

Sustainability
Innovation Pilot
Future Tech



Hybrid

Taiwan Innotech Expo

台灣創新技術博覽會

2020-2022

Platinum Awards 鉑金獎

2022 鉑金獎 Platinum Awards

以水系膠鑄成型製作氧化鋯陶瓷之方法.....	7
METHOD FOR FABRICATING ZIRCONIA CERAMICS BY AQUEOUS GEL-CASTING TECHNOLOGY	
用於助眠的光供應方法	8
LIGHT SUPPLY METHOD FOR SLEEP AID	
用於改善人體小腔體血液微循環之遠紅外線照射裝置.....	9
FAR INFRARED ILLUMINATION DEVICE FOR IMPROVING BLOOD MICRO-CIRCULATION OF A HUMAN SMALL CAVITY	
多鏈醣複合物、放射性多鏈醣造影劑及其用途.....	10
Multivalent glyco-complex, imaging agent and uses thereof	
具循環過濾污水取得淨水沖洗拖把及脫乾的拖把清洗桶	11
CLEANING BUCKET STRUCTURE CAPABLE FOR AUTOMATICALLY PURIFYING FOUL WATER	
風扇設備及風扇座.....	12
FAN DEVICE AND FAN HOLDER	
振動輔助切削刀具之刀具座	13
Holder for vibration assisted cutting tool	
配電饋線分區段轉供復電策略	14
DIVISIONAL SECTION TRANSFER POWER RESTORATION STRATEGY OF DISTRIBUTION FEEDER	
處理集合函數訊號的壓縮感知裝置、系統與方法	15
Compressed Sensing Apparatus, System and Method for Processing Signals in Set Function	
腹腔異常游離氣體深度學習檢測方法及腹腔異常游離氣體深度學習檢測系統	16
A deep learning-powered novel artificial intelligence algorithm and system to assist in the identification of pneumoperitoneum on abdominal computed tomography	

2022 鉑金獎 Platinum Awards

運動器材循環運行方法及其應用.....	17
Circuit Exercise System and its application	
導電聚合物之綠色製造方法	18
Green manufacturing method of conductive polymer	
懸空置式隧道型光譜魚缸.....	19
Increasing the effectiveness of parted sucker rod fishing operation using MOMOD (Mousetrap Modification) in Pendopo Oil Field	20

2021 鉑金獎 Platinum Awards

亞全科技有限公司.....	22
ATOZ -PULLMAN CO., LTD.	
台灣中油股份有限公司煉製研究所.....	23
CPC Corporation, Taiwan Refining & Manufacturing Research Institute	
國立高雄科技大學.....	24
National Kaohsiung University of Science and Technology	
國軍花蓮總醫院.....	25
Hualien Armed Forces General Hospital	
正修科技大學.....	26
Cheng Shiu University	
核能研究所.....	27
Institute of Nuclear Energy Research	
行政院原子能委員會核能研究所.....	28
Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan	
財團法人資訊工業策進會.....	29
Institute of Information Industry	
輔英科技大學.....	30
FOOYIN UNIVERSITY	
龍華科技大學.....	31
Lunghwa University of Science and Technology	
龍華科技大學.....	32
Lunghwa University of Science and Technology	

2020 鉑金獎 Platinum Awards

中原大學	34
Chung Yuan Christian University	
元智大學	35
Yuan Ze University	
行政院原子能委員會核能研究所	36
Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.	
行政院原子能委員會核能研究所	37
Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.	
國立中央大學	38
National Central University	
國立中央大學	39
National Central University	
國立中央大學	40
National Central University	
國立虎尾科技大學	41
National Formosa University	
國立雲林科技大學	42
National Yunlin University of Science and Technology	
富商國際股份有限公司	43
Full Sun International Co., Ltd.	
程陽有限公司	44
Sunny Process Co., Ltd.	
漢瑪科技股份有限公司	45
Hallmark Technology Co., Ltd	

2020 鉑金獎 Platinum Awards

衡奕精密工業股份有限公司	46
TRANSVERSE INDUSTRIES CO., LTD.	
優票股份有限公司	47
QR Ticket Co., Ltd.	



2022
鉑金獎

Platinum Awards



專利技術名稱

以水系膠鑄成型製作氧化鋯陶瓷之方法

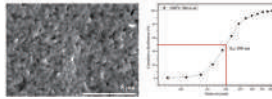
METHOD FOR FABRICATING ZIRCONIA CERAMICS BY AQUEOUS GEL-CASTING TECHNOLOGY

Patent No.: (R.O.C. 優先) I747694

專利權人：遠東科技大學 / Far East University

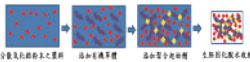
發明人：陳智成、詹景翔、呂郁琦、向性一 / CHEN, CHIH CHENG / JHAN, JING SIANG / LU, YU CHI / HSIANG, HSING I

成份	高份子膠體	溶劑	燒成	陶瓷	陶瓷
有機物	纖維	水	膠凝	膠凝	膠凝
纖維	膠中	纖維	纖維	纖維	纖維
膠凝	膠凝	膠凝	膠凝	膠凝	膠凝
陶瓷	陶瓷	陶瓷	陶瓷	陶瓷	陶瓷



性質	膠凝 (R.O.C.)	氧化鋯	膠凝陶瓷
厚度 (mm)	2.0	2.0	2.0
硬度 (GPa)	22	12-13.5	7
彈性模量 (GPa)	300	310	85
熱膨脹係數 (ppm/°C)	2-3	5-10	10-7
抗彎強度 (MPa)	300	400-1000	500
抗拉強度	熱	熱	熱

