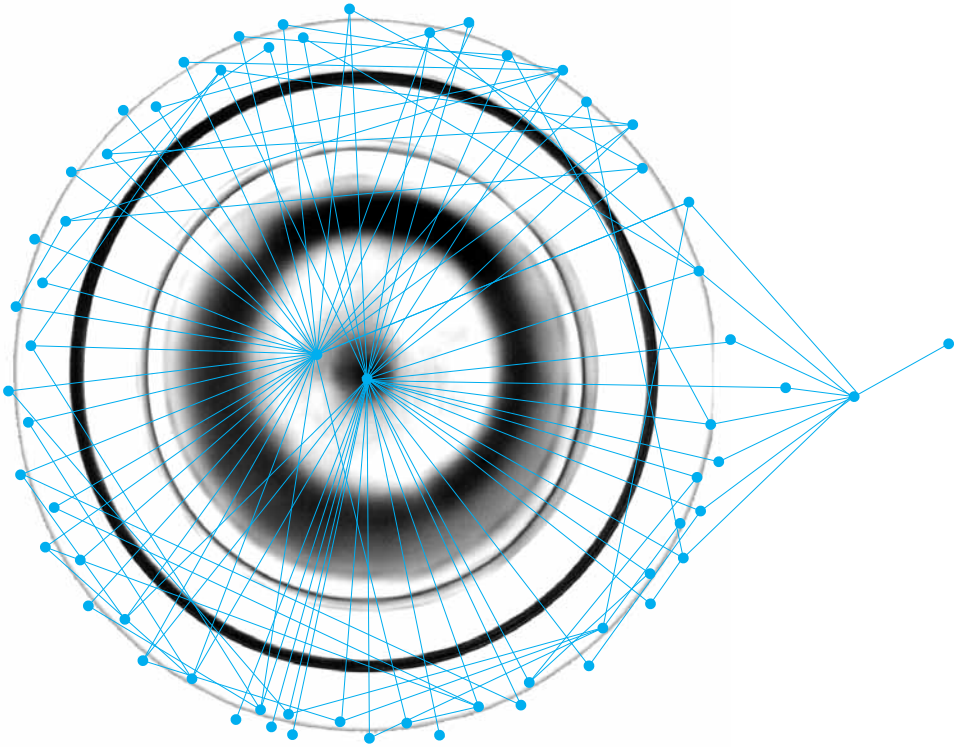
Patents of the Jožef Stefan Institute
2012-2016



center for technology transfer and innovation
at the Jožef Stefan Institute

Jožef Stefan Institute, Ljubljana, Slovenia

Patents of the Jožef Stefan Institute 2012-2016

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Introduction

PATENT SYSTEM HAS BEEN HISTORICALLY INVENTED in order to support innovation. Observing that inventors would not be motivated to invent if the financial fruits of their inventions would have been in general taken by others, already the Venetians introduced a patent system similar to the one we know today.[i] In the 17th century Queen Anna introduced one of the first biased patent systems, supporting more transfer of technology from other countries to England than inventions themselves – today this would be called "inventions new for the company" or "new for the country" (but not "new for the market"). This english policy introduced patents as privileges for marketing, but decoupled them from inventors and could be seen as one of the first anomalies of the patent system.

Today this anomaly has grown to a much larger extent. Currently investment in form of finance and time in the research and development is predominantly done by the corporations rather than by individuals. "Patent wars" are usually fought between large enterprises, individuals have a considerably more difficult positions to defend when commercialisation of patents is in question. Territorial principle is part of the core of the patent system, which consequently results in non-transparent international protection of intellectual rights.[ii iii] Intellectual property is of high importance for development of particular peoples, companies, countries. Indeed the use of legally protected intellectual property for development of the country is a strategic decision that can not be done over night.

Patent system has many positive and less positive aspects therefore many experts from various universities call for reform of this system in order to realise its prime objective – "to support and encourage innovativeness". According to some theories the "dead weight loss" of monopoly in the case of patent is smaller than in the case of "reverse engineering" - i.e. the "secret know-how", to which the competition can reach only with reverse research activities - and calculations[iv] are presented as of when it is more useful for business to retain an invention secretive than to patent it. On the other hand the pharmaceutical giants have greeted TRIPS treaty in Article 27, where the rights for patenting for microbiological processes are explicitly stated. Chakrabarty[v] has opened path for patenting microorganisms, consequently it is currently for example possible to prevent a use of much cheaper tests than classical tests for breast cancer incidence, because the corporation owns patents over the genome in question.

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i Craig Allen Nard, The LAw of Patents, Wolters Kluwer, Aspem Publishers

ii Benedetta Ubertazzi, Intellectual Property Rights and Excusive (Subject Matter) Jurisdiction between Private and Public International Laws

iii http://www.patentlyo.com/patent/2007/02/voda_v_cordis_p.html

iv Weak IP Rights and Innovation, L.A.Franzoni

v Case Diamond vs. Chakrabarty

A patent is an invention embodied in a specific, predetermined form, for which after a certain amount of reviewing it was determined that it comprises new, economically applicable and unexpected enough content to satisfy the criterion of inventive step. The check-up procedure on the appropriateness of the content and of the patent application design is implemented by an Intellectual Property Office. If all three reviewes of the content are performed, it is said that the patent application has undergone a complete examination before the patent has been granted.

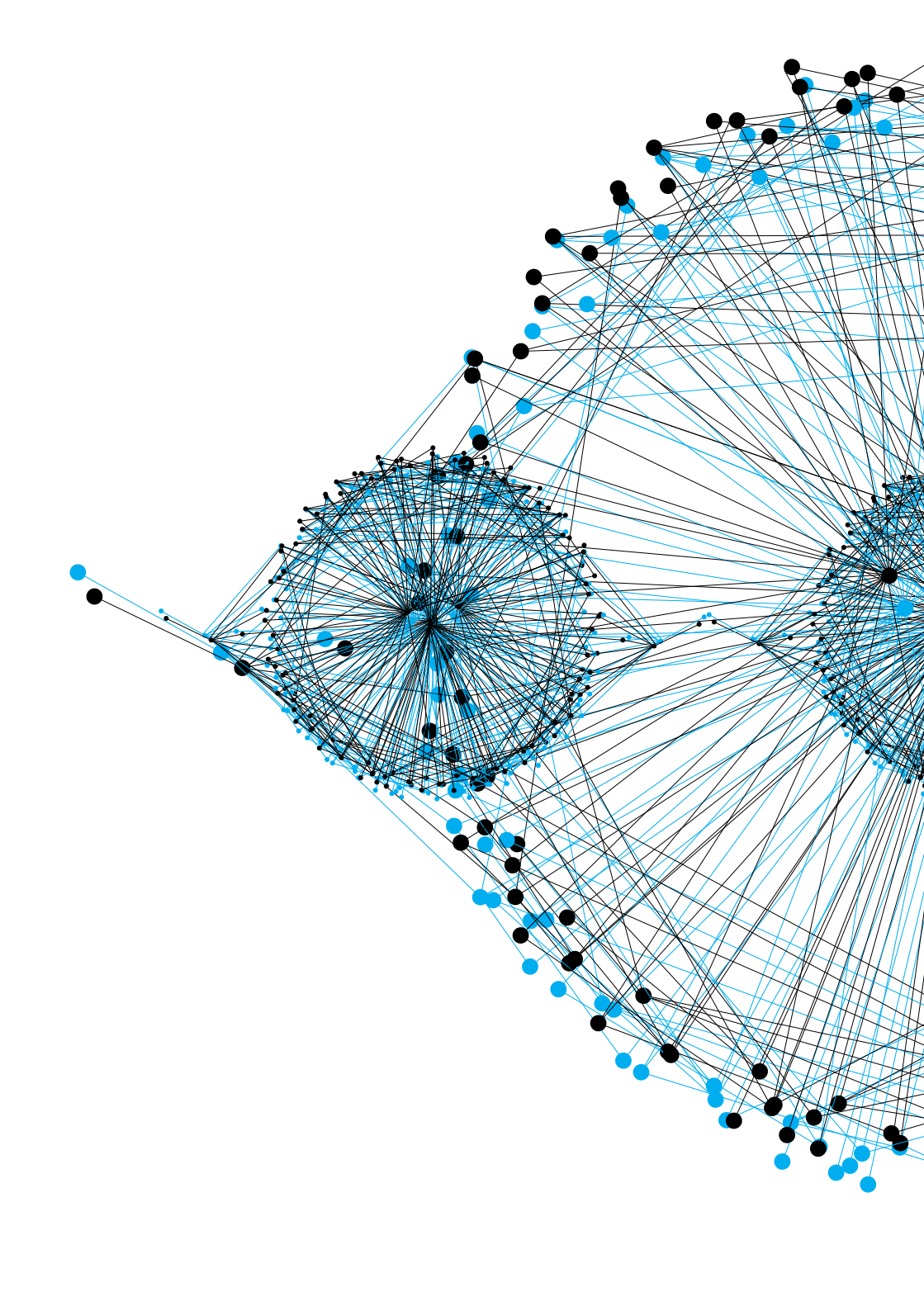
A patent is a contract between an individual (natural or legal person) and a state, which provides to the individual a negative right - a time-limited monopoly that prevents others from the using his intellectual property, in exchange for public disclosure of the invention. Intellectual Property Office provides support to the society by ensuring that the contract between the state and individuals may only be concluded by an individual whose invention satisfies a predetermined relatively high substantive criteria.

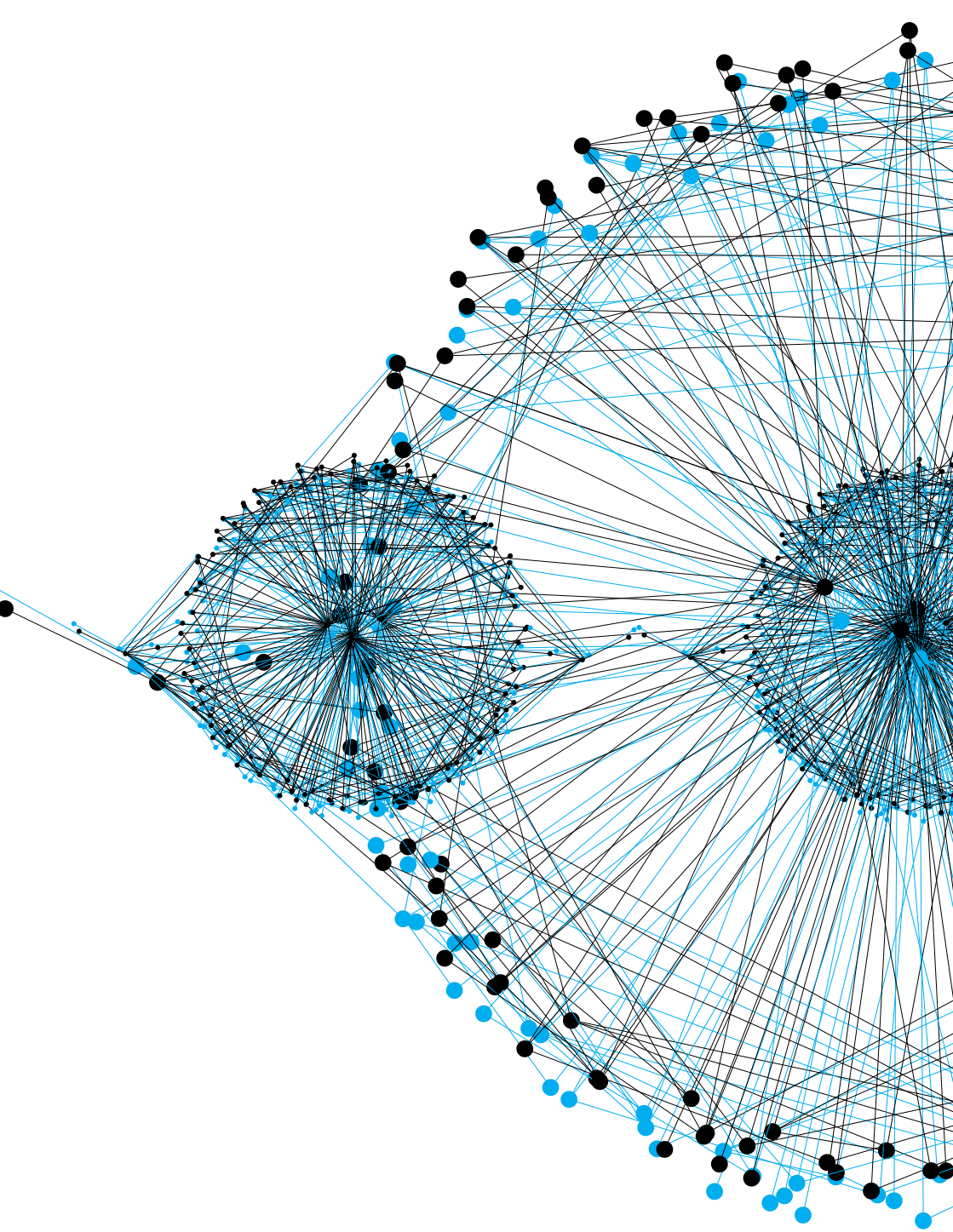
Many patents never reach the step of being filed as PCTs or European, US, ... patent applications, simply because the procedures simply cost too much. It would be important to increase the number of patents filed from Slovenian inventors.

However, the patent by itself does not guarantee the quality of invention, and even less its market success. A (breakthrough) invention is not a guarantee for the quality of the patent application. High quality of research work and quality of research-generated intellectual property are not necessarily directly linked. An obscure invention can yield a high quality patent and a breakthrough invention can yield a badly written one. However, a high quality patent could provide a possibility for a high quality appearance on the market (even if an obscure invention is in question).

Lastly, an invention, although protected as intellectual property, is not necessarily contributing to a more competitive (domestic) economy. Perhaps more important question is how many patents are bought from the Slovenian PROs by the domestic economy? What is expected of Slovenian science by the domestic economy?

It is clear that there are good grounds for commercialization of IPR in Slovenia, however, a system should be developed in order to fully exploit this potential. The most would be done if the complete path of commercialization would be supported, acknowledging that the commercialization path actually begins with the idea, and continues with evaluation, drafting of the patent, filing of the patent, evaluation of further commercialization possibilities, either developing a product or marketing the patent for licensing and finally sales of product or licensing.





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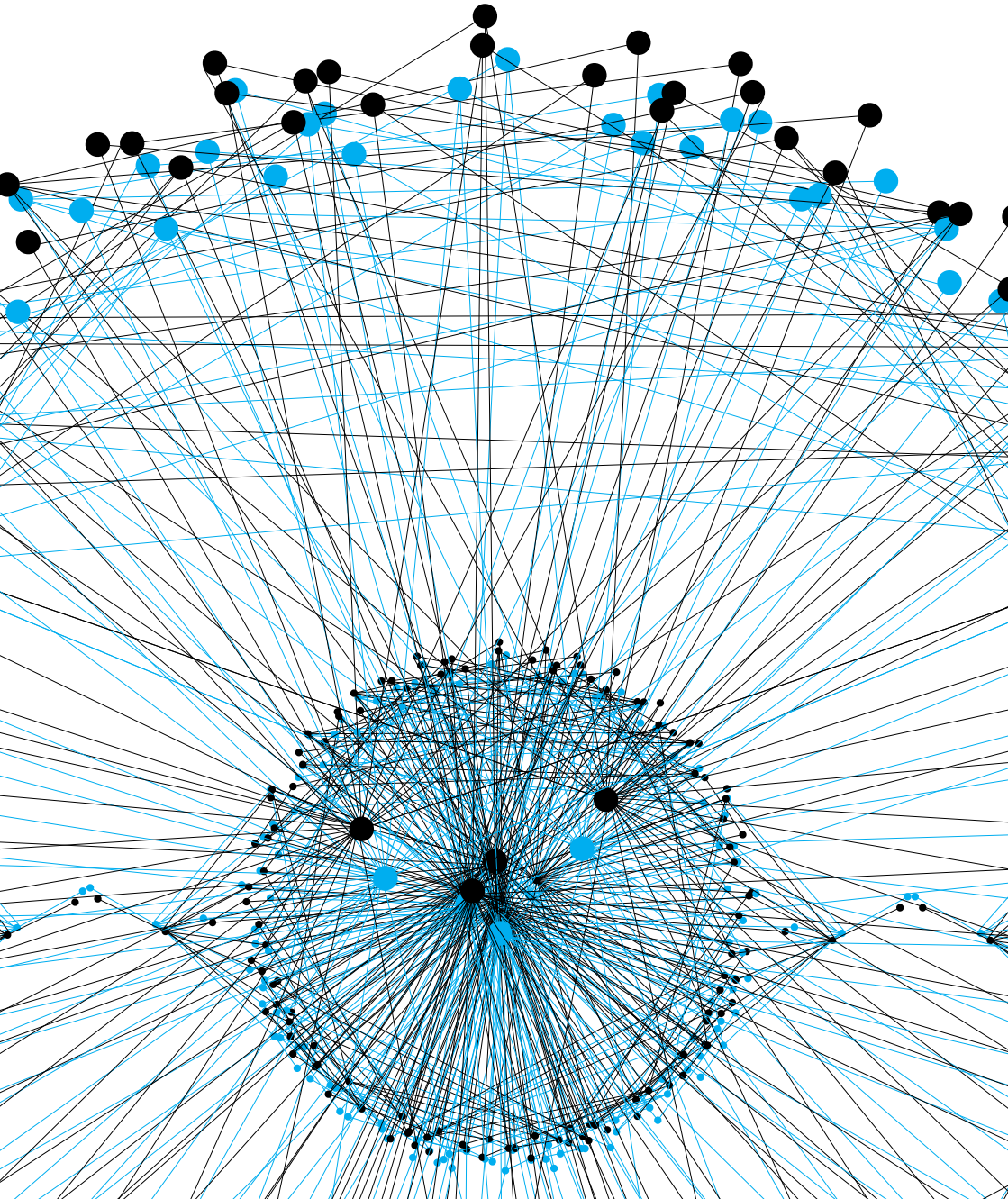


Introductory explanations

We have prepared review of the patents developed by the researchers at the Jožef Stefan Institute in the period 2012-2016 (priority date within the period from January 1st 2012 till December 31st 2016). Patents are presented within family of patents.

A patent family is a collection of patent applications covering the same or similar technical content which are usually filed in several different countries. You can read more about a patent family here or here.

Based on the Patents' abstracts all Patents are classified within 4 different categories of technologies:

1. Electronics, IT and Telecommunications,
2. Nanotechnology and New Materials,
3. Biological sciences and
4. Physical sciences.

In addition (based on the patents' abstracts) for each patent we determined Category, Technology application codes and Market application codes which are EEN Technology and Market keywords.

All information presented on the website was obtained from publicly available sources (e.g. Ipsum, Espacenet, UIL SIPO, etc.).

Patents filled at the Slovenian Intellectual Property Office which are available only in Slovenian Language were translated with the Patent translate – a service provided by EPO (European patent office) and Google.
In some cases, inventors, applicants or even the titles had changed when the Extended patent application was filled. To present the accurate data we presented this data for the basic and extended patent applications.

Editors

Jožef Stefan Institute IJS

The Jožef Stefan Institute is the leading Slovenian scientific research institute, covering a broad spectrum of basic and applied research. The staff of more than 960 specializes in natural sciences, life sciences and engineering. The subjects concern production and control technologies, communication and computer technologies, knowledge technologies, biotechnologies, new materials, environmental technologies

The mission of the Jožef Stefan Institute is the accumulation - and dissemination - of knowledge at the frontiers of natural science and technology to the benefit of society at large through the pursuit of education, learning, research, and development of high technology at the highest international levels of excellence.

In order to increase the flow of knowledge and technology into the domestic and foreign economies and to promote the Jožef Stefan Institute as a Centre of excellence for technological progress for all segments of society an internal Center for Technology Transfer and Innovation (CTT) is established.

Center for Technology Transfer and Innovation (CTT)

The primary task of CTT is to enable and facilitate the transfer of new technologies and innovations, developed at the Institute and its Departments, to the industry.

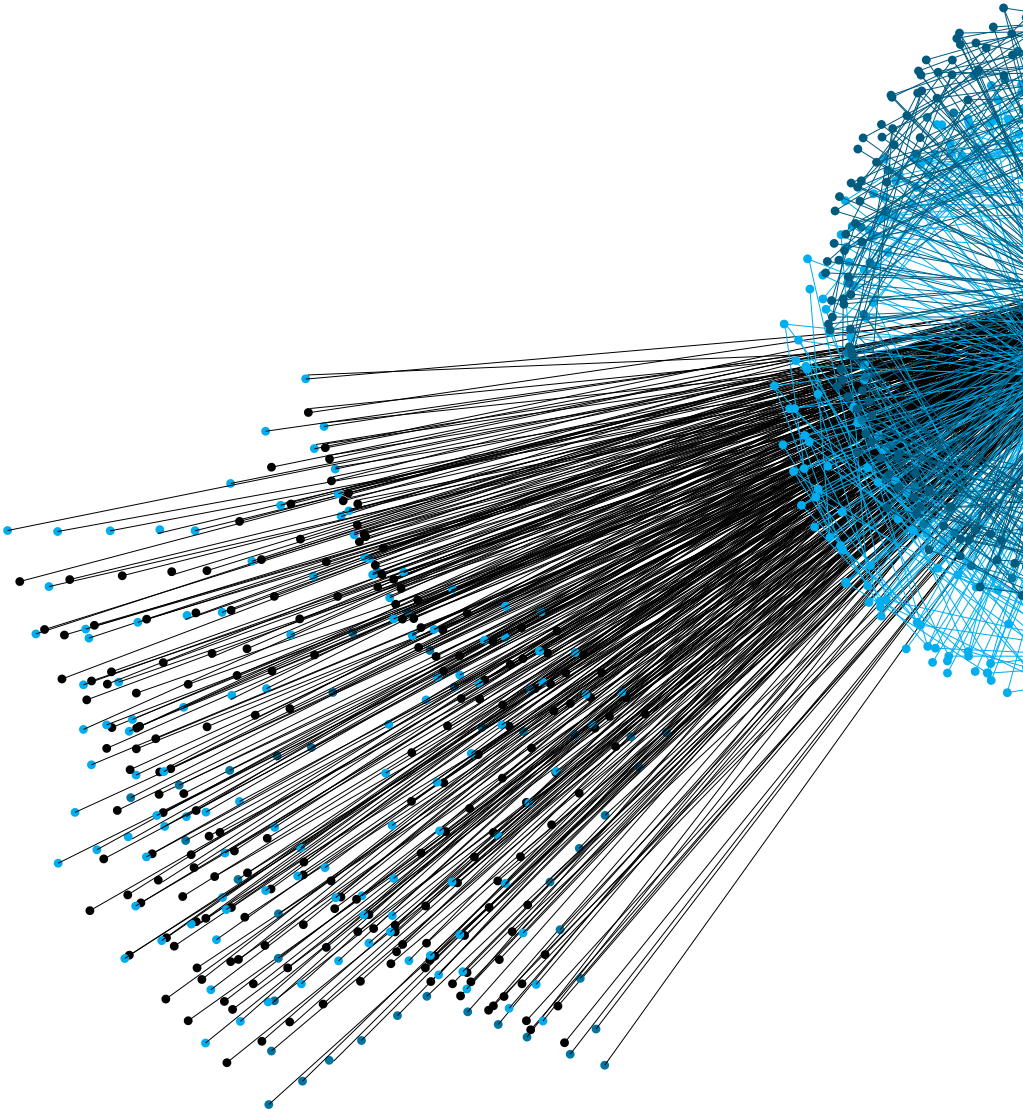
Our key activities encompass:

(1) technology testing facilities, reference experimentation facilities and technology consulting services;
(2) initiating new industrial cooperation: the search for industrial partners, including creating market analyses and support for contracting;
(3) establishing of new spin-off / spin-out companies, including the search for investors for licensing and the financing of spin-off / spin-out companies;
(4) marketing intellectual property, including support for negotiations and licensing contract relations establishment;

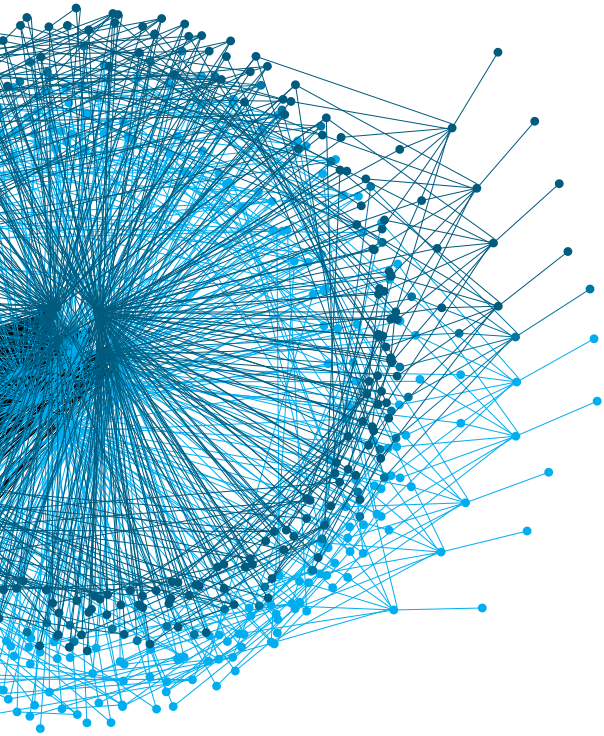
(5) supporting active integration of economy and science with internationalization;
(6) supporting the protection of intellectual property including raising awareness about it;
(7) support and assistance in applying to national and EU tenders, including provision of information on suitable Calls for application and full proposal revision, focused on the marketing, IPR, UVP and customer segment related issues;
(8) support and assistance to the competence centres (e.g. the competence centre in the domain of customized and low-energy computing).
(9) measures for the popularization of science amongst young population: organization of visits to the Jožef Stefan Institute, mentoring for students and providing special services for young researchers employed at the Institute.

