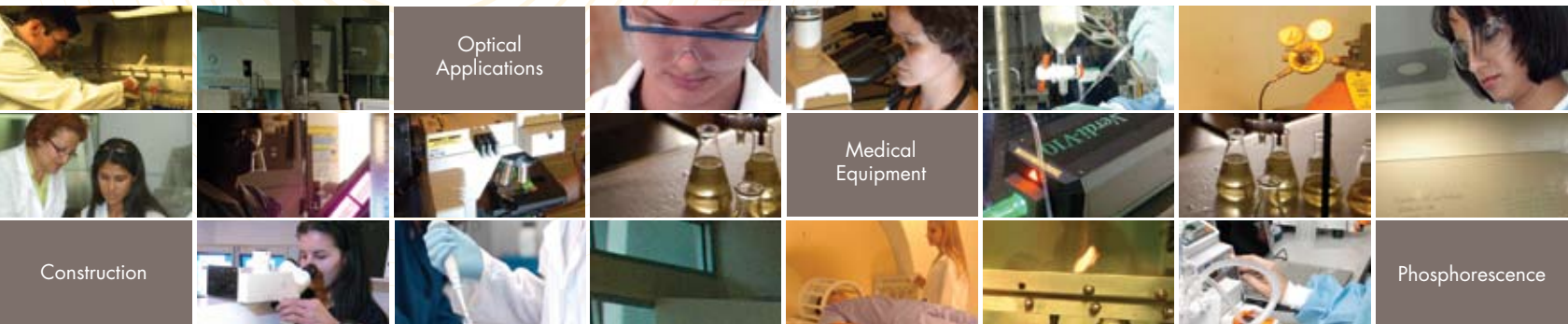


TECHNOLOGY AVAILABLE FOR LICENSING
UNIVERSITY OF PUERTO RICO



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Medical Methods, Devices and Diagnosis Purposes



TUNABLE GAMMA RAY SOURCE

Patent Status: Issued
U.S. Patent Number: 5,274,689
Issue Date: December 28, 1993

Abstract:

A source of gamma rays (a photon beam) at a single energy produced by the single-quantum annihilation of accelerated positrons with electrons of a target element. The photons are emitted predominantly in the forward direction and are accompanied by background radiation which can be differentially suppressed. The energy of the photons is determined by varying the energy of incident positrons. The photon beam is usable in materials research and analysis, medical diagnosis and therapy, and numerous other fields.

Summary:

This invention relates to the production of a photo beam having a single high energy which is tunable. The photon beam is usable in materials research and analysis, medical diagnosis and therapy, and numerous other fields. The invention includes an apparatus for providing a collimated photon beam (also termed gamma rays) having a single but variable energy. It provides a source of monoenergetic photons. The preferred target used in the invention is a heavy element such as uranium.

METHOD AND APPARATUS FOR REMOVING MATERIAL FROM A TARGET BY USE OF A RING-SHAPED ELLIPTICAL LASER BEAM AND DEPOSITING THE MATERIAL ONTO A SUBSTRATE

Patent Status: Issued
U.S. Patent Number: 5,405,659
Issue Date: April 11, 1993

Abstract:

Method and apparatus for depositing a thin layer of a target material onto a substrate by illuminating the target material with at least one ring-shaped elliptical laser beam so that a ring-shaped deposition plume is emitted from the target material, and positioning the substrate to receive the emitted material. Concentric, ring-shaped elliptical laser beams are formed by use of a multi-faceted negative axicon.

Summary:

This invention relates to the fabrication of a thin film onto a substrate, and more particularly relates to the deposition of a thin film by laser beam evaporation techniques.

NON-INFECTIOUS SIMIAN IMMUNODEFICIENCY VIRUS PARTICLES PRODUCED BY CELL LINE CRL 11393

Patent Status: Issued
U.S. Patent Number: 5,470,572
Issue Date: November 28, 1995

Abstract:

A cell line capable of producing SIV viral materials without producing infectious viral particles is disclosed. The SIV viral particles produced are immunogenic and non-infectious. The cell line and the products produced by the cell line are useful for diagnostic purposes and for immunization purposes.