性質	膠凝 (R.O.C.)	氧化鋯	膠凝陶瓷
厚度 (mm)	2.0	2.0	2.0
硬度 (GPa)	22	12-13.5	7
彈性模量 (GPa)	300	310	85
熱膨脹係數 (ppm/°C)	2-3	5-10	10-7
抗彎強度 (MPa)	300	400-1000	500
抗拉強度	熱	熱	熱



專利技術介紹：

手機通訊已邁向 5G 時代，原有之金屬手機背板因為訊號穿透能力弱、不能無線充電，因而被淘汰。目前適用於 5G 手機背板材料，以氧化鋯陶瓷最佳，具有高韌性、高硬度、5G 信號穿透度好，是最理想的 5G 手機背板材料。但是陶瓷背板生產時，採用的乾壓成型無法製作形狀複雜之陶瓷體，其他成型法又無法大量生產，導致 5G 手機仍採用玻璃材質背板，雖然玻璃熔融成型容易，但強度、硬度不足，易摔碎磨損，不是理想之 5G 手機背板。因此優質的成型方法仍是目前最熱門的研究課題。本發明專利採用水系膠鑄成形法及兩段式燒結法的創新製程，可以解決陶瓷背板生產上的問題，製造性質優良之手機背板，符合手機背板品質及量產之要求。

Patented technology introduction:

Mobile communication has entered the 5G era, and the original metal mobile phone housing rear has been eliminated because of its weak signal penetration capability and inability to wirelessly charge. Currently suitable for 5G mobile phone housing rear materials, zirconia ceramics are the best, with high toughness, high hardness, and good 5G signal penetration. It is the most ideal 5G mobile phone housing rear material. However, in the production of ceramic housing rear, the dry-press molding used cannot produce ceramic bodies with complex shapes, and other molding methods cannot be mass-produced. As a result, 5G mobile phones still use glass housing rear. Although glass is easy to melt and form, its strength and hardness are insufficient. It is easy to break and wear, and it is not an ideal 5G mobile phone housing rear. Therefore, high-quality molding methods are still the most popular research topics.

The patent of the present invention adopts the innovative process of water-based glue casting method and two-stage sintering method, which can solve the problems in the production of ceramic housing rear, and manufacture mobile phone housing rear with excellent properties, which meet the requirements of mobile phone housing rear quality and mass production.

遠東科技大學 / Far East University

74448 台南市新市區中華路 49 號
No. 49, Zhonghua Rd., Xinshi Dist., Tainan City 74448, Taiwan (R.O.C.)
聯絡人：陳智成 / CHEN, CHIH CHENG
E-Mail : ccchen@mail.feu.edu.tw
Tel : +886-6-5979566 ext. 7908



專利技術名稱

用於助眠的光供應方法

LIGHT SUPPLY METHOD FOR SLEEP AID

Patent No : (R.O.C. 優先) I721845

專利權人：國立臺灣科技大學 / National Taiwan University of Science and Technology

發明人：陳建宇 / Chien-Yue Chen



專利技術介紹：

本專利技術所提出之光源，與市面上抑制褪黑激素的強白光照明機轉完全不同，本專利技術，可以通過對光線的動態變化去改善睡眠效率，讓使用者可以更快的自然入睡，獲得更好的休息和睡眠效率。通過睡眠實驗的設計，於午休時間，照射動態光對睡眠效果之驗證。並於 2021 至 2022 年發表了三篇國際期刊 [1-3]，通過臨床因人實驗，與客觀生理監測儀器 MP150(Bipac system)，分析受測者心律變異度的活性變化，研究結果受測者的交感神經活性都有明顯的降低放鬆，睡眠監測手環的睡眠效率、睡眠時長，都有明顯的成長。下列是本專利技術的六大創新特點：

1. 利用多頻譜動態光源系統，去製作微型化動態助眠燈，並且配合特定變化程度的光源參數，去輔助睡眠，加快使用者入睡。
2. 特殊動態光源配方誘發腦波產生睡眠驅力
3. 幫助各種需求的客戶，在任何時間皆能助眠
4. 有學術基礎依據可佐證助眠效果
5. 以色異譜方式降低藍光比例，並能維持準確的頻譜
6. 降低藍光可避免抑制褪黑激素

- [1] Chien-Yu Chen, You-Kwang Wang, and Zhi-Wei Wang. "Research on the Application of the Dynamic Assisted Sleep Light to Smart Mobile Devices." Applied Sciences 12.10 (2022): 5191.(SCI)
- [2] Chien-Yu Chen, " and Hung-Wei Chen. The Effect of Dynamic Lighting for Working Shift People on Clinical Heart Rate Variability and Human Slow Wave Sleep. Applied Sciences, 2022, 12(5), 2284.(SCI).
- [3] Chien-Yu Chen, Pei-Jung Wu, Yu-Jen Hsiao, and Yu-Wen Tai. (2021). Changes in Humans' Autonomic Nervous System under Dynamic Lighting Environment During A Short Rest. Journal of Healthcare Engineering, 2021.(SCI)

Patented technology introduction:

The light source proposed by this patented technology is completely different from the strong white light illuminator that suppresses melatonin on the market. This patented technology can improve sleep efficiency through dynamic changes in light, allowing users to fall asleep naturally faster. Get better rest and sleep efficiency. Through the design of the sleep experiment, during the lunch break, the effect of dynamic light on sleep was verified. And published three international journals from 2021 to 2022 [1-3], through clinical human factors experiments, and the objective physiological monitoring instrument MP150 (Bipac system), to analyze the activity changes of the subjects' heart rhythm variability, and the research results were tested. The sympathetic nerve activity of the patients has been significantly reduced and relaxed, and the sleep efficiency and sleep duration of the sleep monitoring bracelet have increased significantly.

