

Nicolas Vargas

1) Family number: 49390119 (US2011193661A)

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Title: INTEGRATED ELECTROMECHANICAL RELAYS

Priority: US20100701957 20100208 US20120425896 20120321 US20130898576 20130521

Family:

Publication number	Publication date	Application number	Application date
US2011193661 AA	20110811	US20100701957	20100208
US2012188033 AA	20120726	US20120425896	20120321
US2013247362 AA	20130926	US20130898576	20130521
US8436701 BB	20130507	US20100701957	20100208
US8525623 BB	20130903	US20120425896	20120321
US9076615 BB	20150707	US20130898576	20130521

Probable Assignee: IBM

Assignee(s):(std): BAKS CHRISTIAN W ; BAKS CHRISTIAN WILHELMUS ; IBM ; JOHN RICHARD A ; KWARK YOUNG HOON ; KWARK YOUNG H

Assignee(s): INT BUSINESS MACHINES CORP

Inventor(s):(std): BAKS CHRISTIAN W ; BAKS CHRISTIAN WILHELMUS ; JOHN RICHARD A ; KWARK YOUNG H ; KWARK YOUNG HOON

Agent(s): ANNE V ; RYAN MASON AND LEWIS LLP

International class (IPC 8-9): H01F41/14 H01H11/00 H01H11/02 H01H11/04 H01H45/04 H01H49/00 H01H50/00 H01H51/22 H01H65/00 H01H9/00 (Advanced/Invention); H01F7/06 H01H50/16 (Advanced/Non-invention)

CPC: H01H49/00 H01F2007/068 H01H50/005 H01H50/16 Y10T29/49075

European class: H01H50/00C T01F7/06D T01H50/16

US class: 1/1 200/181 29/607 29/607S 335/136 335/136P 335/177 335/177P 335/78

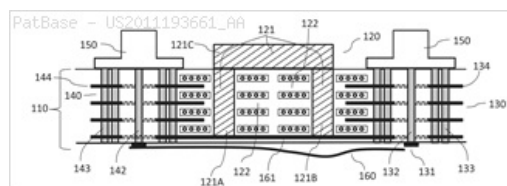
[Classification Explorer](#)

Cited documents: WO0065619 A1, US8519810 BB, US8188817 BB, US8159320 BB, US8068002 BB, US7482899 BB, US7157993 BB, US6888420 BB, US6778045 BB, US6750745 BA, US6624720 BA, US6410360 BA, US6310526 BA, US6084281 A, US6016092 A, US3898595 A, US2012200377 AA, US2012161909 AA, US2010182111 AA, US2010171577 AA, US2007029659 AA, US2006175203 AA, US2004244191 AA, US2003151480 AA, US2003011458 AA,

Forward Citations: WO13092067, US9934905, US9791470, US9284183, US9257250, US9117612, US8763220, US8665041, US8410665, US2016027578, US2015185247, US2014077906, US2012161582, US2010171577, CN104185891,

Abstract:

Electromechanical relays and semiconductor structures and microelectromechanical systems including at least part of an electromechanical relay are presented. For example, an electromechanical relay includes an electrically conductive terminal within a printed circuit board, one or more electrically conductive contacts, and one or more magnetic actuators. The one or more magnetic actuators are respectively associated with the one or more electrically conductive contacts and each magnetic actuator includes (i) a magnetic core within at least one via extending through one or more layers of the printed circuit board, and (ii) an electrical coil around at least a portion of the magnetic core and within one or more layers of the printed circuit board. Activation of the one or more actuators causes electrical contact between the terminal and an associated one of the one or more electrically conductive contacts.



2) Family number: 42910152 (US2009034900A)

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Title: BAND-PASS FILTER AND METHOD FOR MAKING PHOTONIC CRYSTAL FOR THE BAND-PASS FILTER

Priority: JP20070202585 20070803 JP20080147775 20080605

Family:

Publication number	Publication date	Application number	Application date
JP2009058936 A2	20090319	JP20080147775	20080605
JP5304035 B2	20131002	JP20080147775	20080605
US2009034900 AA	20090205	US20080183621	20080731
US8149073 BB	20120403	US20080183621	20080731

Probable Assignee: MURATA MFG CO LTD

Assignee(s):(std): MURATA MANUFACTURING CO ; MURATA MFG CO ; NAKAGAWA TAKUJI

Assignee(s): MURATA MFG CO LTD ; MURATA MANUFACTURING CO LTD ; MURATA MFG

Inventor(s):(std): NAKAGAWA TAKUJI

Agent(s): DICKSTEIN SHAPIRO LLP

International class G02B5/20 G02F1/01 G02F1/09 G02F1/295 H01P1/20 H01P1/207 H01P7/00 (Advanced/Invention);

(IPC 8-9): G02B5/20 G02F1/01 G02F1/29 H01P1/20 H01P7/00 (Core/Invention)

CPC: B33Y70/00 B33Y80/00 H01P1/217 H01P1/2005

European class: H01P1/20C H01P1/217

US class: 333/209 333/219.2 333/235 385/10 385/10P

JP class F-Term: 2H048 2H048/AA05 2H048/AA09 2H048/AA12 2H048/AA18 2H079 2H079/AA03 2H079/AA13 2H079/BA04 2H079/CA24 2H079/DA01 2H079/DA04 2H079/DA07 2H079/DA12 2H079/EA12 2H079/EA13 2H079/EB18 2H148 2H148/AA05 2H148/AA09 2H148/AA12 2H148/AA18 2K102 2K102/AA27 2K102/AA35 2K102/BA16 2K102/BB02 2K102/BC09 2K102/BD01 2K102/CA28 2K102/DA01 2K102/DA08 2K102/DA09 2K102/DB01 2K102/DD01 5J006 5J006/HD03 5J006/JA01 5J006/JA10 5J006/JB01 5J006/JB04 5J006/LA02 5J006/LA11 5J006/LA25 5J006/MA06 5J006/MA13 5J006/NA01 5J006/NA09 5J006/ND02 5J006/NE03 5J006/NE16 5J006/PB04

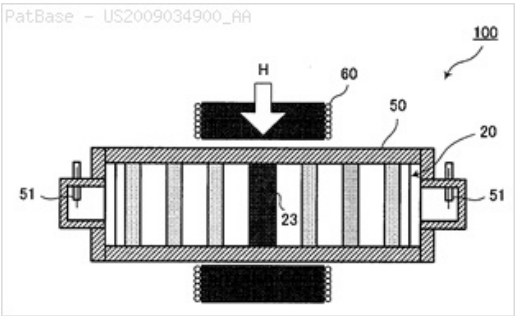
JP class F-Index: G02B5/20 G02F1/01/F G02F1/09/505 H01P1/20/Z H01P1/207/Z H01P7/00/B

