

LIST OF PATENTS 2016-2020

1. PATENT OSIM NR. RO132781 -B1 / 30.12.2020

TITLE RO/EN: Procedeu de detectie a defectelor senzorilor de curent ai unui convertor electronic trifazat / METHOD FOR DETECTING FAULTS IN CURRENT SENSORS OF THREE-PHASED ELECTRONIC CONVERTER, INVOLVES CHANGING VALUES OF LOOP CONTROLLER COEFFICIENTS, AND LOCKING FAULT DETECTION MECHANISM OVER REMAINING OPERATIONAL PHASES FOR SET PERIOD OF TIME

INVENTOR(S): RUBA MIRCEA

ABSTRACT: The method involves detecting a fault by continuously monitoring the difference between the measured instantaneous values and the current reference values on each phase. The difference is compared with a threshold value, when the difference exceeds the threshold value. The fault occurred is compensated by replacing the measured value with an estimated current value on the phase. The values of the control loop controller coefficients are changed, and the fault detection mechanism is locked over the remaining operational phases for a set period of time.

2. PATENT OSIM NR. RO130936 -B1 / 30.12.2020

TITLE RO/EN: Stand pentru studiul tribocoroziunii / STAND FOR TRIBOCORROSION STUDY, HAS TABLE WITH SUPPORT SUSTAINING TWO LINEAR-DISPLACEMENT MODULES

INVENTOR(S): VERMESAN HORATIU, CHIRA MIHAIL

ABSTRACT: The invention relates to a stand used for carrying out experimental research necessary to determine the degradation of the surfaces of metallic materials subjected to friction, in the presence of corrosive media. According to the invention, the stand comprises a table (1) with a support (2) sustaining two linear-displacement modules (3 and 4), an electrochemical cell (5) with a work piece (6) on which a counter-piece (15) moves driven by a gearmotor (7) with a connecting rod - crank mechanism (8 and 9), the parameters of tribocorrosion being measured by means of a working electrode (22), by means of some electrodes (24 and 25) mounted in an adjustable support (27) and by means of some tensometric sensors (23) mounted on a blade spring (13).

3. PATENT OSIM NR. RO129751 -B1 / 30.12.2020

TITLE RO/EN: Metoda si sistem de criptare de tip OTP bazate pe secvente aleatoare determinate din structuri ADN / OTP ENCRYPTION SYSTEM AND METHOD BASED ON RANDOM SEQUENCES DETERMINED BY DNA STRUCTURES

INVENTOR(S): BORDA MONICA ELENA, TORNEA OLGA, TEREBES ROMULUS, MALUTAN EMIL RAUL

ABSTRACT: The invention relates to an encryption method and system of the OTP (One-Time-Pad) type based on random sequences determined by DNA structures. The claimed encryption method consists in transmitting from an emitting part to a receiving part a secret key together with an encrypted message, the secret key being formed of a header consisting of a two-bit code (k1) which represents the manner

of forming the encryption key, of a three-bit code (k2) representing the number of IDs of DNA structures used to obtain the encryption key and of a sequence (k3) of IDs of the DNA structures used to obtain the encryption key (KADN). The claimed encryption system comprises two parts: a message emitting part and a receiving part, each of the two parts consisting of a DNA data base (BD ADN), either public or private, identical to both parts, an input data block (DI), a DNA key generator (Gen KADN), a convertor of the DNA key into binary key (Conv ADN-B), a modulo-2 summator (S), a block (Easterisk) for encrypting the input data which the secret key is generated with and a block (Dasterisk) for decrypting the secret key, the encrypted message and the secret key being transmitted from the emitter to the receiver, the receiver obtaining the input data by decrypting the secret key, and continuing with the generation of the DNA key which is used to decrypt the received message.

4. PATENT OSIM NR. RO132402 -B1 / 28.08.2020

TITLE RO/EN: Sistem adaptiv pentru asigurarea calitatii energiei in retelele de joasa tensiune / ADAPTIVE SYSTEM FOR ENSURING QUALITY OF ENERGY IN LOW-VOLTAGE NETWORKS CONSISTS OF A ACTIVE FILTER CONNECTED IN PARALLEL WITH THE ELECTRIC NETWORK

INVENTOR(S): SACERDOTIANU DUMITRU, NICOLA MARCEL, CIONTU MARIAN, IVANOV SERGIU, CHINDRIS MIRCEA DORIN, CZIKER ANDREI CRISTINEL, RADU ALEXANDRU, DUMITRESCU CAMIL-SORIN

ABSTRACT: The invention relates to an adaptive system for ensuring a certain quality of energy in low-voltage networks. According to the invention, the system consists of a first active filter (A) connected in parallel with the electric network and with a load (B) comprising a voltage inverter (101), three induction coils (108, 109 and 110) and three resistors (111, 112, 113) connected in the same point with the load (B), a measuring block (118) for the load currents, a measuring block (119) for the currents at the inverter output, a three-phased contactor (122) for connecting/disconnecting the system to/from the network and a second active filter (C) which comprises an inverter (102), a sinusoidal filter (104), three single-phase transformers (105, 106, 107) connected in series to the distribution network and a measuring block (115) for measuring the inverter output voltages.

5. PATENT OSIM NR. RO133200 -B1 / 28.08.2020

TITLE RO/EN: Sistem de fixare a sticlelor de plastic pentru aparate rotative de testare a etanseitatii / SYSTEM FOR FIXING PLASTIC BOTTLES IN ROTARY TIGHTNESS TESTING APPARATUS, HAS ONE BOTTLE FIXING DEVICE THAT IS LOCATED ABOVE CONVEYOR WHICH FEEDS ROTARY TABLE WITH BOTTLES AND OTHER BOTTLE FIXING DEVICE WHICH TAKES BOTTLES AWAY FROM TABLE

INVENTOR(S): UNGUREANU MIORITA, MARINA MARIAN GABRIEL, STOICOVICI DINU IOAN, UNGUREANU NICOLAE STELIAN

ABSTRACT: The system has a rotary bottle fixing device which consists of a metal drum on which a rubber bush is fixed by some fastening discs. The rubber bush has the profile and the grooves pitch identical with the belt of the linear fixing devices, in order to provide the bottle transfer to and from the rotary table. Two identical bottle fixing linear devices consists of two vertical drums on which a profiled rubber belt with textile insertion is mounted. The belt is provided on its external face with grooves sized

depending on the bottle shapes. One bottle fixing device is located above the conveyor which feeds the rotary table with bottles and the other bottle fixing device is located above the conveyor which takes the bottles away from the rotary table.

6. PATENT OSIM NR. RO128582 -B1 / 30.07.2020

TITLE RO/EN: Analizor miniaturizat pentru determinarea simultana a elementelor din microprobe lichide prin spectrometrie de emisie optica / MINIATURIZED ANALYSER WITH RHODIUM-FILAMENT EVAPORATOR FOR SIMULTANEOUS DETERMINATION OF ELEMENTS FROM LIQUID MICRO SAMPLES BY OPTICAL EMISSION SPECTROMETRY

INVENTOR(S): FRENTIU TIBERIU, PONTA MIHAELA-LUCIA, DARVASI EIUGEN, BUTACIU SINZIANA, CADAR SERGIU IULIAN, SENILA MARIN, MATHE ALEXANDRU, FRENTIU MARIA, PETREUS DORIN-MARIUS, ETZ RADU, PUSKAS FERENC, SULEA DORIN

ABSTRACT: The invention relates to a miniaturized analyser with rhodium-filament evaporator for simultaneous determination of elements from liquid micro samples, by optical emission spectrometry, employed as analytical instrument. According to the invention, the analyser comprises: a plasma micro torch (1) which is capacitively coupled, with excitation-source function, an electro-thermal evaporator (2) with rhodium filament for the evaporation of the liquid micro sample, provided with a teflon support (3), having a piston (4) for extracting the liquid sample from its chamber, and a filament supply source (5), a radio-frequency generator (6), a micro spectrometer (7) with a detector, with coupled charge, for measuring the element emission signal, a computer unit (8) and an electronic flow-meter (9) meant to adjust the argon flow-rate coming from a gaseous-argon cylinder (10), as a plasma support.