Through our activities, we complement and enrich innovative research, innovation management and knowledge transfer, as well as organization of focused meetings between researchers and industry representatives, thematic workshops, and trainings at the Institute. Our activities are driven by the desire to increase the visibility of the Institute, to raise companies' awareness of the Institute, and thereby encourage their cooperation with us. At the same time our activities are implemented with the goal to promote entrepreneurial mentality among researchers, as well as with sincere concern for the education and popularization of science among young people.

The main goal of the Center for Technology Transfer and Innovation at the Jožef Stefan Institute is to increase the flow of knowledge and technology into domestic and foreign economy and to promote the Jožef Stefan Institute as a Centre of excellence for technological progress for all segments of society.



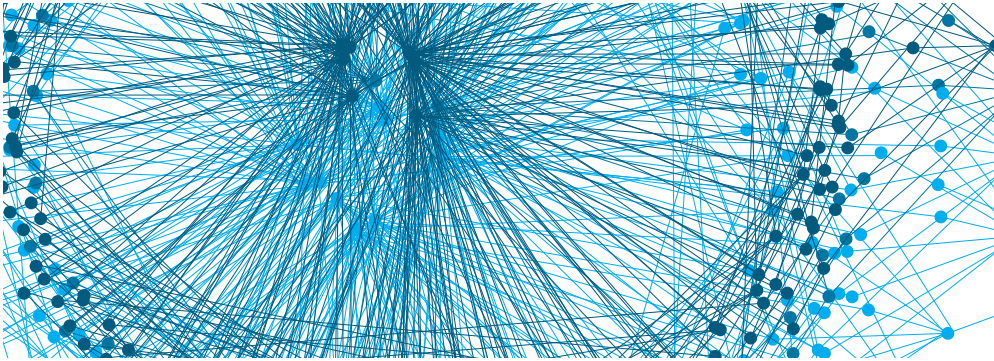
Patents of the Jožef Stefan Institute
2012-2016



Key

Publication Number	Drawing(s)
Application Date	Category
Assignee/Applicant	Technology application codes
Inventor	Market application codes
Title	www
Description	Patent Office(s)

Electronics, IT and Telecommunications



2014

Method and System for Detecting a Person Driving a Vehicle while Using a Mobile Computing Device

GB1413666.7

1. 08. 2014

Jožef Stefan Institute [SI]

prof.dr. Matjaž Gams, mag. Hristian Gjoreski, Mitja Luštrek

Method and System for Detecting a Person Driving a Vehicle while Using a Mobile Computing Device

In a method and system for detecting a person driving a vehicle while using a mobile computing device, first and second movement patterns are detected by means of the mobile computing device, said first movement pattern being attributable to a movement of a vehicle and said second movement pattern being attributable to a person using the mobile computing device. A relation is established between said first movement pattern and said second movement pattern, and based on said relation it is determined whether said person is driving said vehicle while using said mobile computing device. Detecting said first movement pattern and/or second movement pattern may comprise a step of detecting a linear and/or gravitational acceleration by means of an acceleration sensor unit. The first and second movement patterns can be any type of movement or motion detected by the mobile computing device, such as a single isolated movement or a sequence of movements that may be characteristic of a driving scenario or a person using the mobile phone while driving.

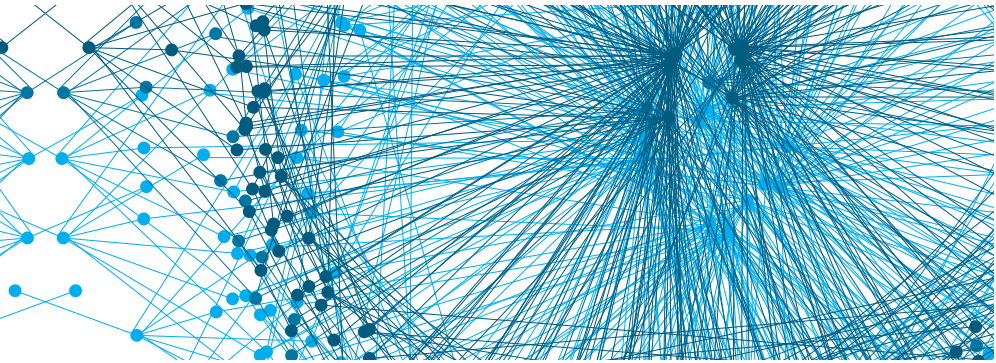
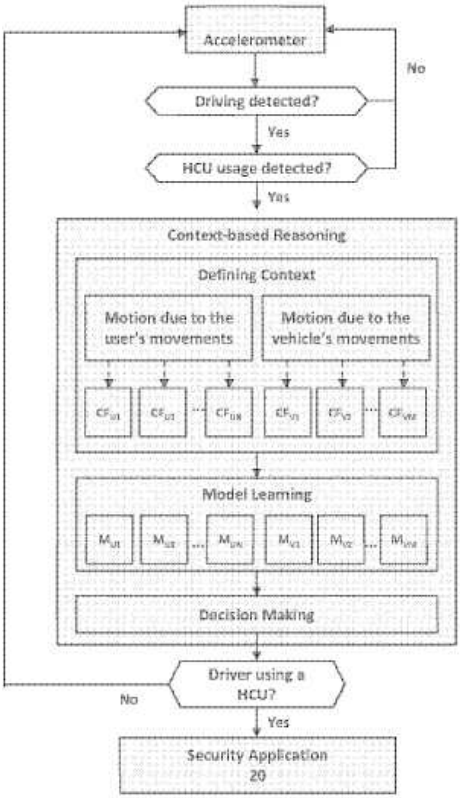


Fig. 4


Accelerometer
No
Driving detected?
Yes
HCU usage detected?
Yes
Context-based Reasoning
Defining Context
Motion due to the user's movements
Motion due to the vehicle's movements
Model Learning
Decision Making
Driver using a HCU?
No
Yes
Security Application 20

Electronics, IT and Telecommunications

Electronics, IT and Telecoms

Communications, Computer related, Consumer related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160429&DB=&locale=en_EP&CC=SI&NR=24863A&KC=A&ND=5

GB

Extended patent application

SI24796A

16. 10. 2014

Jožef Stefan Institute [SI]

prof.dr. Matjaž Gams, mag. Hristian Gjoreski

Metoda in sistem za zaznavo osebe, ki vozi vozilo in hkrati uporablja prenosno računalniško napravo (SI), Method and System for Detecting a Person Driving a Vehicle while Using a Mobile Computing Device

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160229&DB=EPODOC&locale=en_ES&CC=SI&NR=24796A&KC=A&ND=5

Method and system for context-based activity recognition

SI24356A

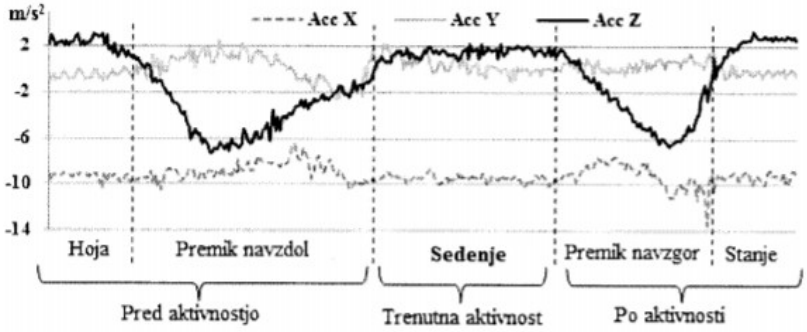
01. 08. 2014

Jožef Stefan Institute [SI]

Matjaž Gams, Hristijan Gjoreski, Mitja Luštrek, Boštjan Kaluža

Metoda in sistem za prepoznavanje aktivnosti na podlagi konteksta (SI), Method and system for context-based activity recognition (ENG)

The present invention relates to improved methods for identifying daily activities of a person. It includes a new method for identifying activities that uses the context of the current activity to determine and improve the accuracy of its recognition. The method uses sampled data on linear and gravitational acceleration. This information is provided by a motion sensor, directly or indirectly supported by the subject. The context extractor processor calculates multiple contexts from the data. The processor for context modeling is a machine learning memory that teaches the model for each value of the context. The activity of the subject is recognized by combining, t. j. pooling the results of several context models. The invention provides an application for identifying an activity that determines the activity of the subject. An application may include a notification mechanism with an alarm if a drop is detected. Among other things, it can include: a gym application, an activity-based daily application, an out-of-home help application, etc. The technical effect of the experience allows you to control the smart home and more precisely detect the fall that triggers an automatic emergency call.



Electronics, IT and Telecommunications

Electronics IT Telecoms,

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160229&DB=EPODOC&locale=en_ES&CC=SI&NR=24796A&KC=A&ND=5

UIL RS

Device and method for acquisition and transfer of signals

GB1407135.1

23. 04. 2014

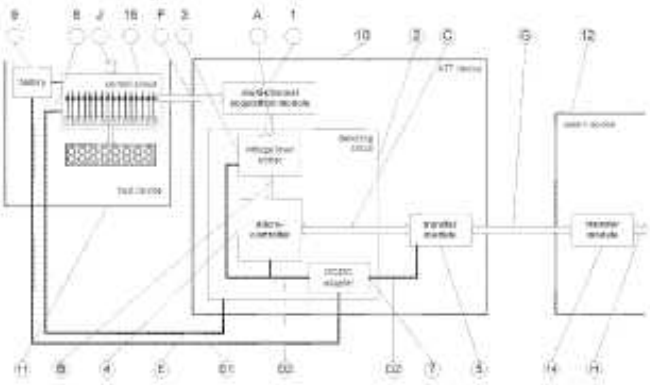
Jožef Stefan Institute [SI]

dr. Gregor Papa, doc.dr. Barbara Koroušuč Seljak, Marko Pavlin, univ.dipl.inž

Device and method for acquisition and transfer of signals

An adapter device and method is presented for acquisition and transfer of signals from a host device 11 that has no built-in external communication capability, i.e. no communication ports. In one embodiment the adapter device 10 includes an acquisition module 1 configured to acquire data signals from the host device; and a transfer module 5, which is communicably connected to the acquisition module, configured to transfer said acquired data signals to an external device 12. The adapter device may include a processor 4 and voltage level shifter 3. The adapter device may be connected in the signalling path of an LCD display in the host device so that it can sniff, interpret (if necessary) and transmit the data being sent by the host device to its LCD screen to an external device. The embodiment described is the modification of a weighing/kitchen scale, with no in-built means of communicating externally, so that an adapter device is connected internally to its LCD screen circuitry such that the adapter device can sniff and send out measurements taken by the scale to an external device, such as a connected smart-phone. The adapter may communicate G using a wired connection or wirelessly, e.g. Bluetooth, to the external device. An wireless adapter/retro-fit kit is also described.

Figure 6



Electronics, IT and Telecommunications

Electronics, IT, Telecoms, Measurements and standards

Other electronics related, Communications

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1407135.1

GB

Extended patent application

SI24792A

16. 10. 2014

Jožef Stefan Institute [SI]

dr. Gregor Papa, doc.dr. Barbara Koroušuč Seljak, Marko Pavlin, univ.dipl.inž

Naprava in postopek za zajem in prenos signalov

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160229&DB=EPODOC&locale=en_ES&CC=SI&NR=24792A&KC=A&ND=5

2013

Method and device for non-invasive real-time control of inner body temperature variables during therapeutic cooling or heating

SI24357A

08. 05. 2013

Jožef Stefan Institute [SI]

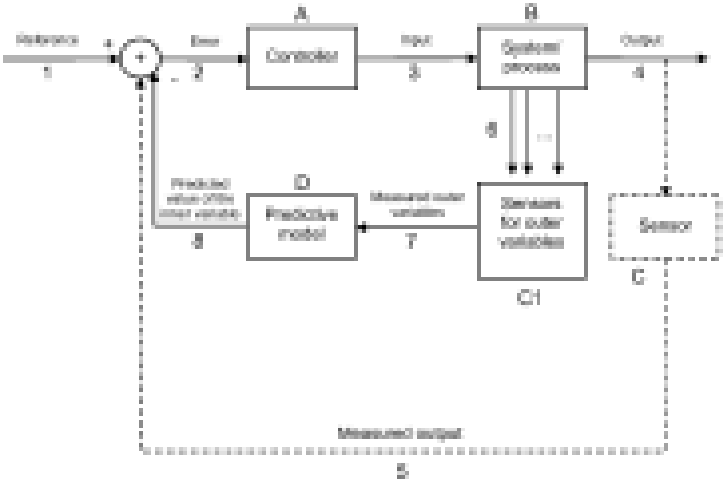
Aleksandra Rashkovska, Roman Trobec

Postopek in naprava za neinvazivno vodenje notranjih temperaturnih spremenljivk v realnem času med terapijo z ohlajanjem ali ogrevanjem

(SI), (Method and device for non-invasive real-time control of inner body temperature variables during therapeutic cooling or heating)

A method and device for non-invasive real-time control of inner body temperature variables during therapeutic cooling or heating using computer simulations, machine learning and control techniques. The invention refers to a method and device that enable control of inner body temperatures according to different therapeutic protocols. The technical problem that the invention solves is the control of inner body temperatures (hidden temperatures) that are difficult or impossible to be measured. In that context, a predictive model is used to estimate (predict) the values of the controlled inner temperature variables based on smaller number of other variables whose measurement is more feasible, i.e. temperatures on the body surface. However, simulations are usually resource and time consuming. The predictive model is constructed using advanced methods for data analytics to capture the correlation between the hidden variable and the measurable ones in data resulting from preliminary computer simulation of the system for different input simulation parameters.

Figure 3



Electronics, IT and Telecommunications

Electronics, IT, Telecoms, Measurements and standards

Other electronics related, Medical/ health related, Consumer related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20141128&DB=&locale=en_EP&CC=SI&NR=24357A&KC=A&ND=4

UIL RS

Extended patent application

WO2014180941A1

8. 05. 2014

Jožef Stefan Institute [SI]

Aleksandra Rashkovska, RomanTrobec

Method and device for non-invasive real-time control of inner body temperature variables during therapeutic cooling or heating

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20141113&DB=&locale=en_EP&CC=WO&NR=2014180941A1&KC=A1&ND=4

2012

Procedure and device for word context window deployment

SI24263A

06. 12. 2012

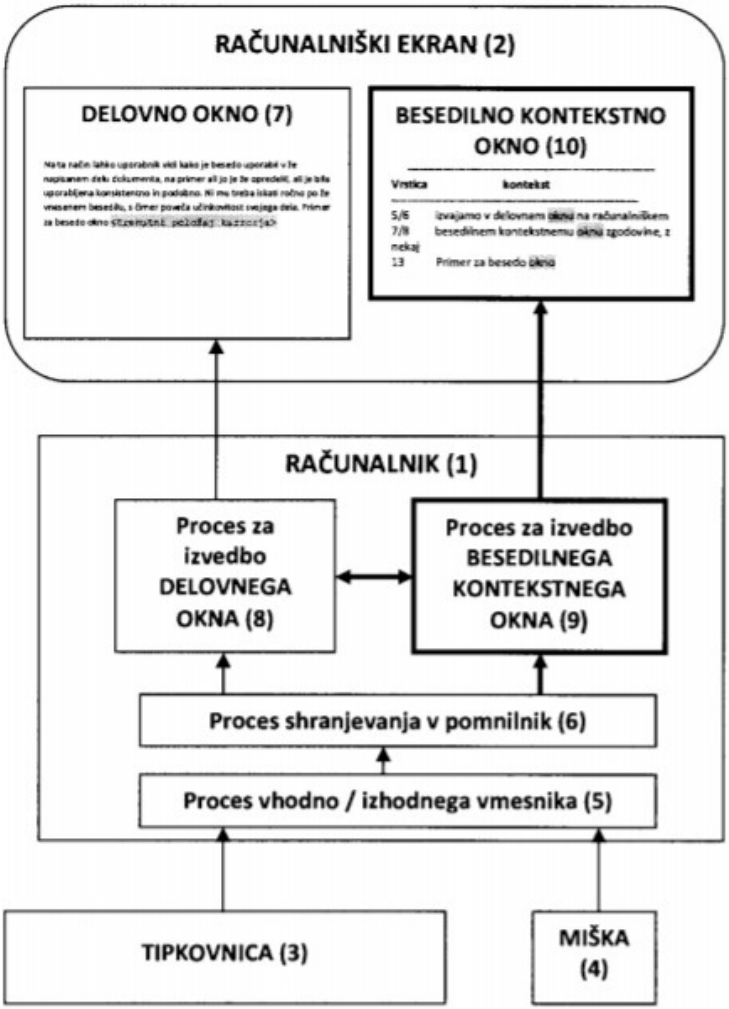
Jožef Stefan Institute [SI]

Roman Trobec

Postopek in naprava za izvedbo besedilnega kontekstnega okna (SI), Procedure and device for word context window deployment (ENG)

An object of the invention is a process and a device for automatically displaying already introduced context contexts for the word execution and displaying a text context window that allows the user to improve the efficiency of writing texts. Contextual window shows the context words, that is to say the word occurrence, surrounded by a selected number of adja-

cent words. While typing or viewing a text, we open a text context window and in it automatically and in real time we display the context of just typed or tagged words. A new word, which is defined by a space and selected; the number of letters is displayed with its context in the text context window as it was entered or also in its grammar formats. Short words can be excluded from the contextual processing by selecting a smaller number of letters in the word. A process that can be embedded into text input and processing systems allows the user to continuously view all the existing contexts of the words just entered, which increases the efficiency and quality of the text.



Electronics, IT and Telecommunications

Electronics it telecoms, Industrial technologies (industry, materials, transport), Other industrial technologies

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20140630&DB=&locale=en_EP&CC=SI&NR=24263A&KC=A&ND=4

UIL RS

System and method for continuous supervision and control the production process of tablets

SI24243A

12. 11. 2012

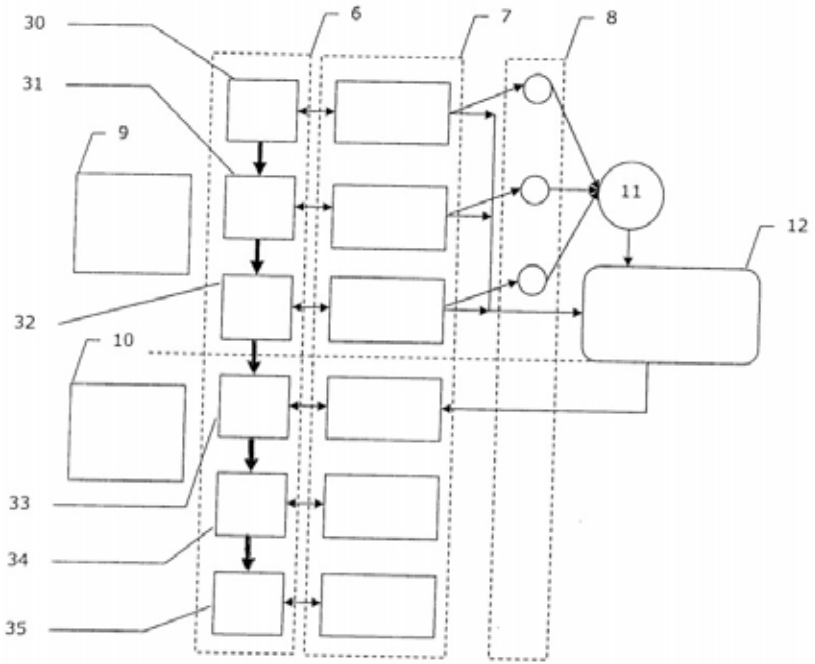
Jožef Stefan Institute [SI]

Matjaž Gams, Tea Tušar, Darko Zadravec, Matej Horvat

Sistem in postopek za kontinuiran nadzor in upravljanje procesa proizvodnje tablet (SI), System and method for continuous supervision and control the production process of tablets (ENG)

The purpose of the present invention is the system and the process for the continuous control and management of the tablet manufacturing process is to achieve greater flexibility and higher quality of tablet production, a deep understanding of the technological process and effective monitoring of the tablet manufacturing process. In the invention, this is achieved by a process, system, and device that presents the predicted impact of the current process parameters of production on the quality of the finished product in our comparative tablets in a comprehensible graphic and symbolic manner, and leads it further in the appropriate adaptation of the parameters with the aim of improving the quality of the finished product. Process control and operator control in managing the production process by adjusting critical parameters is according to the invention based on a limited maneuver and control space determined by intelligent techniques taking into account the final product quality (tablets). The management of the tablet manufacturing process is carried out with the help of a graphical user interface, which enables both the display space and the forecasting of the quality of new batches by means of the

selected model, and, on the basis of critical elements, suggests in which direction (within the scope of maneuver) if we want to get a better quality final product.
Monitoring and management are possible at every stage of the process for all process parameters. By testing various combinations of parameters on upcoming devices in the tablet manufacturing process, the operator searches for the safest and most meaningful combination that brings the gabo to the best tablets. Based on experimental settings and explanations of the system, it decides in each important step for setting the parameters of the next stage in the process.