Summary:

This invention is a pharmaceutical composition of matter comprising an immunogenic amount of SIV viral particles having the identifying characteristics of the SIV viral particles produced by the cell line CRL 11393, in a pharmaceutically acceptable carrier. It is also a kit for detecting the presence of SIV antibodies, for detecting the presence of HIV type 2 (HIV-2) antibodies, a method for inducing antibodies to SIV, a method for immunizing a subject against infection by SIV, a method for inducing antibodies to HIV-2, and a method of determining the sensitivity of SIV proviral DNA detection assays.

UNIPOLAR BLOCKING METHOD AND APPARATUS FOR MONITORING ELECTRICALLY CHARGED PARTICLES

Patent Status: Issued
U.S. Patent Number: 5,475,228
Issue Date: December 12, 1995

Abstract:

An apparatus for monitoring an electrically charged particle pulse includes at least one coil defining an opening therethrough. The coil generates a bipolar signal responsive to the electrically charged particle pulse passing through the opening, and the bipolar signal comprises a first portion having a first polarity and a second portion having a second polarity. Unipolar blocking diode connected to the coil passes the first portion of the bipolar signal having a first polarity and blocks the second portion of the bipolar signal having the second polarity. Monitoring Device connected to the unipolar blocking diode generates an output signal representative of a predetermined characteristic of the particle based upon the first portion of the bipolar signal which is passed by the unipolar blocking diode. In a preferred embodiment, the coil has a toroidal shape and comprises a plurality of windings electrically connected in parallel, and each of these windings comprises a plurality of conductive loops. The apparatus may also comprise a series of coils arranged so as to define a predetermined path for passage of the electrically charged particle through each respective opening of each respective coil.

Summary:

The method and apparatus of this invention are particularly adapted to detect and monitor individual charged particles and short pulses of charged particles. The apparatus is relatively compact, inexpensive, easy to construct, and easy to operate, maintain, and store.

CEMBRANOID INHIBITORS OF NICOTINIC ACETYLCHOLINE RECEPTORS

Patent Status: Issued
U.S. Patent Number: 6,204,289
Issue Date: March 20, 2001

Abstract:

The present invention relates to the use of cembranoids to inhibit nicotinic acetylcholine receptors.

Summary:

The invention refers to a discovery that cembranoids inhibit both peripheral and neuronal nicotinic acetylcholine receptors, the proteins that control skeletal muscle contraction, sympathetic and parasympathetic ganglia function and important communication pathways in the brain.

TOBACCO CEMBRANOIDS BLOCK THE EXPRESSION OF THE BEHAVIORAL SENSITIZATION TO NICOTINE AND INHIBIT NEURONAL ACETYLCHOLINE RECEPTORS

Patent Status: Issued
U.S. Patent Number: 6,489,357
Issue Date: December 3, 2002

Abstract:

The subject invention relates the use of cembranoids to inhibit nicotine addiction at the behavioral level. The subject host is sensitized to nicotine. Cembranoids are then administered to reduce such sensitization.

Summary:

The administration of cembranoids may be used to block the behavioral sensitization to nicotine in living organisms. The administration of such compounds does not cause any immediate adverse health consequences to the subject host.

ELECTRANALYTICAL APPLICATIONS OF SCREEN-PRINTABLE SURFACTANT-INVOLVED SOL-GEL GRAPHITE COMPOSITES

Patent Status: Issued
U.S. Patent Number: 6,231,920
Issue Date: May 15, 2001

Abstract:

A process for preparing sol-gel graphite composite electrodes is presented. This process preferably uses the surfactant bis(2-ethylhexyl) sulfosuccinate (AOT) and eliminates the need for a cosolvent, an acidic catalyst, a cellulose binder and a thermal curing step from prior art processes. Fabrication of screen-printed electrodes by this process provides a simple approach for electroanalytical applications in aqueous and nonaqueous solvents. Examples of applications for such composite electrodes produced from this process include biochemical sensors such as disposable, single-use glucose sensors and ligand modified composite sensors for metal ion sensitive sensors.

Summary:

A novel process for preparing sol-gel graphite composite electrodes, and the composite electrodes produced therefrom. This process is more environmentally friendly and compatible for organics and biomolecules immobilization, and offers an economical one-step fabrication of screen-printed modified electrodes.