7. PATENT OSIM NR. RO133261 -B1 / 30.04.2020

TITLE RO/EN: Panou compozit multistrat si procedeu de obtinere a acestuia / MULTILAYER COMPOSITE PANEL HAS TWO RIGID PLATE-TYPE LAYERS, MEDIAN LAYER WHICH CONSISTS OF SPECIFIC AMOUNT OF FLAX FIBERS AND, FOR REST, BINDER OF WHITE CEMENT AND WATER IN EQUAL RATIOS

INVENTOR(S): TAMAS-GAVREA DANIELA-ROXANA, ISTOAN RALUCA, TIUC ANCURTA ELENA

ABSTRACT: The multilayer composite panel has two rigid plate-type layers consisting of 14-14.5% perlite, 28.2-28.7% white cement, 14-14.5% lime and 42.4-42.9% water. The percentage is expressed by mass, reinforced with a net made of flax fibers. The median layer consists of 19-21% flax fibers and, for the rest, a binder of white cement and water in equal ratios. The panel has a thickness of 50 mm, a resistance to bending of 0.126 N/mm², a resistance to compression of 0.013 N/mm², a heat conductivity of 0.072 W/m and high sound-absorbing properties.

8. PATENT OSIM NR. RO132234 -B1 / 30.03.2020

TITLE RO/EN: Sistem robotic paralel pentru recuperarea medicala a membrului superior / ROBOT FAMILY FOR MEDICAL RECOVERY OF UPPER LIMB, HAS FRAMEWORK WITH ROTATIONAL COUPLINGS

INVENTOR(S): GHERMAN BOGDAN GEORGE, PISLA DOINA LIANA, PLITEA NICOLAE, VAIDA LIVIU CALIN, CARBONE GIUSEPPE, PISLA ADRIAN, BANICA ALEXANDRU VLAD

ABSTRACT: The invention relates to robots used for the medical recovery of the upper limb, namely for the recovery of the forearm flexion motion from the elbow, of pronation/supination, flexion/extension and abduction/adduction motion of the palm. According to the invention, the robots are located on a framework (1) which supports an active rotation coupling (2) and the fixed-coordinate system of the robot OXYZ, the coupling (2) having the rotation axis along the axis OY of the coordinate system, where the drive is achieved by means of a rotary motor (3), the motion q_1 being performed by the rotation about the axis OY, thus the forearm flexion, a connection element (4) is positioned and fixed along the forearm up to the active rotation coupling (5) placed in the distal third of the forearm, and driven by a rotary motor (6) thereby achieving the pronation/supination motion by the motion q_2 , namely rotation about the axis Ox_1 , and the same rotation coupling (5) driven by the motor (9) positions the connection element (7) which supports the active rotation coupling (8) with the role of performing the adduction/abduction motion of the palm by the motion q_3 , namely the rotation about the axis $O2z_2$, and an element (10) supports the active rotation coupling (11) which, by means of the element (13) and socket (14) and driven by the rotary motor (12), leads to the flexion/extension motion of the hand, by the motion q_4 , namely by rotation about the axis $O3z_3$.

9. PATENT OSIM NR. RO132233 -B1 / 30.03.2020

TITLE RO/EN: Robot sferic pentru recuperarea medicala a zonei proximale la nivelul membrului superior / SPHERICAL ROBOT FOR MEDICAL RECOVERY OF UPPER LIMB PROXIMAL AREA, HAS ACTIVE COUPLINGS AND SPHERICAL MECHANISM

INVENTOR(S): VAIDA LIVIU CALIN, PLITEA NICOLAE, PISLA DOINA LIANA, CARBONE GIUSEPPE, GHERMAN BOGDAN GEORGE, ULINICI IONUT-MIHAI, PISLA ADRIAN

ABSTRACT: The invention relates to spherical robot system for the medical recovery of the upper limb proximal area, having three active couplings with a view to reproducing the abduction and flexion of the shoulder in horizontal and vertical plane, respectively, and reproducing the pronation of the forearm in vertical plane. According to the invention, the robot is a mechanism with three degrees of mobility, in modular construction, consisting of a spherical mechanism with two degrees of mobility which reproduces the movements on the surface of a sphere in the vertical plane YOZ and horizontal plane XOY, the two movements achieving the mobilization of the shoulder joint, where the gearmotor (1) transmits the rotary motion, from the level of the active coupling q_1 , by means of the rod (2), towards the guiding profile (3) which, in its turn, transmits the motion to the guide slide (4), said slide performing a translation motion in the plane YOZ by sliding on the guide (5), reproducing the flexion/extension of the shoulder, and the gearmotor (6) also transmits a rotation motion, from the level of the active coupling q_2 , by means of the rod (7), towards the guiding profile (5) and the rod (2) as shoulder supporting element, such that the guide (5) makes guide slide (4) slide in the plane XOY, together with the support (8) of the arm, the support (9) of the forearm and the support (10) of the hand, consequently on the guide (3) there being reproduced the abduction/adduction of the shoulder, and a mechanism with one degree of freedom, which reproduces a rotational motion about the axis Y in the

plane XOZ for which the gearmotor (11) transmits a rotation motion, from the level of the active coupling q3 to the toothed gear (12), which, by means of some rods (13), transmits the rotation about the axis Y to the attachment elements/ the support (9) of the forearm and the support (10) of the hand, thus reproducing the pronation/supination of the forearm.

10. PATENT OSIM NR. RO131721 -B1 / 30.03.2020

TITLE RO/EN: Masina sincrona cu reluctanta variabila in constructie modulara, pentru propulsia bicicletelor electrice / SYNCHRONOUS MACHINE WITH VARIABLE RELUCTANCE, IN MODULAR CONSTRUCTION, FOR ELECTRIC BICYCLE DRIVE

INVENTOR(S): JURCA FLORIN NICOLAE, INTE RAZVAN ALEXANDRU

ABSTRACT: The invention relates to an electric machine meant for electric bicycle drive. According to the invention, the electric machine, consisting of a stator and a modular rotor, comprises some exterior covers (1), some rotor modules (2) among which non-magnetic separation elements (6, 7, 8) are placed, and which are made of some magnetic elements (3, 4, 5) made of sheets, which close the magnetic field path within the electric machine rotor and ensure the assembling of the wheel spokes (10, 11, 12) fixed with a spring lock (13) and the stator consists of a magnetic core (14) and a three-phase winding (15), the rotor construction on axial and transverse direction allowing a variation of the machine reluctance as well as simple and fast maintenance operations.

11. PATENT OSIM NR. RO130186 -B1 / 28.02.2020

TITLE RO/EN: Analizor miniatural de mercur utilizand spectometria de emisie optica / MINIATURIZED MERCURY ANALYZER BASED ON OPTICAL EMISSION SPECTROMETRY IN CAPACITIVELY COUPLED PLASMA MICRO-TORCH AND GOLD FILAMENT MICRO-COLLECTOR

INVENTOR(S): FRENTIU TIBERIU, PONTA MIHAELA-LUCIA, DARVASI EIUGEN, MIHALTAN IRONIM-ALIN, MATHE ALEXANDRU, CADAR SERGIU IULIAN, SENILA MARIN, FRENTIU MARIA, PETREUS DORIN-MARIUS, ETZ RADU, PUSKAS FERENC, SULEA DORIN

ABSTRACT: The invention relates to a miniaturized mercury analyzer based on optical emission spectrometry in capacitively coupled plasma micro-torch and gold filament micro-collector used as analytical instrumentation. According to the invention, the analyzer consists of a capacitively coupled plasma micro-torch (1) with the role of excitation cell, a gold filament micro-collector (2) for concentrating the mercury vapours, a source (3) for supplying the micro-collector (2), a radiofrequency generator (4), a micro-spectrometer (5) with coupled load detector for measuring the mercury emission signal, a computing unit (6), a three-channel peristaltic pump (7), a cold vapour generator (8), some recipients (9, 10, 11 and 12) for the sample, for stannous chloride, for washing solution and for residue collecting and an electronic flowmeter (13) for argon.