國立臺灣科技大學 / National Taiwan University of Science and Technology

106335 台北市大安區基隆路四段 43 號國際大樓 10 樓色彩所

IB-1010, No. 43, Keelung Rd., Sec. 4, Da'an Dist., Taipei City 106335, Taiwan (R.O.C.)

聯絡人：陳建宇 / Chien-Yue Chen

E-Mail : chencyue@mail.ntust.edu.tw

Tel : +886-937807295



專利技術名稱

用於改善人體小腔體血液微循環之遠紅外線照射裝置

FAR INFRARED ILLUMINATION DEVICE FOR IMPROVING BLOOD MICRO-CIRCULATION OF A HUMAN SMALL CAVITY

Patent No : (R.O.C. 優先) I 753218

專利權人：元培醫事科技大學 / YUANPEI UNIVERSITY OF MEDICAL TECHNOLOGY

發明人：郭宗德 / KUO, TSUNG-TER



專利技術介紹：

本專利「用於改善人體小腔體血液微循環之遠紅外線照射裝置」，是因國際期刊論文研究發現，聽力損失很大部份是耳蝸的微血循環不良導致，本發明設計了促進血液循環的微波，將之以光學技術把強度放大並聚焦，再以導波管技巧導入內耳，促進微血液微循環。高效率的光能放大並聚焦導入耳腔，解決一般只能照射表面的困境。完成的雛型品，已完成電性安規、溫升、生物相容測試，風險評估及功能性試驗，在台北榮總進行臨床試驗，有相當好的功效。

Patented technology introduction:

This patent "far-infrared irradiation device for improving blood microcirculation in small cavities of the human body" is due to the research of SCI journal papers that hearing loss is mainly caused by poor microcirculation of the cochlea. Micro-wavelength waves are shaped and amplified then induced into the inner ear by waveguide technology to promote microcirculation. The high-efficiency energy is amplified and focused into the ear cavity, solving the dilemma that only the surface was irradiated. The prototypes has completed electrical safety test, temperature rise, biocompatibility testing, risk assessment and functional testing, and has undergone good results of clinical trials in Taipei Veterans General Hospital.

元培醫事科技大學 / YUANPEI UNIVERSITY OF MEDICAL TECHNOLOGY

30015 新竹市元培街 306 號 M512
M512, No. 306, Yuanpei St., Hsinchu 30015
聯絡人：郭宗德 / KUO, TSUNG-TER
E-Mail : kuoter64@gmail.com
Tel : +886-911215007



專利技術名稱

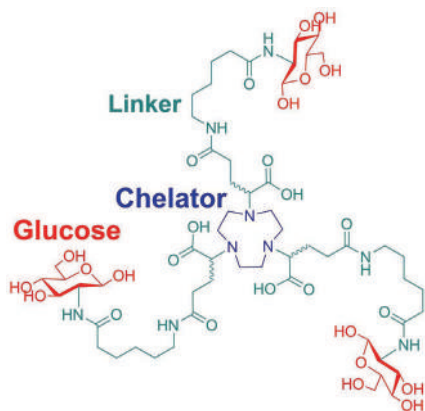
多鏈醣複合物、放射性多鏈醣造影劑及其用途

Multivalent glyco-complex, imaging agent and uses thereof

Patent No.: (R.O.C. 優先) 發明第 I650138 號

專利權人：行政院原子能委員會核能研究所 / Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R. O. C.

發明人：于鴻文、林武智、王美惠、曾俊豪 / Hung-Wen Yu / Wu-Jyh Lin / Mei-Hui Wang / Chun-Hao Tseng



專利技術介紹：

本發明含有螯合劑 (chelator)、連接基 (linker) 及三個醣分子，為利用惡性腫瘤具高葡萄糖使用率之特性，使其能夠快速進入腫瘤細胞，提升與週邊正常組織的訊號對比度，增加偵測效率。有別於臨床使用的 [¹⁸F]FDG，本發明於正常腦部及心臟攝取明顯降低，能夠加強訊號對比度。本發明也能夠應用於癌症療效評估，監測治療方式或藥物是否適當。

本發明使用正子同位素鎵-68 (Ga-68)，能夠以發生器 (generator) 取得射源，無需依賴昂貴複雜的迴旋加速器。本發明為凍晶製劑，直接注入鎵-68，於室溫即可完成快速標註 (15 分鐘)，無需進行純化，因此臨床使用及藥物製備上十分方便，能夠降低藥物成本及減少操作人員輻射劑量。凍晶製劑不含放射性物質，能夠長時間保存，大幅提升產品的使用方便性及推廣潛力。

Patented technology introduction:

This invention contains a chelator, a linker and three sugar molecules, it takes advantage of the high glucose utilization rate of malignant tumors, can quickly enter the tumor cells, improve the signal contrast with surrounding normal tissues, and increase the detection efficiency. Different from the clinically used [¹⁸F]FDG, this invention significantly reduces the uptake in the normal brain and heart, and can enhance the signal contrast. This invention can also be applied to assess the efficacy of cancer, and to monitor the appropriateness of treatment modalities or drugs.

This invention uses the positron-emitting isotope gallium-68 which can be obtained with a generator, without relying on an expensive and complicated cyclotron. This invention is a lyophilized formulation. The radiolabeling can be completed by injecting gallium-68 at room temperature (15 minutes) without purification, so it is very convenient for clinical use and drug preparation, and can reduce the cost of drugs and the radiation dose of operators. Lyophilized kit do not contain radioactive substances and can be stored for a long time, greatly improving the convenience of use and promotion potential of the product.