APPARATUS AND METHOD FOR PULSED LASER DEPOSITION OF MATERIALS ON WIRES AND PIPES

Patent Status: Issued
U.S. Patent Number: 6,534,134
Issue Date: March 18, 2003

Abstract:

Methods and apparatuses are disclosed which allows uniform coatings to be applied by pulsed laser deposition (PLD) on inner and outer surfaces of cylindrical objects, such as rods, pipes, tubes, and wires. The use of PLD makes this technique particularly suitable for complex multicomponent materials, such as superconducting ceramics. Rigid objects of any length, i.e., pipes up to a few meters, and with diameters from less than 1 centimeter to cover 10 centimeters can be coated using this technique. Further, deposition is effected simultaneously onto an annular region of the pipe wall. This particular arrangement simplifies the apparatus, reduces film uniformity control difficulties, and can result in faster operation cycles. In addition, flexible wires of any length can be continuously coated using the disclosed invention.

Summary:

This relates to an apparatus that allows the use of Pulsed Laser Deposition (PLD) to deposit thin films on inner cylindrical surfaces, such as inner pipe or tubing walls. It also relates to new methods for applying thin film coatings on outer surfaces of cylindrical objects. The disclosed apparatus and methods rely on the PLD technique for the actual coating. These techniques are pertinent for coatings consisting of multicomponent inorganic materials, such as superconducting ceramics, or for materials which benefit from non-equilibrium growth conditions, such as diamond-like carbon (DLC).

METAL CUBANE STRUCTURE CONTAINED IN AN OCTANUCLEAR COMPLEX STABLE OVER SEVERAL OXIDATION STATES AND A METHOD OF PRODUCING THE SAME

Patent Status: Issued
U.S. Patent Number: 6,596,259
Issue Date: July 22, 2003

Abstract:

The present invention is directed to a complex comprising a redox-active metal cluster in a chemically inert shell. The inventive complex has the formula $M_8(\mu_4-E)_4(\mu-L)_{12}X$, where M is chosen from a transition metal, a lanthanide, an actinide and mixtures thereof; E is a chalcogenide; L is a bridging ligand; and X is a terminal ligand. The chemically inert shell enables the complex to exhibit structural stability over several oxidation states, and to exhibit reversible electrochemical reduction properties. A single reactor method of making this complex from simple starting materials is also disclosed. The active center further allows the octanuclear complex to be used in making supercluster assemblies that have electron transfer properties or in making contrasting agents for MRI applications, for example.

Summary:

The invention consists of a metal-based cubane structure contained in an octanuclear complex which can be used as an electron transfer agent. It is directed to a redox-active metal-based structure, protected inside an inert coating.

SAMPLING PROBE

Patent Status: Issued
U.S. Patent Number: 6,644,137
Issue Date: November 11, 2003

Abstract:

Sampling probes used to collect samples of a powder blend in pharmaceutical applications. While the invention is subject to a wide range of applications, it is specially suited for use in an apparatus or in a process; and it will be particularly described in that connection.

Summary:

The present invention is directed to an improved sampling probe capable of collecting samples from powder blends that segregate easily. It further provides a means of collecting samples by "grabbing", entrapping or enclosing a predetermined volume of powder blend from anywhere in the powder blender without having the blend flow into the probe.

SUBSTITUTED OCTANUCLEAR PYRAZOLATO CLUSTERS WITH ELECTRON TRANSFER AND MRI CONTRAST AGENT PROPERTIES

Patent Status: Issued
U.S. Patent Number: 7,052,677
Issue Date: May 30, 2006

Abstract:

The present invention is directed to an Fe(III) complex comprising a redox-active metal cluster in a chemically inert shell. The inventive complex has electron transfer and paramagnetic properties.

Summary:

This is a continuation-in-part of U.S. Patent No. 6,596,259. One particular use is as a contrast agent for magnetic resonance imaging (MRI). Electron-transfer agents are also useful for other applications such as oxidation catalysts, as molecular junctions, electron acceptors in chemosensors and photovoltaic systems. This invention is directed to a redox-active metal-based structure, protected inside an inert coating.