12. PATENT OSIM NR. RO130512 -B1 / 30.01.2020

TITLE RO/EN: Dispozitiv de stergere a suprafetei sarmei de otel, dupa zincare / DEVICE FOR WIPING-OFF STEEL WIRES SURFACE AFTER ZINC-COATING

INVENTOR(S): TINTELECAN MARIUS

ABSTRACT: The invention relates to a device for wiping-off the surface of steel wire after thermal zinc-coating thereof in order to remove the excess zinc and prevent the formation of dull iron-zinc phases, which insures a high gloss coated layer. According to the invention, the device is mounted at a distance of 10 mm, at the most, from the surface of the molten zinc bath (1) and consists of a cylindrical body (6) through which cooling water circulates, on said body there being mounted by screwing another system (4) through which the wire passes, inside which a set (5) of wiping-off pads is placed, the excess zinc being removed by ensuring a certain screwing degree between the body (6) and the said system.

13. PATENT EPO NR. EP3300462-B1 / 11.12.2019

TITLE RO/EN: Structura de condensatoare pentru circuit de curent continuu / CAPACITOR DIRECT CURRENT (DC)-LINK ARRANGEMENT FOR HIGH CURRENT RIPPLE APPLICATIONS, HAS CERAMIC CAPACITOR ELEMENTS THAT ARE ARRANGED AND CONNECTED IN SIMILAR CURRENT PATH AND IN PARTICULAR IN SAME RESISTANCE CURRENT PATH

INVENTOR(S): TEODOSESCU PETRE DOREL, VINTILOIU IOANA, POP ADRIAN CORNEL, RUSU TIBERIU, POP-PIGLESAN FLORIN-ADELIN, DARAMUS MIHAI-ALEXANDRU

ABSTRACT: The arrangement (1) has a first terminal (2) and a second terminal (3) that are arranged on a printed circuit board (PCB) based substrate (5) Several ceramic capacitor elements (4) are connected to the first terminal and the second terminal. The ceramic capacitor elements are arranged and connected in a similar current path and in particular in the same resistance current path. The first terminal and the second terminal are split into a first path (7,7') and a second path (8,8') to form a portion of a corresponding contact area (6,6'). USE - Capacitor direct current (DC)-link arrangement for high current ripple applications, power conversion systems and electronic converters. ADVANTAGE - The mechanical properties of the capacitor DC-link arrangement are significantly improved. The capacitor portion damages are prevented or significantly reduced due to application in high vibration environments. The load symmetry of the ceramic capacitor elements is achieved. The cracking vibration immunity of the capacitor bank is achieved by special arrangement of the ceramic capacitor elements together with placing of the strengthening bus bars on the positive and negative copper paths.

14. PATENT OSIM NR. RO128582 -B1 / 29.11.2019

TITLE RO/EN: Dispozitiv pentru conversia zgomotului in energie electrica / DEVICE FOR CONVERSION OF NOISE TO ELECTRIC ENERGY CONSISTS OF A SUPPORT WHICH SUPPORTS A COLLECTING MATRIX, WITH SOME ELECTROMAGNETIC AND PIEZOELECTRIC TRANSDUCERS

INVENTOR(S): FILIP NICOLAE

ABSTRACT: The invention relates to an acoustic-electric device meant to collect the environmental noise made by the road traffic or by various technological equipments and to convert the same into low-power electric energy. According to the invention, the said device consists of a support (1) which supports a collecting matrix (2), with some electromagnetic and piezoelectric transducers (3), which convert the acoustic energy into electric signals, which are collected by means of some connections (4) and a multichannel system (5) to an accumulator (6), or to a consumer; the collecting matrix (2) comprising 11 transducers (3), each being provided with a convergence element (7), geometrically differentiated depending on the central frequency.

15. PATENT OSIM NR. RO131458 -B1 / 30.10.2019

TITLE RO/EN: Sistem de amplificare pentru presiuni inalte / AMPLIFICATION SYSTEM FOR HIGH PRESSURES consists a sonic generator (1) comprising a shaft

INVENTOR(S): CIUPAN CORNEL, CIUPAN EMILIA, PETRUS RARES ADRIAN

ABSTRACT: The invention relates to an amplification system for high pressures, which can be used in the construction of water-jet cutting machines or in other industrial applications requiring high pressures. According to the invention, the system consists of the following components: a. a sonic generator (1) comprising a shaft (4) with a cam or an eccentric (5) which, by a rod (6), actuates a membrane (7) of a membrane chamber (8), the membrane (7) being fixed with some screws (11), between a lower casing (9) and an upper casing (10); b. a sonic amplifier (3) made of a membrane chamber (12) having the membrane (13) coupled, by a rod (14), to a membrane (15) of a membrane chamber (16), where the membrane (13) is fixed by screws (17) between an upper casing (18) and a lower casing (19), the membrane (15) is fixed between the lower casing (19) of the chamber (12) and the casing (20) of the membrane chamber (16), by some screws (21), generating pressure waves in a liquid-containing flexible pipe (2) made of insertion rubber, or a rigid pipe made of metal, the pressure waves generating a reciprocating motion of the membrane (13), the connecting rod (14) generating the reciprocating motion of the membrane (15), the membrane chamber (16) together with the supply valve (22) and a nozzle (23) mounted on an orifice (24), by means of a threaded bush (25), making up the high-pressure pump (26) which generates the pulsating jet whose frequency is equal with the frequency of the pressure waves within the pipe (2); the pressure amplification is achieved due to the fact that the membrane (13) has a diameter (D) larger than the diameter (d) of the membrane (15), the pressure amplifying ratio being given by the square of the ratio between the diameters $(D/d)^2$.

16. PATENT OSIM NR. RO130017 -B1 / 30.09.2019

TITLE RO/EN: Dispozitiv optico-electric cu marcaje fiduciale pentru interfatarea cu sisteme tactile optice multi-punct / OPTO-ELECTRICAL DEVICE WITH FIDUCIAL MARKS FOR INTERFACING WITH MULTI-POINT TOUCH OPTICAL SYSTEM

INVENTOR(S): CRISAN SEPTIMIU

ABSTRACT: The invention relates to an opto-electrical device with fiducial marks meant for man-machine interfacing in multi-user multi-point touch systems carried out with optical methods and which have

characteristics and behaviours similar to the real objects generally found on the frontal panel of an apparatus, such as press buttons, displays, control elements. According to the invention, the device comprises a mechanical support (1) adapted to the size of a human hand, which comprises a matrix (2) of visible or infrared punctiform sources, supplied from a mobile voltage source (3), a guiding grid (4) which together with the matrix (2) allows the manufacture of optical marks, a series of slots (5) for detecting the incident light radiation, a photoelectric transducer assembly (6) which detects the light radiation and controls the selective switching on of the sources forming a fiducial mark, a pressure sensor (7) which permits the decrease of the energy consumption and the detection of the interaction between the user and the device, a switch (8) for starting the device and a plate (9) for diminishing parasite reflections.