Electronics, IT and Telecommunications

Electronics it Telecoms, Measurements and standards, Industrial technologies (industry, materials, transport)

Computer related, Other electronics related, Medical/ health related, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20140530&DB=&locale=en_EP&CC=SI&NR=24243A&KC=A&ND=4

UIL RS

Method for intelligent control of operation of cooling unit

SI24163A

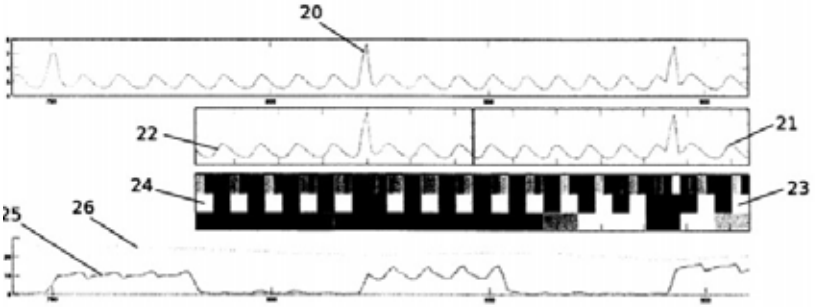
31. 07. 2012

Jožef Stefan Institute [SI], LOTRIČ laboratorij za meroslovje d.o.o. [SI]

Damjan Kužnar, Matjaž Gams, Domen Marinčič, Marko Lotrič, Klemen Čufar

Postopek za inteligentni nadzor delovanja hladilne naprave SI), Method for intelligent control of operation of cooling unit (ENG)

The subject of the invention is a process for the intelligent control of the operation of the refrigeration system, that is to detect unusual operation and predict the failure of the cooling appliance by means of machine learning, which continuously analyzes the data flows of the environmental parameters and improves predictive accuracy through the user's feedback. The process is characterized in that the process unit (3) implements a process for learning (12) the normal operation of the device, the result of which is the classifier (13), the event detection process (9) based on the wave transformation (8) and the procedure for the classification of detected events (15) and, in the case of a detected significant event (16), a notification of the event and an input of feedback (19) is displayed via the user interface (6).



Electronics, IT and Telecommunications

Electronics it telecoms, Physical and exact sciences, Measurements and standards

Computer related, Other electronics related, Energy, Consumer related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20140228&DB=&locale=en_EP&CC=SI&NR=24163A&KC=A&ND=4

UIL RS

Humanoid torso mechanism

SI24099A

20. 06. 2012

Jožef Stefan Institute [SI]

Igor Kovač, Borut Lenart, Bojan Nemec, Marko Scortegagna, Leon Žlajpah

Človeku podoben mehanizem torza (SI), Humanoid torso mechanism

A humanoid torso mechanism is provided that simulates the actual movement of the human body. The torso includes a unique combination of mechanism and controlled rotary axes with actuators (4-8) arranged in a geometry that enables human-like movements. The construction provides mounting surfaces for other humanoid parts such as legs (3), arms (2) or head (1). The structure of the present invention comprises five degrees of freedom. All degrees of freedom are achieved with rotary axes and are concentrated in the lower part of torso except the last one on the top. The lower torso portion of the assembly includes a torso basic rotation around the vertical axis, which is attached to a base such that the output shaft extends vertically upwards. The next axis is attached to the first axis arrangement structure for the torso tilting function. The next two axes are arranged for tilting the torso forward-and-back in the hip and for the buckling of the mechanical spine structure. That combination of buckling and bending mechanical structures is carried out in a unique way that allows the simulation of buckling and bending the spine in a way very similar to the human body. This is very realistic and effectively enforced movement that is very similar to human body movement. The last axis mounted on the top of the torso rotates the shoulder girdle

around the vertical axes. Movement of each axis is driven by actuators which are attached in each joint of the torso structure and independently controlled by a computer.

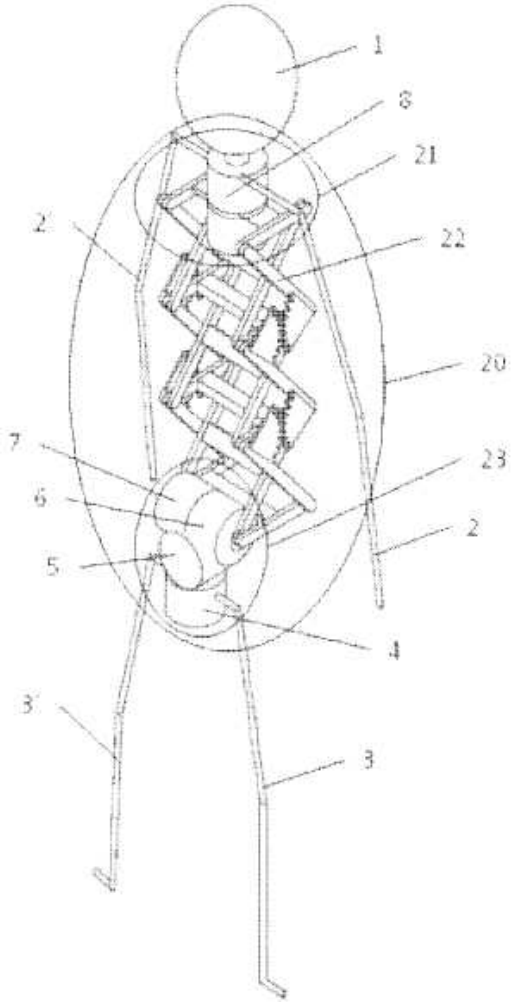


Figure 1

Electronics, IT and Telecommunications

Physical and exact sciences

Medical/ health related, Consumer related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20131231&DB=&locale=en_EP&CC=SI&NR=24099A&KC=A&ND=5

UIL RS

Extended patent application

EP2676776A1

19. 06. 2013

Jožef Stefan Institute [SI]

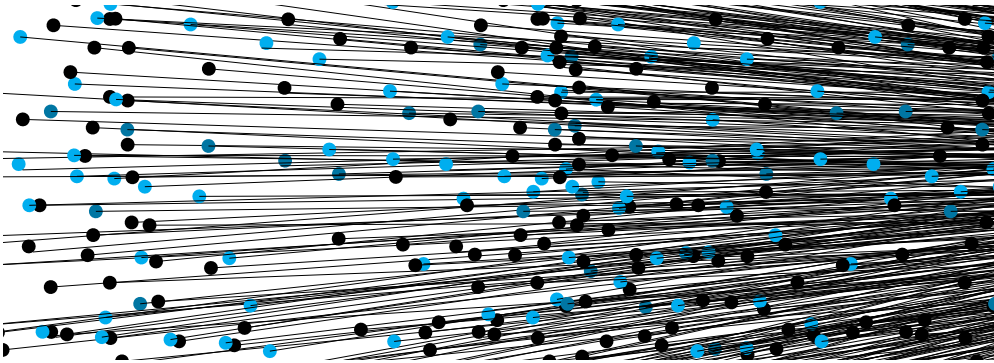
Igor Kovač, Borut Lenart, Bojan Nemec, Marko Scortegagna, Leon Žlajpah

Humanoid torso mechanism

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20131225&DB=&locale=en_EP&CC=EP&NR=2676776A1&KC=A1&ND=4

Humanoid torso mechanism

Nanotechnology and New Materials



2016

Electro-conductive reinforced engineering ceramics and preparation therefore

GB1618594.4

4. 11. 2016

Consejo Superior de Investigaciones Cientificas, Jožef Stefan Institute [SI]

Not yet available

Electro-conductive reinforced engineering ceramics and preparation therefore

Not yet available

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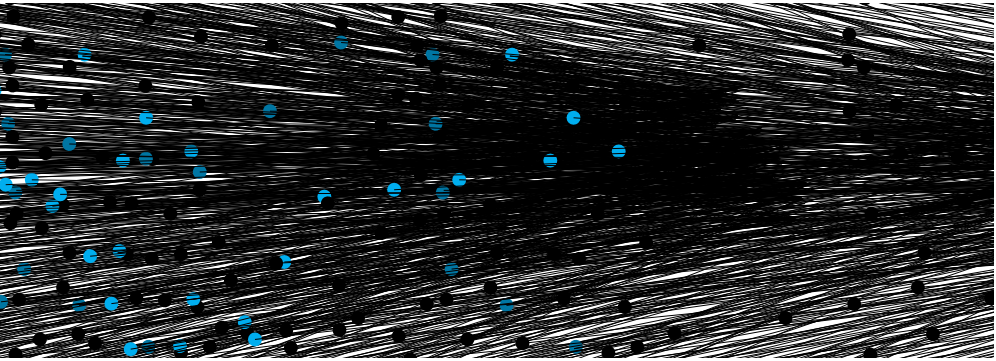
Not yet available

Not yet available

Not yet available

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1618594.4

GB



Method for coating a medical device, especially a vascular stent

DE201610114699

09. 08. 2016

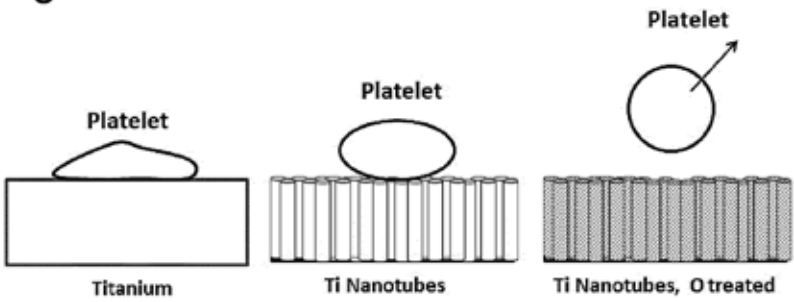
Jožef Stefan Institute [SI]; University of Ljubljana [SI]

Mukta Kulkarni, dr. Ita Junkar, doc. dr. Janez Kovač, prof ddr. Aleš Iglič, prof. dr. Miran Mozetič

Method for coating a medical device, especially a vascular stent

A method for producing desired morphology of a nanotubular matrix, in particular titanium dioxide containing matrix, is disclosed which reduces adhesion and activation of platelets on medical devices. Surfaces produced by the method of invention can be used for blood contacting devices, such as stents and artificial heart valves in order to reduce thrombus reactions on the implant material surface.

Fig. 4



Nanotechnology and new materials

Physical and exact sciences, Biological sciences

Medical/ health related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20180215&DB=&locale=en_EP&CC=WO&NR=2018029166A1&KC=A1&ND=4

DE

Extended patent application

WO2017EP70007

08. 08. 2017

Jožef Stefan Institute [SI]; University of Ljubljana [SI]

Mukta Kulkarni, Ita Junkar, Aleš Iglič, Janez Kovač, Miran Mozetič

Method for coating a medical device, especially a vascular stent

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018029166

A vibration system and a filtering plate for filtering substances

WO2017194999 (A1)

13. 05. 2016

Acondicionamiento Tarrasense [ES]; Jožef Stefan Institute [SI]

doc. dr. Danjela Kuščer Hrovatin, Darko Belavič, univ. dipl. inž. el., doc. dr. Tadej Rojac, dr. Mirko Faccini, dr. Diego Morillo Martín, dr. David Amantia

A vibration system and a filtering plate for filtering substances

The vibration system comprising: a filter plate (10) made of a ceramic porous material, said filter plate (10) comprising two sides an upper side

and a lower side; and one or more vibration actuators (11) physically coupled to said filter plate (10) and driven, through electrical interconnections (21) and electrodes (23, 24), with a driving voltage to vibrate said filter plate (10) at a given frequency comprised in a range between 100 Hz and 100 kHz and to provide a displacement in a plane of said filter plate (10) with an amplitude between 0.01 and 2 μm, wherein said filter plate (10) and said one or more vibration actuators (11) being assembled in a housing (13) with clamping means (14), a periphery of the housing (13) delimiting a filtering area (15), and said one or more vibration actuators (11) being located in or nearby said filtering area (15).

/

Nanotechnology and new materials

Electronics, IT, Telecoms, Physical and exact sciences

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20171116&DB=&locale=en_EP&CC=WO&NR=2017194999A1&KC=A1&ND=4

WIPO

Flow device

GB1605503.0

31. 03. 2016

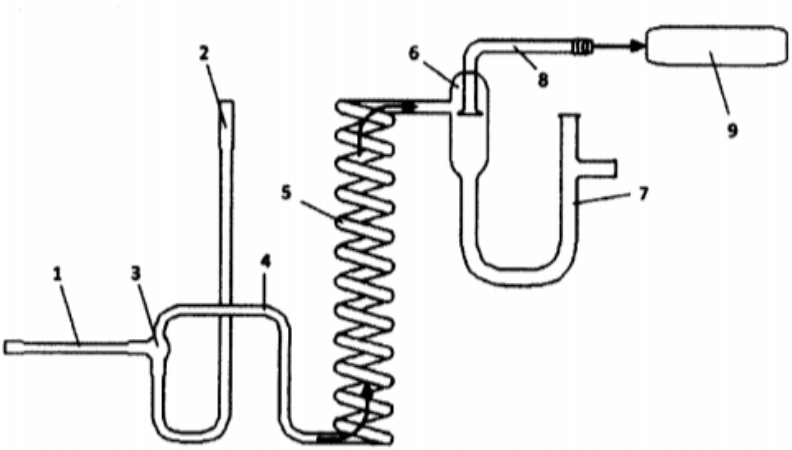
Jožef Stefan Institute [SI]

prof. dr. Milena Horvat, Ermira Begu, Yaroslav Shlyapnikov, dr. Andrej Stergaršek, Peter Frkal, mag., dr. Jože Kotnik

Flow device

A flow device for extracting a dissolved analyte from a liquid sample, comprising (i) a liquid sample inlet 1, (ii) a carrier gas inlet 2, (iii) an equilibration section 5, where flows of liquid sample and carrier gas coming from the inlets are mixed and equilibration of the content of analyte in the two phases takes place, and (iv) a gas-liquid phase separator 6 downstream of the equilibration section, for separating the gaseous phase with the extracted analyte from the liquid phase of the mixture. Mixing of the two phases may take place in a mixing chamber prior to entry into the equilibration section, which may comprise a helical tube. The lower part of

the gas-liquid separator may comprise a U-shaped tube 7 branching off to two outlets, one for the treated liquid sample and another for residual carrier gas. The upper part thereof may be connected to a device 9 for measuring the analyte concentration in the carrier gas, whereby its concentration in the liquid sample may be determined via the value of partition coefficient. Preferably the analyte is elemental mercury, the liquid sample is wet flue gas desulfurisation scrubber solution and the carrier gas is nitrogen.



Nanotechnology and new materials

Measurements and standards, Protecting man and environment

Industrial products, Medical/ health related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20171004&DB=EPODOC&locale=en_ES&CC=GB&NR=2548889A&KC=A&ND=4

GB

Extended patent application

SI25182A

21. 03. 2017

Jožef Stefan Institute [SI]

prof. dr. Milena Horvat, Ermira Begu, Yaroslav Shlyapnikov, dr. Andrej Stergaršek, Peter Frkal, mag., dr. Jože Kotnik

Pretočna naprava (SI), Flow device

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20171030&DB=EPODOC&locale=en_ES&CC=SI&NR=25182A&KC=A&ND=5

A Coating for Improved Tissue Adhesion

WO2017158238

16. 03. 2016

ID CREATIONS OY [FI], Jožef Stefan Institute [SI]

Ilkka Kangasniemi, J. Pablo Perez, Nataša Drnovšek, Martina Lorenzetti

A Coating for Improved Tissue Adhesion

The invention relates to a coating consisting essentially of titanium dioxide wherein at least 20 % of the titanium dioxide has a crystalline structure of anatase and/or rutile; the coating has a roughness comprising indentations, wherein at least 50 % of the indentations have a maximum depth of 1-50 nm and a maximum width of 1-50 nm; the coating is treatable to achieve a water contact angle of 0-20°; the coating is treatable to be negatively charged or positively charged; and the coating exhibits an improved attachment of mammalian tissue cells, which improved attachment is such that when a substrate coated with the above coating is compared to the same uncoated substrate, at least 100 % more cells remain attached on the coated substrate than on the uncoated substrate.

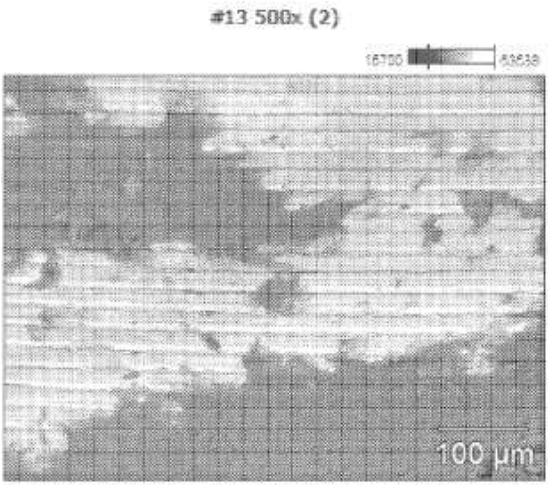


Fig. 8

Nanotechnology and new materials

Biological Sciences

Medical / Health related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20170921&DB=&locale=en_EP&CC=WO&NR=2017158238A1&KC=A1&ND=4

FI

Electro-optical modulator based on a layered semiconductor crystal structure

GB1600549.8

12. 01. 2016

Jožef Stefan Institute [SI], Fondazione Istituto Italiano di Tecnologia [IT]

prof. dr. Christoph Gadermaier, dr. Daniele Vella, prof. dr. Andras Kis, Dmitry Ovchinnikov, Guglielmo Lanzani, Nicola Martino, Maria Rosa Antognazza

Electro-optical modulator based on a layered semiconductor crystal structure

The invention provides an electro-optical modulator having: a mono-or multi-layered film of 2-dimensional semiconducting material having a layered crystal structure; and electrodes formed at each side of the semiconducting material, wherein the application of electrical potential to said electrodes and across said semiconducting material modulates the transmittance of light of certain wavelengths as a function of the voltage. Integrated photonic circuits and optical devices having such modulators are also provided.

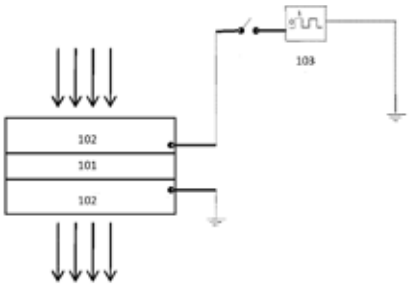


Fig.1

Nanotechnology and new materials

Electronics It Telecoms, Physical and Exact Sciences

Communications, Computer related, Other Electronics related

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1600549.8

GB

Extended patent application

WO2017121608

22. 12. 2016

Jožef Stefan Institute [SI], Fondazione Istituto Italiano di Tecnologia [IT]

prof. dr. Christoph Gadermaier, dr. Daniele Vella, prof. dr. Andras Kis, Dmitry Ovchinnikov, Guglielmo Lanzani, Nicola Martino, Maria Rosa Antognazza

Electro-optical modulator based on a layered semiconductor crystal structure

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20170720&DB=&locale=en_EP&CC=WO&NR=2017121608A1&KC=A1&ND=4

2015

Method for coupling molecules of organic compounds

P.413922

11. 09. 2015

Univ. Warszawski [PL], Jožef Stefan Institute [SI]* * *

Piotr Leszczynski, prof. dr. Wojciech Grochala, Adam Budniak, dr. Zoran Mazej

Method for coupling molecules of organic compounds

The present invention relates to process of the electrochemical synthesis of the silver(II) salts of high purity, the methods of synthesis of silver(II) hydrates of high purity, products produced by these methods, and the use of so obtained silver(II) compounds to modify the molecular structures of organic compounds including waste disposal. A method of electrochemical synthesis of a silver(II) salts with the electrolysis of the silver(I) salts or hydrogensalts of silver(I) in the acid solution containing the same anion as electrolyzed salt, preferably oxoanion or oxofluoroanion with inorganic element in a high degree of oxidation. Use of concentrated acid solution, preferably at a concentration of above 80%. The invention includes silver(II) salts obtained by this method. Process of the synthesis of silver(II) salts hydrates with expose of silver(II) or silver(I/If) salts to liquid water, ice or water vapour, under strictly controlled conditions. Preferably, the gas solution with a concentration of water vapor 0-100 g/m 3, for 1-200 hours. The invention includes silver(II) salts hydrates obtained by this method. A method of modifying the molecular structures of organic compounds using an oxidising agent is based in on the oxidative initiation of a reagent with a redox compound, using at least one of silver(II) compound. The invention comprises the use of a silver(II) salt. The invention comprises the use of a silver(II) salt as the redox reagent for disposal of hazardous waste and/or toxic substances, particularly organic.

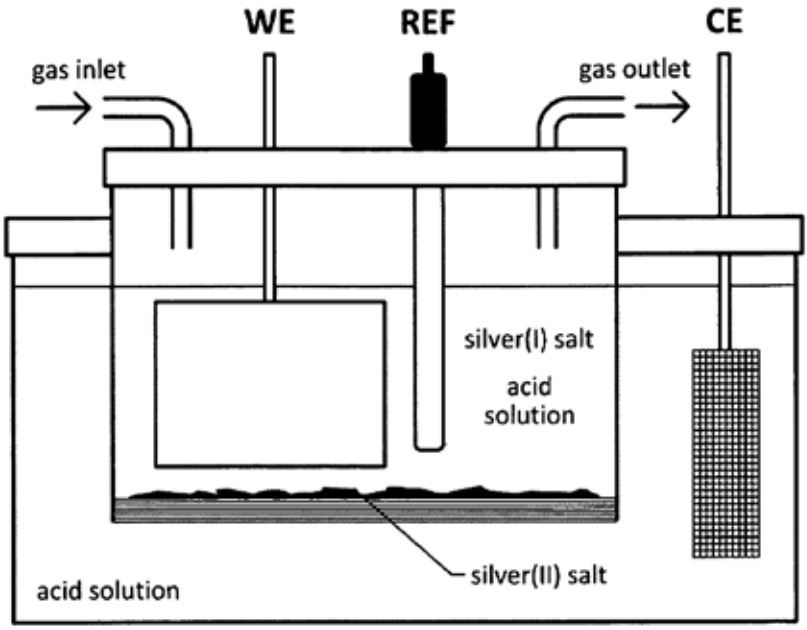


Fig. 1

Nanotechnology and new materials

Industrial technologies (Industry, Materials, Transport)

Energy, Industrial products, Medical/ health related

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017042624

PL

***The head of the research department (Department of Inorganic Chemistry and Technology) confirmed that Jožef Stefan Institute is 20% owner of the patent application. At the moment, procedures are in place to complement the patent databases so that Jožef Stefan Institute will also be officially designated as the applicant.