[Classification Explorer](#)

Cited documents: US6998942 BB, US6563398 BA, US5184097 A, JP2008035017 A2, JP2006270012 A2, JP2006178209 A2, JP2004302457 A2, JP2004085851 A2, JP2002341164 A2, JP2002090525 A2,

Forward Citations: US9871279, US9379685, US9184486, US9160044, US9035843, US8891917, US2015263401, US2015171501, US2013314179, US2013135063, US10181632, JP6196793, JP5442702, JP2014190963, JP2013115741, JP2011030055, DE102009041891, CN104795619, CN103219572, CN103219572, CN103091777,

Abstract:
A band-pass filter includes a photonic crystal having a local mode that generates a pass band in a stop band formed by Bragg reflection, a transmission channel that limits electromagnetic waves propagating in the photonic crystal to a mode in which an amplitude direction of an electrical field is a particular direction; and a magnetic field-applying unit for applying to the photonic crystal a DC magnetic field in a direction perpendicular to a propagation direction of the electromagnetic waves. The photonic crystal includes a periodic structure including a low permittivity dielectric member and a plurality of high permittivity dielectric members periodically arranged in the low permittivity dielectric member so that the Bragg reflection occurs in the periodic structure, and a magnetic member disposed in the periodic structure.



3) Family number: 57467222 (US2016013547A)

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Title: LOW-FREQUENCY ANTENNA

Priority: US20130803186P 20130319 RU20130112500 20130320 WO2014RU00168 20140318
US20150859889 20150921

Family:

Publication number	Publication date	Application number	Application date
RU2013112500 A	20140927	RU20130112500	20130320
RU2562401 C2	20150910	RU20130112500	20130320
US2016013547 AA	20160114	US20150859889	20150921
US10211523 BB	20190219	US20150859889	20150921
WO14148954 A2	20140925	WO2014RU00168	20140318
WO14148954 A3	20150416	WO2014RU00168	20140318
WO14148954 A4	20150528	WO2014RU00168	20140318

Probable Assignee: JELLEY LABORATORIES GMBH

Assignee(s):(std): HALILOV SAMED VEISALKARA ; TISHIN ALEKSANDR METTALINOVICH ; TISHIN ALEXANDR METTALINOVICH

Assignee(s): JELLEY LABORATORIES GMBH

Inventor(s):(std): TISHIN ALEXANDR METTALINOVICH ; TISHIN ALEKSANDR METTALINOVICH ; KHALILOV SAMED VEJSALKARA ; HALILOV SAMED VEISALKARA

Agent(s): HAYES SOLOWAY PC; NILOVA MARIA INNOKENTIEVNA

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 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

International class
(IPC 8-9): H01Q1/40 H01Q21/00 H01Q21/06 H01Q7/00 H02J17/00 (Advanced/Invention);
H01Q1/38 (Advanced/Non-invention)

CPC: H01Q1/40 H01Q21/06 H01Q1/38 H01Q7/00

US class: 343/873

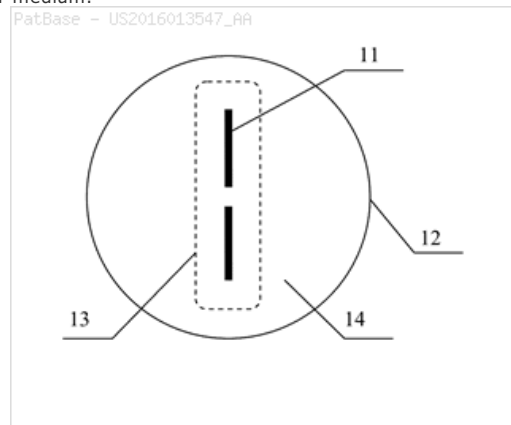
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Cited documents: WO09139561 A2, WO09131344 A2, US8427387 BA, US7573431 BB, US6914581 BA, US6897830 BB, US6549172 BA, US6509880 BB, US6369774 BA, US6337670 BA, US6233435 BA, US6181132 BA, US6063719 A, US6046707 A, US5541610 A, US5528254 A, US4161687 A, US3823403 A, US2012314987 AA, US2012274536 AA, US2012274147 AA, US2012253680 AA, US2011077036 AA, US2010315302 AA, US2009278754 AA, US2009027287 AA, US2005088165 AA, US2005057423 AA, US2004204856 AA, RU99249 U, RU99241 U1, RU2324950 C1, JP2002135036 A2, GB1555756 A, CN201957244 U,

Forward Citations: WO18050420, US10082566, TWI579578, RU175333,

Abstract:

A low frequency antenna for radiating/receiving an electromagnetic wave is provided. One exemplary antenna comprises a feed port; an antenna conductor connected to the feed port; and an encapsulation at least partially surrounding the antenna conductor. The low frequency antenna comprises different functional materials used in fabrication of the wave-matching encapsulation enclosing the antenna conductor in order to match the wavelength of the compressed wave to the physical size of the resonant antenna, to match the wave impedance within encapsulation and impedance of the outer medium, to enhance the directivity gain by using non-uniform distribution of the material parameters and minimize the intrinsic impedance mismatch between the region of the encapsulation which is forming the compressed wave and the outer medium.



4) Family number: 30317614 (US5534869A)

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Title: Open transmission line locating system
Priority: CA19902010390 19900220 CA19912044246 19910220 EP19910903912 19910220
WO1991CA00050 19910220 CA19912277969 19910220 CA19992044246 19990823

Family:	Publication number	Publication date	Application number	Application date
	CA2010390 AA	19910820	CA19902010390	19900220
	CA2044246 AA	19910610	CA19912044246	19910220
	CA2044246 C	20000718	CA19912044246	19910220
	CA2277969 AA	19910821	CA19912277969	19910220
	CA2277969 C	20000919	CA19912277969	19910220
	DE69107201 D1	19950316	DE19916007201	19910220
	EP0516661 A1	19921209	EP19910903912	19910220
	EP0516661 B1	19950201	EP19910903912	19910220
	EP0612048 A2	19940824	EP19940106412	19910220
	EP0612048 A3	19950322	EP19940106412	19910220
	US5534869 A	19960709	US19920920563	19920819
	WO9113415 A1	19910905	WO1991CA00050	19910220

