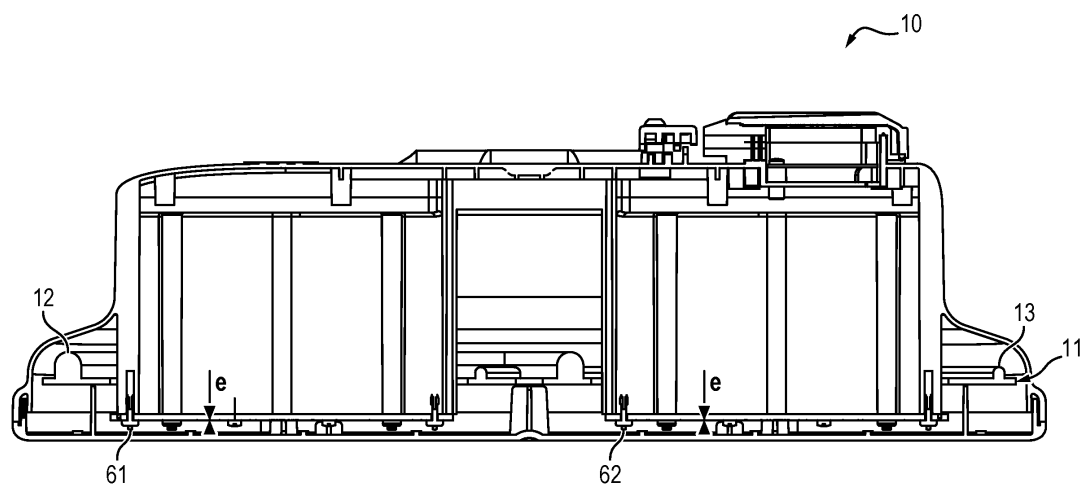
PERSONNEL PROTECTION TECHNOLOGIES

Family 7/11 - FAMPAT - ©Questel

Title

(WO2019115762)

Dual detector with transverse coils

Images**Publication numbers with kind code & date**[FR3075523](#)

B1 2020-01-10

FR3075523

[FR3075523](#)

A1 2019-06-21

FR3075523

[WO2019/115762](#)

A1 2019-06-20

WO2019115762

**Abstract**

(WO2019/115762)

The invention relates to a dual detector comprising a **detection** head having: an inductive sensor which is mounted on the platform (11) and includes a transmitter coil (12) and a separate receiver coil (13), the transmitter coil (12) and the receiver coil (13) each forming a loop, a soil penetrating radar (60) comprising a transmitter antenna (61) and a receiver antenna (62), the transmitter antenna (61) and the receiver antenna (62) each being accommodated in the center of one of the loops of the transmitter and receiver coils (12) (13), the transmitter antenna (61) and the receiver antenna (62) having a maximum thickness (e) of one micron in order to limit interference with the inductive sensor (12).