Extended patent application

WO2017042624A1

13. 09. 2016

UNIV WARSZAWSKI [PL], Jožef Stefan Institute [SI]

dr. Piotr Leszczyński, lic Wojciech Adamczyk, mgr. Adam Budniak, mgr. Jakub Gawraczyński, mgr. Tomasz Gilewski, mgr. Piotr Połczyński, dr. Rafał Jurczakowski, prof. Wojciech Grochala, dr. Zoran Mazej

Methods for preparing silver(II) salts and their hydrates, the products obtained by these methods, and their use to modify the molecular structure of organic compounds

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20170316&DB=&locale=en_EP&CC=WO&NR=2017042624A1&KC=A1&ND=4

Metal-bonded RE-Fe-B Magnets

US20160322136A1

30. 04. 2015

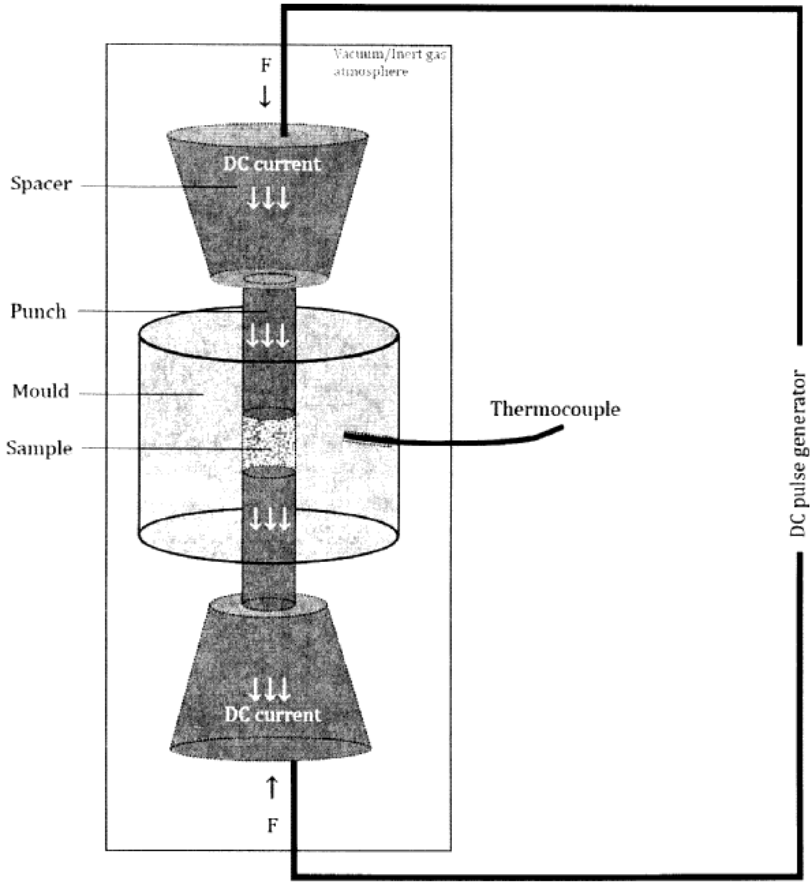
Jožef Stefan Institute [SI]

Luka Kelhar, Paul Mcguinnes, Spomenka Kobe

Metal-bonded RE-Fe-B Magnets

This invention relates to bonded magnets and the method for their production. Such magnets benefit from the fact that for binding, they utilize Low-Melting-Point metal or an alloy, and thus can be used at temperatures where conventional bonded magnets cannot operate. This composite magnet is made of magnetic phase and non-magnetic metallic binder. The mechanical and magnetic properties of metal-bonded magnets vary with the ratio of the two phases. The optimum result is achieved when adding 20-40 wt. % of binder. A huge difference can be observed between conventional and spark-plasma sintering (SPS) processing. An increase in remanence is up to 30%, as a consequence of simultaneous application of pressure and temperature. Additionally, minimized exposure time contributes to preservation of magnetic properties, which is a strong

advantage of SPS technique. The value added of such magnets is the ability to withstand temperatures above 200° C., due to metallic matrix.



Nanotechnology and new materials

Physical and exact sciences, Industrial technologies (Industry, Materials, Transport)

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20161103&DB=&locale=en_EP&CC=US&NR=2016322136A1&KC=A1&ND=4

US

Process for the synthesis of the molybdenum carbide in the form of quasi-one-dimensional structures, that is, nano-wires, micro-wires, nano-strips and micro-strips

SI24925A

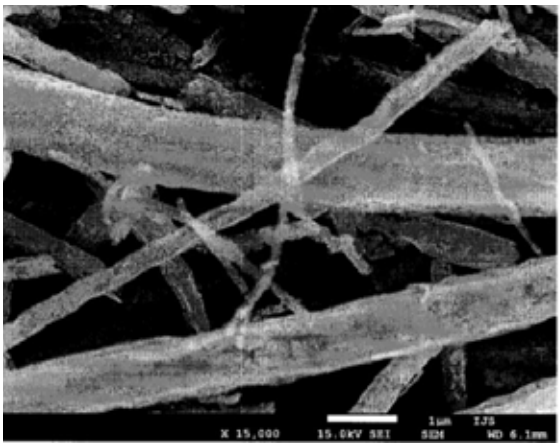
27. 02. 2015

Jožef Stefan Institute [SI]

Andrej Kovič, Adolf Jesih, Aleš Mrzel

Postopek za sintezo molibdenovih karbidov v obliki kvazi enodimenzionalnih struktur, to je nanožic, mikrožic, nanotrakov in mikrotrakov (SI), Process for the synthesis of the molybdenum carbide in the form of quasi-one-dimensional structures, that is, nano-wires, micro-wires, nano-strips and micro-strips (ENG)

Subject of the invention is a process for the synthesis of molybdenum carbides in the form of quasi-one-dimensional structures; This is nanowires, microsounds, nanotubes, and microtractors. The invention is in the field of inorganic chemistry and transition metal chemistry and refers to the synthesis of molybdenum carbides in the form of quasi-one-dimensional structures by the method of converting quasi-one-dimensional compounds with a submicro cross section of the nanoparticles described by the formula Mo6CyHz, 8.2 smaller than y + z less than 10, Mo is molybdenum, C is halogen (sulfur (S), selenium (Se), telur (Te)); H is halogen (iodine (I)), by heating in the presence of a carbon-containing gas. This process allows the synthesis of the macroscopic amount of molybdenum carbides in the form of quasi-one-dimensional structures (nanoscale, microsounds, nanotubes, and microtrains).



Nanotechnology and new materials

Physical and exact sciences, Industrial technologies (industry, materials, transport)

Energy, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160831&DB=&locale=en_EP&CC=SI&NR=24925A&KC=A&ND=4

UIL RS

Process for obtaining health- and environment acceptable construction materials from the soil containing water soluble compounds of heavy metals

WO2015160313A1

11. 02. 2015

Zavod za Gradbenistvo Slovenije [SI]

Ana Mladenovič, Primoč Oprčkal, Nina Kržisnik, Radmila Milačič, Janez Ščančar, Andrijana Sever Škapin

Process for obtaining health- and environment acceptable construction materials from the soil containing water soluble compounds of heavy metals

The invention refers to a process for obtaining health- and environment acceptable construction materials from the soil containing water soluble compounds of heavy metals, which are harmful for health and environment and the content of which essentially exceeds still acceptable border values. During the first step such contaminated soil is prepared, upon which a dispersion of Fe nanoparticles is admixed to said soil, which is then followed by adding of bentonite clay in powder form and homogenization. Upon that, calcareous fly ash is added, which is optionally followed by adding water and mixing.

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Nanotechnology and new materials

Protecting man and environment, Industrial technologies (Industry, Materials, Transport)

Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20151022&DB=&locale=en_EP&CC=WO&NR=2015160313A1&KC=A1&ND=5

WIPO

Extended patent application

EP3131688A1

11. 02. 2015

Zavod za Gradbenistvo Slovenije [SI], Jožef Stefan Institute [SI]

Ana Mladenovič, Primoč Oprčkal, Nina Kržisnik, Radmila Milačič, Janez Ščančar, Andrijana Sever Škapin

Process for obtaining health- and environment acceptable construction materials from the soil containing water soluble compounds of heavy metals

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20180124&DB=&locale=en_EP&CC=EP&NR=3131688B1&KC=B1&ND=5

2014

Steatite ceramics with improved electrical properties and a method for the production thereof

WO2016093771A1

10.12.2014

Jožef Stefan Institute [SI], Razvojni center ENEM novi materiali D.O.O. [SI]

Irena Ramšak, Marija Razpotnik, Katja Makovšek, Danjela Kuščer Hrovatin, Silvo Drnovšek, Janez Holc

Steatite ceramics with improved electrical properties and a method for the production thereof

The object of the invention is a process for producing alkaline steatite ceramics having controlled electrical properties for electrotechnology. Alkaline steatite ceramics of the invention belongs to a group of magnesium silicates of C 220 type. Steatite ceramics is an electrical insulator with a relatively low electrical conductivity at increased temperature. To produce the alkaline steatite ceramics the materials talc, kaolin, clays, bentonite and dolomite were used. The mixture can contain up to 1.5 % by weight of iron oxides. After the mixture is ground and the products are formed, the blanks are fired at a temperature in the range from 1280 to 1340 °C for 1 hour to 10 hours. Alkaline steatite ceramics with bentonite without added kaolin has specific electrical resistance at 400 °C 1.4 x 106 Ohm m. The ceramics, in which the total content of bentonite is replaced by kaolin, has specific electrical resistance at 400 °C more than 1 x 108 Ohm m.

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Nanotechnology and new materials

Electronics, IT, telecoms, Industrial technologies (Industry, Materials, Transport)

Communications, Other electronics related, Energy

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160616&DB=&locale=en_EP&CC=WO&NR=2016093771A1&KC=A1&ND=4

EPO

Method of growing carbon nanowalls on a substrate

GB1418056.6

13. 10. 2014

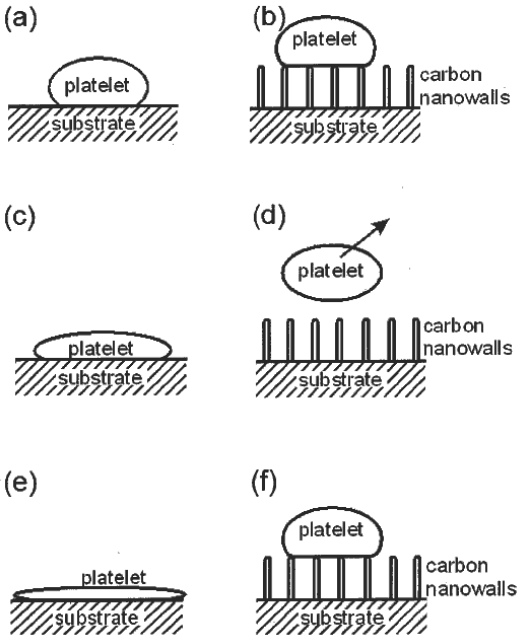
Jožef Stefan Institute [SI], University of Maribor, National Institute for Laser, Plasma and Radiation Physics

doc.dr. Ita Junkar, dr. Martina Modic, doc.dr. Alenka Vesel, Gheorghe Dinescu, Sorin Ionut Vizireanu, Silviu-Daniel Stoica, prof.dr. Karin Stana Kleinschek, prof.dr. Miran Mozetič

Method of growing carbon nanowalls on a substrate

A method for growing carbon nanowalls on a substrate of an implantable medical device by means of a processing chamber is provided, said method comprising: providing said substrate in said processing chamber, evacuating said processing chamber to a processing pressure, entering a gas mixture inside the processing chamber, providing radicals inside said chamber and adsorbing said radicals on said substrate leading to growing of carbon nanowalls on said substrate.

Fig. 1



Nanotechnology and new materials

Physical and exact sciences

Medical/ health related

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1418056.6

GB

Extended patent application

WO2016059024A1

13. 10. 2015

Jožef Stefan Institute [SI], National Institute for Laser, Plasma and Radiation Physics, University of Maribor

Ita Junkar, Martina Modic, Alenka Vesel, Miran Mozetič, Gheorghe Dinescu, Sorin Ionut Vizireanu, Silviu-Daniel Stoica, Karin Stana Kleinschek

Method of growing carbon nanowalls on a substrate

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160421&DB=&locale=en_EP&CC=WO&NR=2016059024A1&KC=A1&ND=9

Method for cleaning of with body fluid-contaminated medical implantants and devices with the use of atomic oxygen

SI24840A

02. 10. 2014

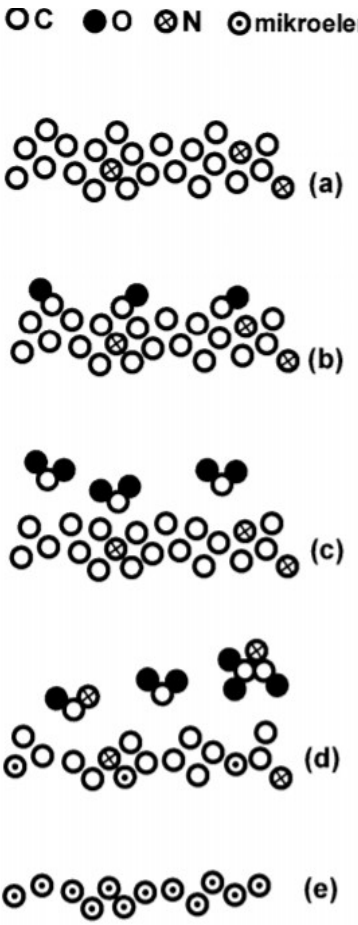
Jožef Stefan Institute [SI]

Alenka Vesel, Rok Zaplotnik, Miran Mozetič

Metoda za čiščenje s telesno tekočino onesnaženih medicinskih vsadkov in pripomočkov z uporabo atomarnega kisika (SI), Method for cleaning of with body fluid-contaminated medical implantants and devices with the use of atomic oxygen (ENG)

Subject of the invention is a method for purification with blood, lymph, blood plasma or any other body fluid of contaminated metal implants made of titanium or titanium alloy. These implants are exposed to atomic oxygen, which reacts chemically with organic material from impurities at room temperature or slightly elevated temperature, partly or completely oxidizes it, and oxidation products can be volatile molecules leaving the surface of said implants during treatment. After the sufficiently large received dose of atomic oxygen, only the oxidized microelements that are initially present in the impurities with which the implants are contaminated remain on the surface of said implants. The method allows complete removal of the organic component without altering the other properties

of said implants, since the treatment is carried out at a sufficiently low temperature below 100 degrees Celsius.



Nanotechnology and new materials

Physical and exact sciences, Biological sciences

Medical/ health related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160429&DB=&locale=en_EP&CC=SI&NR=24840A&KC=A&ND=4

UIL RS

Method for immobilization of heparin on a polymeric material

GB1416593.0

19. 09. 2014

Jožef Stefan Institute [SI], University of Maribor [SI]

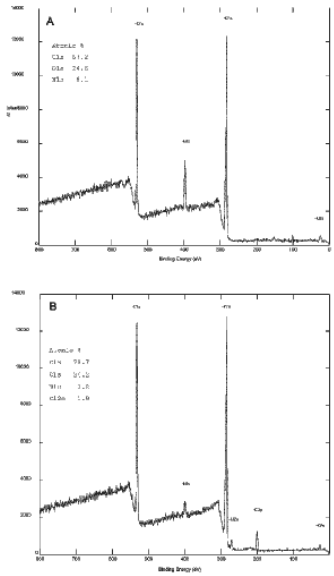
Metod Kolar, univ.dipl.inž.kem.tehnol., doc. dr. Alenka Vesel, dr. Martina Modic, dr. Ita Junkar, prof.dr. Karin Stana – Kleinschek, prof.dr. Miran Mozetič

Method for immobilization of heparin on a polymeric material

A method for immobilization of heparin on polymeric material is disclosed, said method comprising selecting a substrate made from a polymeric material, pre-treating said substrate, mounting said substrate into a vacuum chamber, evacuating the vacuum chamber to pressure essentially below 100 Pa, preferably below 1 Pa, selecting a source of NH2 radicals, leaking the NH2 radicals from said source into said vacuum chamber during continuous pumping of said vacuum chamber, interacting said NH2 (NH2) radicals with said substrate made from a polymeric material, evacuating said vacuum chamber, venting said vacuum chamber to atmospheric pressure, and covalent bonding of activated heparin on said substrate.

EP 2 997 984 A1

Fig. 2



Nanotechnology and new materials

Physical and exact sciences, Measurements and Standards

Medical/ health related, Industrial products

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1416593.0

GB

Extended patent application

EP2997984A1

17. 09. 2015

Jožef Stefan Institute [SI], University of Maribor [SI]

Metod Kolar, Miran Mozetič, Ita Junkar, Alenka Vesel, Martina Modic, Karin Stana – Kleinschek

Method for immobilization of heparin on a polymeric material

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160323&DB=&locale=en_EP&CC=EP&NR=2997984A1&KC=A1&ND=4

Photocatalytic Reactor

WO2016034253A1

05. 09. 2014

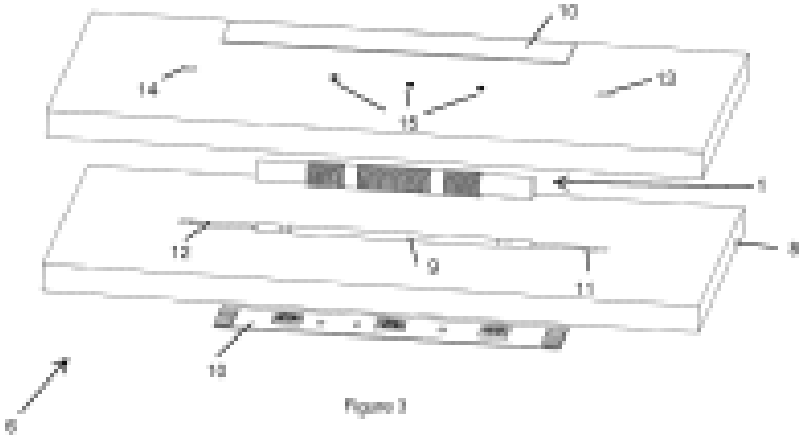
Jožef Stefan Institute [SI]

Luka Suhadolnik, Matic Krivec, Miran Čeh, Kristina Žagar, Goran Dražič

Photocatalytic Reactor

Described herein is a reactor comprising: a housing defining a chamber therein; an inlet channel and an outlet channel running through the housing into the chamber; and a support positioned within the chamber;

the support having a surface comprising a semiconductor material. Also described are methods of making reactors, methods of using reactors, and related uses and products.



Nanotechnology and new materials

Industrial Technologies (Industry, Materials, Transport), Physical and Exact Sciences

Medical/ health related products, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160310&DB=&locale=en_EP&CC=WO&NR=2016034253A1&KC=A1&ND=4

WIPO

Extended patent application

SI24802A

16. 10. 2014

Jožef Stefan Institute [SI]

Luka Suhadolnik, Matic Krivec, Miran Čeh, Kristina Žagar, Goran Dražič

Reaktor

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160331&DB=&locale=en_EP&CC=SI&NR=24802A&KC=A&ND=4

Method for treatment of tools and tools used for isolation of microvesicles or exomes

GB1415090.8

26. 08. 2014

Jožef Stefan Institute [SI], University of Ljubljana [SI]

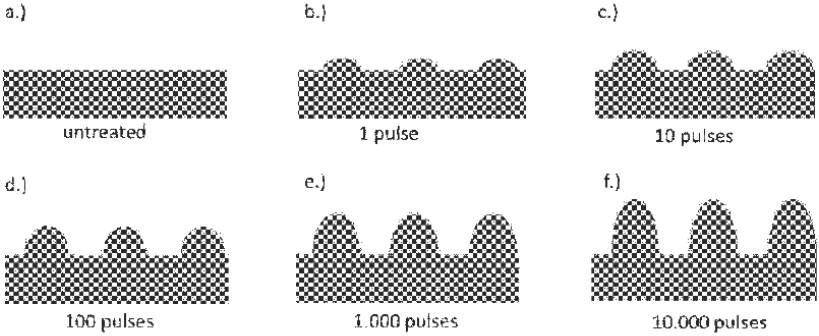
dr. Ita Junkar, doc.dr. Veronika Kralj – Iglič, dr. Rok Zaplotnik, Roman Štrukelj, prof.dr. Miran Mozetič

Method for treatment of tools and tools used for isolation of microvesicles or exomes

According to the present invention a method which prevents excessive adsorption of microvesicles on the surfaces of tools used for sampling, storing and handling body flu- ids containing microvesicles is provided. The method comprises the steps of: selecting said a tool from the a list plurality of tools including but not limited to needles, blood tubing, blood bags, catheters, Eppendorf tubes, pipettes or the like, providing said tool from said plurality of tools, providing a source of positively and negatively charged particles of high density, selecting a source assuring for formation of positively and negatively charged particles of high density and treating a surface of said tool by applying short pulses of said source of particles next to or on the said surface of said tool to assure surface modification of said surface by reacting said positively and negatively charged particles of high density on said surface. The method according to the present invention ensures contacting of tools with short pulses of highly ionized gas comprising both positively and negatively charged particles, the pulses being essentially short enough to avoid excessive heating of materials used for collecting, sampling, storage, transport and isolation of micro vesicles and the density of both positively and negatively charged particles which is essentially high enough to cause roughening of said tools on sub-micrometer or nanometer scale. Especially tools treated according to the present inventive method prevents excessive adsorption of microvesicles on the surfaces of said tools used for collecting, sampling, storing, transporting and isolating of microvesicles or the like.

The method according to the present invention enables higher yields and lower frag- mentation of microvesicles for instance by preventing adsorption of this valuable diag- nostic material on the surface of different tools used for isolation and detection. Accordingly, the present invention also provides increasing the roughness of a material by the method according to the present invention. In particular the material which is used to produce diagnostic or medical tools or devices.