FABRICATION OF STABLE, WIDE-BANDGAP THIN FILMS OF MG,ZN, AND O

Patent Status: Issued
U.S. Patent Number: 7,081,371
Issue Date: July 25, 2006

Abstract:

A stable, wide-bandgap (approximately 6 eV) ZnO/MgO multiplayer thin film is fabricated using pulsed-laser deposition on c-plane Al₂O₃ substrates. Layers of ZnO alternate with layers of MgO. The thickness of MgO is a constant of approximately 1nm; the thickness of ZnO layers vary from approximately 0.75 to 2.5nm. Abrupt structural transitions from hexagonal to cubic phase follow a decrease in the thickness of ZnO sublayers within this range. The band gap of the thin films is also influenced by the crystalline structure of multiplayer stacks. Thin films with hexagonal and cubic structure have a band-gap values of 3.5 and 6 eV, respectively. In the hexagonal phase, Mg content of the films is approximately 40%; in the cubic phase Mg content is approximately 60%. The thin films are stable and their structural and optical properties are unaffected by annealing at 750o C.

Summary:

The invention relates to a method of fabricating a wide-bandgap thin film, and more specifically to a method of layering MgO and ZnO in a stable structure.

EFFICIENT AND CONVENIENT PROCEDURE FOR THE SYNTHESIS OF B-ALKYLATED OXAZABOROLIDINES DERIVED FROM EPHEDRINE AND NOREPHEDRINE

Patent Status: Issued
U.S. Patent Number: 7,109,345
Issue Date: September 19, 2006

Abstract:

A novel and efficient alkylation procedure of B-H1,3,2-oxazaborolidines derived from ephedrine and norephedrine has been established. Representative B-butyl- and B-methyl-1,3,2-oxazaborolidines were prepared in good yield and excellent purity by one pot treatment of the parent boraheterocyclic compound with the corresponding organolithium reagent and subsequent hydrolysis of the cyclic borohydride with anhydrous ammonium chloride.

Summary:

Catalyst or reagents are derived from ephedrine and norephedrine via alkylation of the parent boraheterocyclic compound. The reaction is performed by means of a one-pot synthesis. The invention achieves the first efficient and general approach to B-alkylated oxazaborolidines derived from ephedrine and norephedrine, by means of a general synthesis mechanism generally applicable to B-substituted oxazaborolidines.

GIANT REMNANT POLARIZATION IN LASER ABLATED SRBI2NB2O9 THIN FILMS ON PT/TIO2/SIO2/SI SUBSTRATES

Patent Status: Issued
U.S. Patent Number: 7,157,144
Issue Date: January 2, 2007

Abstract:

SRBI2NB2O9 (SBN) thin films are deposited on PT/TIO2/SIO2/SI substrates using off-axis pulsed laser deposition technique. Off-axis laser ablation avoids plasma damaging of the surface of SBN thin films and is favorable to grow films along the polarization axis (a-b plane). SBN thin films are grown at 350° C. substrate temperature, with 5mm away from the plasma focus , and annealed at 750° C. for 1 hour in oxygen ambient. These SBN thin films exhibited giant remnant polarization (Pr) of 50 $\mu\text{C}/\text{cm}^2$ with coercive field of 190 kV/cm. The fatigue endurance of these SBN thin films was measured at 400 kV/cm and showed minimal (<20%) polarization degradation of up to 1010 switching cycles. The leakage current density of SBN thin films was found to be about 2×10^{-7} up to an applied field of 100 kV/cm. The above-mentioned properties of off-axis deposited SBN thin films, makes it a good material for NVRAM devices.

Summary:

The invention relates to thin films which are suitable for use as memory devices, and more specifically to thin films having a giant remnant polarization.

CONDUCTING POLYMER

Patent Status: Issued
U.S. Patent Number: 7,160,575
Issue Date: January 2, 2007

Abstract:

Measurement in the frequency range 3mHz-106 of the dielectric characteristics of emeraldine base polyaniline dissolved in 1-methyl-2-pyrrolidinone (NMP) and cast into bulk free-standing polymer films shows features similar to those reported by others and which are a result of microphase separation into reduced and oxidized repeat units. However, upon confinement into the cylindrical pores, of average diameter 20 nm, of a porous membrane such features of microphase separation do not occur. The microphase separation observed in the bulk polymer is suppressed by strong pinning of the charge carriers due to interactions of the polymer with pore walls together with constrained chain packing and a non-uniform rate of evaporation of the NMP solvent from the pores. This enhances the bulk conductivity after doping by reducing the internal intra-chain disorder introduced by microphase separation.