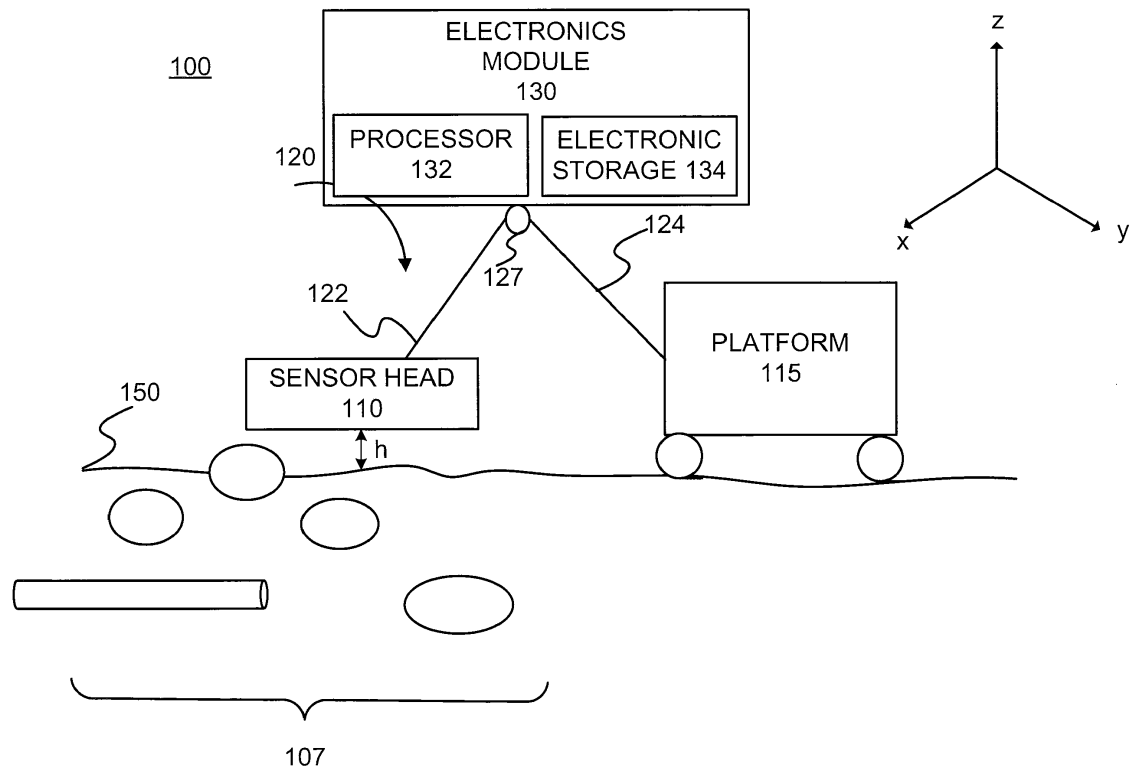
Inventors

MANNESCHI ALESSANDRO

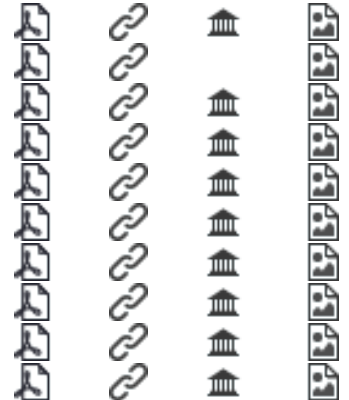
Family 8/11 - FAMPAT - ©Questel

Title

(EP2404187)

Detection of surface and buried objects**Images****Publication numbers with kind code & date**

IN7140/DELNP/2011	A	2013-02-08	IN2011DN07140
KR20120022747	A	2012-03-12	KR20120022747
EP2404187	A1	2012-01-11	EP2404187
IL214960	A	2011-11-30	IL-214960
AU2010221750	A2	2011-11-03	AU2010221750
AU2010221750	A1	2011-10-13	AU2010221750
US20100277358	A1	2010-11-04	US20100277358
US20100277397	A1	2010-11-04	US20100277397
WO2010/101630	A1	2010-09-10	WO2010101630
WO2010/101631	A1	2010-09-10	WO2010101631

**Abstract**

(EP2404187)

A sensor head includes a ground penetrating radar (GPR) system and a continuous-wave metal detector (CWMD). The GPR system includes a transceiver configured to transmit radiation toward an object and to receive radiation from the object. The CWMD includes a transmission antenna configured to produce a first magnetic field in the vicinity of the object sufficient to generate a current in the object, and a receive antenna configured to sense a second magnetic field produced by the current generated in the object.