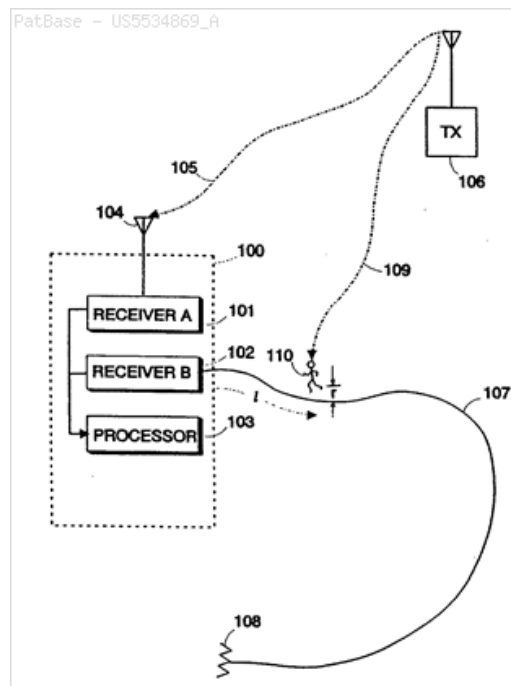
Probable Assignee: AURATEK SECURITY LLC
Assignee(s):(std): AURATEK SECURITY INC ; HARMAN ROBERT K ; INSTANTEL INC
Assignee(s): INSTANTEL INC KANATA ONTARIO CA ; HARMAN ROBERT KEITH ; AURATEK SECURITY LLC
Inventor(s):(std): HARMAN ROBERT KEITH ; HARMAN ROBERT K ; HARMAN ROBERT ; HARMAN KEITH
Inventor(s): HARMAN ROBERT KEITH KANATA ONTARIO K2L 1C9 CA
Agent(s): ADAMS PATENT AND TRADEMARK AGENCY; RIDOUT AND MAYBEE LLP; ADAMS THOMAS
Designated states: AT BE CA CH DE DK ES FR GB GR IT LU NL SE US
International class (IPC 8-9): G01S13/56 G01S13/88 G08B13/24 H01B11/00 H01Q13/20 (Advanced/Invention); G01S13/00 (Advanced/Non-invention); G01S13/00 G08B13/24 (Core/Invention)
International class (IPC 1-7): G01N27/72 G01S13/00 G01S13/88 G08B13/24 H01B11/00 H01Q13/20
CPC: G08B13/2497 H01Q13/203 G01S13/003 G01S13/56
European class: G01S13/56 G08B13/24C4 H01Q13/20B S01S13/00B
US class: 340/850 342/27

[Classification Explorer](#)

Cited documents: US5019822 A, US4612536 A, US3794992 A, US3163861 A, CA195744 A, CA1195744 A1, CA1169939 A1,

Forward Citations: WO9917401, WO9855972, WO9407222, WO08044156, WO05013223, US9332926, US8164509, US8159385, US7890060, US7522045, US7173577, US7019648, US6927745, US6832137, US6781051, US6252507, US5995017, US5726630, US5519381, US2012242337, US2011187578, US2011133891, US2008042864, US2005237267, US2005057431, US2004210350, US10181060, JP2013512824, FR2769135, EP2080036, EP1658596, EP1160583, EP1160583, EP1025620, EP0917694, EP0789253, EP0789253, EP0598624,

Abstract:
PCT No. PCT/CA91/00050 Sec. 371 Date Aug. 19, 1992 Sec. 102(e) Date Aug. 19, 1992 PCT Filed Feb. 20, 1991 PCT Pub. No. WO91/13415 PCT Pub. Date Sep. 5, 1991. An open transmission line system for locating an entity (110) moving along a defined pathway uses transmissions from a remote, independent transmitter (106), conveniently a commercial radio or television station. The system comprises two receivers, both tuned to the frequency of the transmission. One receiver (101) receives signals directly from the transmitter (106) by means of an antenna (104). The other receiver (102) receives the signal from the transmitter (106) by way of an open transmission line (107). A processor (103) processes the signals from the two receivers to detect the entity. The system may use transmissions at different frequencies from plural mutually-spaced transmitters (402; 403; 404) in order to provide reliability and to minimize the effects of multi-path signals. The system may employ a variable velocity open transmission line (507), comprising a central conductor means (1100) having a permeable central element (1202) carrying a helically wound conductor (1201). The inductance of the central conductor, and hence the propagation rate of the line is varied by means of a periodically varying signal (Vm) applied to the conductor. The entity causes different phase variations at the different propagation rates. The processor (103) compares these phase variations to locate the entity.



5) Family number: 59511651 (US2015167452A)

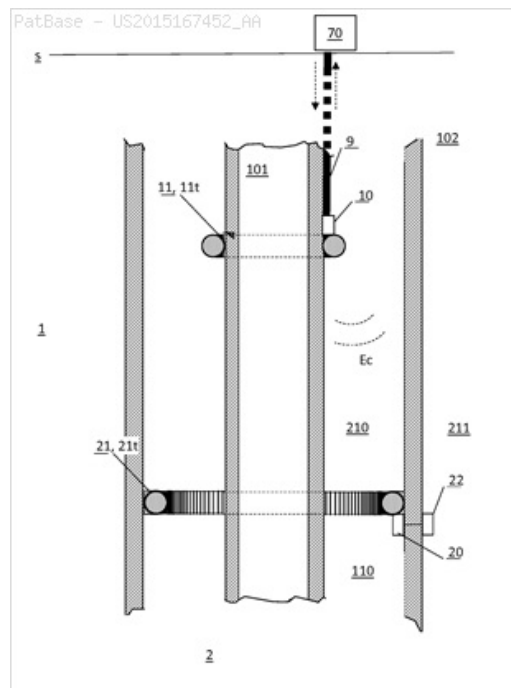
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Title: WELLBORE E-FIELD WIRELESS COMMUNICATION SYSTEM
Priority: NO20130001657 20131212 US20130105113 20131212 WO2014NO50229 20141210
US20170476317 20170331

Family:	Publication number	Publication date	Application number	Application date
	AU2014360952 AA	20160505	AU20140360952	20141210
	AU2014360952 BB	20170803	AU20140360952	20141210
	BR112016008607 A2	20170801	BR20161108607	20141210
	CA2929061 AA	20160428	CA20142929061	20141210
	GB2537249 A1	20161012	GB20160006184	20141210
	GB2537249 B2	20180926	GB20160006184	20141210
	MX2016004747 A1	20161114	MX20160004747	20141210
	MX359414 B	20180927	MX20160004747	20141210
	NO20131657 A	20150615	NO20130001657	20131212
	NO20180835 A	20150615	NO20180000835	20180615
	NO342721 B1	20180730	NO20130001657	20131212
	US2015167452 AA	20150618	US20130105113	20131212
	US2017204724 AA	20170720	US20170476317	20170331
	US9714567 BB	20170725	US20130105113	20131212
	US10030510 BB	20180724	US20170476317	20170331
	WO15088355 A1	20150618	WO2014NO50229	20141210