Summary:

A confined polymer is prepared and its properties are measured and compared with the corresponding bulk polymer. The subject invention teaches improved methods for confining microphase separation in the insulating emeraldine base form of polyaniline (PANiEB).

METHODS FOR INHIBITING ANGIOGENESIS

Patent Status: Issued
U.S. Patent Number: 7,361,643
Issue Date: April 22, 2008

Abstract:

A method for inhibiting angiogenesis, including: administering a nucleoside, such as tunicamycin, in an amount effective to inhibit angiogenesis, to a patient in need of such treatment. A method for inhibiting angiogenesis, including: administering a nucleoside, which comprises glucosamine, in an amount effective to inhibit angiogenesis, to a patient in need of such treatment; wherein the nucleoside is administered for a period of time, subsequently the administration of the nucleoside is suspended for a period of time of at least about 1 week, and subsequently the administration of the nucleoside is resumed.

Summary:

The present invention relates to methods of inhibiting the growth of capillary endothelial cells which form new blood microvessels. It is directed to treating disease states, such as malignant and benign tumors, characterized by an abnormally high amount of angiogenesis.

BIODEGRADABLE POLYIMIDES

Patent Status: Issued
U.S. Patent Number: 7,427,654
Issue Date: September 23, 2008

Abstract:

Degradable polyimides are prepared in high yield by polymerizing a monomer containing at least two anhydride groups, and a monomer containing at least two primary amine groups and at least one acidic group, in bulk or in a solvent. The polyimides are very strong in terms of their mechanical properties, yet degradable under standard physiological conditions.

Summary:

This invention overcomes the problem of non-degradability of traditional polyimides, setting the stage for their use in a greater variety of applications, including, but not limited to, agricultural, biological, biomedical, pharmaceutical, and industrial. More specifically, degradable polyimides were synthesized which are useful in a variety of agricultural, biomedical, and industrial applications.

METHOD FOR SEPARATING NUCLEIC ACIDS AND NUCLEIC ACID PROBES

Patent Status: Issued
U.S. Patent Number: 5,059,294
Issue Date: October 22, 1991

Abstract:

An improved method and device for nucleic acid hybridization assay employing combined direct and alternating field electrophoresis are disclosed. In the method of the present invention, a sample is hybridized with nucleic acid probe and is contacted with a support medium where direct and alternating electric fields are applied. Under the influence of the electric fields, hybrid separates from non-specifically bound nucleic acid probe. The hybrid may be measured on the support medium itself as on a paper strip or in a cartridge containing support medium or may be blotted on an inert surface and then measured. The method and device are useful in the diagnosis of diseases. Kits are provided for assay of a large number of diseases.

Summary:

The devices and methods are useful for rapid diagnosis of disease. This invention provides a novel method and device for hybridization assay of nucleic acids. The method and device are especially suitable for rapid analysis of biological specimen for nucleic acid and for diagnosis of disease.

Optical Applications



ORGANIC CRYSTALLINE FILMS FOR OPTICAL APPLICATIONS AND RELATED METHODS OF FABRICATION

Patent Status: Issued
U.S. Patent Number: 5,746,823
Issue Date: May 5, 1998

Abstract:

A method for forming an optical device includes the steps of providing a first plate having a first face defining a recess, filling the recess with a material which can be crystallized, and covering the first face and the recess with a second plate having a second face, so that the second face is in contact with the first face and the material in the recess is completely enclosed by the first and second plates. The material in the recess is thereby protected from chemical and mechanical damage, as well as evaporation. In addition, the plates can be transparent, allowing the material in the recess to be visually monitored. A grown crystalline film packed in the cell can be used as a non-linear and/or electro-optical device.

Summary:

The methods and structures of the present invention provide an organic single crystal thin film which can be used in non-linear optical applications. The structure can be reproducibly fabricated with relatively little expense. Also, the thin film in the recess is protected from chemical and mechanical damage, as well as evaporation, by the two plates.