17. PATENT OSIM NR. RO129923 -B1 / 30.08.2019

TITLE RO/EN: Modul de orientare cu structura modulara cu mai multe curburi / MODULE OF ORIENTATION WITH MODULAR STRUCTURE, HAVING VARIOUS CURVATURES, INTERMEDIATE ELEMENT AND ELEMENT FOR CHANGING CURVATURE

INVENTOR(S): VAIDA LIVIU CALIN, PLITEA NICOLAE, PISLA DOINA LIANA, GHERMAN BOGDAN GEORGE, SUCIU MARIUS CRISTIAN

ABSTRACT: The invention relates to a module of orientation of the distal end of a surgical instrument. According to the invention, the module comprises a plurality of elements (1a, 1b and 1c), i.e. an end element, an intermediate element and an element for changing the curvature, which allow the carrying out of some structures of orientation having various curvatures that can have various inclination angles determined by the number of intermediate elements (1b) and by the value of an angle, with the possibility of obtaining several curvatures whose orientation in relation to one another is defined by the value of an angle and which can have various diameters (d) and lengths (L).

18. PATENT OSIM NR. RO128979 -B1 / 30.07.2019

TITLE RO/EN: Procedeu si instalatie de separare electrostatica a unui amestec de materiale granulare neconductive / PROCESS AND INSTALLATION FOR ELECTROSTATICALLY SEPARATING A MIXTURE OF NON-CONDUCTIVE GRANULAR MATERIALS

INVENTOR(S): SAMUILA ADRIAN PAUN, BILICI MIHAI-ALEXANDRU, IUGA ALEXANDRU-IULIU, DASCALESCU LUCIAN DORUCALIN FLORENTIN LAUR

ABSTRACT: The invention relates to a process and an installation for electrostatically separating the components of a mixture of non-conductive granular materials, such as: wastes of plastic, mineral substances and others. According to the invention, the process consists in: introducing, with an adjustable supplying flow rate, a mixture comprising non-conductive granules of various types, into a triboelectrization region, electrically charging with contrary sign charge the two components the granular mixture consists of, by triboelectrization in fluidized bed, separating the non-conductive granules of the first type from those of the second type by displacing them in opposed directions, under the action of some forces exercised by an electrostatic field, fastening the granules of the first type on the surface of a non-conductive rotating cylinder and those of the second type on another non-

conductive rotating cylinder, extracting, from the triboelectrization area, the electrically charged granules which are fastened on the two cylinders, by rotating the same in opposite directions, detaching the granules from the surface of the two cylinders, under the action of the weight force or by means of some cleaning brushes and collecting them as products of the separation process and discharging, from the triboelectrization area, the mixture of the granules which cannot be separated. As claimed by the invention, the installation comprises an air chamber (10) made of some identical modules (11) for dividing and configuring the fluidized bed, an area (1) for triboelectrization in fluidized bed common with an area of electrostatic field generated by two electrodes (3 and 4) each connected to a high voltage source (5 and 6) of positive and negative polarity, respectively, two non-conductive rotating cylinders (7 and 8) associated to the two electrodes (3 and 4), two brushes (9) providing the granule detachment from the rotating cylinders (7 and 8), two granule collectors (15) and a third collector (16) of insufficiently electrized granules.

19. PATENT OSIM NR. RO131169 -B1 / 28.06.2019

TITLE RO/EN: Dispozitiv electronic pentru sisteme de iluminat cu LED / ELECTRONIC DEVICE FOR LED LIGHTING SYSTEMS

INVENTOR(S): TEODOSESCU PETRE DOREL, SABAU MADALINA SABINA, NORBERTY CSABA SZEKELY, BOJAN MIRCEA, MARSCHALCO RICHARD

ABSTRACT: The invention relates to an electronic device for controlling light emitting diodes - LED used in lighting systems. According to the invention, the device comprising a single electric energy conversion stage, without rectifier circuit on the input side, consists of an input filter (1), an alternating current converter (2), which consists of a capacitive divider (6) and a half-bridge electronic circuit (7) comprising two bidirectional electronic devices (8), enabling the direct connection to an alternating voltage source and the generation, at the output, of high frequency alternating voltage signals, which supply a resonance circuit LC (3), a LED load (4) and a control circuit (5) generating control signals for the converter (2).

20. PATENT OSIM NR. RO128666-B1 / 29.11.2018

TITLE RO/EN: Traductor electronic analogic pentru masurarea puterii in curent continuu / ANALOGUE ELECTRONIC TRANSDUCER FOR MEASURING POWER IN DIRECT CURRENT CIRCUITS, HAS CIRCUIT FOR GENERATING FILLING FACTOR WHICH IS ASTABLE FLIP-FLOP CIRCUIT BASED ON AMPLIFIER

INVENTOR(S): MUNTEANU RADU ADRIAN, DULF EVA HENRIETTA, FESTILA CLEMENT, MUNTEANU RADU, TODORAN GHEORGHE-ION

ABSTRACT: The invention relates to an analogue electronic transducer used for measuring power in direct current circuits. According to the invention, the transducer consists of a circuit for generating the filling factor which is an astable flip-flop circuit based on an amplifier (A2) with positive reaction through two resistors (R1 and R2) but also with negative reaction through two diodes (d1 and d2), two equivalent controlled resistors (r1 and r2) and a capacitor (C), the equivalent resistors (r1 and r2) corresponding to some bipolar transistors from two oppositely-connected optocouplers, the output voltage of the

differential amplifier (A2) controlling, in synchronism, two electronic switches (K1 and K2) connected with two low-pass filters (FTJ-1 and FTJ-2) which have the role of smoothing the rectangular waves generated by the switches (K1 and K2) and an amplifier (A1) which controls the current of the diodes (d1 and d2).

21. PATENT OSIM NR. RO131325-B1 / 30.10.2018

TITLE RO/EN: Metoda chimica de obtinere a filmelor epitaxiale de manganit de lantan dopat cu strontiu La_{0.66}Sr_{0.33}MnO₃ (LSMO) / CHEMICAL METHOD FOR PREPARING EPITAXIAL FILMS OF STRONTIUM-DOPED LANTHANUM MANGANITE La_{0.66}Sr_{0.33}MnO₃ (LSMO)

INVENTOR(S): NASUI MIRCEA, PETRISOR TRAIAN, MOS RAMONA BIANCA, MESAROS AMALIA, GABOR MIHAI SEBASTIAN, CIONTEA LELIA, PETRISOR TRAIAN

ABSTRACT: The invention relates to a chemical method for preparing epitaxial films of strontium-doped lanthanum manganite La_{0.66}Sr_{0.33}MnO₃, meant to be used in magnetic field sensors. According to the invention, the method consists in preparing a precursor solution by mixing metal sources, such as lanthanum acetylacetonates, manganese and strontium acetate which are separately dissolved in propionic acid, the resulting precursor solution being then concentrated by vacuum distillation, up to a concentration of 1...2 M, after which it is deposited by centrifugation onto SrTiO₃ monocrystalline substrates, at rotary speeds of 4000 rpm, for 60 s, the raw films being further subjected to a one-stage heat treatment, in air, at a heating rate of 5 degrees C/min, up to the temperature of 500 degrees C and a heating rate of 10 degrees C/min, up to the temperature of 1100 degrees C, they being maintained at this temperature for 2 h, after which they are cooled down to the ambient temperature at a rate of 10 degrees C/min, the resulting films exhibiting an advanced orientation degree.