Inventors

DUVOISSIN III HERBERT

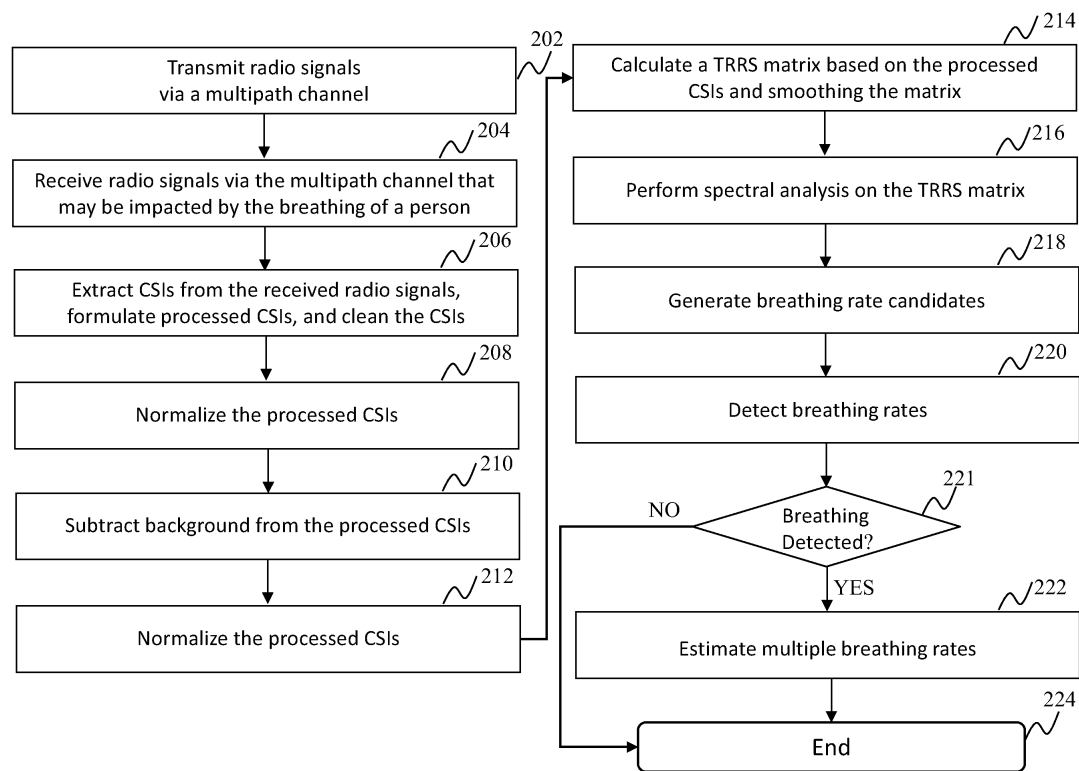
JOHNSON KEVIN L

Latest standardized assignees - inventors removedL3 COMMUNICATIONS SECURITY & **DETECTION** SYSTEMS

Family 9/11 - FAMPAT - ©Questel

Title

(EP3426137)

Methods, apparatus, servers, and systems for vital signs **detection** and monitoring**Images****FIG. 2****Publication numbers with kind code & date**

JP2019512304	A	2019-05-16	JP2019512304
EP3426137	A1	2019-01-16	EP3426137
CN108778106	A	2018-11-09	CN108778106
WO2017/156492	A1	2017-09-14	WO2017156492

**Abstract**

(EP3426137)

The present teaching relates to vital sign **detection** and monitoring based on channel state information (CSI). In one example, an apparatus for vital sign **detection** is disclosed. The apparatus comprises a receiver, a processor and a memory communicatively coupled with the processor. The receiver is configured for receiving at least one wireless signal from a multipath channel that can be impacted by a vital sign of at least one living being. The processor is configured for: extracting a time series of channel state information (CSI) for the multipath channel from the at least one wireless signal, obtaining one or more periodic fluctuations based on a spectral analysis of the time series of CSI, and determining whether the vital sign is present based on the one or more periodic fluctuations.