ORGANIC CRYSTALLINE FILMS FOR OPTICAL APPLICATIONS AND RELATED METHODS OF FABRICATION

Patent Status: Issued
U.S. Patent Number: 6,608,205
Issue Date: August 19, 2003

Abstract:

The present invention provides organic single crystal films of less than 20 μ m, and devices and methods of making such films. The crystal films are useful in electro-optical applications and can be provided as part of an electro-optical device which provides strength, durability, and relative ease of manipulation of the mono-crystalline films during and after crystal growth.

Summary:

This is a continuation-in-part of U.S. Patent No. 5,746,823. This invention provides improved methods and structures for organic crystalline films.

ORGANIC CRYSTALLINE FILMS

Patent Status: Issued
U.S. Patent Number: 6,198,530
Issue Date: March 2, 1998

Abstract:

A method for forming an optical device includes the steps of providing a first plate having a first face defining a recess, filling the recess with a material which can be crystallized, and covering the first face and the recess with a second plate having a second face, so that the second face is in contact with the first face and the material in the recess is completely enclosed by the first and second plates. The material in the recess is thereby protected from chemical and mechanical damage, as well as evaporation. In addition, the plates can be transparent, allowing the material in the recess to be visually monitored. A grown crystalline film packed in the cell can be used as a non-linear and/or electro-optical device.

Summary:

Improved methods and structures for organic crystalline films. The methods and structures of the present invention provide an organic single crystal thin film which can be used in non-linear optical applications.

Medical Equipment and Materials



LENS FOR DEPOSITING TARGET MATERIAL ON A SUBSTRATE

Patent Status: Issued
U.S. Patent Number: 5,557,471
Issue Date: September 17, 1996

Abstract:

A method of depositing a thin layer of a target material on a substrate is disclosed. The method comprises illuminating the material with at least one elliptical laser beam so that a desposition plume is emitted from the target material, then positioning the substrate to receive the material emitted by the deposition plume. An apparatus for practicing the method and a multi-faceted negative axicon for forming a plurality of concentric laser beams are also disclosed.

Summary:

This invention relates generally to the fabrication of a thin film onto a substrate, and more particularly relates to the deposition of a thin film by laser beam evaporation techniques. It provides a PLD method which substantially increases the area over which a substantially constant film thickness can be deposited using PLD. It also provides an apparatus with which the method can be practiced.

Scanning Force Microscope with High Frequency Cantilever

Patent Status: Issued
U.S. Patent Number: 6,145,374
Issue Date: November 14, 2000

Abstract:

An apparatus and a process for determining resonant frequencies for a cantilever used to measure tip-to-sample distances on a scanning force microscope. The process uses a non-linear equation and does not require knowledge of the shape of the cantilever to obtain the measured forces. As the tip-to-sample distance varies, the resonant frequency of the cantilever changes. Instead of measuring the positions of the tip and sample and the spring constant (k) of the cantilever, the present invention measures the resonant frequency at each data point. The shifts in frequencies contain the information necessary to reconstruct the force-distance curve.

Summary:

The present invention relates to a scanning force microscope used for studying surface properties of materials on size scales ranging from the atomic to the micron level. The scanning force microscopes are used in a broad range of fields where high resolution information regarding the surface region of a sample is desired. It also measures forces of interaction between the probe tip and the surface. The primary object of this invention is to obtain accurate force measurements using an SPM. The objectives of this particular invention are accomplished by the use of a non-linear equation to determine the resonant frequencies for the cantilever used to measure the tip-to-sample distance in the prior art devices. The invention allows for the study of the lowest frequency mode and the higher frequency modes, at once.

SCANNING FORCE MICROSCOPE TO DETERMINE INTERACTION FORCES WITH HIGH-FREQUENCY CANTILEVER

Patent Status: Issued
U.S. Patent Number: 6,452,170
Issue Date: September 22, 2002

Abstract:

An apparatus and method for determining a force of interaction between a sample and a tip on a cantilever. The method uses a non-Hookian equation to model the cantilever as it is deflected by the force of interaction between the sample and the cantilever tip. The sample is positioned at a predetermined distance from the cantilever tip such that the cantilever is deflected by the force of interaction. The positions of a plurality of points on the cantilever are then rapidly measured and the force of interaction from the measured positions is then obtained using a non-Hookian model that accounts for higher order vibrational modes of the cantilever.