Probable Assignee: HALLIBURTON CO
Assignee(s):(std): HALLIBURTON AS ; HALLIBURTON CO ; SENSOR DEV AS ; SENSOR DEVELOPMENTS AS
Assignee(s): SENSOR DEVELOPMENT AS ; KONG FAN NIAN ; GODAGER OIVIND
Inventor(s):(std): OIVIND GODAGER ; FAN NIAN KONG ; GODAGER OYVIND ; GODAGER OIVIND ; KONG FAN NIAN
Inventor(s): GODAGER OEIVIND
Agent(s): FB RICE; FB RICE PTY LTD; PARLEE MCLAWS LLP; HAYNES AND BOONE LLP; FLUGES PATENT AS
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 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
International class E21B47/12 E21B47/13 H01Q1/04 H01Q1/36 H01Q13/08 H01Q9/16 (Advanced/Invention)
(IPC 8-9):
CPC: E21B47/122 H01Q1/36 E21B47/12 H01Q1/04 H01Q9/16 H01Q13/08
US class: 340/854.6
[Classification Explorer](#)
Cited documents: WO09151444 A1, WO0198632 A1, WO0118358 A1, US7878249 BB, US7256706 BB, US6070662 A, US5160925 A, US5008664 A, US4839644 A, US4806928 A, US4302757 A, US4057781 A, US3793632 A, US3079549 A, US2411696 A, US2354887 A, US2013168081 AA, US2011030946 AA, US2011011580 AA, US2010101772 AA, US2005099184 AA, US2002195247 AA, EP0678880 A1, EP0295178 A2,
Forward Citations: WO17146733, WO17127118, US9765614, US2016265347, US2015361787, GB2562387,

Abstract:
A wellbore E-field wireless communication system, the communication system comprising a first E-field antenna, and a second E-field antenna, wherein the first antenna, and the second antenna are both arranged in a common compartment, such as an annulus of a wellbore and further arranged for transferring a signal between a first connector of the first E-field antenna and a second connector of the second E-field antenna by radio waves.



6) Family number: 4957755 (US5096551A)

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Title: METALLIZED TUBULE-BASED ARTIFICIAL DIELECTRIC

Priority: US19900575749 19900831

Family:

Publication number	Publication date	Application number	Application date
US5096551 A	19920317	US19900575749	19900831

Probable Assignee: US NAVY

Assignee(s):(std): US NAVY

Assignee(s): THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY ; NAVY US GOV SECRETARY OF AS ; NAVY US SEC ; SECRETARY OF NAVY AS US GOV ; SECRETARY OF NAVY US

Inventor(s):(std): SCHNUR JOEL M ; SCHOEN JR PAUL E

International class (IPC 8-9): H01Q17/00 H05K9/00 (Advanced/Invention);
H01Q17/00 H05K9/00 (Core/Invention)

International class (IPC 1-7): H01G13/00 H01G9/00

CPC: H05K9/0083 H01Q17/004 Y10T428/12465

European class: H01Q17/00D H05K9/00B1 H05K9/00M4B

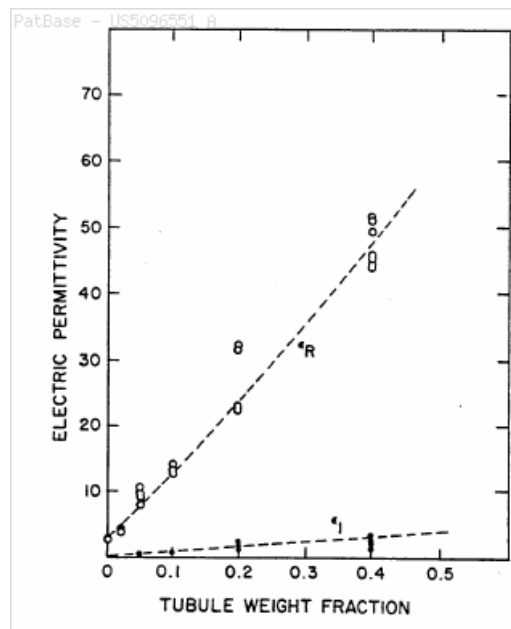
US class: 204/131 204/155 204/165 204/167 205/688 333/175 343/911R 361/301 361/301.1 428/611

[Classification Explorer](#)

Forward Citations: WO06088487, US8558311, US8358141, US8089152, US7829153, US7709115, US7679883, US7550963, US7425232, US7400490, US7332101, US7125476, US6949179, US6913828, US6660193, US6514575, US6479176, US6376393, US6375885, US6355166, US6303242, US6207313, US6001248, US5981095, US5928804, US5871625, US5817221, US5814414, US5786040, US2011165405, US2011147073, US2010225987, US2010178537, US2010173068, US2010171081, US2009302866, US2009176028, US2006196764, US2006163160, US2006076354, US2005285073, US2005233199, US2005213187, US2004026253, US2003232223,

Abstract:

Dielectric composites are produced by incorporating metallized particles having a high aspect ratio, such as metallized phospholipid tubules, in a polymeric and/or ceramic matrix and curing or sintering in an electric, magnetic, or flow field to align the particles. The resulting composites have extremely anisotropic properties and high dielectric constants. These composites can be used, for example, in EMI shielding and microwave applications.



7) Family number: 49149766 (US2011158575A)

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Title: EXTRAORDINARY LIGHT TRANSMISSION APPARATUS AND METHOD

Priority: US20090291201P 20091230 US20100980491 20101229

Family:

Publication number	Publication date	Application number	Application date
US2011158575 AA	20110630	US20100980491	20101229
US8731359 BB	20140520	US20100980491	20101229

Probable Assignee: CORNELL UNIV

Assignee(s):(std): CRAIGHEAD HAROLD G ; UNIV CORNELL ; WEBB WATT W ; ZHU PANGSHUN ; XU HUIZHONG

Assignee(s): CORNELL UNIV ; CORNELL UNIVERSITY

Inventor(s):(std): ZHU PANGSHUN ; CRAIGHEAD HAROLD G ; WEBB WATT W ; XU HUIZHONG

Agent(s): WILLIAM; BOND SCHOENECK AND KING PLLC; ALEK P

International class
(IPC 8-9): G02B6/02 G02F1/035 (Advanced/Invention)