Inventors

CHEN CHEN

WANG BEIBEI

HAN YI

ZHANG FENG

LAI HUNG-QUOC DUC

CHEN YAN

LIU K J RAY

Latest standardized assignees - inventors removed

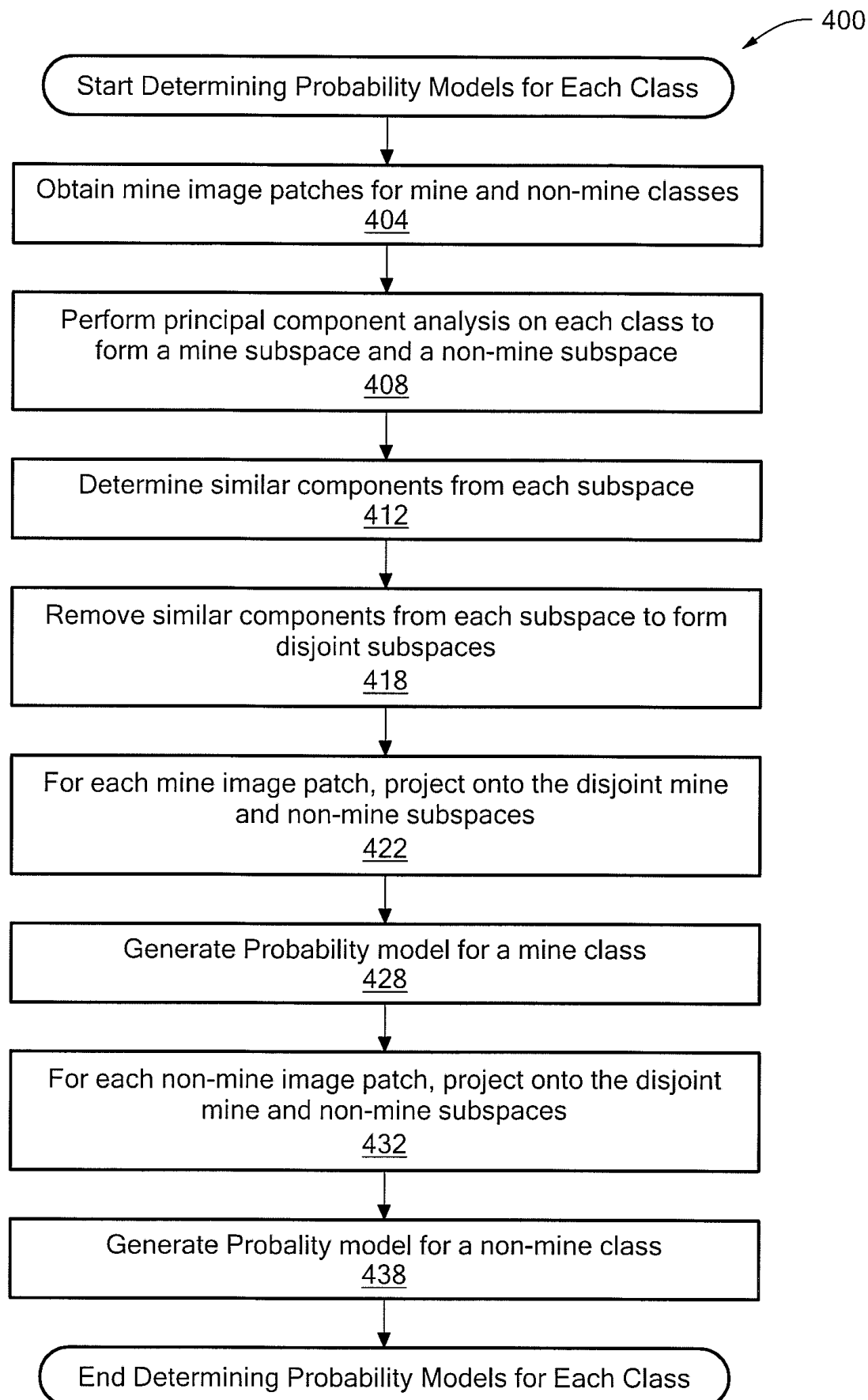
ORIGIN WIRELESS

Family 11/11 - FAMPAT - ©Questel

Title

(US8655079)

Reducing false alarms in identifying whether a candidate image is from an object class

Images

Publication numbers with kind code & date

US8655079	B2	2014-02-18	US8655079
US20090232406	A1	2009-09-17	US20090232406

**Abstract**

(US20090232406)

In one aspect, a method to reduce false alarms in identifying whether a candidate image is from an object class includes projecting the candidate image onto an object class subspace and projecting the candidate image onto a non-object class subspace. The method also includes determining whether the candidate image is from the object class using a Bayesian decision function based on the projections on the object class subspace and the non-object class subspace. In another aspect, a method to reduce false alarms in identifying whether a candidate mine image is from a mine class includes projecting the candidate mine image onto a mine subspace and projecting the candidate mine image onto a non-mine subspace. The method also includes determining whether the candidate mine image represents a mine using a Bayesian decision function based on the projections on the mine class subspace and the non-mine class subspace.

Inventors

SAISAN PAYAM

Latest standardized assignees - inventors removed

RAYTHEON