核能研究所 / Institute of Nuclear Energy Research

桃園市龍潭區文化路 1000 號

1000 Wenhua Rd. Jiaan Village, Longtan District, Taoyuan City

聯絡人：于鴻文 / Hung-Wen Yu

E-Mail : hwyu@iner.gov.tw

Tel : +886-3-4711400 ext. 7177

Web : <https://www.iner.gov.tw/>

Fax : +886-3-4711416



專利技術名稱

具循環過濾污水取得淨水沖洗拖把及脫乾的拖把清洗桶

CLEANING BUCKET STRUCTURE CAPABLE FOR AUTOMATICALLY PURIFYING FOUL WATER

Patent No. : (R.O.C. 優先) 新型第 M626792 號

專利權人：富商國際股份有限公司 / Full Sun International Co., LTD.

發明人：吳長馨 / Wu, Chang-Hsin

專利技術介紹：

本專利為一款【免換水拖把桶】，桶內僅需注入 2.5 公升的水量，清潔時無須再來回倒換污水，就可以每一次在洗拖把的同時，將污水「即時快速」的轉換為淨水，得以淨水循環洗淨拖把，再也不用來回倒換水，讓拖地變得輕鬆省水，且地板清潔更乾淨！

本專利之結構設計，結合本公司所研發之濾芯，透過桶內清洗區的斜面設計，快速將清洗拖把後的污水匯流至桶內濾芯過濾污水，將毛髮、髒污、粒徑 1000 奈米以上之物質、及水中 99% 的細菌及塑膠微粒一併過濾掉，再將過濾後的淨水透過拖把桶內中柱汲水至清洗區繼續洗淨拖把，讓桶內的污水得以「即時快速」的轉換為乾淨水，不斷循環再利用，本設計得以讓過濾流速於無水壓的狀況下，以每分鐘過濾 800ml~1000ml 以上的高通量污水。



Patented technology introduction:

The patent design is a “Self-Cleaning Mop Bucket” which is equipped with a unique structure and filter design that could require only 2.5 liters of water without changing or replacing. Our design will enable users to use the same bucket of water to rinse and clean the mop with recycled clean water. We help our users to save time and water resources while making home-cleaning tasks much easier!

The filter is equipped within the mop bucket to revert the sewage; the feature of this filter is that it can filter over 800ml -1000ml of sewage per minute without additional water pressure while sanitizing 99% of the containing germs, microplastics, and substances larger than 1000 nanometers. After filtering, the total bacteria count in the water shall be very close to zero. Our product design is industry-leading and the sewage filter speed is ten times faster than other standard products without any added water pressure. Furthermore, the filter is re-washable and under normal household conditions, it can be used repeatedly for up to one year without purchasing replacements.

富商國際股份有限公司 / Full Sun International Co., LTD.

632 雲林縣虎尾鎮民族路 7 號

No. 7, Minzu RD., Huwei Township, Yunlin County 632, Taiwan

聯絡人：吳長馨 小姐 / Wu, Chang-Hsin

E-Mail : 9san3dy@gmail.com

Web : www.wondamop.com

Tel : +886-5-6365078

Fax : +886-5-6365079



專利技術名稱

風扇設備及風扇座

FAN DEVICE AND FAN HOLDER

Patent No : (R.O.C. 優先) 新型 M600804 號 / US 11 · 268 · 539 B2

專利權人：劉佳源 / Chia-Yuan Liu

發明人：施政德 / Cheng-Yi Shih



專利技術介紹：

本創作公開一種風扇設備及風扇座。風扇設備包含有一風扇座及一風扇。所述風扇座包含有一支架、四個棘輪組、一座體、及一框架。支架的兩端各組接有兩個棘輪組；座體組接於支架的一端的兩個棘輪組上，使所述座體與所述支架相夾有一第一夾角；框架組接於支架的另一端的兩個棘輪組上，使框架與支架相夾有一第二夾角；其中，座體與框架能通過四個棘輪組而相對於支架於一使用位置及一收納位置之間轉動。風扇設置於框架上。據此，風扇設備通過將座體與框架轉動至收納位置，使支架能摺疊於座體上，框架摺疊於支架上，以減少整體體積。

Patented technology introduction:

The present invention discloses a fan device and a fan base. The fan device includes a fan base and a fan. The fan base includes a bracket, four ratchet groups, a body, and a frame. The two ends of the bracket are each assembled with two ratchet groups; the seat body is assembled on the two ratchet groups at one end of the bracket, so that the seat body and the bracket are sandwiched by a first angle; the frame is assembled on the bracket. On the two ratchet sets at the other end, the frame and the bracket are sandwiched by a second angle; wherein, the base and the frame can rotate relative to the support between a use position and a storage position through the four ratchet sets. The fan is arranged on the frame. Accordingly, the fan device can reduce the overall volume by rotating the base and the frame to the storage position, so that the bracket can be folded on the base and the frame can be folded on the support.

力度電機有限公司 / Nisada electric co.Ltd.