CPC: G02B6/262 G02B27/58 G11B7/1387 B82Y35/00 G02B1/118 G01Q60/22 G02B6/107 G02B27/0087

US class: 385/129 385/3 385/3P

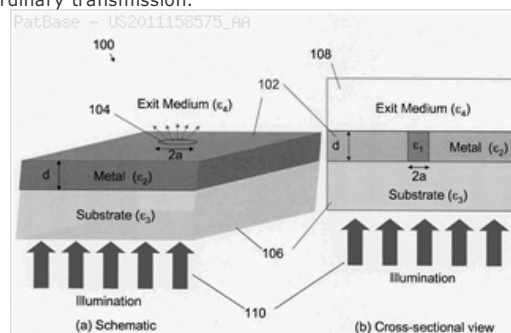
[Classification Explorer](#)

Cited documents: US8346039 BB, US7925122 BB, US7649677 BB, US7583882 BB, US7359598 BB, US7351374 BB, US6649901 BB, US6560006 BB, US6285020 BA, US6236033 BA, US5973316 A, US2008112713 AA, US2005031278 AA, US2002056816 AA,

Forward Citations: US9305573, US2015346477, US2015136985, US10205864, CN102540331, CN102540331,

Abstract:

An optical apparatus that provides extraordinary light transmission through a sub-wavelength-sized light transmitting region of the apparatus includes a core region of dielectric material having a complex dielectric constant, ϵ_1 , surrounded by a metallic cladding material having a complex dielectric constant, ϵ_2 , wherein the core region has a maximum dimension, $2a$, further wherein $2a$ is less than λ , where λ is the free-space wavelength of light incident on an input side of the apparatus, and further wherein $|\epsilon_1|$ is greater than $0.5|\epsilon_2|$, ϵ_1 has a positive real part, and ϵ_2 has a negative real part, whereby the incident light will be transmitted by and exit the apparatus from an output side with extraordinary transmission.



8) Family number: 47720783 (US2010305402A)

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Title: METHOD AND APPARATUS FOR MAGNETIC WAVEGUIDE FORMING A SHAPED FIELD EMPLOYING A MAGNETIC APERTURE FOR GUIDING AND CONTROLLING A MEDICAL DEVICE

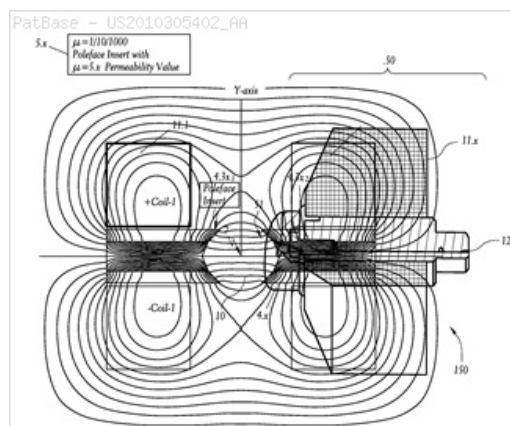
Priority: US20090475370 20090529 US20100707085 20100217 WO2010US36149 20100526

Family:

Publication number	Publication date	Application number	Application date
EP2436098 A1	20120404	EP20100781114	20100526
EP2436098 A4	20140827	EP20100781114	20100526
EP2536329 A2	20121226	EP20110745143	20110216
EP2536329 A4	20150909	EP20110745143	20110216
US2010305402 AA	20101202	US20090475370	20090529
US2010305429 AA	20101202	US20100707085	20100217
US8986214 BB	20150324	US20100707085	20100217
WO10138551 A1	20101202	WO2010US36149	20100526
WO11103129 A2	20110825	WO2011US24998	20110216
WO11103129 A3	20111110	WO2011US24998	20110216

Probable Assignee: MAGNETECS INC**Assignee(s):**(std): FARKAS LASZLO ; FARKAS LESLIE ; GANG ELI ; MARX BRUCE ; MAGNETECS INC ; SHACHAR YEHOShUA**Assignee(s):** MAGNETICS INC ; KNOBBE MARTENS OLSON AND BEAR LLP ; MAGNETECSINC**Inventor(s):**(std): FARKAS LASZLO ; FARKAS LESLIE ; GANG ELI ; MARX BRUCE ; SHACHAR YEHOShUA**Agent(s):** POLYPATENT; DUXBURY STEPHEN; KNOBBE MARTENS OLSON AND BEAR LLP; LAW OFFICES OF DANIEL L DAWES DAWES PATENT LAW GROUP; DANIEL L; MARCUS C; KING JOHN R; DAWES MARCUS 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 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**International class**
(IPC 8-9): A61B1/00 A61B19/00 A61B5/00 A61B5/02 A61B5/042 A61B5/0436 A61B5/044 A61B5/05 A61B5/053 A61B5/06 A61B5/107 A61M25/01 H01F3/00 H02K1/00 (Advanced/Invention); A61B5/0402 (Advanced/Non-invention)**CPC:** A61B5/0538 A61B5/0402 A61B5/06 A61B5/062 A61B5/1075 A61B5/6851 A61B5/6852 A61B5/6869 A61B5/6885 A61B1/00158 A61B5/05 A61B34/73 A61B2034/731 A61M25/0127**European class:** A61B1/00P5 A61B1/01 A61B5/053N A61B5/06 A61B5/06C1 A61B5/107H A61B5/68D1F A61B5/68D5 A61M25/01C8 K61B19/22H K61B5/0402**US class:** 335/297 335/297S 600/118 600/118P 600/424 600/424P 600/508[Classification Explorer](#)**Cited documents:** WO04006795 A1, WO03092496 A1, WO0121069 A1, US5462054 A, US2011319715 AA, US2011301497 AA, US2010152590 AA, US2009275828 AA, US2009231073 AA, US2009078571 AA, US2008161668 AA, US2008064969 AA, US2007299352 AA, US2007197891 AA, US2007197872 AA, US2007197869 AA, US2007118215 AA, US2007016131 AA, US2007016006 AA, US2006270903 AA, US2006150854 AA, US2004054279 AA, US2004019447 AA, US2003082056 AA, JP2007173580 A2, EP1421913 A1,**Forward Citations:** WO14072854, WO12098551, WO12082200, US9945433, US9763587, US9750570, US9655539, US9585586, US9308296, US9216050, US9095350, US9060778, US8684010, US8358130, US8027714, US7947001, US2017155847, US2017099086, US2015289939, US2015184704, US2013303878, US2013158476, US2012143127, US2011306896, US2011301497, US2010264925, US10199147, US10084963, JP6235601, JP2015533326, CN106133853, CN104768458, CN103607946, CN103223209, AU2015234606,**Abstract:**