Fig. 1



Nanotechnology and new materials

Physical and exact sciences

Genetic Engineering/ Molecular Biology; Medical/ Health Related

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1415090.8

GB

Extended patent application

WO2016030358A1

25. 08. 2015

Jožef Stefan Institute [SI], University of Ljubljana [SI]

dr. Ita Junkar, doc.dr. Veronika Kralj – Iglič, dr. Rok Zaplotnik, Roman Štrukelj, prof.dr. Miran Mozetič

Method for treatment of tools and tools used for isolation of microvesicles, nanovesicles or exsomes

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160303&DB=&locale=en_EP&CC=WO&NR=2016030358A1&KC=A1&ND=4

Method for electrocaloric energy conversion

WO2015014853A1

29. 07. 2014

Jožef Stefan Institute [SI], University of Ljubljana [SI]

Barbara Malič, Hana Ursič, Marija Kosec, Silvo Drnovšek,, Jena Cilenšek, Zdravko Kutnjak, Brigita Rožič, Uroš Flisar, Andrej Kitanovski, Marko Ožbolt, Uroš Plaznik, Alojz Poredoš, Urban Tomc, Jaka Tušek

Method for electrocaloric energy conversion

The present invention lies in the field of electrocaloric energy conversion. More specifically, the present invention relates to improvements in systems and methods which employ electrocaloric materials as a source of temperature variation in electrocaloric refrigeration processes. Even more specifically, the present invention relates to the application of electrocaloric materials in combination with a working fluid communicating with a heat source and a heat sink in counter flow.

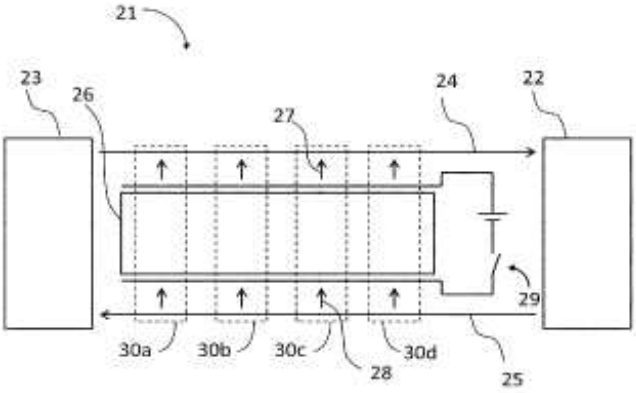


Figure 1

Nanotechnology and new materials

Electronics, IT, Telecoms, Industrial Technologies (Industry, Materials, Transport), Energy

Energy, Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150205&DB=&locale=en_EP&CC=WO&NR=2015014853A1&KC=A1&ND=5

WIPO

Extended patent application

EP3027980A1

29. 07. 2014

Jožef Stefan Institute [SI], University of Ljubljana [SI]

Barbara Malič, Hana Ursič, Silvo Drnovšek, Jena Cilenšek, Zdravko Kutnjak, Brigita Rožič, Uroš Flisar, Andrej Kitanovski, Marko Ožbolt, Uroš Plaznik, Alojz Poredoš, Urban Tomc, Jaka Tušek

Method for electrocaloric energy conversion

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20171018&DB=&locale=en_EP&CC=EP&NR=3027980B1&KC=B1&ND=5

CN105593616A

29. 07. 2014

Jožef Stefan Institute [SI], University of Ljubljana [SI]

Barbara Malič, Hana Ursič, Silvo Drnovšek, Jena Cilenšek, Zdravko Kutnjak, Brigita Rožič, Uroš Flisar, Andrej Kitanovski, Marko Ožbolt, Uroš Plaznik, Alojz Poredoš, Urban Tomc, Jaka Tušek

Method for electrocaloric energy conversion

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160518&DB=&locale=en_EP&CC=CN&NR=105593616A&KC=A&ND=5

US20160187034A1

29. 01. 2016

Jožef Stefan Institute [SI], University of Ljubljana [SI]

Barbara Malič, Hana Ursič, Silvo Drnovšek, Jena Cilenšek, Zdravko Kutnjak, Brigita Rožič, Uroš Flisar, Andrej Kitanovski, Marko Ožbolt, Uroš Plaznik, Alojz Poredoš, Urban Tomc, Jaka Tušek

Method for electrocaloric energy conversion

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160630&DB=&locale=en_EP&CC=US&NR=2016187034A1&KC=A1&ND=5

Hybrid sol-gel compositions and corrosion-resistant coatings based upon same

WO2015001461A1

27. 06. 2014

Jožef Stefan Institute [SI]

Peter Rodič, Ingrid Milošev

Hybrid sol-gel compositions and corrosion-resistant coatings based upon same

A curable hybrid sol-gel composition includes the combination of: (a) a first sol comprising the combination of (i) a hydrolysable silicon alkoxide and (ii) a silicon alkoxide having a least one non-hydrolysable substituent bonded to the silicon atom; and (b) a second sol comprising the combination of (i) a hydrolysable metal oxide in which the central metal atom is selected from the group consisting of Ti, Zr, Al, B, Sn, and V, and (ii) a (meth)acrylic acid-functional component. The cured composition is useful in a variety of compositions, e.g., as an anti-corrosion coating for metal substrates.

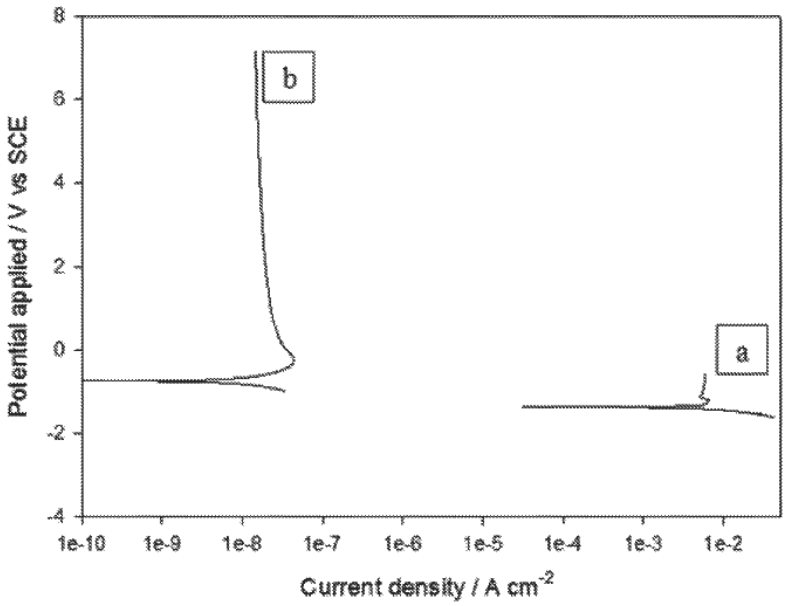


FIG. 1

Nanotechnology and new materials

Industrial Technologies (Industry, Materials, Transport)

Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150108&DB=&locale=en_EP&CC=WO&NR=2015001461A1&KC=A1&ND=4

WIPO

Extended patent application

US2013842025P

27. 06. 2014

Jožef Stefan Institute [SI]

Peter Rodič, Ingrid Milošev

Hybrid sol-gel compositions and corrosion-resistant coatings based upon same

Not available***

***On June 27th 2014 the patent application was filled at WIPO and at USPTO. The application at the USPTO was provisional only and was marked as "available for public". Therefore, the reference link for the Extended patent application is not available.

Method and apparatus for assessing the state of a spent-fuel facility

GB1409900.6

04. 06. 2014

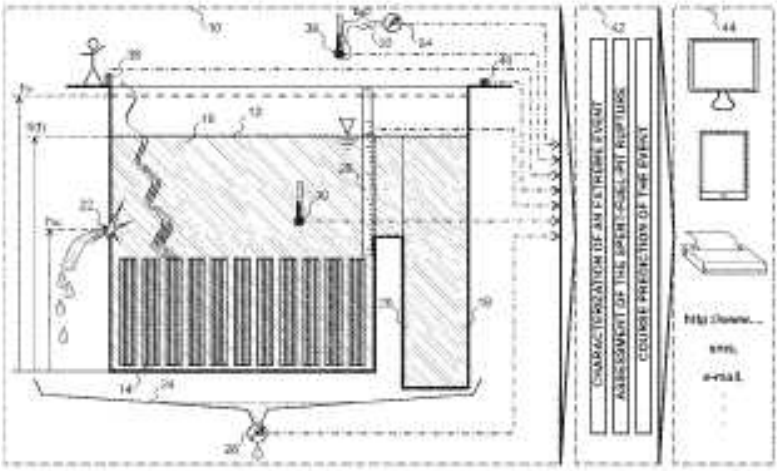
Jožef Stefan Institute [SI]

doc.dr. Marko Matkovič, prof.dr. Iztok Tiselj, doc.dr. Ivo Kljenak, dr. Andrej Prošek, dr. Matjaž Leskovar, mag. Ljublo Fabjan, prof.dr. Leon Cizelj

Method and apparatus for assessing the state of a spent-fuel facility

A system is disclosed for assessing a state of a pool 12 for storing spent nuclear fuel rods or assemblies 14. The system allows a forecast to be made regarding the future development of the coolant (water) level elevation h(t) within the pond based on a measured leakage 22 of coolant 16 therefrom. A flow meter 26 measures the outflow of coolant from a dyke 24 arranged to collect coolant leaking from a rupture 22 in the spent-fuel facility 10. Additional parameters such as the coolant inflow rate, the temperature of the coolant inflow, the temperature of the bulk coolant, a radiation dose rate in the vicinity of the spent-fuel facility etc, may also be taken into account for assessing the location and size of the rupture, as well as for course prediction of the event.

Figure 1



Nanotechnology and new materials

Industrial technologies (industry, materials, transport), Energy, Protecting man and environment

Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160413&DB=EPODOC&locale=en_ES&CC=GB&NR=2530969A&KC=A&ND=4

GB

Extended patent application

SI24756A

16. 10. 2014

Jožef Stefan Institute [SI]

doc.dr. Marko Matkovič, prof.dr. Iztok Tiselj, doc.dr. Ivo Kljenak, dr. Andrej Prošek, dr. Matjaž Leskovar, mag. Ljublo Fabjan, prof.dr. Leon Cizelj

Metoda in naprava za posredno karakterizacijo poškodbe bazena za izrabljeno jedrsko gorivo

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20151231&DB=EPODOC&locale=en_ES&CC=SI&NR=24756A&KC=A&ND=5

Method for synthesis of tetragonal zirconia thin films suitable for catalytic devices

SI24659A

20. 03. 2014

Jožef Stefan Institute [SI]

Miran Mozetič, Nikolas Panagiotopoulos, Giorgos A. Evangelakis

Metoda za sintezo tankih plasti tetragonalnega cirkonijevega oksida primernega za katalitične naprave (SI), Method for synthesis of tetragonal zirconia thin films suitable for catalytic devices

The present invention relates to a method of synthesizing tetragonal zirconia thin film material, said method comprising interaction of zirconium or zirconium-containing materials with a reaction gas comprising oxygen under elevated temperature and the influence of a magnetic field; a tetragonal zirconium material obtained thereby and its use in treatment of hazardous organic gases or liquids.

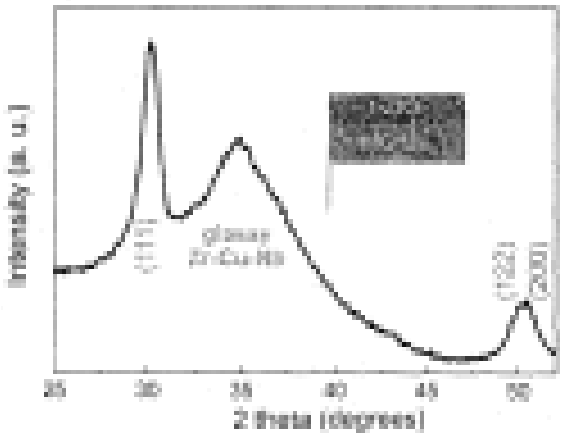


Figure 2

Nanotechnology and new materials

Industrial technologies (industry, materials, transport)

Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150930&DB=&locale=en_EP&CC=SI&NR=24659A&KC=A&ND=4

UIL RS

Extended patent application

WO2015142295A1

19. 03. 2015

Jožef Stefan Institute [SI]

Miran Mozetič, Nikolas Panagiotopoulos, Giorgos A. Evangelakis

Method for synthesis of tetragonal zirconia thin films suitable for catalytic devices

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150924&DB=&locale=en_EP&CC=WO&NR=2015142295A1&KC=A1&ND=4

2013

The procedure of the fast filtration of the signal of the rotation speed with the automatic elimination of the periodic offset

SI24580A

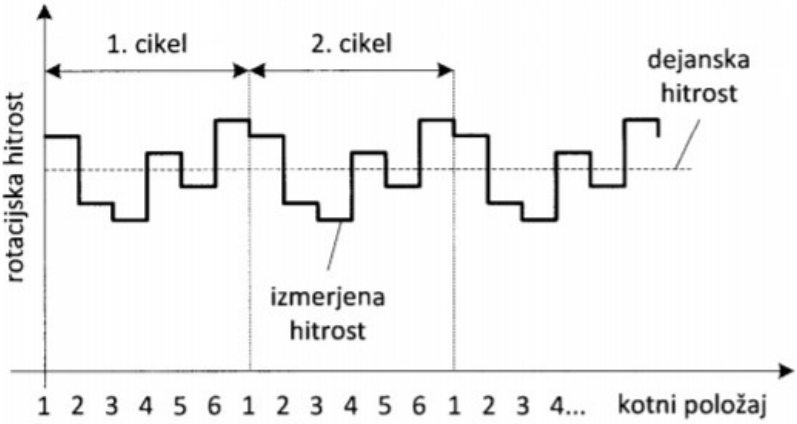
19. 12. 2013

Jožef Stefan Institute [SI]

Damir Vrančić, Marko Nerat, Samo Krančan

Postopek hitrega filtriranja signala rotacijske hitrosti s samodejnim izločanjem periodičnega odmika (SI), The procedure of the fast filtration of the signal of the rotation speed with the automatic elimination of the periodic offset (ENG)

Subject of the invention is a process for automatic data filtering or non-delayed measurements, where the speed data contain a repeating pattern. The proposed process allows you to instantiate metrics automatically, removing the repeated sample in the measurements automatically. The proposed procedure is used to regulate the speed of the brushless one-way BLDC motors or to control or measure the speed of the rotary machines.



Nanotechnology and new materials

Physical and exact sciences, Measurements and standards

Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150630&DB=&locale=en_EP&CC=SI&NR=24580A&KC=A&ND=4

UIL RS

The device and the procedure for constant monitoring of the state of the lubricant and its partical content

SI24579A

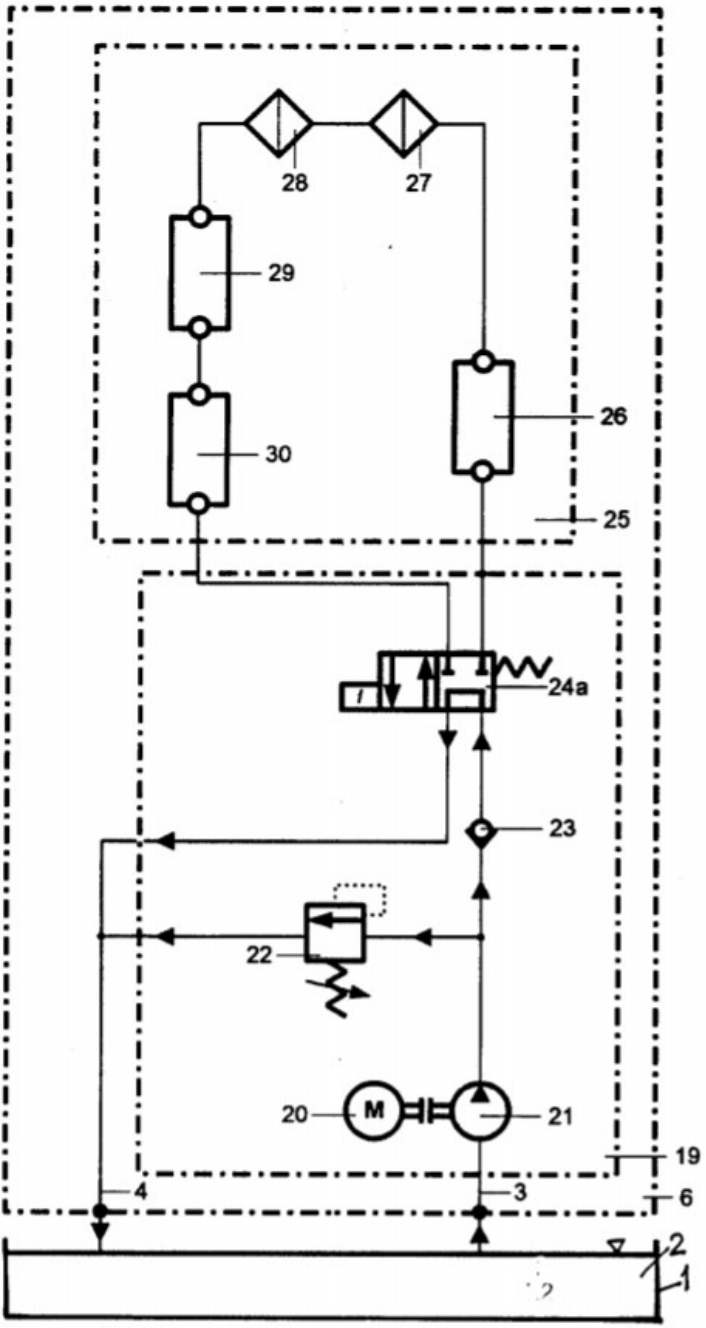
03. 12. 2013

Univerza v Ljubljani, Jožef Stefan Institute [SI]

Jožef Vižintin, Marques Jose Miquel Querido Salgueiro, Boris Kržan, Gabrijel Peršin, Đani Juričić, Pavle Boškoski, Gregor Dolanc

Naprava in postopek za stalno spremljanje stanja maziva in vsebnosti delcev v njem (SI), The device and the procedure for constant monitoring of the state of the lubricant and its partical content (ENG)

The device for continuous monitoring of the quality of the lubricant (2) and the particulate content thereof comprises a connecting hydraulic assembly (19) which is hydraulically connected to the reservoir via a suction connection hydraulic tube (3) with a built-in pump (21) and a return hydraulic connection pipe (2) and in the second position it prevents the flow of the lubricant (2) through it and ensures that the lubricant (2) is provided in the first position (1) and further comprises a two-) of the suction hose (3) returns to the reservoir (1) after the return tube (4). In this unit (5) a measuring block (25) is connected which is hydraulically connected to said distributor (24) and comprises a sensor (26) for identifying the presence of metal particles in the lubricant (2), a coarse oil filter (27), a fine oil a filter (28), a water oil detection sensor (29), and a sensor (30) for monitoring a dielectric oil constant that is hydraulically connected to said distributor (24). The apparatus further comprises a data acquisition unit (7) for connecting each of said sensors (26, 29, 30), said unit (7) being in addition to a measurement control unit (33) with an integrated analog-to-digital converter (34)) for connecting the unit (7) to said sensors (26, 29, 30) includes a memory unit (36) and a unit (37) for establishing a wireless Internet connection, optionally also a power conversion unit (31), wherein said unit (37) for establishing a wireless internet connection, with the possibility of signaling or signaling, information, but wirelessly, is connected to the data analysis unit (9) and via the latter to the display (17).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Nanotechnology and new materials

Physical and exact sciences, Industrial technologies (industry, materials, transport), Other industrial technologies

Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150630&DB=&locale=en_EP&CC=SI&NR=24579A&KC=A&ND=5

UIL RS

Method of manufacturing fully dense Nd-Fe-B magnets with enhanced coercivity and gradient microstructure

EP2869311A1

29. 10. 2013

Jožef Stefan Institute [SI]

Paul John McGuiness, Marko Soderžnik, Kristina Žagar, Andraž Kocjan, Spomenka Kobe

Method of manufacturing fully dense Nd-Fe-B magnets with enhanced coercivity and gradient microstructure

The present invention relates to a method of manufacturing fully dense Nd-Fe-B magnets by mixing Nd-Fe-B ribbons with a powder containing a heavy rare earth metal. The mixture comprises 1-4 wt% of the heavy rare earth metal and is in the first step spark plasma sintered to a fully dense nanocrystalline Nd-Fe-B magnet and subsequently in a second step annealed to allow the diffusion of the heavy rare earth metal. With this method an enhancement of coercivity of approximately 30 % can be achieved.

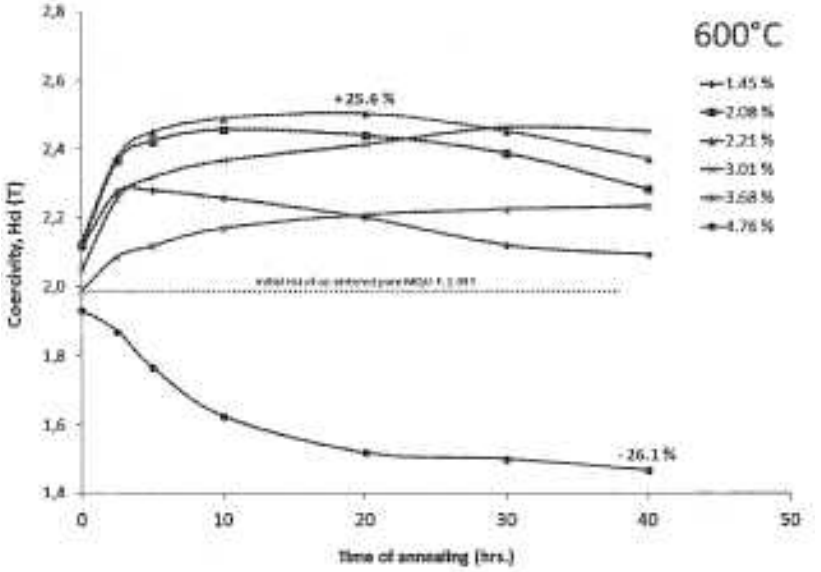


Fig. 2

Nanotechnology and new materials

Physical and exact sciences

Other electronics related, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150506&DB=&locale=en_EP&CC=EP&NR=2869311A1&KC=A1&ND=4

EPO

Method for adjusting the friction coefficient of polyvinylidene fluoride (PVDF)

SI24472A

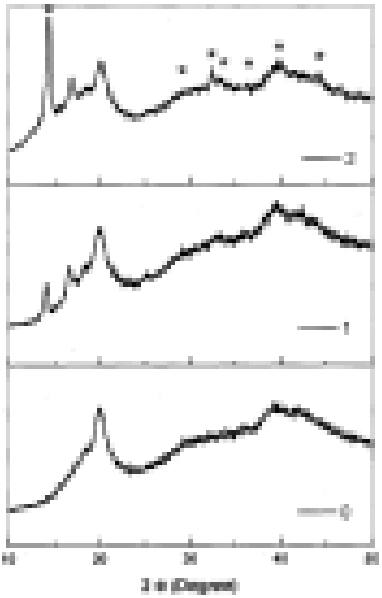
19. 09. 2013

Jožef Stefan Institute [SI],
Center odličnosti polimerni materiali in tehnologije, PoliMaT,
Center odličnosti Namaste, zavod za raziskave in razvoj naprednih nekovinskih materialov s tehnologijami prihodnosti

Maja Remškar, Janez Jelenc, Andrej Kržan

Method for adjusting the friction coefficient of polyvinylidene fluoride (PVDF), (Fluoro-polimerni nanokompoziti s prilagojenimi tornimi lastnostmi)

This disclosure provides three-dimensional and thin film morphologies of fluoro-polymer nanocomposites with adjusted friction properties, which contain inorganic nanotube-based nanomaterials as low-friction additives. The term nanotube-based nanomaterials means nanomaterials which occur in cylindrical geometry, or are derived from cylindrical geometry by using mechanical or chemical methods. In particular, this disclosure provides a method of adjusting friction properties of PVDF based polymers with MoS2-nanotube-based as inorganic low-friction additives. Friction of the PVDF/MoS2 nanotube-based nanomaterials is substantionaly reduced with respect to PVDF coatings without the said additives.