22. PATENT OSIM NR. RO131110-B1 / 28.09.2018

TITLE RO/EN: Sistem janta cu motor electric incorporat pentru vehicule electrice / RIM WITH BUILT-IN ELECTRIC MOTOR SYSTEM FOR ELECTRIC VEHICLES

INVENTOR(S): JURCA FLORIN NICOLAE, RUBA MIRCEA

ABSTRACT: The invention relates to a system comprising a rim with built-in electric motor meant for electric vehicle propulsion. According to the invention, the system consists of two main elements: a rim and an electric motor, the rim consisting of an outer ring (1) made of non-magnetic materials, on which the tire is fixed, some outer covers (2), also made of non-magnetic materials, an inner disk (3) which has a double role: of fixing some modular rings (4 and 5), i.e. exterior and interior, respectively, and of fixing the system on the vehicle, the modular rings (4 and 5) providing, in their turn, the attachment of the motor magnetic cores made of modular elements (6 and 7), the electric motor being a motor with switched reluctance, in reversed construction, consisting of a rotor (8) made of electrotechnical-grade steel sheets in modular shape, and of a stator (10) made of modular magnetic poles also made of steel sheets, on which the electric circuit made of coils (12) wound about the salient poles is placed.

23. PATENT OSIM NR. RO131166-B1/ 30.08.2018

TITLE RO/EN: Actuator electromecanic cu dispozitiv electronic de comanda / ELECTRO MECHANICAL ACTUATOR WITH ELECTRONIC CONTROL DEVICE, MEANT FOR ROTARY ACTUATION OF ANY ELEMENT OR EQUIPMENT WHICH NEEDS MAXIMUM ANGULAR ROTATION

INVENTOR(S): BREBAN STEFAN, TEODOSESCU PETRE DOREL, NEAG ADRIANA VOICA, CHIRCA MIHAI

ABSTRACT: The invention relates to an electro-mechanical actuator with electronic control device meant for rotary actuation of any element or equipment which needs a maximum angular rotation of 180 degrees. According to the invention, the actuator consists of a rotor having one or more permanent magnets (9) with radial magnetization, mounted by means of a bush (18) clamping or adhered onto an axle (8) which is mounted on two bearings (7) each of them integrated into a plate (5, 6) of a material of high magnetic permeability, of windings (3) which are placed about some statoric poles (2), which are located on either side of the magnet/magnets (9) on the rotor and are mounted on some supports (4) of a high permeability material, fixed on the ends of the plates (5, 6) to form together a rigid assembly, of a circular torsion spring (16) mounted about the axle (8) of the rotor, the spring (16) having one end fixed on one of the plates (5, 6) and the other end fixed, through a connection element (13) to the axle (8) of the rotor, and of an electronic device which provides the winding supply and, implicitly, the rotor movement between two standing positions.

24. PATENT OSIM NR. RO127032-B1 / 30.05.2018

TITLE RO/EN: Dispozitiv de pornire la rece a motoarelor cu ardere interna alimentate cu biodisel / COLD START DEVICE FOR INTERNAL COMBUSTION ENGINES SUPPLIED WITH BIODIESEL FUEL

INVENTOR(S): MARIASIU FLORIN EMIL, BURNETE NICOLAE, VARGA BOGDAN OVIDIU

ABSTRACT: The invention relates to a cold start device for an internal combustion engine supplied with biodiesel fuel. According to the invention, the device has a system (1) for emitting ultrasounds (2) that are transmitted by means of an emitter (3) directly into the biocombustible mass from a filtration battery, thereby producing an increase of the temperature thereof, the system (1) for emitting the ultrasounds (2) being controlled by means of a control module (4) depending on the temperature necessary to obtain the optimal physical parameters (viscosity, density) of the biofuel, the temperature being measured by a sensor (7) placed on the case (5) of the filtration battery.

25. PATENT OSIM NR. RO127277-B1 / 30.05.2018

TITLE RO/EN: Metoda de generare a structurilor cinematice pentru roboti paraleli, si structura reconfigurabila obtinuta / MODULES FOR RECONFIGURATION OF PARALLEL ROBOTS, HAVE PAIR OF COMBINATIONS OF LINKAGES, LINKAGE HAS SPHERICAL JOINT, PRISM-SHAPED JOINT AND UNIVERSAL JOINT

INVENTOR(S): BRISAN CORNEL

ABSTRACT: The invention relates to a method for obtaining, by reconfiguration, a system of parallel robots having various mobility degrees and to some modules necessary for such a reconfiguration,

respectively. According to the invention, the method consists, in a first stage, in selecting the number of mobility degrees (M) of a robot, then selecting the number (b) of linkages of PSR type so that, finally, a number (a) of linkages of PSU type results based on the relation $M=a+b$, the reconfigurability of the structures being ensured by using the same mounting dimensions between the connection elements of some kinematic couples. The modules claimed by the invention have two combinations of linkages: a linkage (SPU) comprising three joints (1, 2 and 3), namely a spherical joint, a prism-shaped joint and a universal joint, and a linkage (SPR) comprising three joints (4, 5 and 6), namely a spherical joint, a prism-shaped joint and a rotation joint, where a reconfigurable joint can integrate only SPR linkages, only PSU linkages or combinations of PSR and PSU linkages, the linkages of the same type in a structure being identical.

26. PATENT OSIM NR. RO128489-B1 / 27.04.2018

TITLE RO/EN: Dispozitiv de sedimentare pentru obtinerea unor materiale poroase, sinterizate, graduale /
PROCESS AND DEVICE FOR PREPARING SINTERED MATERIALS OF GRADUAL POROUS STRUCTURE BY
GRAVITATIONAL SETTLING OF POWDERS

INVENTOR(S): VIDA-SIMITI IOAN, THALMAIER GYORGY, MOLDOVAN VALENTIN, SEHEL ARGENTINA
NICULINA, NASCA OVIDIU

ABSTRACT: The invention relates to a process and a device for preparing sintered materials of gradual porosity by gravitational settling of powders, intended to be used as filtering elements or porous membranes for various industrial and medical applications. According to the invention, the process consists in previously dispersing the metallic powder mass into distilled water, after which it is poured into the settling enclosure (2) containing distilled water and a dispergation agent, the settling taking place inside a mould (6), then the settled material is dried in an oven, for 1 h, at a temperature of 110 degrees C, and sintered in sintering furnaces at technological parameters depending on the nature of the sintered material and the desired sintering degree. The device, as claimed by the invention, consists of four settling enclosures in the form of glass columns (2) which are fixed and sealed between the lower cap (3) and the upper cap (4), and four moulds (6) with water draining orifices.

27. PATENT OSIM NR. RO130282-B1 / 30.03.2018

TITLE RO/EN: Metoda pentru modificarea dinamica a frecventei intr-o unitate aritmetica bazata pe
detectia on-line a erorilor / METHOD FOR DYNAMICALLY MODIFYING FREQUENCY IN AN ARITHMETIC
UNIT BASED ON ONLINE ERROR DETECTION

INVENTOR(S): JOAN FIGUERAS PAMIES, MICLEA LIVIU CRISTIAN, MOIS GEORGE DAN

ABSTRACT: The invention relates to a method for dynamically modifying the frequency during the operation of an arithmetic unit within a digital signal processing unit which has adders or multipliers comprised in the critical path. According to the invention, the method consists in dynamically modifying the frequency by the dynamic modification of the clock signal period in an arithmetic circuit (1), based on the detection of the errors due to the delays occurred in the circuit, by a detection contention circuit, using a base 7 residual code.

28. PATENT OSIM NR. RO128900-B1 / 28.02.2018

TITLE RO/EN: Dispozitiv de atenuare a vibratiilor, atasat pe sistemul mana-brat al operatorului uman /
DEVICE FOR DAMPING THE VIBRATIONS, ATTACHED TO THE HAND-ARM SYSTEM OF THE HUMAN OPERATOR

INVENTOR(S): POP AURORA FELICIA, ARGHIR MARIANA

ABSTRACT: The invention relates to a device for damping the vibrations, attached to the hand-arm system of the human operator. The device claimed by the invention consists of a support plate (3) which sustains a rubber sleeve (2) consisting of two parts secured at the ends with two screws (1), the plate (3) having the role of securing to the forearm, a vibration damper (6) secured between the plate (3) and another support plate (7) secured in another sleeve (9) by means of a screw (8), the vibration damper (6) being secured with an end to the plate (3) by means of a countersunk screw (4), and at the opposite end it is secured to the plate (7) by means of a support extender (5) which is welded to the plate (7).