A system that uses a magnetic aperture and electromagnets to configure a magnetic shaped field is described. In one embodiment, the system can be used for guiding a catheter or other devices through a patient's body. In further modification of the system, the **waveguide** field and field gradient is achieved by the use of varying the electromagnetic wave and its respective flux density axis. In one embodiment, one or more magnetic pole pieces (electromagnet cores) are configured with anisotropic permeability to control the shape of the resulting magnetic field. In one embodiment, the shape and permeability distribution in an electromagnet poleface is configured to produce the desired field distribution. In one embodiment, a number of electromagnets are arranged in a spherical pattern to produce a desired magnetic field in an enclosed spherical region. In one embodiment, a distal end of a catheter is provided with a plurality of magnets having different coercivity to allow improved control of the position and orientation of the distal end

**9) Family number: 57357878** (US2014252865A)

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Title: EXCITATION AND USE OF GUIDED SURFACE WAVE MODES ON LOSSY MEDIA**Priority:** US20130789525 20130307 US20130789538 20130307 NZ20140712566 20140228
WO2014US19477 20140228 US20180894145 20180212 US20180894176 20180212

Publication number	Publication date	Application number	Application date
AP201508677 A0	20150831	AP20150008677	20140228
AU2014226221 AA	20151022	AU20140226221	20140228

AU2014226221 AA	20140912	AU20140226221	20140228
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BR112015021835 A2	20170718	BR20151121835	20140228
CA2902460 AA	20150824	CA20142902460	20140228
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CN105164852 B	20180511	CN201480021978	20140228
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HK1218024 B	20190201	HK20160105833	20160523
ID201701197 A	20170217	ID2015P0005530	20140228
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NZ720048 A	20170630	NZ20140720048	20140228
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SG11201507166Y A1	20151029	SG20151107166	20140228
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US2014252886 AA	20140911	US20130789538	20130307
US2018180729 AA	20180628	US20180894145	20180212
US2018183128 AA	20180628	US20180894176	20180212
US9910144 BB	20180306	US20130789525	20130307
US9912031 BB	20180306	US20130789538	20130307
WO14137817 A1	20140912	WO2014US19477	20140228
ZA201505609 A	20171025	ZA20150005609	20150804

Probable Assignee: CPG TECHNOLOGIES LLC

Assignee(s):(std): CPG TECH LLC ; CPG TECHNOLOGIES ; CPG TECHNOLOGIES LLC

Assignee(s): CORUM JAMES F ; CORUM KENNETH L

Inventor(s):(std): CORUM KENNETH L ; CORUM JAMES F ; KENNETH L CORUM ; JAMES F CORUM

Agent(s): FB RICE; FB RICE PTY LTD; SMART AND BIGGAR; ESTUDIO CLARKE MODET AND CO CHILE LIMITADA; WILLIAMS POWELL; LIU SHEN AND ASSOCIATES; ACHMAD FATCHY; SPRUSON AND FERGUSON ASIA PTE LTD; THOMAS HORSTEMEYER LLP; DAURELIO MICHAEL J 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 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

International class (IPC 8-9): G01S13/02 G01S13/88 H01P5/00 H01Q H01Q1/00 H01Q1/04 H01Q1/36 H01Q9/30 H02J17/00 H02J3/00 H02J50/00 H02J50/12 H02J50/20 (Advanced/Invention); H01Q (Subclass/Invention)

CPC: H01P5/00 H01Q1/00 G01S13/88 H01Q1/04 H01Q1/36 H01Q9/30 H02J50/12 G01S13/0218

US class: 307/104 307/149 333/248

JP class F-Term: 5G063 5J046 5J046/AA03 5J046/AB06 5J046/AB07 5J046/BA03

JP class F-Index: H01Q1/04 H02J17/00/A H02J17/00/B H02J50/12 H02J50/20 H02J50/40

[Classification Explorer](#)

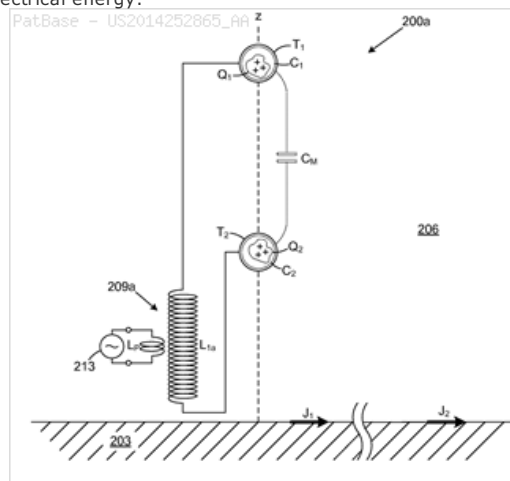
Cited documents: WO9529516 A1, WO9323907 A1, WO9313495 A1, WO13093922 A2, WO11097046 A2, WO10129369 A2, WO10111541 A2, WO10020813 A1, WO07146164 A2, WO0191238 A1, US9178504 BB, US9156364 BB, US9154966 BB, US9042812 BA, US9030363 BB, US8941448 BB, US8897697 BA, US8890472 BB, US8587490 BB, US8536738 BB, US851336 A, US8395282 BB, US8384247 BB, US8378524 BB, US8350769 BA, US8338991 BB, US8299936 BB, US8097983 BB, US8084889 BB, US8076801 BB, US8063717 BB, US7894770 BB, US7890053 BB, US787412 A, US7825543 BB, US7782264 BA, US77675112 BB, US7741734 BB, US7561096 BB, US7307589 BA, US725605 A, US723188 A, US7113138 BB, US6956535 BB, US6864849 BB, US685956 A, US685955 A, US685954 A, US685953 A, US685012 A, US6650556 BB, US6515878 BA, US649621 A, US6486846 BA, US645576 A, US6107791 A, US6104107 A, US6075498 A, US6025813 A, US5920261 A, US5835067 A, US5714917 A, US5301096 A, US5293308 A, US5155495 A, US5074489 A, US5045825 A, US4808950 A, US4751515 A, US3742511 A, US3742509 A, US3670247 A, US3582838 A, US3445844 A, US3219954 A, US3123767 A, US2921277 A, US2685068 A, US2017018852 AA, US2017005529 AA, US2015280444 AA, US2015207335 AA, US2015207334 AA, US2015145339 AA, US2015109181 AA, US2014319922 AA, US2014308901 AA, US2014252886 AA, US2014252865 AA, US2014104132 AA, US2014062813 AA, US2014015344 AA, US2013249737 AA, US2013099584 AA, US2013064311 AA, US2013064311, US2013049674 AA, US2013029595 AA, US2012249449 AA, US2012248889 AA, US2012169568 AA, US2012119575 AA, US2011169336 AA, US2011156494 AA, US2011156494, US2011133565 AA, US2011133564 AA, US2011080050 AA, US2011062916 AA, US2011049997 AA, US2010264748 AA, US2010260076 AA, US2010259111 AA, US2010194206 AA, US2008273201 AA, US2008122449 AA, US2007132489 AA, US2007035356 AA, US2006281423 AA, US2005128154 AA, US2005111533 AA, US2004263409 AA, US2004227667 AA, US1947256 A, US1691338 A, US1652516 A, US1452849 A, US1119732 A, RU2554723 C1, RU2548571 C1, RU2544380 C1, RU2533060 C1, RU2488208 C1, RU2488207 C1, RU2474031 C1, RU2473160 C1, RU2459340 C1, RU2423772 C1, RU2409883 C1, RU2366058 C1, RU2366057 C1, RU2342761 C1, RU2341860 C1, RU2340064 C1, RU2310964 C1, RU2273939 C1, RU2255406 C1, RU2183376 C1, RU2161850 C1, RU2143775 C1, JP6225481 A2, JP58066428 A2, JP58066428, JP50103642 U1, JP50103642 A2, JP50103642, JP2011087266 A2, JP2011087266, JP2010063213 A2, JP2010063213, JP2007244015 A2, GB8200, GB24421, GB2387969 B2, GB2330695 B2, GB2260456 A1, GB2215524 A1, GB20981, GB190608200 A, GB190214579 A, GB190113563 A, GB190111293 A, GB189824421 A, GB189620981 A, GB1471860 A, GB14579, GB13563, GB11293, EP2568528 A2, EP2221743 A2, EP1965223 A1, EP1898532 A2, EP0639301 A1, CN1251961 A, CA142352 A,