台中市潭子區豐興路二段龍興巷 23-8 號二樓

2nd Floor, No. 23-8, Longxing Lane, Section 2, Fengxing Road, Tanzi District, Taichung City

聯絡人：施政德 / Cheng-Yi Shih

E-Mail : sisyl206@gmail.com

Tel : +886-4-25395228

Fax : +886-4-25395228



專利技術名稱

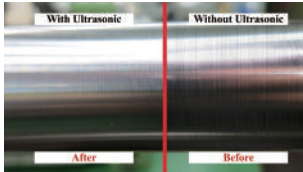
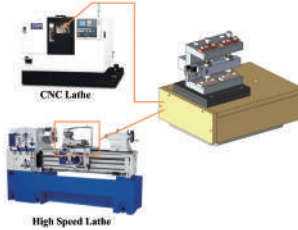
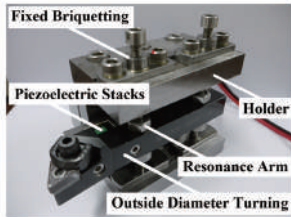
振動輔助切削刀具之刀具座

Holder for vibration assisted cutting tool

Patent No : (R.O.C. 優先) I767719

專利權人：國立屏東科技大學 / National Pingtung University of Science and Technology

發明人：黃惟泰、陳奕翔、涂智堯 / Wei-Tai Huang, Xi-Sang Chen, and Zhi-Yao Tu



專利技術介紹：

本專利技術為國際上首創使用內藏式致動振動設計，有別於目前多數系統使用外部致動振動設計，突破以往超音波振動輔助車刀體積龐大、不易架設、頻率與刀具結構不可調整之痛點。此技術為外掛式模組化可輕易架設，可輕易結合於市售標準工具機上且可加工高硬度材料，並可調整性之高效率振動輔助切削刀具之刀具座系統。可大幅提升原有工具機加工性能與效益，並且不需要再投入大量的設備資金重新購置振動輔助切削專用工具機。本技術學理方法完整，並具產業實務應用價值，可提升在車削特殊硬質合金材料的加工效益，能幫助製造業減低碳排放達成碳中和的目標，能對相關產業綠色製造技術科技作出貢獻。

Patented technology introduction:

This patented technology is the first in the world to use a built-in actuating vibration design, which is different from the external actuating vibration design used in most current systems. This technology makes a breakthrough in solving the problems of the previous ultrasonic vibration-assisted turning tools, which are bulky, difficult to erect, and unable to be adjusted in frequency and tool structure. This technology is an externally mounted modular tool holder system, which can be easily set up and combined with commercially available standard machine tools. It can also process high-hardness materials and be adjusted to a high-efficiency vibration-assisted cutting tool. It can greatly improve the machining performance and efficiency of the original tool. It is not necessary to invest a lot of equipment funds to repurchase a special tool for vibration-assisted cutting. This technology is complete in theory and method and has industrial practical application value. It can improve the processing efficiency of turning special cemented carbide materials, help the manufacturing industry to reduce carbon emissions and achieve the goal of carbon neutrality, and can contribute to green manufacturing technology in related industries.

國立屏東科技大學 / National Pingtung University of Science and Technology

912301 屏東縣內埔鄉老埤村學府路 1 號

No. 1, Shuefu Rd., Neipu, Pingtung 912301, Taiwan (R.O.C.)

聯絡人：黃惟泰 / Wei-Tai Huang

E-Mail : weitai@g4e.npust.edu.tw / huangweitaiw@gmail.com

Tel : +886-8-7703202 ext. 7014

Fax : +886-8-7740142



專利技術名稱

配電饋線分區段轉供復電策略

DIVISIONAL SECTION TRANSFER POWER RESTORATION STRATEGY OF DISTRIBUTION FEEDER

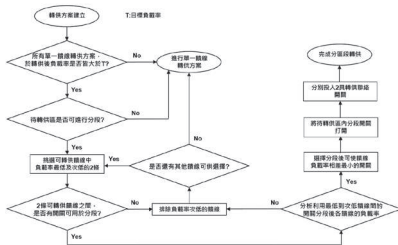
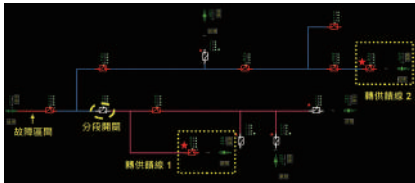
Patent No : (R.O.C. 優先) I767864

專利權人：行政院原子能委員會核能研究所 / Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.

發明人：姜政綸、蔡佳豪、李奕德、劉力源 / Jiang, Jheng-Lun / Cai, Jia-Hao / Lee, Yih-Der / Liu, Li-Yuan

專利技術介紹：

國內負載用電逐年增長，尤其都會區用電量較大，當饋線發生故障並進行轉供，若該區負載較重，且可轉供之饋線裕度不足時，將會造成聯絡饋線因超過負荷而跳脫，反而擴大停電的範圍，而面臨下游健全區的用戶無法恢復供電的窘境。本系統整合配電監控 (SCADA) 及地理圖資系統 (GIS)，以均化轉供後各饋線負載率為目標，提出配電饋線分區段轉供復電策略。當饋線發生故障時，本系統能透過挑選適合之分段開關，將下游健全區負載較重區域，拆解成不同的小區域負載，並利用兩條 (含) 以上饋線進行轉供，使轉供後的饋線承載率更加平均，該功能可供調度員作為轉供調度決策參考依據，加速排除故障並恢復下游用戶的供電。



Patented technology introduction:

Domestic electricity consumption is increasing year by year, especially the power consumption in urban area is larger than that in rural area. When a fault occurs in a feeder, the feeder will be transferred. If the load in the downstream healthy area is heavy, and the capacity of the connecting feeder is not enough, the connecting feeder may trip due to overload. This problem will cause the outage area expand, and the downstream healthy area cannot be restored. This system is the integration of Supervisory Control and Data Acquisition (SCADA) system with Geographic Information System (GIS), and proposes divisional section transfer power restoration strategy of distribution feeder to make loads of all the connecting feeders are close to each other after the load transfer is performed. When a fault occurs in a feeder, the system can separate the heavy load of the downstream healthy area into two or more sections with light loads, and allocate two or more connecting feeders to support the light loads respectively. Dispatchers can take this strategy as reference for decision-making of load transfer, and speed up troubleshooting, and restore power supply to downstream area of feeder.