Nanotechnology and new materials

Industrial Technologies (Industry, Materials, Transport), Physical and Exact Sciences

Industrial Products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150331&DB=&locale=en_EP&CC=SI&NR=24472A&KC=A&ND=4

UILRS

Extended patent application

WO2015041612A1

19. 09. 2014

Jožef Stefan Institute [SI]

Maja Remškar, Janez Jelenc, Andrej Kržan

Method for adjusting the friction coefficient of polyvinylidene fluoride (PVDF)

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150326&DB=&locale=en_EP&CC=WO&NR=2015041612A1&KC=A1&ND=4

2012

Passive magnetic cradle with thwe mechanism of stopping and positioning

SI24202A

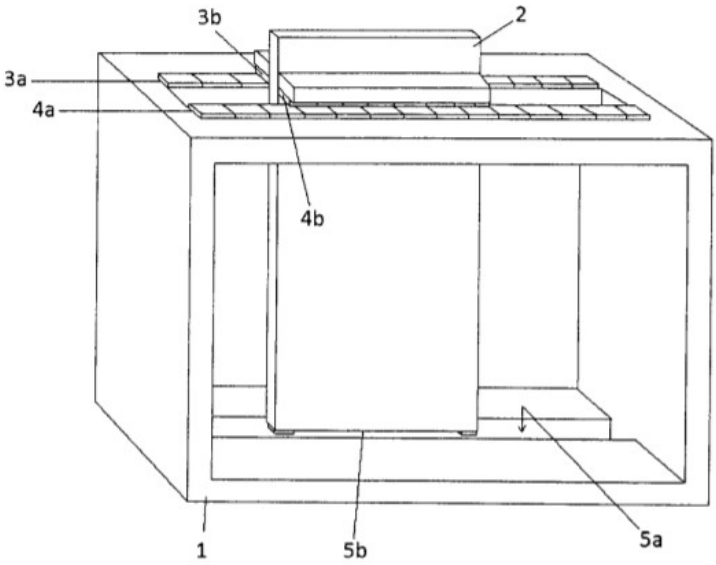
05. 10. 2012

Jožef Stefan Institute [SI]

Kristina Žužek Rožman, Paul McGuiness, Marko Soderžnik Dejan Mir

Pasivno magnetno vodilo z mehanizmom ustavljanja in pozicioniranja (SI), Passive magnetic cradle with thwe mechanism of stopping and positioning (ENG)

The invention relates to the construction of a three-way sliding mechanism using magnetism, with NdFeB magnets in an antipolar geometry, which provides a minimum coefficient of friction while moving the sliding element and controlled stopping thereof in predetermined positions. The sliding, sliding and stopping of the sliding element at precisely determined points is enabled by reflective forces between the magnets attached to the upper two pairs of magnetic rails. In this way, levitation of sliding elements of larger masses is also enabled. The stabilization of the sliding element in the transverse direction to the direction of sliding is facilitated by attractive forces between the magnets attached to the pair of lower magnetic rails.



Nanotechnology and new materials

Physical and exact sciences, Measurements and standards, Industrial technologies (industry, materials, transport)

Other electronics related, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20140430&DB=&locale=en_EP&CC=SI&NR=24202A&KC=A&ND=4

UIL RS

Functionalized hydroxyapatite/gold composites as "green" materials with antibacterial activity and the process for preparing and use thereof

SI24094A

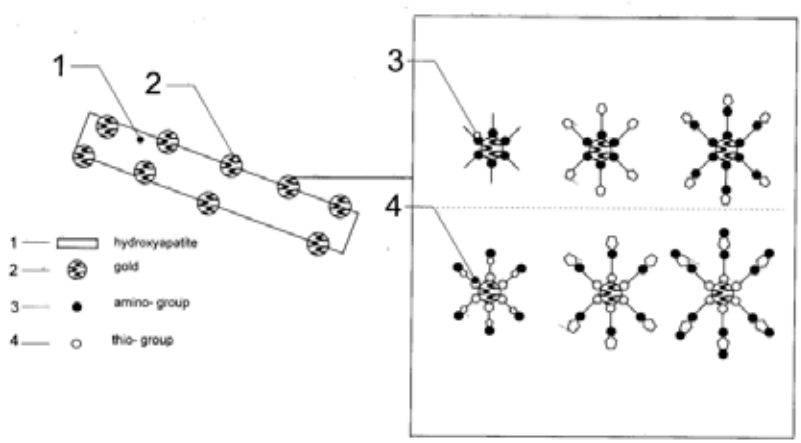
15. 06. 2012

Jožef Stefan Institute [SI]

Marija Vukomanović, Srečo Davor Škapin, Danilo Suvorov

Kompozitni materiali na osnovi keramične faze in kovine s funkcionalizirano površino, kot okolju prijazni materiali z antibakterijskim delovanjem, metoda priprave in njihova uporaba [SI], Functionalized hydroxyapatite/gold composites as "green" materials with antibacterial activity and the process for preparing and use thereof

New concept was developed for formation of human- and environmental- friendly material able to provide antibacterial activity. This material is composed of bioceramic (hydroxyapatite), metallic (gold) and organic part containing amino and thiol groups (amino acids) in the form of composite. Bioceramic part of this material is templating agent applied as a controller of growth and stability of metallic nanoparticles particle. These metallic nanoparticles have functionalized surface and they are centers of antibacterial activity of composites. Efficacy of antibacterial activity of these materials depends on selection of surface functionalization providing activity against both Gram-positive and Gram-negative bacteria. For developed materials this activity is much stronger compare to HAp/Ag composite which shows ability for their use as more favorable replacement of toxic silver. Materials were synthesized using sonochemical method, which has been developed as a novel, "green" approach for their formation.



Nanotechnology and new materials

Industrial Technologies (Industry, Materials, Transport), Protecting man and environment

Consumer related, Medical/ health related, Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20131231&DB=&locale=en_EP&CC=SI&NR=24094A&KC=A&ND=5

UIL RS

Extended patent application

WO2013187846A1

08. 05. 2013

Jožef Stefan Institute [SI]

Marija Vukomanović, Srečo Davor Škapin, Danilo Suvorov

Functionalized hydroxyapatite/gold composites as “green” materials with antibacterial activity and the process for preparing and use thereof

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20131219&DB=&locale=en_EP&CC=WO&NR=2013187846A1&KC=A1&ND=5

EP2863751A1

08. 05. 2013

Jožef Stefan Institute [SI]

Marija Vukomanović, Srečo Davor Škapin, Danilo Suvorov

Functionalized hydroxyapatite/gold composites as "green" materials with antibacterial activity and the process for preparing and use thereof

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150429&DB=&locale=en_EP&CC=EP&NR=2863751A1&KC=A1&ND=4

Pressure sensor with console ceramic sensor structure

SI24085A

21. 05. 2012

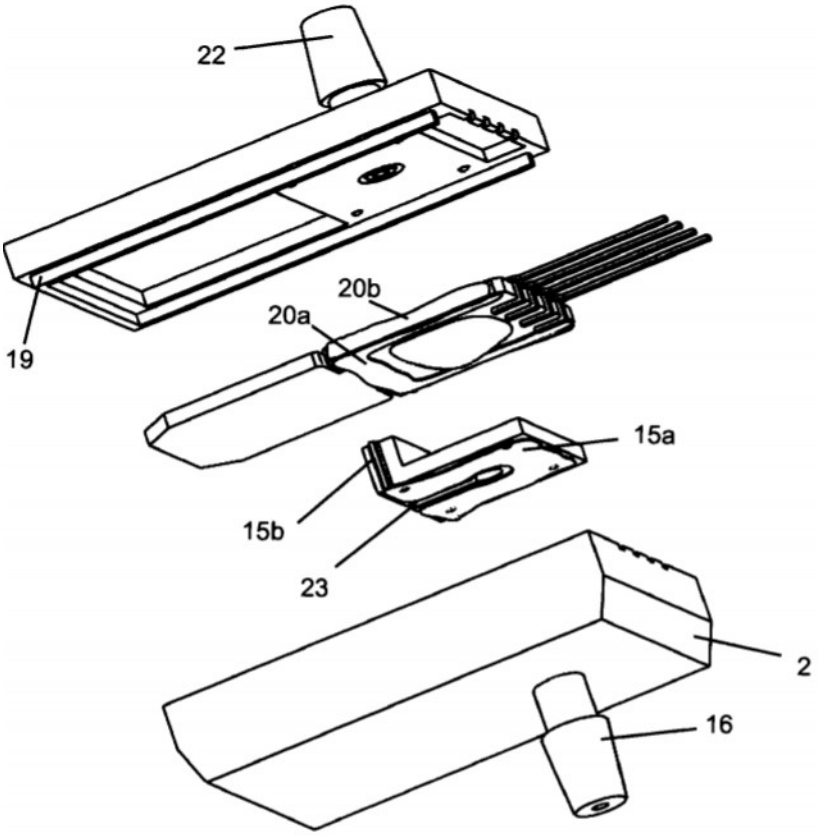
In.Medica d.o.o., Jožef Stefan Institute [SI]

Marina Santo Zarnik, Darko Belavič, Marjan Hodnik, Sandi Kocjan

Senzor tlaka s konzolno keramično senzorsko strukturo (SI), Pressure sensor with console ceramic sensor structure (ENG)

This invention relates to a sensor module with a ceramic pressure sensor (1) manufactured in an elongated three-dimensional ceramic substrate having at least one cavity sealed with a measuring membrane (8) on which sensor elements are made, at one end of the substrate and with an electric connectors (12) and the reference pressure opening (9) which is connected to the cavity at the other end of the substrate via at least one channel (10) in the substrate, and this ceramic pressure sensor is fixed in the housing so as to form a console structure in which sensor portion of the sensor (4) with a membrane (8) on a free protruding end

and the housing is divided into two hermetically separated chambers, one of which is in one measured medium and in the other there is a part of the substrate on which the electronics and connectors are made, so that the part substrate with a membrane (8) in contact with a measuring medium on the opposite side of the membrane, such as the sensor elements.



Nanotechnology and new materials

Electronics IT telecoms, Physical and exact sciences, Measurements and standards, Industrial technologies (industry, materials, transport)

Other electronics related, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20131129&DB=&locale=en_EP&CC=SI&NR=24085A&KC=A&ND=4

UIL RS

Chemical hybridization of hermaphrodite plant species with easily soluble derivatives of oxanilic acid

SI24033A

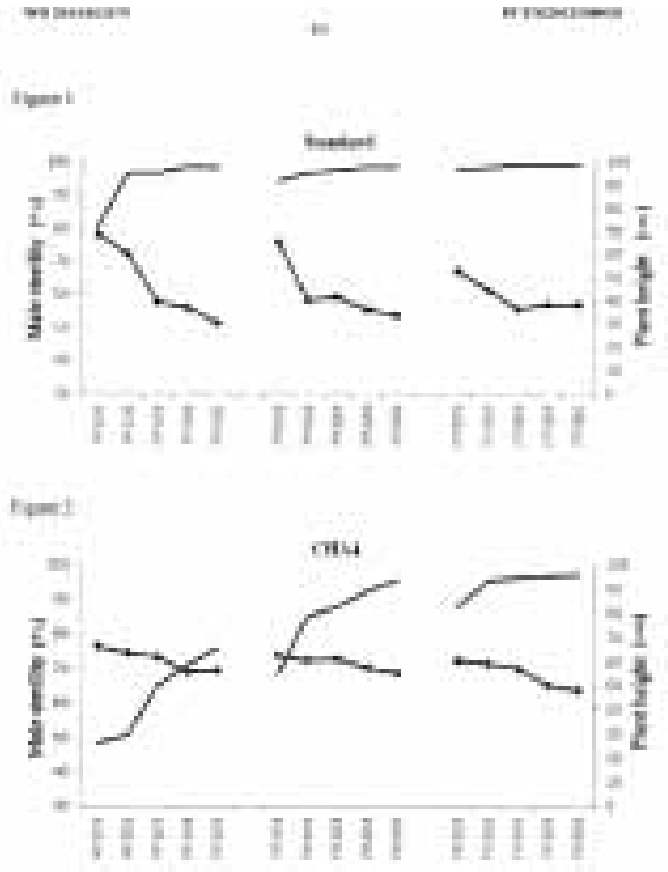
24. 04. 2012

TITAN Primož,SI | SEMENARNA LJUBLJANA D.D.,SI | INSTITUT JOŽEF STEFAN,SI | KMETIJSKI INSTITUT SLOVENIJE,SI

Primož Titan, Jernej Iskra, Vladimir Meglič

Kemična hibridizacija hermafroditnih rastlinskih vrst z lahkotopnimi derivati oksanilne kisline (SI), Chemical hybridization of hermaphrodite plant species with easily soluble derivatives of oxanilic acid

The present invention refers to a chemical way of exploiting a heterosis in commercially significant hermaphrodite plant species, especially common wheat (lat. Triticum aestivum L.), in which easily soluble or water-soluble derivatives of oxanilic acid of general Formula (I) and/or agriculturally acceptable water-soluble salts thereof or water-soluble preparations that contain them are used as an active chemical hybridization substance. The invention further refers to a method for the production of hybrid seeds of F1 generation of commercially significant hermaphrodite plant species, especially common wheat, with chemical hybridization with easily soluble compounds of general Formula (I) and/or the agriculturally acceptable water-soluble salts thereof, which makes it possible, unlike the ways used hithereto, a simpler design of a seed crop for the production of hybrid seeds of F1 generation, better spatial exploitation, better pollination of the female component (line AA) and a greater quantity of seeds of the desired F1 generation based on the sown quantity of both parent components.



Nanotechnology and new materials

Biological sciences, Agriculture/ marine

Genetic engineering/ Molecular biology, Other

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20131030&DB=&locale=en_EP&CC=SI&NR=24033A&KC=A&ND=4

UIL RS

Extended patent application

WO2013162479A1

31. 05. 2012

Titan Primož [SI], Semenarna Ljubljana D.D., [SI], Jožef Stefan Institute [SI], Kmetijski Institut Slovenije [SI], Iskra Jernej [SI], Meglič Vladimir [SI]

Primož Titan, Jernej Iskra, Vladimir Meglič

Chemical hybridization of hermaphrodite plant species with easily soluble derivatives of oxanilic acid

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20131031&DB=&locale=en_EP&CC=WO&NR=2013162479A1&KC=A1&ND=4

A process for the synthesis of 4d and 5d (Nb, Mo, Ta, W) nitrides of transition metals in form of quasi-one-dimensional structures

SI23988A

22. 02. 2012

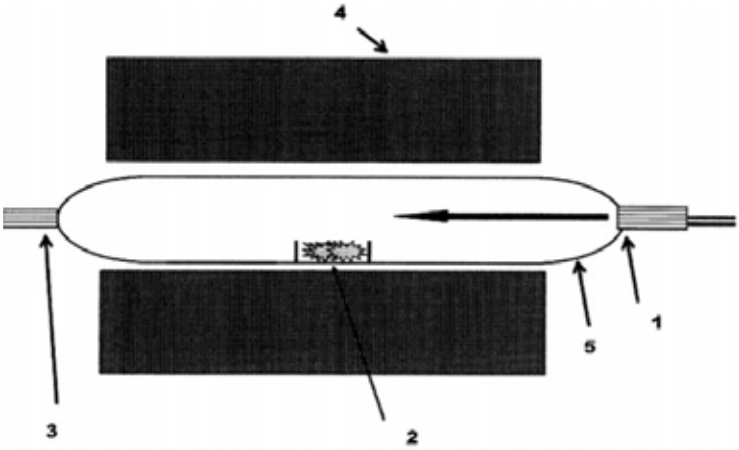
Jožef Stefan Institute [SI], Center odličnosti polimerni materiali in tehnologije

Andrej Kovič, Adolf Jesih, Aleš Mrzel

Postopek za sintezo 4d in 5d (Nb, Mo, Ta, W) nitridov prehodnih kovin v obliki kvazi enodimenzionalnih struktur (SI), A process for the synthesis of 4d and 5d (Nb, Mo, Ta, W) nitrides of transition metals in form of quasi-one-dimensional structures (ENG)

The subject of the invention is a process for the synthesis of nitrides 4d and 5d of transition metals (Nb, Mo Ta, W) in the form of quasi-one-dimensional structures, i.e. nanoparticles, microsounds, nanotubes and microtears. The invention comprises the synthesis of nitrides of transition metals in the form of quasi-one-dimensional structures with the method of converting quasi-one-dimensional compounds with a submicro cross section of the nanoparticles described by the formula M6CyHz, 8.2 smaller than y + z less than 10, where M is a transition metal (Nb, Mp Ta, W), C is a chalcogen (sulfur (S), selenium (Se), telur (Te)); H is halogen (iodine (I)) by heating in the presence of ammonia. This process allows the synthesis of large amounts of nitrides 4d and 5d (Nb, Mo Ta, W) of transi-

tional metals in the form of quasi-one-dimensional structures (nanoscale, microsounds, nanotubes and microtrains).



Nanotechnology and new materials

Physical and exact sciences, Industrial technologies (industry, materials, transport)

Energy, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20130830&DB=&locale=en_EP&CC=SI&NR=23988A&KC=A&ND=4

UIL RS

Multilayer ceramic structure for contactless dielectrical fluids heating

SI24008A

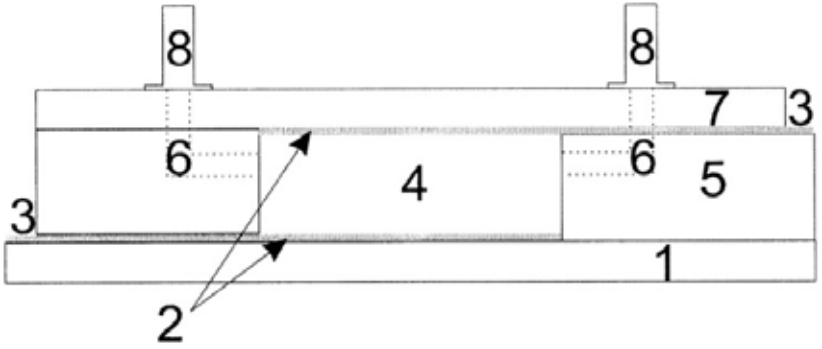
17. 02. 2012

Jožef Stefan Institute [SI], HIPOT – RR raziskave in razvoj tehnologij in sistemov d.o.o., Center odličnosti NAMASTE

Kostja Makarovič, Janez Holc, Darko Belavič, Darko Hrovat, Marija Kosec

Večplastna keramična stuktura za nekontaktno dielektrično gretje tekočin (SI), Multilayer ceramic structure for contactless dielectrical fluids heating (ENG)

The object of the invention is a multilayer ceramic structure that enables contactless dielectric heating of liquids and contains two electrodes, a cavity between them, and an input and output channel. Electrodes may be in direct contact with the heated liquid, but they may be protected by a thin layer of ceramics, which must be considerably thinner than the height of the cavity between the electrodes. Ceramic foils are folded in such a sequence to obtain gaps in the right places and compress the whole structure uniaxially or isostatically. Compressed multilayer ceramic structure is milled at temperatures from 800 to 1600 degrees C from 5 to 120 minutes. After firing, install the piping inlet and outlet ducts.



Nanotechnology and new materials

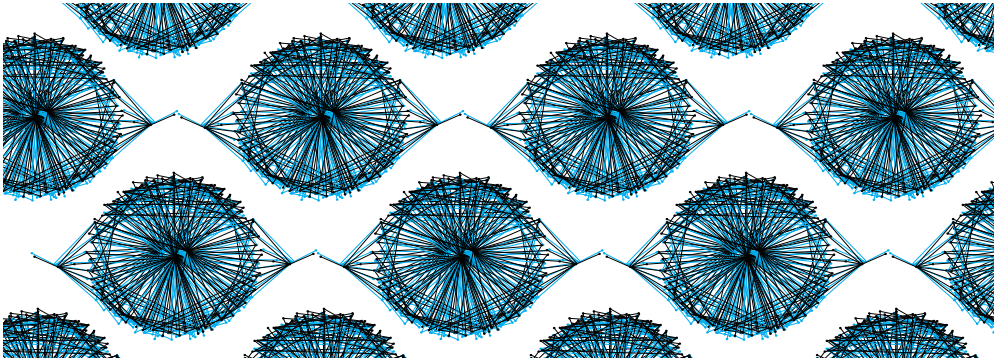
Electronics it telecoms, Physical and exact sciences, Industrial technologies (industry, materials, transport), Energy

Communications, Other electronics related, Energy

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20130830&DB=&locale=en_EP&CC=SI&NR=24008A&KC=A&ND=4

UIL RS

Biological Sciences



2015

Process for regulation of lactic acid fermentation in wine production by magnetic elimination of bacteria

SI24998A

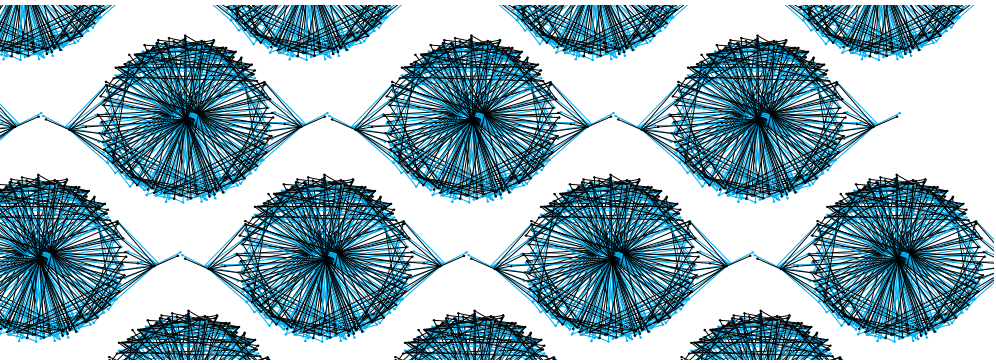
06. 05. 2015

Jožef Stefan Institute [SI], University of Ljubljani

Peter Dušak, Marin Berovič, Darko Makovec

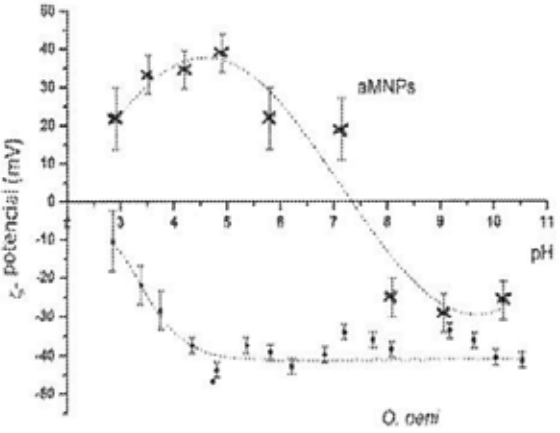
Postopek za uravnavanje mlečnokislinske fermentacije pri proizvodnji vina z magnetnim izločanjem bakterij (SI), Process for regulation of lactic acid fermentation in wine production by magnetic elimination of bacteria (ENG)

Subject of the invention is a process that allows the control of lactic acid fermentation of wine and is based on the use of magnetic particles. The production of wine is based on fermentation of must, which covers two fermentation processes; alcohol fermentation and lactic acid fermentation. Lactic acid or secondary fermentation, which usually begins after alcoholic fermentation, is a desirable process, as it reduces the acidity of the wine, strengthens the organoleptic characteristics of the wine and improves the microbiological stability of the wine. For known processes, acid-acid fermentations with addition of lactic acid bacteria, such as Oenococcus oeni, to must. Lactic bacteria convert malic acid into lactic acid and carbon dioxide. A technical problem that is not satisfactorily solved is the control of the process of lactic acid fermentation and the removal of lactic acid bacteria from the wine after lactic acid fermentation. Lactic acid bacteria multiply in the process of lactic acid fermentation and usually completely alter the substrate of malic acid into a product of lactic acid.