Summary:

This invention relates to a scanning force microscope used for studying surface properties of materials on size scales ranging from the angstrom to the micron level. The invention involves a method for determining a force of interaction between a sample and a tip on a cantilever.

THE MICROSCOPIC MODEL OF SCANNING FORCE MICROSCOPE

Patent Status: Issued
U.S. Patent Number: 6,799,464
Issue Date: October 5, 2004

Abstract:

This is a new apparatus that serves to demonstrate the basic concepts of force measurements with the atomic force microscope.

Summary:

The invention relates to improving the measurement accuracy of a scanning force microscope (SFM) and, more particularly, to determining the resonant frequencies in a cantilever such as is used in an SFM.

Equipment for Handicaps



MERRY-GO-ROUND FOR WHEELCHAIRS

Patent Status: Issued
U.S. Patent Number: 6,171,198
Issue Date: January 9, 2001

Abstract:

A merry-go-round with a frame supported for rotation by a plurality of driven wheels, the merry-go-round having a space for a wheel chair and a space for a non-wheel chair bound person. Each separate space on the merry-go-round is associated with a respective crank assembly such that a person in that space can drive one of the driven wheels through a crank. A plurality of smaller wheels secured to the underside of the frame provides additional support for the merry-go-round. The person in the non-wheel chair bound space can stand on the frame, or in an alternate embodiment can sit on a chair. Because the merry-go-round has spaces for both wheel chairs and non-wheel chair bound people, both can use the merry-go-round at the same time.

Summary:

The invention comprises a merry-go-round including a rotatable platform defining at least one space for accommodating at least one individual wheelchair. A ramp is provided for loading the wheelchair. A plurality of wheels are coupled to the rotatable support to permit rotation of the rotatable support about an axis of rotation.

BALL RAMP ASSEMBLY

Patent Status: Issued
U.S. Patent Number: 6,227,981
Issue Date: May 8, 2001

Abstract:

The present invention contemplates an improved ball ramp assembly that enables even the most severely handicapped bowler to guide and accelerate a bowling ball toward the intended bowling pins. The bowling ramp assembly includes a ramp having a ball guide defining a ball path along the ramp, a base coupled to a proximal end of the ramp for supporting the ramp, a ball release coupled to the ramp for selectively controlling travel of the ball along the ramp, and a positioning assembly coupled to the ramp for adjusting the orientation of the ramp. The ball release includes a ball stopping member that moves between a ball blocking position and a ball releasing position. The positioning assembly includes at least one motor coupled to the ramp and a wheel located at the distal end of the ramp. The ball release and positioning assembly are both controlled by switches which may be located remotely from the ramp.

Summary:

Bowling ramp assemblies design for use by bowlers having limited use of their arms or hands. It was designed to help the disabled to bowl.

MECHANICALLY ASSISTED STANDING WHEELCHAIR

Patent Status: Issued
U.S. Patent Number: 6,533,304
Issue Date: March 18, 2003

Abstract:

The present invention provides a hydraulic powered wheelchair pivotable from a sitting position to a standing position with minimal user effort. The pivoting frame assembly includes a rigid horizontally arranged wheel support structure, a single vertical extending member secured to the wheel support structure and centered between the wheels, and a pivoting frame linkage assembly pivotably connected at the upper end of the vertically extending member. A hydraulic jack rests on the wheel support structures, and is connected at the other end to the seat support members of the pivoting assembly. A user of the wheelchair pivots a lever assembly to raise the jack, and thus raise the chair to the standing position. An electric buzzer system is integrated with the wheelchair, and an alarm informs the operator when the chair has reached the standing position.

Summary:

Portable wheelchair with a simplified frame construction which can be raised to a standing position with a minimal effort from the user. The wheel chair uses a hydraulic jack with a simplified frame construction. It also provides the wheelchair with a device to alert the user when the chair has reached the raised position.