行政院原子能委員會核能研究所

Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.

32546 桃園市龍潭區佳安里文化路 1000 號

1000 Wenhua Rd. Jiaan Village, Longtan District, Taoyuan City 32546, Taiwan

聯絡人：蔡佳豪 / Cai, Jia-Hao

E-Mail : stevetasy@iner.gov.tw

Tel : +886-3-4711400 ext. 6376

Web : <https://www.iner.gov.tw/>

Fax : +886-3-4711415



專利技術名稱

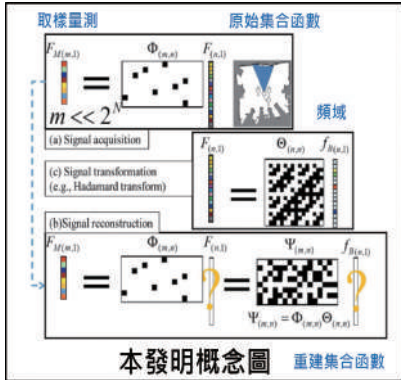
處理集合函數訊號的壓縮感知裝置、系統與方法

Compressed Sensing Apparatus, System and Method for Processing Signals in Set Function

Patent No : (R.O.C. 優先) I754921

專利權人：國立中央大學 / NATIONAL CENTRAL UNIVERSITY

發明人：曾國師 / TSENG, KUO SHIH



專利技術介紹：

本發明關於一種壓縮感知裝置，用於壓縮感知包含複數資料之複數輸入集合的集合函數，其包含：複數感知單元，其用於獲得代表從該等輸入集中選出的複數取樣集合的複數取樣資料；壓縮運算單元，其根據基於該等輸入集合與該等取樣集合而產生的傅立葉基底集合而基於該等取樣資料而壓縮該等資料，並基於與該傅立葉基底集合有關的稀疏迴歸方法以計算傅立葉係數集合；以及重建單元，其基於該傅立葉係數集合而推估該等資料。



Patented technology introduction:

The present invention relates to a compressed sensing apparatus for compressed sensing of a set function consisting of a plurality of input sets containing a group of data. The compressed sensing apparatus includes: a plurality of sensing units acquiring a group of sampled data representing a plurality of sampling sets selected out of the plurality of input sets; a compression and computation unit enabling a compression to the group of data based on the group of sampled data by generating a Fourier basis set based on the plurality of input sets and sampling sets, and a computation to compute a Fourier coefficient set based on a sparse regression technique which is in relation with the group of sampled data; and a reconstruction unit predicting the group of data based on the Fourier coefficient set.

國立中央大學 / NATIONAL CENTRAL UNIVERSITY

32001 桃園市中壢區中大路 300 號

NO. 300, ZHONGDA RD., ZHONGLI DISTRICT, TAOYUAN CITY 32001, TAIWAN (R.O.C.)

聯絡人：曾國師 / TSENG, KUO SHIH

E-Mail : kuoshih@math.ncu.edu.tw

Tel : +886-3-4267211 ext. 65119

Web : <https://sites.google.com/site/kuoshihtseng/>



專利技術名稱

腹腔異常游離氣體深度學習檢測方法及腹腔異常游離氣體深度學習檢測系統

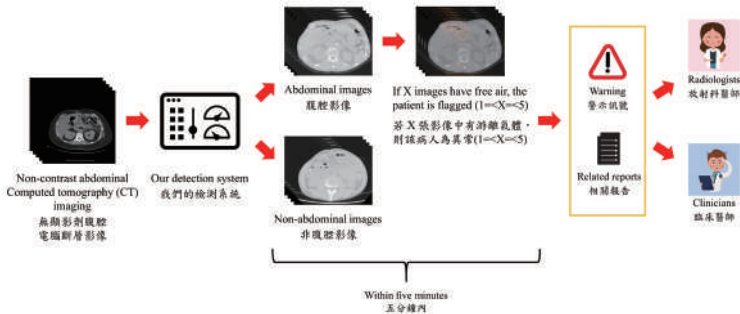
A deep learning-powered novel artificial intelligence algorithm and system to assist in the identification of pneumoperitoneum on abdominal computed tomography

Patent No.: (R.O.C. 優先) 發明專利申請案號第 111123914 號

專利權人：新北市立土城醫院（委託長庚醫療財團法人興建經營）/ New Taipei Municipal Tucheng Hospital
 發明人：薛承君、郭昶甫、陳嶽鵬、范佐搖、王俐人、張光甫、李格恩、王翊峰 / Julian Seak Chen June / Chang-Fu Kuo / Yueh-Peng Chen / Tzuo-Yau Fan / Li-Jen Wang / Kuang-Fu Chang / Ker-En Lee / Yi-Feng Wang