Forward Citations: WO17156305, WO17156285, WO17044321, WO17044306, WO17044299, WO17044297, WO17044296, WO17044295, WO17044289, WO17044288, WO17044287, WO17044286, WO17044285, WO17044284,

WO17044282, WO17044281, WO17044280, WO17044276, WO17044275, WO17044274, WO17044273, WO17044272, WO17044271, WO17044269, WO17044268, WO17044266, WO17044265, WO17044264, WO17044263, WO17044256, WO17044255, WO17044241, WO17044227, WO16195738, WO16040700, WO16040698, WO16040696, WO16040692, WO16040689, WO16040630, WO16040471, WO16040409, WO16039832, US9997040, US9973037, US9960470, US9941566, US9927477, US9923385, US9921256, US9916485, US9912031, US9910144, US9899718, US9893403, US9893402, US9887587, US9887585, US9887558, US9887557, US9887556, US9885742, US9882606, US9882436, US9882397, US9859707, US9857402, US9496921, US2017077755, US2017070098, US2017070094, US2017069189, US2017067945, US10205326, US10193595, US10193353, US10193229, US10177571, US10175203, US10175048, US10153638, US10148132, US10141622, US10135301, US10135298, US10132845, US10122218, US10103452, US10101444, US10084223, US10079573, US10074993, US10063095, US10062944, US10033198, US10033197, US10031208, US10027177, US10027131, US10027116, US10001553, JP2018516370, EP3291338, EP3192151, CN106797065, AU2016320690, AU2016320686,

Abstract:

Disclosed are various embodiments systems and methods for transmission and reception of electrical energy along a surface of a terrestrial medium. A polyphase **waveguide** probe that transmits electrical energy in the form of a guided surface wave along a surface of a terrestrial medium. A receive circuit is used to receive the electrical energy.



10) Family number: 53782900 (GB2512083B)

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Title: ANTENNA, ARRAY OR SYSTEM WITH A MATERIAL STRUCTURE SURROUNDING AT LEAST PART OF AN ANTENNA ELEMENT

Priority: GB20130005051 20130319

Publication number	Publication date	Application number	Application date
GB201305051 A0	20130501	GB20130005051	20130319
GB2512083 A1	20140924	GB20130005051	20130319
GB2512083 B2	20161026	GB20130005051	20130319

Probable Assignee: TISHIN ALEXANDR M

Assignee(s):(std): ALEXANDR METTALINOVICH TISHIN ; HALILOV SAMED V ; JELLEY LAB GMBH ; TISHIN ALEXANDR M

Assignee(s): JELLEY LABORATORIES GMBH

Inventor(s):(std): TISHIN ALEXANDR METTALINOVICH ; SAMED VEISALKARA HALILOV ; HALILOV SAMED VEISALKARA ; ALEXANDR METTALINOVICH TISHIN

International class (IPC 8-9): H01Q1/04 H01Q1/40 H01Q15/02 H01Q19/06 H01Q21/00 H01Q3/44 H01Q7/00 (Advanced/Invention)

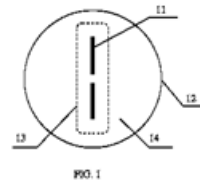
CPC: H01Q1/40 H01Q7/00 H01Q9/16 H01Q15/0086 H01Q21/06 H01Q19/06 H01Q1/04 H01Q3/44 H01Q15/02 H01Q21/00

[Classification Explorer](#)

Cited documents: WO09139561 A2, WO09131344 A2, US6914581 BA, US6549172 BA, US6369774 BA, US6063719 A, US5528254 A, US2012274147 AA, US2009027287 AA, US2005057423 AA, JP2002135036 A2, GB1555756 A,

Abstract:

An antenna comprises a feed port connected to a conductive element 11 which is at least partially encapsulated. The encapsulation 12 includes: a core part 13, formed with a material with a constant permeability, permittivity and conductivity, which is adjacent to the antenna conductor 11 and an external encapsulation part 14, formed with a material where at least two of the: permeability, permittivity and conductivity, increase in value in a direction extending from the surface of the core part 13 to the outer periphery of the external part 14. The ratio of the permeability and permittivity of the external encapsulation part 14 is constant and is equal to that of the environment local to the antenna. Also disclosed is an antenna which comprises a feed port connected to a conductive element which is at least partially encapsulated and where the encapsulation includes alternating first and second areas, wherein each of the first areas has higher values of permeability, permittivity and conductivity to those of the second areas. The compact antenna may operate at low frequencies and/or in arrays and be used in many applications such as: remote power transmission systems and operations requiring good signal penetration characteristics.