When they run out of the primary substrate, malic acid, they begin to metabolize other substances into the wine, which can have a significant negative effect on the taste of the wine. It is an object and object of the present invention to enable the control of lactic acid fermentation by isolating lactic acid bacteria from the wine at the appropriate stage of the lactic fermentation process or after completion of lactic acid fermentation. By eliminating bacteria, fermentation processes stop. The elimination of lactic acid bacteria is achieved by irreversible adsorption of magnetic particles onto their surfaces, which enables their removal from the must by using an external magnetic field.

Slika 1



Biological sciences

Biological sciences, Measurements and standards, Agrofood industry

Genetic engineering/ molecular biology, Consumer related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20161130&DB=&locale=en_EP&CC=SI&NR=24998A&KC=A&ND=4

UIL RS

Crystal structure of staphylococcus aureus autolysin e, method of producing the crystal and its use in screening methods

WO2016173603A1

27. 04. 2015

Jožef Stefan Institute [SI]

Marko Mihelič, Miha Renko, Dušan Turk

Crystal structure of staphylococcus aureus autolysin e, method of producing the crystal and its use in screening methods

The invention concerns the determination and evaluation of the crystal structure of autolysin E (AtlE) of Staphylococcus aureus (S. aureus), or a crystallizable fragment of AtlE, a method for producing a crystal of AtlE and the respective crystallization kit, and its use in a method for screening an inhibitor of the N-acetylglucosaminidase activity of AtlE, for obtaining atomic spatial relationship data, and for identifying a binding compound of AtlE, e.g. by in silico screening.

Biological sciences

Biological sciences

Genetic engineering/ Molecular biology

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016173603

WIPO

Extended patent application

CA2982368A1

27. 04. 2015

Jožef Stefan Institute [SI]

Marko Mihelič, Miha Renko, Dušan Turk

Crystal structure of staphylococcus aureus autolysin e, method of producing the crystal and its use in screening methods

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20161103&DB=&locale=en_EP&CC=CA&NR=2982386A1&KC=A1&ND=5

2013

Composition and method for plant protection

SI24489A

23. 10. 2013

National institute of Biology [SI], Jožef Stefan Institute [SI]

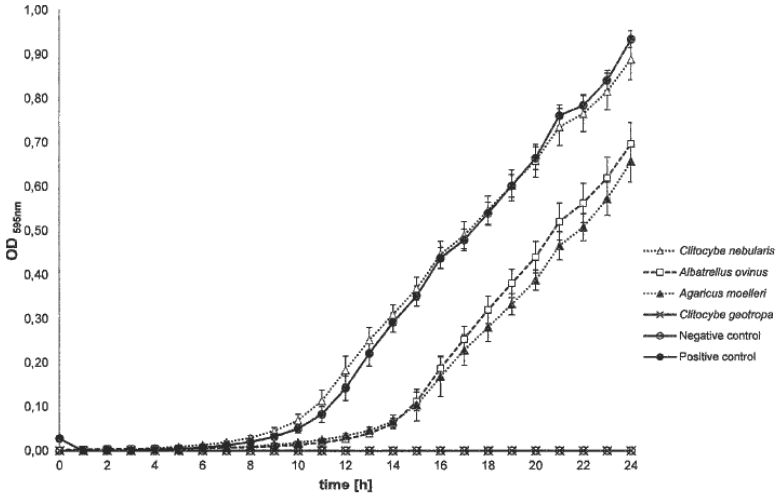
Jana Erjavec, Tanja Dreo, Jerica Sabotič, Jože Brzin, Janko Kos, Maja Ravnikar

Kompozicija in metoda za zaščito rastlin (SLO), Composition and method for plant protection (ENG)

13 protein mushroom extracts and 1 protein extract from mycelium with antibacterial activity against R. solanacearum have shown activity in tests. Moreover, an A. phalloides protein fraction also completely inhibited bacterial growth. The extracts and fractions not only displayed potent inhibition of bacterial multiplication but more commonly displayed bactericidal effect, rather than bacteristatic. In vivo testing of 5 selected extracts on tomato and potato plants lead to a conclusions, that C. geotropa, S. variegatus and T. saponaceum extracts lower disease occurrence and delay bacterial wilting on both tomato and potato plants. Thus, mushroom protein extracts of the present invention are an important tool to treat bacterial wilt caused by R. solanacearum. Moreover inhibition of 12 R. solanacearum strains as well as R. mannitolilytica and E. coli by mush-

room protein extracts proves their broad spectrum activity, which could be beneficial in the fields of medicine, biotechnology, waste management/ bioremediation and agriculture.

Fig. 1



Biological sciences

Biological sciences

Genetic engineering/ molecular biology

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150430&DB=&locale=en_EP&CC=SI&NR=24489A&KC=A&ND=5

UIL RS

Extended patent application

WO2015058944A1

2. 10. 2014

National institute of biology [SI], Jožef Stefan Institute [SI]

Jana Erjavec, Tanja Dreo, Jerica Sabotič, Jože Brzin, Janko Kos, Maja Ravnikar

Composition and method for plant protection

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150430&DB=&locale=en_EP&CC=WO&NR=2015058944A1&KC=A1&ND=4

Caspase-1 imaging probes

EP2848696A1

13. 09. 2013

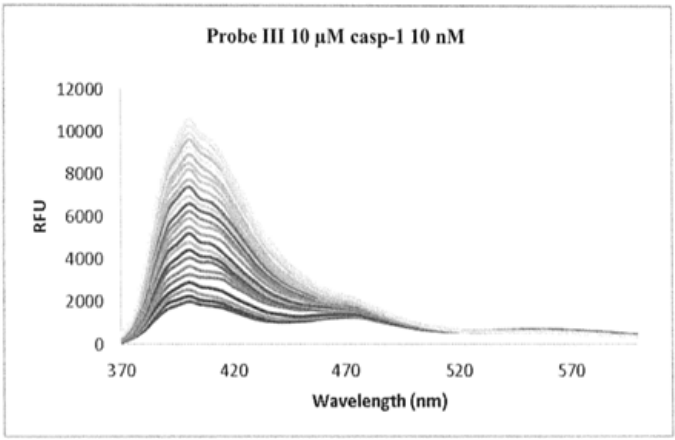
Sanofi-Aventis Deutschland GmbH [DE], Europäisches Laboratorium für Molekularbiologie [DE], Jožef Stefan Institute [SI]

Gopal Datta, Carsten Schultz, Oliver Plettenburg, Michael Kurz, Michael Podeschwa, Guenter Billen, Herbert Kogler, Boris Turk, Matej Vizovišek

Caspase-1 imaging probes

The present invention relates to molecular probes of the formula (I) as defined herein that allow for the observation of the catalytic activity caspase-1 in in vitro assays, in cells or in multicellular organisms, and the use thereof in medicine.

Figure 3C



Biological sciences

Biological sciences

Genetic engineering/ Molecular biology, Medical/ health related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150318&DB=&locale=en_EP&CC=EP&NR=2848696A1&KC=A1&ND=4

EPO

Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

RU2560432C2

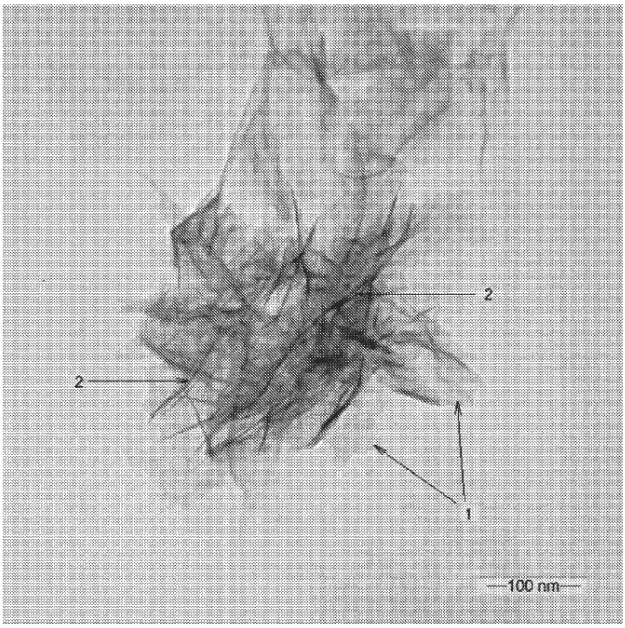
20. 05. 2013

Institute of Strength Physics and Materials [RU], Jožef Stefan Institute [SI]

Marat Izrailyevich Lerner, Sergey Grigoryevich Psakhye, Elena Glazkova Alekseevna, Olga Vladimirovna Bakina, Olga Sergeevna Vasilyeva, Georgy Andreevich Mikhaylov, Boris Turk

Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

The object of the present invention is low-dimensional, primarily 2D folded structures of organic and/or inorganic substances and/or their agglomerates, which have folds and faces of irregular shape and exhibit high local electric field strength generated by surface charges on the said folds, faces and edges, and use thereof: as sorbents of organic particles (molecules, bacteria, viruses, proteins, antigens, endotoxins) and inorganic particles (metal ions, colloids); as an agent with wound healing and antibacterial activity; as an agent for tumor cell growth inhibition.



Biological sciences

Biological sciences

Genetic engineering/ Molecular biology, Medical/ health related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150820&DB=&locale=en_EP&CC=RU&NR=2560432C2&KC=C2&ND=4

RU

Extended patent application

WO2014189412A1

19.0 5. 2014

Institute of strenth physics and materials science of siberian branch russian academy of sciences (ISPMS SB RAS) [RU], Jožef Stefan Institute [SI]

Lerner Marat Izrailyevich, Sergey Grigoryevich Psakhye, Elena Glazkova Alekseevna, Olga Vladimirovna Bakina, Olga Sergeevna Vasilyeva, Georgy Andreevich Mikhaylov, Boris Turk

Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20141127&DB=&locale=en_EP&CC=WO&NR=2014189412A1&KC=A1&ND=4

EA201501106A

19. 05. 2014

Institute of Strength Physics and Materials Science of Siberian Branch Russian Academy of Scie,Tomsk,RU, Jožef Stefan Institute [SI], National Research Tomsk Polytechnic University (TPU),Tomsk,RU

Marat Izrailyevich Lerner, Sergey Grigoryevich Psakhye, Elena Glazkova Alekseevna, Olga Vladimirovna Bakina, Olga Sergeevna Vasilyeva, Georgy Andreevich Mikhaylov, Boris Turk

Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160429&DB=&locale=en_EP&CC=EA&NR=201501106A1&KC=A1&ND=4

DE112014002481T5

19. 05. 2014

Institute of Strength Physics and Materials Science of Siberian Branch Russian Academy of Scie,Tomsk,RU, Jožef Stefan Institute [SI], National Research Tomsk Polytechnic University (TPU),Tomsk,RU

Sergey Grigorievich Psakhie, Marat Izrailievich Lerner, Elena Alekseevna Glazkova, Georgy Andreevich Mikhaylov, Boris Turk, Olga Vladimirovna Bakina, Olga Vasiljeva

Niederdimensionale Strukturen organischer und/oder anorganischer Stoffe und ihre Verwendung [DE], Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160303&DB=&locale=en_EP&CC=DE&NR=112014002481T5&KC=T5&ND=4

US20160074325A1

19. 11. 2015

Institute of Strength Physics and Materials Science of Siberian Branch Russian Academy of Scie,Tomsk,RU | Jozef Stefan Institute,Ljubljana,SI | National Research Tomsk Polytechnic University (TPU),Tomsk,RU

Sergey G. Psakhie, Marat I. Lerner, Elena A. Glazkova, Olga V. Bakina, Olga Vasiljeva, Georgy A. Mikhaylov, Boris Turk

Low-Dimensional Structures of Organic and/or Inorganic Substances and Use Thereof

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160317&DB=&locale=en_EP&CC=US&NR=2016074325A1&KC=A1&ND=4

Overproducing recombinant form of pernisine in heterologous expression system

SI24364A

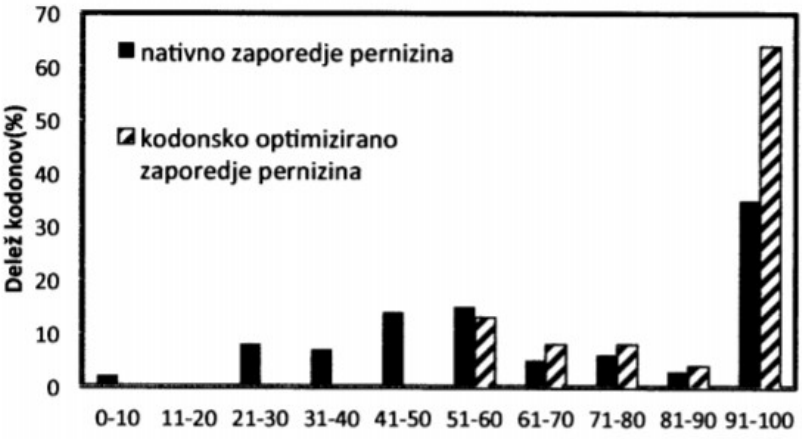
06. 05. 2013

Center odličnosti za integrirane pristope v kemiji in biologiji proteinov (CO CiPKeBIP), Biotehniška fakulteta Univerze v Ljubljani, Jožef Stefan Institute [SI]

Marko Šnajder, Nataša Poklar Ulrih, Marko Mihelič, Dušan Turk

Čezmerna produkcija rekombinantne oblike pernizina v heterolognem ekspresijskem sistemu (SI), Overproducing recombinant form of pernisine in heterologous expression system (ENG)

An invention with a modified DNA sequence for the in vitro expression of recombinant protease from Aeropyrum pernix K1, perinine in the heterologous expression system. In addition, the invention relates to a process for the preparation of subtilysin-like protease using recombinant DNA techniques.



Biological sciences

Biological sciences, Protecting man and environment

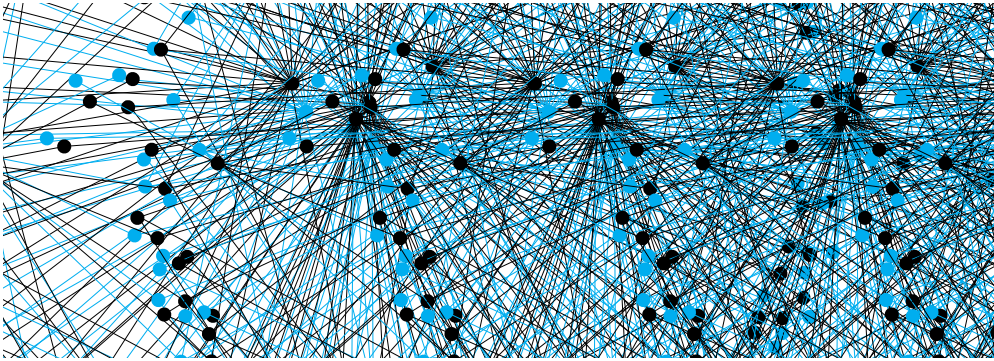
Medical/ health related, Genetic engineering/ molecular biology

http://www3.uil-sipo.si/PublicationServer/documentpdf.jsp?iDocId=30218&iepatch=.pdf

UIL RS***

*** On the patent granted by the Slovenian Intellectual Property Office (SIPO) Jožef Stefan Institute is stated as one of the three Applicants. But in the Espacenet database the data is inadequately presented and only "Center odličnosti za integrirane pristope v kemiji in biologiji proteinov (CO CiPKeBIP) and Biotehniška fakulteta Univerze v Ljubljani" are stated as the applicants which is not correct.

Physical Sciences



2015

A device for generating UV radiation and the method of generating this radiation

CZ306584B6

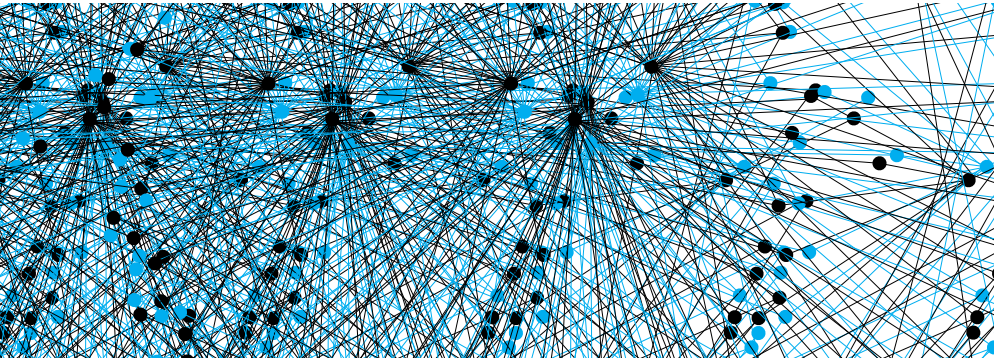
16. 11. 2015

Univerzita Tomáše Bati Ve Zlíně [CZ], Jožef Stefan Institute [SI]

Marián Lehocký, Petr Stloukal , Vladimír Sedlařík, Petr Humpolíček, Alenka Vesel, Miran Mozetič, Rok Zaplotnik, Gregor Primc

A device for generating UV radiation and the method of generating this radiation

The device for generating UV radiation, providing primarily UV A and UV B radiation with a minimum amount of radiation in the IR region and the visible light region, comprises at least one source tube, which is closed and whose walls are permeable to UV-A and UV-B radiation, while the source tube contains a constant part of sulphur monoxide molecules (SO) and, simultaneously, a constant part of free electrons. The method for generating UV radiation using the device according to the invention lies in the fact that the source tube is filled with SO molecules with a part of free electrons at a defined temperature, pressure, kinetic energy and electron density of the free electrons, while the SO molecules are continuously fed in and fed out to/from the source tube in such a way, that the pressure in the source tube and the part of the free electrons remains constant.



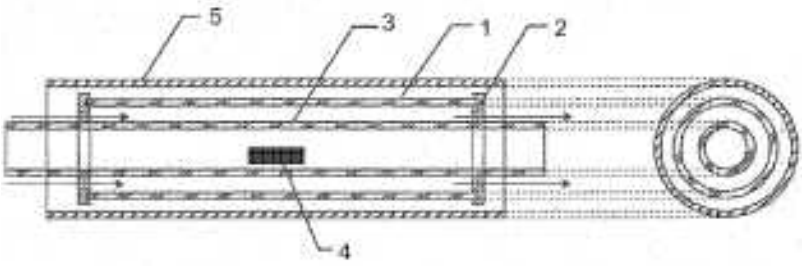


Fig. 1

Physical sciences

Physical and exact sciences

Other electronics related, Medical/ health related, Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170315&DB=&locale=en_EP&CC=CZ&NR=306584B6&KC=B6&ND=5

CZ

Extended patent application

EP3168860A1

19 .10. 2016

Univerzita Tomáše Bati Ve Zlíně [CZ], Jožef Stefan Institute [SI]

Marián Lehocký, Petr Stloukal , Vladimír Sedlařík, Petr Humpolíček, Alenka Vesel, Miran Mozetič, Rok Zaplotnik, Gregor Primc

Device and method for producing UV radiation

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170517&DB=&locale=en_EP&CC=EP&NR=3168860A1&KC=A1&ND=5

2014

Process and a device for improvement of operation of silicon photomultipliers in the regime of piled-up pulses of light

SI24863A

17. 10. 2014

Jožef Stefan Institute [SI], Beyond Semiconductor D.O.O. [SI]

Matjaž Vencelj, Miha Cankar, Andrej Likar

Postopek za izboljšanje delovanja silicijevih fotopomnoževalk v režimu nakopičenih bliskov in naprava (SLO), Process and a device for improvement of operation of silicon photomultipliers in the regime of piled-up pulses of light (ENG)

The present invention belongs to the field of silicon photomultipliers based sensor systems, more precisely to the field of processes for extending the usability of sensor systems with silicon photomultipliers in the regime of piled-up pulses of light and devices, which are based on these processes. The extension of the silicon photomultiplier performance into the piled-up regime is made by adding an intermediate step into the measurement of the incident light intensity. This step takes into account the properties of the sensor and dynamically compensates for the gain loss due to temporary inhibition of parts of sensor. On the basis of this estimation the system reports numerically modified estimations for brightness of flashes.

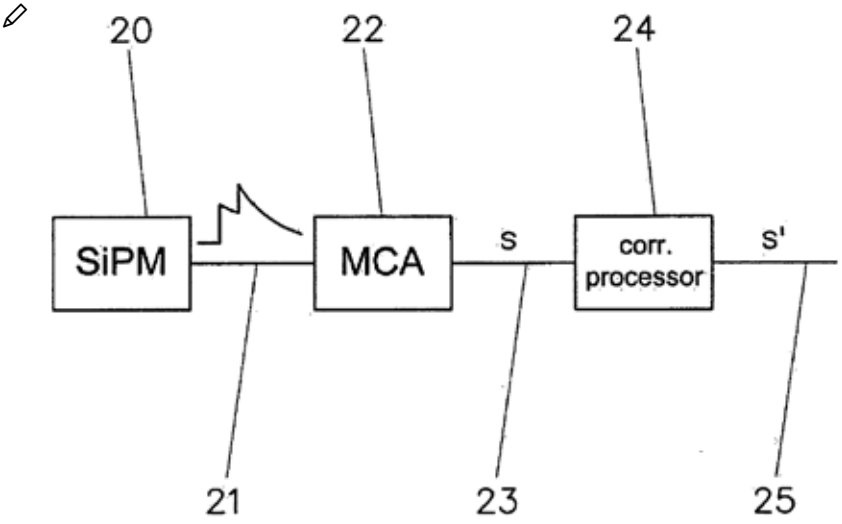


fig. 5

Physical sciences

Physical and exact sciences

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160429&DB=&locale=en_EP&CC=SI&NR=24863A&KC=A&ND=5

UIL RS

Extended patent application

WO2016060622A1

16. 10. 2015

Jožef Stefan Institute [SI], Beyond Semiconductor D.O.O. [SI]

Matjaž Vencelj, Miha Cankar, Andrej Likar

Device and method for producing UV radiation

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160421&DB=&locale=en_EP&CC=WO&NR=2016060622A1&KC=A1&ND=6

A method of colouring titanium or titanium alloy

GB1417528.5

3. 10. 2014

Jožef Stefan Institute [SI]

Gregor Filipič, univ.dipl.fiz., dr. Kristina Eleršič, Darij Kreuh, doc.dr. Janez Kovač, prof.dr. Uroš Cvelbar, prof.dr. Miran Mozetič

A method of colouring titanium or titanium alloy

A method is described whereby titanium or titanium alloys are colored in different colours. A processing chamber, such as a quartz tube 1, may be used which is sealed with two gate valves 2,3. The work pieces are arranged in the processing chamber on a sample holder 4. A vacuum is then applied to the chamber 1. Oxygen is then passed into the processing chamber and a magnetic field applied. The method utilises an oscillating magnetic field in a low pressure oxygen-containing atmosphere to initiate titanium oxidation. The oxide layer so produced is thick enough to obtain chosen colour through interferometric effects. Colours range from yellow with the thinnest oxide layer, through to purple, blue, gold, violet, green to grey. No deposition of coatings or anodic oxidation occurs. This can be used for various applications, including: decorative purposes, labelling, protecting the surfaces made of titanium or titanium alloys, and increasing the biocompatibility.