專利技術介紹：

氣腹 (Pneumoperitoneum) 的定義為腹腔內有游離氣體 (Free air)；腹痛病人若在影像學上產生氣腹，臨床上通常代表器官/腸子破裂，屬於高危險性，需緊急手術以挽救性命，延誤診斷將導致敗血症休克及多重器官衰竭，造成病人死亡。臨床上，電腦斷層已被證實是診斷氣腹最敏感最準確的影像工具。本技術的優勢為 5 分鐘內可即時自動檢測病人之無顯劑劑電腦斷層影像上，腹腔異常游離氣體存在與否，協助醫師們快速診斷氣腹，有效降低病人死亡率。系統成效相當於臨床經驗豐富的放射診斷科醫師般精準、快速且判讀標準具有一致性，尤其以多張 (4 張以上) 有游離氣體的影像驗證氣腹檢測結果，可取得 100% 準確度 (臨床上氣腹病人最可能之情形)。本技術之潛在全球市場年收益可達 156 億新台幣。



Patented technology introduction:

Pneumoperitoneum refers to the presence of free air in the peritoneal cavity. The detection of pneumoperitoneum on imaging in a patient presenting with abdominal pain is highly indicative of a perforated intraperitoneal viscus. This life-threatening condition requires emergency surgery with delay, failing which the patient may develop septic shock, multiple organ failure, and even death. Computed tomography (CT) is the best imaging modality in identifying pneumoperitoneum. Our developed artificial intelligence system is capable of rapid identification of pneumoperitoneum on CT within 5 minutes, with accuracy and consistency on par with an experienced board-certified radiologist. This is especially so if there are multiple image slices (4 or more) with evidence of pneumoperitoneum, yielding a 100% accuracy rate. We estimate the global market revenue of this technology to be NT\$15.6 billion.

薛承君 / Julian Seak Chen June

236017 新北市土城區金城路二段 6 號 (新北市立土城醫院 急診醫學科)
 No. 6, Sec. 2, Jincheng Rd., Tucheng Dist., New Taipei City 236017, Taiwan (R.O.C.)
 (Department of Emergency Medicine, New Taipei Municipal Tucheng Hospital)

聯絡人：薛承君 / Julian Seak Chen June

E-Mail: julianseak@hotmail.com

Tel: +886-2-22630588 ext. 2976

Web: <https://cghdpt.cgmh.org.tw/branch/cht/doctor/detail/5363>

Fax: +886-2-82722343



專利技術名稱

運動器材循環運行方法及其應用

Circuit Exercise System and its application

Patent No.: (R.O.C. 優先) 發明第 I727737 號

專利權人：長庚大學、昌祐科技國際股份有限公司、必和創意設計有限公司 / Chang Gung University、CHANG YOW TECHNOLOGIES INTERNATIONAL CO., LTD.、UNITE CREATIVE DESIGN CO., LTD.

發明人：王鐘賢 / Wang, Zhong-Xian



專利技術介紹：

智能環狀運動系統以有氧運動器材作為硬體載具、藍芽傳輸系統之控板作為韌體、搭配具有運動訓練排程的軟體建立安全的運動環境。使用者透過精準評估工具得到個人化的「運動處方」，再以環狀運動系統之標準化運動流程記錄每次的運動成效；結合穿戴式裝置偵測生理數值的設計並給予運動計劃建議，完成有效益的運動訓練。尤其執行常壓低氧的運動訓練可有效改善心肌收縮力及增加骨骼肌之氣體灌注和氧氣利用率，提升肺部換氣效率和有氧適應，而非藉由調節中樞血流系統。因此，本項技術主張與環境氧氣濃度多寡有關之運動訓練對心肺功能的強化，更可以加強全身性肌肉訓練、有氧/無氧運動代謝，降低使用者局部肌肉使用過度以及運動疲勞程度。

Patented technology introduction:

The circuit exercise system establishes a safe and efficient exercise environment via aerobic exercise equipment as hardware, Bluetooth transmission panel as firmware, and the software which arranges exercise training session. Users acquire their personalized exercise prescription through accurate assessment, then record each of the training outcomes with standardized process which the system provides. The system integrates wearable devices to detect vital signs, assessing risky conditions during exercise and give some advice for exercise to complete beneficial training. Normal pressure and hypoxic exercise training, especially improves cardiac contractility, gas perfusion, and oxygen extraction in skeletal muscle, enhancing pulmonary air exchange efficiency and aerobic fitness. Therefore, this technique claims that exercise training related to the amount of oxygen concentration optimizes cardiopulmonary function, and can also increase systemic muscle strength, aerobic/anaerobic metabolism, decrease one's local muscle overuse and fatigue level.

長庚大學 / Chang Gung University

333323 桃園市龜山區文化一路 259 號

No. 259, Wenhua 1st Rd., Guishan Dist., Taoyuan City 333323, Taiwan (R.O.C.)