Phosphorescence



LONG PERSISTENCE BLUE PHOSPHORESCENCE

Patent Status: Issued
U.S. Patent Number: 6,117,362
Issue Date: September 12, 2000

Abstract:

This invention relates to phosphors including long-persistence blue phosphors. Phosphors of the invention are represented by the general formula: $MO_{1-m}Al_2O_3 \cdot Eu^{2+}, R^{3+}$ wherein m is a number ranging from about 1.6 to about 2.2, M is Sr or a combination of Sr with Ca and Ba or both, R^{3+} is a trivalent metal ion or trivalent Bi or a mixture of these trivalent ions, Eu^{2+} is present at a level up to about 5 mol % of M , and R^{3+} is present at a level up to about 5 mol % of M . Phosphors of this invention include powders, ceramics, single crystals and single crystal fibers. A method of manufacturing improved phosphors and a method of manufacturing single crystal phosphors are also provided.

Summary:

The invention is also directed to methods for making phosphors in powder and ceramic form as well as single crystal phosphors. It is also directed to articles of manufacture comprising the phosphors of this invention.

LONG PERSISTENCE GREEN PHOSPHORESCENCE

Patent Status: Issued
U.S. Patent Number: 6,267,911
Issue Date: July 31, 2001

Abstract:

This invention relates to phosphors including long-persistence green phosphors. Phosphors of the invention are represented by the general formula: $M_{k-1-2x-2y} Al_2 O_4 \cdot 2xEu^{2+}, 2yR^{3+}$ wherein $k-1-2x-2y$, x is a number ranging from about 0.0001 to about 0.05, y is a number ranging from about x to about $3x$, M is an alkaline earth metal, and R^{3+} is one or more trivalent metal ions. Phosphors of this invention include powders, ceramics, single crystals and single crystal fibers. A method of manufacturing improved phosphors and a method of manufacturing single crystal phosphors are also provided.

Summary:

The invention is also directed to methods for making phosphors in powder, ceramic and crystalline form. It is also directed to articles of manufacture comprising the phosphors of this invention.

Another aspect of this invention is the discovery that application of a quenching step after sintering during the synthesis of the alkaline earth aluminate phosphors results in phosphors with significantly improved properties such as brightness and longer persistence.

LONG PERSISTENT PHOSPHORS AND PERSISTENT ENERGY TRANSFER TECHNIQUE

Patent Status: Issued
U.S. Patent Number: 6,953,536
Issue Date: October 11, 2005

Abstract:

The invention provides long-persistent phosphors, methods for their manufacture and phosphorescent articles. The invention also provides a method for generating a long-persistent phosphorescence at a selected color. The phosphors of the invention may be alkaline earth aluminates, alkaline earth silicates, and alkaline earth aluminosilicates. The phosphors include those activated by cerium. The phosphors also include those in which persistent energy transfer occurs from a donor ion to an acceptor ion, producing persistent emission largely characteristic of the acceptor ion.

Summary:

Also provides methods of making the phosphors of the invention in powder, ceramic, and single crystals form as well as methods for generating long persistence phosphorescence. The invention also provides phosphorescent articles.

Construction



BUILDING SYSTEM USING SHAPE MEMORY ALLOYS

Patent Status: Issued
U.S. Patent Number: 6,170,202
Issue Date: January 9, 2001

Abstract:

A system and method is described by which the structural integrity of a building or other structure can be increased and made more resistant to earthquake damage. A structural member may be incorporated into a building structure. At least a portion of the structural member is made of a material that undergoes a shape or phase transformation in response to energy applied. This member can alter the natural frequency of the building structure from a first natural frequency to a second natural frequency when the material undergoes the transformation to make destructive resonance less likely to occur.

Summary:

Relates to the field of construction and relates to building structures having improved structural integrity by incorporating an adaptive control system using materials whose properties can be dynamically controlled and more resistant to earthquakes. It provides and alternative method for structural vibration control.

Artificial Flavor



SOURSOP FLAVOR

Patent Status: Issued
U.S. Patent Number: 5,468,500
Issue Date: November 21, 1995

Abstract:

A natural tasting soursop flavoring composition prepared by combining methyl butanoate, methyl 2-butenate, butanoic acid, methyl hexanoate, methyl 2-hexenoate, hexanoic acid and linalool.

Summary:

This invention relates to a new flavoring agent capable of imparting to diverse foodstuffs the taste and aroma of soursop.

**TECHNOLOGY AVAILABLE FOR LICENSING
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