29. PATENT OSIM NR. RO128681-B1 / 30.01.2018

TITLE RO/EN: Amplificator de impulsuri bipolare de curent in punte hibrida cu comanda simetrica /
BIPOLAR CURRENT PULSE AMPLIFIER IN HYBRID BRIDGE WITH SYMMETRICAL CONTROL

INVENTOR(S): ARSINTE RADU, PETREUS DORIN- MARIUS

ABSTRACT: The invention relates to a bipolar current pulse amplifier in hybrid bridge with symmetrical control. According to the invention, the amplifier has a bridge structure consisting of four switch elements (Q1, Q2, Q5, Q6) and some circuits related thereto and it is meant to supply current pulses on an inductive load (L), two of the bridge sides, comprising switch elements (Q1 and Q5), are replaced with some linear current sources made by some high speed operational amplifiers (X1 and X2), some resistors (R5 and R12) being used for detecting the current of those sources and providing the current reaction, and some resistors (R6 and R13) providing the factor for amplifying in current, a voltage comparator made by some transistors (Q3 and Q4) and some additional elements (R15, R16 and R17) provide the control of the switch elements (Q2 and Q6) in the bridge, some elements (R3, R4, C2 and R11, R10, C4, respectively) are used for controlling the power switches (Q2 and Q6, respectively), in the bridge, and some diodes (D1, D2, D3 and D4) are used for suppressing the energy appearing during the switching process, the sense of the current in a load (L1) being set out by the transistors (Q3 and Q4) which are used for comparing the voltages at the output of the amplifiers (X1 and X2) and decide the activation of one of the two switches (Q2 or Q6).

30. PATENT OSIM NR. RO127341-B1 / 30.01.2018

TITLE RO/EN: Metoda si arhitectura hardware pentru adresarea automata a imaginilor microarray /
METHOD AND HARDWARE ARCHITECTURE FOR AUTOMATIC MICROARRAY IMAGE ADDRESSING

INVENTOR(S): BELEAN IOAN BOGDAN, BORDA MONICA ELENA, TEREBES ROMULUS, MALUTAN RAUL EMIL

ABSTRACT: The invention relates to a method and hardware architecture for automatic microarray image addressing. The claimed method consists in determining a horizontal profile and a vertical profile of the image, applying a shock filter model and determining some points of inflection and tracing some pairs of horizontal and vertical lines allowing the selection and location of spots, eliminating the necessity of a workstation and a specialized software platform. The claimed hardware architecture consists in storing the horizontal and vertical profiles of the microarray image in a block RAM memory (8) using two information displacement registers (10 and 11) and a parallel processing block with two output registers (14 and 15) and dividing the profile data structure into blocks of size n , the same as the size of displacement registers (10 and 11), for uploading the data in the memory (8) into the displacement registers (10 and 11), passing and processing thereof by output registers (14 and 15) and storing the results in a RAM memory (9).

31. PATENT OSIM NR. RO 128372-B1 / 29.11.2017

TITLE RO/EN: Instalatie cu agitare pentru bioextractia metalelor grele din solurile poluate /
INSTALLATION WITH STIRRING BY SWINGING FOR HEAVY METALS BIO-EXTRACTION FROM POLLUTED
SOILS

INVENTOR(S): CIOCIORHAN CAMELIA SIMONA, MICLE VALER, ARDELEAN IOAN

ABSTRACT: The invention relates to an installation for extracting heavy metals from polluted soils. According to the invention, the installation consists of a cylindrical tank (7) supported on two rolling bearings and driven into a swinging-type oscillation movement, by means of a crank-equalizer-like quadrangle mechanism (2, 3, 4, 5, 6), a vat (8) with water, a gearmotor (1) and a system (10) for heating and temperature control, which, by means of a resistor of 1000 W connected in circuit with a microprocessor-plate, determines and maintains a temperature of 50 degrees C in the vat and of 35 degrees C in the cylinder.

32. PATENT OSIM NR. RO 129834-B1 / 30.10.2017

TITLE RO/EN: Procedeu de obtinere a unui material compozit de frictiune cu baza fier / METHOD FOR
OBTAINING IRON-BASED FRICTION COMPOSITE, E.G. FOR BRAKE PADS, INVOLVES SCREENING IRON,
COPPER AND TITANIUM DIOXIDE POWDERS WITH PARTICLE SIZE LESS THAN 10 MICROMETERS,
HOMOGENIZING BY GRINDING, COMPRESSING IN MOLD AND SINTERING

INVENTOR(S): MERIE VIOLETA VALENTINA, CANDEA VIOREL CONSTANTIN, POPA CATALIN OVIDIU, POPA
ANGELA ENUTA

ABSTRACT: The invention relates to a process for obtaining an iron-based friction composite material intended for car brake pads or other industrial friction applications. The process according to the invention starts by screening the iron, copper and titanium dioxide powders having a particle size of less than 10 microns, after which the powder mixture dosed according to the formula is homogenized by mechanical grinding for 15 minutes in a planetary ball mill having a plate rotary speed of 1000 rpm and a container rotary speed of 500 rpm. The homogenized mixture is then compressed biaxially in a closed mold, using a compacting pressure of 600 MPa and in the final stage the raw pressed pieces are sintered

under vacuum, at a pressure of 10⁻⁵ torr, at a sintering temperature of 1050 degrees C maintained for 30 minutes.

33. PATENT OSIM NR. RO129163-B1 / 30.10.2017

TITLE RO/EN: Material compozit de frictiune cu baza fier / IRON-BASED COMPOSITE FRICTION MATERIAL CONTAINS IRON, COPPER, GRAPHITE AND NICKEL

INVENTOR(S): CANDEA VIOREL CONSTANTIN, MERIE VIOLETA VALENTINA, POPA CATALIN OVIDIU, POPA ANGELA ENUTA

ABSTRACT: The invention relates to a composite material made of a Fe-based metal matrix reinforced with ceramic particles, the material being meant to be employed in manufacturing friction pads for cars or in industrial friction applications due to its increased wearing resistance, and average friction coefficient, while the mechanical and tribological properties are maintained constant at high temperatures specific to the operation of friction products. According to the invention, the material has the following composition: 63% Fe, 10% Cu, 7% graphite, 12% Ni, 6% TiO₂ and 2 % alumina, the percentage being expressed by weight.

34. PATENT OSIM NR. RO127453-B1 / 30.08.2017

TITLE RO/EN: Sistem de control al traficului vehiculelor pe o banda, si metoda de exploatare / METHOD AND SYSTEM FOR CONTROLLING TRAFFIC OF ROAD VEHICLES ON ONE LANE BY LIMITING ADMISSIBLE MAXIMAL SPEED ON ONE LANE

INVENTOR(S): LETIA TIBERIU STEFAN, CIUPAN CORNEL

ABSTRACT: The invention relates to a method and a system for controlling the traffic of road vehicles on one lane. The claimed method consists in limiting the admissible maximal speed on one lane, when the speed of the vehicle entering the controlled section is higher than the admissible maximal speed by commanding to a mechanical system the application of an obstacle and the emission of some warning signals, and then the flow of cars on one lane is subjected to a control by limiting the number of vehicles passing through the control section by using the traffic lights in parallel with the obstacle and, in order to control the flows of vehicles on two adjacent lanes to be joined in a single lane, there are used two mechanical systems and two traffic lights, one for each lane, and there is permitted the access of vehicles in an equitable manner given by a ratio of the flows on each lane, said ratio being determined by means of a system which determines the time of passage between two cars for each lane. The claimed system comprises a control equipment (11) and a mechanical system which imposes an obstacle made either by means of an asymmetrical cylinder (6) mounted in a channel (5) which is cut in a control section crosswise on a lane (2), said cylinder (6) being rotated by a motor (8) and producing or cancelling a dislevelment (7), or by means of a hydraulic device (29) actuating an obstacle in the shape of a trap mounted on the lane in the control section.