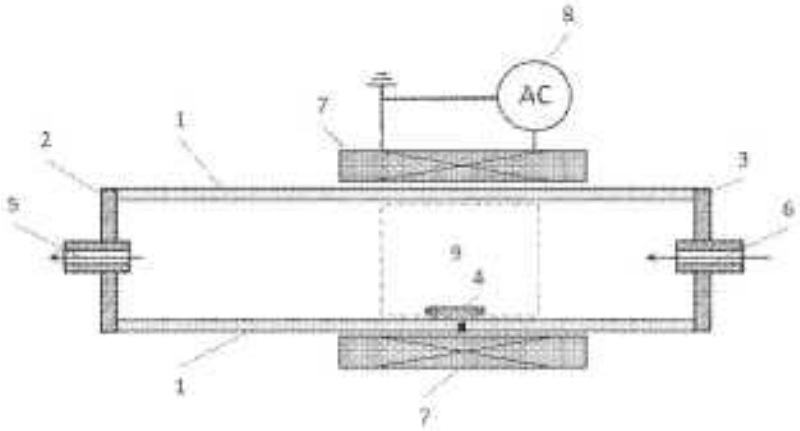


Figure 1

Physical sciences

Physical and exact sciences

Medical/ health related, Industrial products

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160429&DB=&locale=en_EP&CC=SI&NR=24851A&KC=A&ND=4

GB

Extended patent application

SI24851A

16. 10. 2014

Jožef Stefan Institute [SI]

Gregor Filipič, univ.dipl.fiz., dr. Kristina Eleršič, Darij Kreuh, doc.dr. Janez Kovač, prof.dr. Uroš Cvelbar, prof.dr. Miran Mozetič

Metoda za barvanje titana in titanovih zlitin

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160429&DB=EPODOC&locale=en_ES&CC=SI&NR=24851A&KC=A&ND=5

Angle-sensitive gamma camera with a rotary obstruction

GB1417153.2

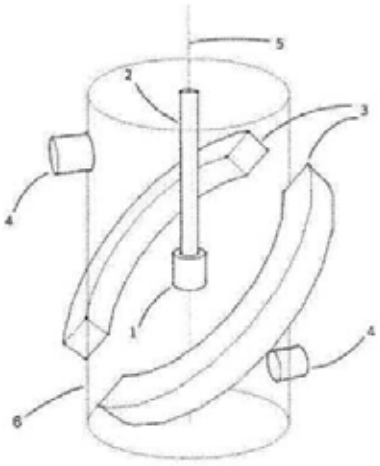
29. 09. 2014

Jožef Stefan Institute [SI]

Larisa Hosnar, dr. Matjaž Vencelj, dr. Klemen Bučar, Janez Burger

Angle-sensitive gamma camera with a rotary obstruction

The present invention provides an angle-sensitive camera for detecting radiation, including a stationary detector (1) and a set of simultaneously rotating gamma-ray absorbent obstructions or windows in a cylindrical obstruction element (3), rotating about an axis passing through the detector. Detection of the radiation incident from a given direction is hindered twice per device revolution. There are at least two obstructions in fixed positions at angles between 40 and 50 degrees sweeping through a spherical or cylindrical surface surrounding the detector. The azimuthal and elevation angle of the radiation direction translate uniquely into the exact times of detection hindrance during each revolution.



Physical sciences

Physical and Exact sciences, Electronics, IT, Telecoms

Other electronics related, Industrial products

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1417153.2

GB

Extended patent application

SI24818A

16. 10. 2014

Jožef Stefan Institute [SI]

dr. Matjaž Vencelj, Larisa Hosnar, dr. Klemen Bučar, Janez Burger

Kotno občutljiva kamera gama z rotacijsko obstrukcijo

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160331&DB=EPODOC&locale=en_ES&CC=SI&NR=24818A&KC=A&ND=5

WO2016050631A1

25. 09. 2015

Jozef Stefan Institute

dr. Matjaž Vencelj, Larisa Hosnar, dr. Klemen Bučar, Janez Burger

Angle-sensitive gamma camera with a rotary obstruction

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160407&DB=EPODOC&locale=en_ES&CC=WO&NR=2016050631A1&KC=A1&ND=5

Method for Improving the Comparative Tracking Index of Polymer Composites

IN201404239I4

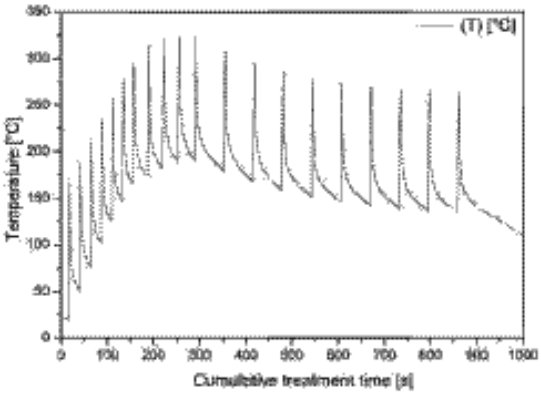
31. 08. 2014

Sabu Thomas, Jožef Stefan Institute [SI]

Harinarayanan Puliyalil, Uroš Cvelbar, Miran Mozetič, Sabu Thomas

Method for Improving the Comparative Tracking Index of Polymer Composites (original title), Increasing comparative tracking index of electrical devices, used to e.g. modify electronic device, comprises e.g. inserting the electrical devices into processing chamber, and evacuating the processing chamber down to specified pressure (DWPI Title)

Novelty: Increasing comparative tracking index (CTI) of electrical devices comprising at least two electrodes electrically insulated with composite material containing glass particles, preferably glass fibers and metallic fillers embedded in polymer matrix, comprises e.g. (a) inserting the electrical devices into a processing chamber, (b) evacuating the processing chamber down to the pressure of 100, preferably 1 Pa, and (c) exposing the electrical devices in the processing chamber to oxygen ions of kinetic energy of 5-80 eV, preferably 10-30 eV. Use: The method is useful for: increasing CTI of electrical devices; modifying an electronic device, where the electronic device comprises a product that comprises insulators, rotors or commutators (all claimed); and improving the CTI performances of the polymer matrix composites by surface modification by means of oxygen plasma treatment. Advantage: The method: provides the CTI without requiring the need of additional polymer (halogenated polymers, phosphorus or nitrogen containing polymers), hence eco-friendly; utilizes the glass fibers embedded in polymer matrix without significant distortion of the bulk properties of insulating material; and utilizes the oxygen ions that do not only cause preferential heating of the surface of composite material containing glass particles, preferably glass fibers, embedded in polymer matrix, but interacts chemically with hydrogenated carbon material from which the polymer is obtained.



Physical sciences

Industrial Technologies (Industry, Materials, Transport), Physical and exact sciences

Other electronics related products, Industrial products

Public reference from the Derwent Innovation Database to the Indian patent

India

Switchable Macroscopic Quantum State Devices and Methods for their operation

GB1412884.7

21. 07. 2014

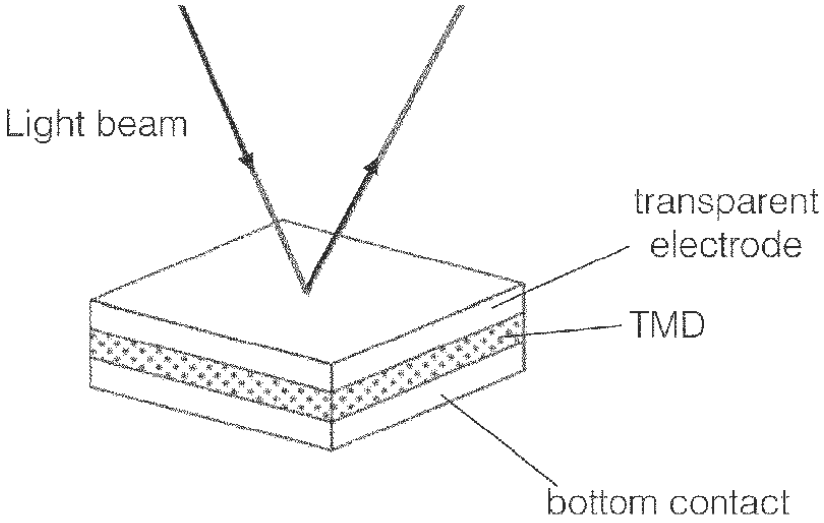
Jožef Stefan Institute [SI]

Igor Vaskivskyi, prof. dr. Dragan D. Mihailović, Ian A. Mihailović

Switchable Macroscopic Quantum State Devices and Methods for their operation

Discloses is an electronic device and a method for its operation. The device has first and second electrodes and an active material. The active material has selectable and stable first and second macroscopic quantum states, such as charge density wave ordered states, having respectively first and second values of electrical resistivity ρ1 and ρ2 at

the same temperature. ρ1 is at least 2 times ρ2. The method includes the step of switching between the first and second macroscopic quantum states by injection of current via the electrodes.



Physical sciences

Physical and exact sciences

Communications, Computer related, Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20160129&DB=&locale=en_EP&CC=SI&NR=24776A&KC=A&ND=4

GB

Extended patent application

SI24776A

16. 10. 2014

Jozef Stefan Institute

Igor Vaskivskyi, prof. dr. Dragan D. Mihailović, Ian A. Mihailović

Preklopni elementi na osnovi makroskopskih kvantnih stanj in metode njihovega delovanja (SI)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160129&DB=&locale=en_EP&CC=SI&NR=24776A&KC=A&ND=5

US20160019954A1

17. 07. 2015

Jožef Stefan Institute [SI]

Igor Vaskivskyi, prof. dr. Dragan D. Mihailović, Ian A. Mihailović

Switchable Macroscopic Quantum State Devices and Methods for Their Operation

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20160121&DB=&locale=en_EP&CC=US&NR=2016019954A1&KC=A1&ND=6

Method and device for detection and measuring the density of neutral atoms of hydrogen, oxygen or nitrogen

SI24727A

22. 05. 2014

Jožef Stefan Institute [SI]

Gregor Primc, Miran Mozetič, Uroš Cvelbar, Alenka Vesel

Postopek in naprava za detekcijo in merjenje gostote nevtralnih atomov vodika, kisika ali dušika (SLO), Method and device for detection and measuring the density of neutral atoms of hydrogen, oxygen or nitrogen (ENG)

A method for detection of neutral hydrogen, oxygen or nitrogen atoms in non- equilibrium gaseous media, as well as determination of the density of said neutral atoms in said gaseous media. The method employs measuring the power of remote heating source, preferably an infrared laser, needed in order to sustain a constant temperature of a catalyst

immersed in a non-equilibrium gaseous medium. The medium includes non-equilibrium gaseous plasma, early and late afterglows.

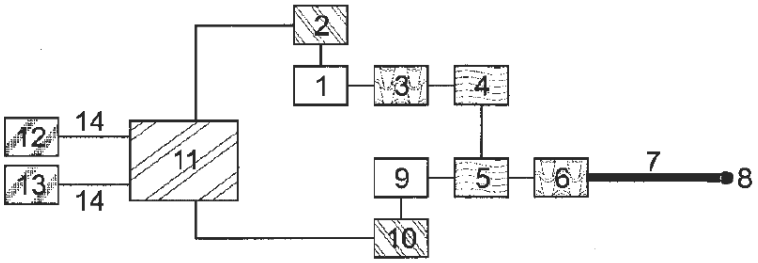


Fig. 1

Physical sciences

Physical and exact sciences, Measurements and standards

Industrial products, medical/ health related

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20151130&DB=&locale=en_EP&CC=SI&NR=24727A&KC=A&ND=5

UIL RS

Extended patent application

WO2015176733A1

30. 09. 2014

Jožef Stefan Institute [SI]

Gregor Primc, Miran Mozetič, Uroš Cvelbar, Alenka Vesel

Method and device for detection and measuring the density of neutral atoms of hydrogen, oxygen or nitrogen

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20151126&DB=&locale=en_EP&CC=WO&NR=2015176733A1&KC=A1&ND=5

Polymer dispersed liquid crystal elastomers (PDLCE)

GB1404746.8

17. 03. 2014

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

A method of producing liquid crystal elastomer (LCE) based components comprises the steps of (i) providing or creating micro-sized or nano-sized LCE particles, (ii) dispersing the particles in an uncured liquid polymer, (iii) aligning the nematic directors of the particles and, (iv) shaping and curing the matrix/particles mixture. The composite material formed by this method is a polymer dispersed liquid crystal elastomer (PDLCE) with custom-tailored properties which can be shaped into arbitrary forms. Also shown is liquid crystal elastomer based component.

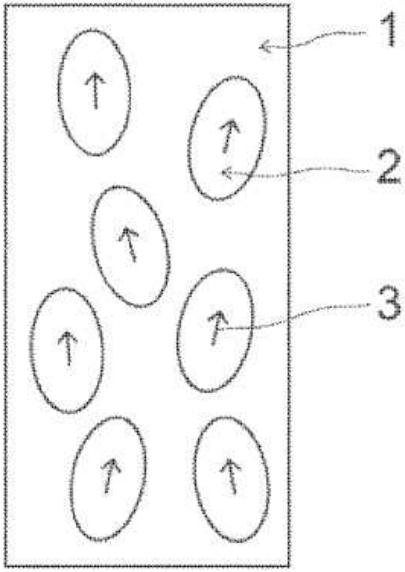


Fig. 1A

Physical sciences

Industrial technologies (industry, materials, transport), Physical and exact sciences

Other electronics related, Industrial products

https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1404746.8

GB

Extended patent application

SI24658A

16. 10. 2014

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polimerno dispergirani tekočekristalni elastomeri (SI)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20150930&DB=&locale=en_EP&CC=SI&NR=24658A&KC=A&ND=4

WO2015140149A1

17. 03. 2015

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150924&DB=&locale=en_EP&CC=WO&NR=2015140149A1&KC=A1&ND=4

EP3119855A1

17. 03. 2015

Jozef Stefan Institute

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170125&DB=&locale=en_EP&CC=EP&NR=3119855A1&KC=A1&ND=4

CN106103653A

17. 03. 2015

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20161109&DB=&locale=en_EP&CC=CN&NR=106103653A&KC=A&ND=4

KR20161335522A

17. 03. 2015

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20161122&DB=&locale=en_EP&CC=KR&NR=20160133522A&KC=A&ND=4

US20170183456A1

14. 09. 2016

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer Dispersed Liquid Crystal Elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170629&DB=&locale=en_EP&CC=US&NR=2017183456A1&KC=A1&ND=4

JP 2016-557603

15. 09. 2016

Jožef Stefan Institute [SI]

mag. Andraž Rešetič, mag. Jerneja Milavec, dr. Blaž Zupančič, prof. dr. Boštjan Zalar

Polymer dispersed liquid crystal elastomers (PDLCE)

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170615&DB=&locale=en_EP&CC=JP&NR=2017515927A&KC=A&ND=4

2013

The device for determination of depth of the photon intrusion into the scintillation material

SI24582A

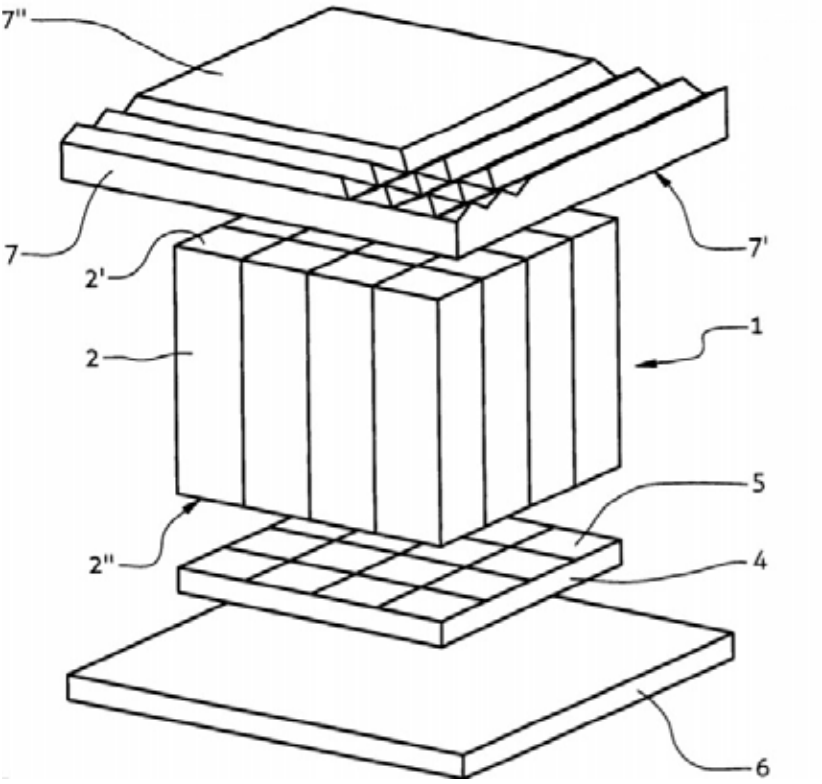
16. 12. 2013

Instrumentation Technologies d.d., Jožef Stefan Institute [SI]

Matjaž Vencelj, Matej Lipoglavšek, Rok Uršič

Naprava za določanje globine vdora fotona v scintilacijski material (SI), The device for determination of depth of the photon intrusion into the scintillation material (ENG)

The present invention relates to a device for determining the depth of the penetration of the photon into the scintillation material, comprising a beam (1) of mutually parallel and optically isolated scintillation rods (2), wherein said receiving device (3) is provided with an optoelectric converter (4) with a plurality of surface oriented and light sensitive fields (5), and a signal processing system (6). According to the invention, it is proposed that a receiving device (3) is attached to the end of said beam (1) of the scintillation rods (2) which is away from the source of the photons, and with the end of said beam (1) scintillation rods (2) it faces the source of photons, an optically coupled surface-oriented light-emitting diode (7).



Physical sciences

Physical and exact sciences

Other electronics related

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20150630&DB=&locale=en_EP&CC=SI&NR=24582A&KC=A&ND=4

UIL RS

2012

Ultrafast nonvolatile memory

SI24265A

30. 11. 2012

Jožef Stefan Institute [SI], Center Odličnosti nanoznanosti in nanotehnologije – Co Nanocenter [SI]

Ljupka Stojčevska, Tomaž Mertelj, Igor Vaskivskyi, Dragan Mihailovič

Trajna bistabilna pomnilna naprava na osnovi ultrahitrega kaljenja (SI), Ultrafast nonvolatile memory

The invention refers to an ultrafast quench based nonvolatile bistable device which consists of an active material on a passive or active substrate which changes its physical properties, after exposure to a sufficiently temporally short external perturbation causing an ultrafast quench. The perturbation can be from an external ultrashort laser pulse or ultrafast electrical pulse from an electrooptic device or any other generator of ultrashort pulses. This change of the materials properties can be detected as a change of optical properties or electrical resistance. The dielectric properties can be reverted back to their original state by the application of a heat pulse applied by an electrical heater within the device or an external laser.

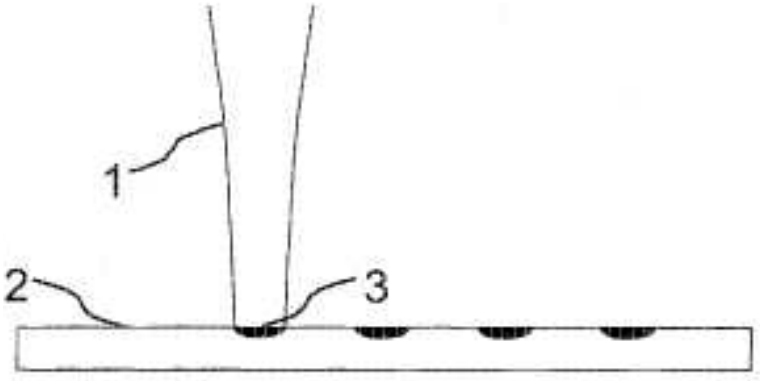


Fig. 1 a)

Physical sciences

Physical and exact sciences

Other electronics related, Industrial products

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20140630&DB=&locale=en_EP&CC=SI&NR=24265A&KC=A&ND=5

UIL RS

Extended patent application

WO2014084799A1

30 .09. 2013

Jožef Stefan Institute [SI], Center Odličnosti nanoznanosti in nanotehnologije – Co Nanocenter

Ljupka Stojčevska, Tomaž Mertelj, Igor Vaskivskyi, Dragan Mihailovič

Ultrafast nonvolatile memory

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20140605&DB=&locale=en_EP&CC=WO&NR=2014084799A1&KC=A1&ND=5

EP2926343A1

30. 09. 2013

Jožef Stefan Institute [SI], Center Odličnosti nanoznanosti in nanotehnologije – Co Nanocenter

Ljupka Stojčevska, Tomaž Mertelj, Igor Vaskivskyi, Dragan Mihailovič

Ultrafast nonvolatile memory

https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20151007&DB=&locale=en_EP&CC=EP&NR=2926343A1&KC=A1&ND=4

US9589631B2

06. 2015

Jožef Stefan Institute [SI], Center Odličnosti nanoznanosti in nanotehnologije – Co Nanocenter

Ljupka Stojčevska, Tomaž Mertelj, Igor Vaskivskyi, Dragan Mihailovič

Ultrafast quench based nonvolatile bistable device

https://worldwide.espacenet.com/publicationDetails/originalDocument?FT=D&date=20170307&DB=&locale=en_EP&CC=US&NR=9589631B2&KC=B2&ND=5

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The investment is co-financed by the Republic of Slovenia and the European Union under the European Regional Development Fund.

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