**11) Family number: 20805912** (US3067395A)

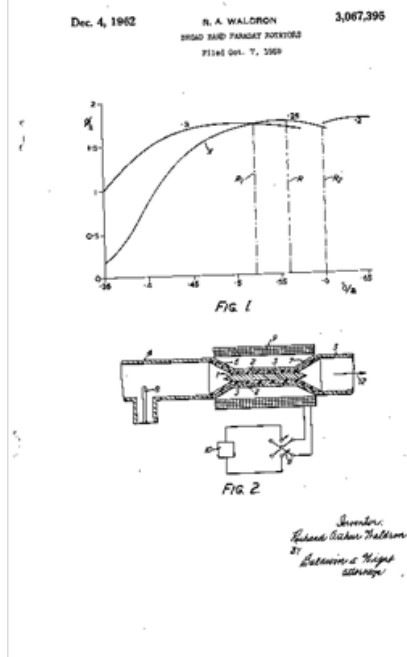
© PatBase

Title: BROAD BAND FARADAY ROTATORS**Priority:** GB19590018961 19590603**Family:**

Publication number	Publication date	Application number	Application date
GB882594 A	19611115	GB19590018961	19590603
US3067395 A	19621204	US19590844917	19591007

Probable Assignee: MARCONI WIRELESS TELEGRAPH CO**Assignee(s):(std):** MARCONI WIRELESS TELEGRAPH CO**Assignee(s):** MARCONI S WIRELESS TELEGRAPH CO LTD ; MARCONI S WIRELESS TELEGRAPH COMPANY LIMITED**Inventor(s):(std):** ARTHUR WALDRON RICHARD ; WALDRON RICHARD ARTHUR**International class**
(IPC 8-9): H01P1/17 (Advanced/Invention);
H01P1/165 (Core/Invention)**International class**
(IPC 1-7): H01P1/17 H03C7/00**CPC:** H01P1/174**European class:** H01P1/17E**US class:** 333/24.3 333/248 333/24R 333/33[Classification Explorer](#)**Cited documents:** US2963668 A, US2909738 A, US2607031 A,**Forward Citations:** US4458218,**Abstract:**

882,594. **Waveguide** Faraday rotators. MARCONI'S WIRELESS TELEGRAPH CO. Ltd. Sept. 8, 1959 [June 3, 1959], No. 18961/59. Class 40(8). In the Faraday rotator shown it is found that the ratio of the radius of the ferrite core 1 to the internal radius of the guide 2 may be optimized to produce a specific rotation which is independent of frequency over a useful working band. The term "specific rotation" is defined as the Faraday rotation per unit length of the device where the unit of length is the wavelength (λ_0) in an unbounded quantity of whatever material (e.g. air or solid dielectric 3) surrounds the core. The value of the radius ratio is chosen to give the required result at the working frequency for a given normalized guide radius a/λ_0 . The specification shows sets of curves connecting specific rotation with radius ratio for different values of a/λ_0 .

**12) Family number: 20638912 (US5675306A)**

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Title: Resonant electromagnetic field amplifier utilizing a magnetic LRC resonant circuit

Priority: US19950443658 19950518 EP19960913932 19960503 WO1996US06308 19960503
US19970853734 19970509 US19990260312 19990302

Family:

Publication number	Publication date	Application number	Application date
AU199656752 A1	19961129	AU19960056752	19960503
CA2221363 AA	19981118	CA19962221363	19960503
CA2221363 C	20061128	CA19962221363	19960503
DE69616781 D1	20011213	DE19966016781	19960503
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DE69632347 D1	20040603	DE19966032347	19960503
DE69632347 T2	20050512	DE19966032347T	19960503
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EP0826226 B1	20011107	EP19960913932	19960503
EP0887816 A2	19981230	EP19980114664	19960503
EP0887816 A3	19990421	EP19980114664	19960503
EP0887816 B1	20040428	EP19980114664	19960503
JP11505400 T2	19990518	JP19960534871T	19960503
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US5675306 A	19971007	US19950443658	19950518
US5993164 A	19991130	US19970853734	19970509
US6200102 BA	20010313	US19990260312	19990302
WO9636979 A1	19961121	WO1996US06308	19960503

Probable Assignee: DIAZ RODOLFO E

Assignee(s):(std): DIAZ RODOLFO E ; RODOLFO E DIAZ

Inventor(s):(std): DIAZ RODOLFO E

Inventor(s): RODOLFO E DIAZ

Agent(s): FETHERSTONHAUGH AND CO

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 LK LR LS LT LU LV MC MD MG MK ML MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG UZ VN

International class (IPC 8-9): B63H11/02 H01F38/08 H01F7/06 H02K44/02 H02K44/06 H02K44/08 H02K44/16 H02K49/06 H03F9/00 (Advanced/Invention); B63H11/02 (Advanced/Non-invention); H02K49/00 (Core/Invention); B63H11/00 (Core/Non-invention)

International class (IPC 1-7): H01F17/06 H01F38/08 H01F7/06 H02K44/00 H02K44/02 H02K44/06 H02K44/08 H02K44/16 H03F9/00

CPC: H02K44/06 H02K49/06 B63H11/025 B63H2021/173 H01F38/08 H02K44/02 Y02T70/5263

European class: H01F38/08 H02K44/02 H02K44/06 H02K49/06 L63H11/02B L63H21/17S Y02T70/52F

US class: 310/11 336/145 336/178 336/214 336/233 417/50 417/53

JP class F-Term: 5H644

JP class F-Index: H02K44/06

[Classification Explorer](#)

Cited documents: US5685698 A, US5668420 A, US5662982 A, US5594218 A, US5435761 A, US5333444 A, US5249990 A, US4818185 A, US4694888 A, US4392786 A, US3973878 A, US3837763 A, US3540047 A, US3285179 A, US3141413 A, US2997013 A, AU268435 A1, AT268435 B, AT268435,

Forward Citations: WO05029927, WO05029927, US9543640, US9240271, US8847846, US8847840, US8773312, US8686918, US8466766, US8132562, US7755008, US7535685, US7475551, US7408303, US7296417, US7293416, US7131286, US6623876, US6622713, US6595756, US6419538, US6146103, US6106236, US2016158841, US2015296571, US2014015508, US2011199174, US2008239672, US2008150472, US2007178850, US2006244385, US2006137360, US2006137359, US2006073024, US2006073023, US2006065157, US2004234379, US2004182088, RU2529006, EP1668966,

Abstract:

A method and apparatus to amplify the magnetic field in an electromagnetic circuit is provided. Amplification factors of several orders of magnitude may be obtained. The system is applicable to a number of different systems, including melt levitation and electromagnetic pumping and propulsion. One embodiment of the invention uses a non-conducting permeable core wound around a dielectric core. An alternating voltage source is connected to a solenoid which is wound around a section of the permeable core. The permeable core has a gap within which a flux concentrating cold crucible is provided. Melt levitation processing takes place within the cold crucible.