35. PATENT OSIM NR. RO128055-B1 / 28.07.2017

TITLE RO/EN: Dispozitiv si metoda de testare a dintilor rotilor dintate asimetrice / DEVICE FOR TESTING TEETH OF ASYMMETRIC GEAR WHEELS, COMPRISES BASE PLATE, TEST SPECIMEN SUPPORT, FASTENING YOKE, TEST SPECIMEN, RACK SUPPORT AND RACK

INVENTOR(S): LOBONTIU MIRCEA, RAVAI NAGY SANDOR

ABSTRACT: The invention relates to a device and a method for testing the teeth of asymmetric gear wheels, intended to be employed in determining the maximal load force of a tooth of asymmetric gear wheel under static conditions in the stage of designing the gear wheel in the assembly of a reduction unit. According to the invention, the device is mounted on a materials testing machine (8) and comprises a base plate (1), a test specimen support (5), a fastening yoke (6), a test specimen (4), a rack support (2) and a rack (3). The teeth testing method, as claimed by the invention, has the following stages: manufacturing the test specimen (4), placing the device (7) into the materials testing machine (8), placing the test specimen (4) in the support (5), driving the device (7) for applying a stress on the tooth, measuring the variation of the tangential testing force F_{ta} and of the tooth deformation up to the moment of the breaking thereof, removing the used test specimen (4) from the device (7), removing the device (7) from the materials testing machine (8) and processing the obtained data.

36. PATENT OSIM NR. RO130450-B1 / 30.03.2017

TITLE RO/EN: Reductor magnetic cu raport de transmisie in trepte / MAGNETIC REDUCTION GEAR WITH STEPPED TRANSMISSION RATIO USED FOR TRANSFERRING TORQUE AND ROTARY SPEED OF A ROTATING ELECTRICAL MACHINE

INVENTOR(S): FODOREAN DANIEL

ABSTRACT: The invention relates to a magnetic reduction gear with stepped transmission ratio used for transferring torque and rotary speed of a rotating three phase electrical machine towards a certain consumer. According to the invention, the reduction gear comprises an inner rotor, consisting of : ferromagnetic core (1) of electrotechnic-grade steel sheets and permanent magnets (2) made of rare earth, an inner air gap (3), a fixed part, consisting of some ferromagnetic teeth (4) of level L1 made of electrotechnic-grade steel, an air gap (5) being provided between the ferromagnetic teeth (4) and an envelope (6) of non-magnetic material whose length exceeds the length of the active part of the reduction gear and is used for guiding some supplemental teeth (4) of level L2, L3 and L4 which will be inserted, upon necessities, into the air gap (5), an outer air gap (7) placed between the fixed part and the outer rotor of the magnetic reduction gear, an outer rotor consisting of : some permanent magnets (8) made of rare earth and ferromagnetic core (9) of electrotechnic-grade steel sheets and an outer mobile device of the reduction gear, consisting in its turn of the supplemental ferromagnetic teeth (4) of level L2, L3 and L4, the length of each level being different, the teeth being attached to some non-magnetic rings (10) which have different diameters, they are placed in different planes and are used for guiding the supplemental teeth (4) of level L2, L3 and L4 in the air gap (5) of the fixed part of the reduction gear.

37. PATENT OSIM NR. RO130062-B1 / 28.02.2017

TITLE RO/EN: Procedeu si material compozit pentru realizarea placilor sintetice ornamentale / PROCESS AND COMPOSITE MATERIAL FOR MANUFACTURING SYNTHETIC ORNAMENTAL PLATES

INVENTOR(S): SABAU EMILIA, BALC NICOLAE OCTAVIAN, BERE PETRU PAUL

ABSTRACT: The invention relates to a process for manufacturing synthetic ornamental plates to be used in constructions. According to the invention, the process consists in applying a usual stripping layer on a mould made of silicon rubber, after which a first mixture consisting of 60% polyester matrix and 40% calcium carbonate is poured so as to cover the height of the mould asperities and it is maintained until reaching the gel point at the room temperature, further on a reinforcing mixture comprising 30% sand, 30% minced wastes of glass fiber and 40% polyester matrix, mixed for 20 min. is poured and afterwards the mould, filled and leveled, is transferred into a polymerization oven where it is kept at the temperature of 60 degrees C for 2h, and, after the mould stripping, a compact composite material results.

38. PATENT OSIM NR. RO130354-B1 / 30.12.2016

TITLE RO/EN: Procedeu de obtinere a unei pulberi nanostructurate de tipul permalloy (supermalloy)/rhometal / NANOSTRUCTURED POWDER OF PERMALLOY (SUPERMALLOY) RHOMETAL TYPE AND PROCESS FOR PREPARING THE SAME

INVENTOR(S): CHICINAS IONEL, MARINCA TRAIAN FLORIN, POPA FLORIN, NEAMTU BOGDAN VIOREL

ABSTRACT: The invention relates to a composite nanocrystalline powder of pseudo "core-shell" type and to a process for preparing the same, the powder being meant to be used for manufacturing magnetic cores, with soft magnetic material properties and high electric resistivity, to operate in alternating current at medium frequencies. The claimed powder consists of composite particles which have a core of Permalloy type alloy - Ni₃Fe or Supermalloy - 79Ni16Fe5Mo, as mass percentage, with nanocrystalline structure, and a quasi-continuous outer layer of fine Fe carbonyl particles bonded to the Permalloy particles by means of a specific thermal treatment, after which an interface 64Fe36Ni, as mass percentage, is formed between the core and the outer layer. The claimed process consists in preparing a mechanical mixture formed of nanocrystalline powder of Ni₃Fe of large granulation and Fe carbonyl powder of small granulation, ranging between 6...9, with a mass ratio ranging between 92/8...60/40, the necessary amount of mixture being subjected to wet or dry homogenization, compacted at a pressure ranging between 300...600 MPa, followed by a thermal treatment in argon protected atmosphere, for one hour, at a temperature of 400...550 degrees C, and then the powder mixture is slightly ground in a mortar and screened through a sieve having a mesh size of 40.

39. PATENT EPO NR. EP2869433-B1 / 21.09.2016

TITLE RO/EN: Masina sincrona cu flux axial si magneti permanenti cu concentrare de flux magnetic / AXIAL FLUX PERMANENT MAGNET ELECTRICAL MACHINE FOR USE WITH E.G. WIND TURBINE, HAS STATOR OR ROTOR INCLUDING DISCRETE WINDINGS THAT ARE MOUNTED RADIALLY AT EQUAL DISTANCE, WITH HOLLOW SPACES AND ON INNER WINDINGS SUPPORT

INVENTOR(S): BREBAN STEFAN, MESTER VICTOR, OPREA CLAUDIU ALEXANDRU

ABSTRACT: The machine has a rotor arranged coaxial with a stator and mounted to allow rotation relative to the stator. One of the rotor and the stator includes permanent magnets (24) mounted radially with alternating NS-SN-NS circumferential magnetization and intercalated with magnetic poles (22). The stator or rotor includes discrete windings (10) that are mounted radially at equal distance, on a stator or rotor outer windings support, with hollow spaces and on an inner windings support. A mounting system comprises a retaining part and a clamping part.

40. PATENT OSIM NR. RO128768-B1 / 30.06.2016

TITLE RO/EN: Dispozitiv de reducere a viscozitatii uleiurilor de ungere, la pornirea, la temperaturi ambientale scazute, a motoarelor cu ardere interna / DEVICE FOR REDUCING LUBE OIL VISCOSITY UPON START OF INTERNAL COMBUSTION ENGINES AT REDUCED AMBIENT TEMPERATURES

INVENTOR(S): MARIASIU FLORIN EMIL, VARGA BOGDAN OVIDIU, DEAC TEODORA ALEXANDRA

ABSTRACT: The invention relates to a device for reducing the viscosity of lube oils upon the start of internal combustion engines at reduced ambient temperatures. According to the invention, the device uses a low-power ultrasound emitter (2) which reduces the lube oil viscosity upon the start of internal combustion engines at reduced ambient temperatures and a process automation module comprising an electronic control module (3) which receives information concerning the temperature of the lube oil by means of a thermostat (5).

41. PATENT OSIM NR. RO125211-B1 / 30.05.2016

TITLE RO/EN: Metoda de conducere a robotilor industriali / METHOD FOR CONTROLLING INDUSTRIAL ROBOTS BASED ON SIMULATION, TRAINING AND EXPLOITATION OF THREE-LAYERED NEURAL NETWORK WITH SIX NEURONS IN INPUT LAYER DETERMINED BY SIMULATION ON MATHEMATIC MODEL OR BY EXPERIMENTATION ON PHYSICAL MODEL

INVENTOR(S): CIUPAN EMILIA, MORAR LIVIU, CIUPAN CORNEL

ABSTRACT: The invention relates to a method for controlling industrial robots. According to the invention, the method is based on the simulation, training and exploitation of a three-layered neural network having six neurons in the input layer, corresponding to the coordinates of six engine torques q_i , where $i=1, \dots, 6$, six neurons in the output layer and a number of neurons ranging between 9 and 50 in the intermediary layer, the data for training the network being determined by the simulation on a mathematic model or by the experimentation on a physical model of a robot, by imposing some successive modifications of the engine torques q_i , by a pace p , and then, by simultaneous modification of 2, 3, 4, 5 and 6 coordinates of the engine torques q_i , resulting by actuating the kinematic axes related to the same, for each set of input data $q_{i,j}$, $i=1, \dots, m$, there resulting a set of output data $X_j, Y_j, Z_j, \psi_{ij}, \theta_{ij}, \phi_{ij}$, which are used for training the network.

42. PATENT OSIM NR. RO125210-B1 / 30.05.2016

TITLE RO/EN: Metoda de instruire a robotilor pentru ocolirea obstacolelor / METHOD OF INSTRUCTING ROBOTS TO AVOID OBSTACLES IN A WORKING SPACE WHERE THE INSTRUCTION DATA IS DETERMINED BY SIMULATION USING THE MATHEMATICAL MODEL OR EXPERIMENTALLY USING A PHYSICAL MODEL OF THE ROBOT

INVENTOR(S): CIUPAN EMILIA, MORAR LIVIU, CIUPAN CORNEL

ABSTRACT: The invention relates to a method of instructing industrial robots to avoid obstacles in a working space. According to the invention, the method of instructing an industrial robot is based on modeling, instructing and exploiting a three-layered neural network having a number of k neurons in the input layer, corresponding to the number of degrees of freedom, a number of m neurons in the output layer, corresponding to the number of kinematic axes and a number n, ranging from 9 to 50 neurons in the intermediate layer, the instruction data being determined by simulation, using a mathematic model, or experimentally, using a physical model of the robot, by the convenient selection of a points cloud in a working space, an obstacle placed in the robot path being automatically avoided by an adequate network instruction with input data corresponding to some points in the direct robot path and output data corresponding to the by-pass path.

43. PATENT OSIM NR. RO127080-B1 / 30.03.2016

TITLE RO/EN: Instalatie de indepartare a dioxidului de carbon din gazele reziduale / PROCESS FOR RETAINING CARBON DIOXIDE FROM SPENT GASES BY CHEMICAL ABSORPTION

INVENTOR(S): VASILE HOTEA, GABRIEL BADESCU, JUHASZ JOZSEF

ABSTRACT: The invention relates to a process for retaining carbon dioxide from spent gases and to a plant for carrying out the process. According to the invention, the process consists in neutralizing the gases with a 2M solution of sodium and potassium carbonate with bicarbonate formation, followed by the thermal decomposition of the solution, at a temperature of 80...110 degrees C, with release of CO₂ which is partially condensed and dried at a pressure of 2 bar, the carbon dioxide being released by pressure reduction and temperature increase up to 120 degrees C, after which it is compressed and stored. The plant claimed by the invention consists of a tank (2) in which the neutralizing solution is prepared, a pressure pump (3) which sends the 2M solution to a spent gas mixing zone (5) of a centrifugal scrubber (1) representing the absorption column, where the mixture is pulverized through a nozzle (7), the CO₂-containing solution being discharged at the bottom of the scrubber, passed through a filter (9) and an exchanger (10) and entering the top part of a desorption column (11), wherefrom the resulting flow of CO₂-rich vapour is passed through a condenser (12) and a drier (13) to the compression and storing zone.

44. PATENT OSIM NR. RO128077-B1 / 30.03.2016

TITLE RO/EN: Generator de plasma de putere mica la presiune atmosferica / LOW POWER PLASMA GENERATOR AT ATMOSPHERIC PRESSURE

INVENTOR(S): PETREUS DORIN-MARIUS, PLAIAN EMIL, GRAMA ALIN MARIUS, CORDOS EMIL, CADAR SERGIU IULIAN

ABSTRACT: The invention relates to a radiofrequency plasma generator at atmospheric pressure. According to the invention, the generator comprises an electronic commutator (1) consisting of a MOS-type transistor controlled by means of a grid (2) with a rectangular signal with variable pulse duty factor, between the supply terminal and the drain terminal of the commutator (1) there being placed a choke-coil (3) and in parallel with the commutator there being mounted a shunt capacitor (4) ensuring the load transfer during the commutations, while an RLC-type load network (5) plays the role of ensuring the commutation conditions for the MOS transistor, and a power amplifier consisting of a rectangular signal generator (6) with a role in generating the control signal which is transmitted to a block (7) controlling the grid (2) by means of which there is ensured a current amplification of the signal, said signal being necessary for controlling a power amplifier (8) at optimal parameters, at the output of the power amplifier (8) there being placed a magnetic-type voltage step-up amplifier (9) with a regulation loop (10), the output voltage of the amplifier (9) being applied to an electrode-block (11) on an active electrode (20), and by closing the field lines to a reference electrode there takes place the generation of the plasma at atmospheric pressure.

45. PATENT OSIM NR. RO129217-B1 / 29.01.2016

TITLE RO/EN: Dispozitiv pentru laminarea longitudinala a rotilor dintate cu dantura dreapta, pe prese /
DEVICE FOR LONGITUDINAL PRESS-ROLLING OF GEAR WHEELS WITH STRAIGHT TEETH, HAS INDIVIDUAL
WHEEL OF DRIVING DEFORMATION ROLLER

INVENTOR(S): MARIAN IONUT, TINTELECAN MARIUS

ABSTRACT: The invention relates to a device for the longitudinal press-rolling of the gear wheels with straight teeth. According to the invention, the device consists of a body (11) whereon there is mounted a number of deformation rollers (9) individually driven by a gear wheel (8) which takes over the rotation movement by downwardly moving a rack (5), integral inside the cover of the upper part (1), the deformation roller (9) being actuated by a kinematic chain which comprises the deformation roller (9), the individual wheel (8) of driving the deformation roller (9) and the rack (5) with downward movement, the body (11) of the device exactly positioning both the deformation rollers (9) and the individual driving gear wheels (8), and the process of obtaining the gear wheels (8) is based on the direct contact of the deformation rollers (9) with a blank (7) which is deformed, these having an intended rotation movement induced by the downward movement of the racks (5) which determines the rotation of the driving gear wheels (8) and the reversed rotation of the deformation rollers (9).