聯絡人：蕭怡婷 / Erin Hsiao

E-Mail : hsiaoerin@gap.cgu.edu.tw

Tel : +886-3-2118800 ext. 3125

Web : <https://www.cgu.edu.tw/>

Fax : +886-3-2118297



專利技術名稱

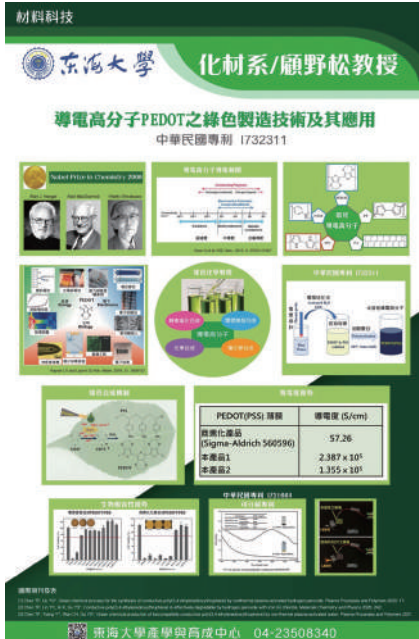
導電聚合物之綠色製造方法

Green manufacturing method of conductive polymer

Patent No : (R.O.C. 優先) I732311

專利權人：東海大學 / TUNGHAI UNIVERSITY

發明人：顧野松、陳東柏、林奕辰 / GU, YESONG ; CHEN, TUNG-PO ; LIN, YI-CHEN



材料科技

東海大學 化材系/顧野松教授

導電高分子PEDOT之綠色製造技術及其應用
中華民國專利 I732311

Abstract PEDOT Chemistry 2006

導電高分子種類

導電高分子之特性

導電高分子之應用

PEDOT(PSS) 種類		導電度 (S/cm)
商業化產品 (Sigma-Aldrich 560596)		57.26
本產品1		2.887×10^5
本產品2		1.355×10^5

中華民國專利 I732311

東海大學產學與育成中心 04-23508340

專利技術介紹：

本技術是利用低溫電漿活化雙氧水或水，激發產生自由基，並藉由自由基促進導電高分子 PEDOT:PSS 的合成。PEDOT:PS 具有水溶性、高透光率、高導電度、可降解性和良好的生物相容性，可應用於有機太陽能電池、電子儀器、感測電極和生醫儀器等。相反，目前市面販售之 PEDOT:PSS 為利用化學法合成，需使用到催化劑和環境不太友善的化學成份。本專利之技術符合全球響應綠色科技，降低工業生產帶給自然環境的負面影響。

Patented technology introduction:

The current innovation is to employ cold plasma technology to activate hydrogen peroxide or just water to generate free radicals that are able to promote the synthesis of PEDOT:PSS. The water soluble PEDOT:PSS possesses the properties of good transparency, high conductivity, easy degradable, and biocompatibility, which has broad applications in organic solar cells, electric devices, sensors and biomedical instruments. On the other hand, the only commercial available product of PEDOT:PSS relies on the chemical approach that requires catalyst and possible eco-unfriendly chemicals. This innovation is a green chemical process that has minimum industrial impact on our environment.

東海大學 / TUNGHAI UNIVERSITY

407224 台中市西屯區臺灣大道四段 1727 號

No. 1727, Sec. 4, Taiwan Blvd., Situn Dist., Taichung City 407224, Taiwan (R.O.C.)

聯絡人：顧野松 / GU, YESONG

E-Mail : yegu@thu.edu.tw

Tel : +886-4-23590121 ext. 33215

Web : <https://resume.thu.edu.tw/portfolio/main/yegu>

Fax : +886-4-23590009



專利技術名稱

懸空置式隧道型光譜魚缸

Patent No : (R.O.C. 優先) I 697281

專利權人：黃志遠 / HUANG CHIH -YUAN

發明人：黃志遠 / HUANG CHIH -YUAN



專利技術介紹：

眾所周知魚缸是一個非常成熟的大產業，周邊產業極其發達，國內外市值相當可觀，與此同時在本發明創作之前卻無人思及開發，就本項魚缸的主体與其底座及其整体造型進行更可看性，更前瞻性等方面設計開發及往更高價值的方向進行研發創新，不過在開發設計與打樣實驗過程確實傷透腦筋，因為往往線條越單純的產品就越難設計，要在簡單中找出不簡單的區別確實不易，由其產品的用途本質為養殖水草及觀賞魚，不能做無謂的畫蛇添足設計。本人是從事水族及水舞系列產品及游泳池壓克力視窗產業已 30 多年，開發相關產品無數，繼承上述經驗及累積製造技術有鑑於此，逐再著力開發設計出此款具有現代美學及科技感而特殊的立体 (懸空置式隧道型魚缸)。該產品結合聲 (音響裝置)，光 (LED) 變化 + 加上美麗的水草造景及水草燈科魚類的整体融合使之成為一完美的科技魚缸產品。

本產品製造除部份為雷射雕刻及切割外，餘 95% 完全由手工特殊黏著，聚合，烤板成形，切割，打磨，拋光等等。以上每一項生產環節都需要成熟的高精密度的手工作業，需時繁複與大型海生館之大型缸製造雷同，非一般業

界所能輕易仿造。市場前景產值可觀，目前該產品亦已完全商品化。

Patented technology introduction:

As we all know, the fish tank is a very mature industry, the surrounding industries are extremely developed, and the market value at home and abroad is quite considerable. At the same time, no one thought about development before the creation of the present invention. Design and development in terms of visibility, more forward-looking, and R&D innovation in the direction of higher value, but the process of development, design and proofing experiments is really nerve-racking, because often the simpler the line, the more difficult it is to design. It is indeed not easy to find the difference that is not simple. The purpose of the product is for the cultivation of aquatic plants and ornamental fish, and it cannot be superfluous to design.

I have been engaged in the aquarium and water dance series products and swimming pool acrylic window industry for more than 30 years, and have developed numerous related products. In view of this, I have inherited the above experience and accumulated manufacturing technology. In view of this, I will continue to develop and design this model with modern aesthetics and sense of technology. And special three-dimensional (swirling vacant tunnel type fish tank).

The product combines sound (audio device), light (LED) changes + plus the overall integration of beautiful aquatic plants landscaping and aquatic plants and lampfish to make it a perfect technology fish tank product.

In addition to laser engraving and cutting, the rest 95% of this product is completely hand-made by special adhesion, polymerization, baking plate forming, cutting, grinding, polishing and so on. Each of the above production links requires mature and high-precision manual operations. The time and complexity are similar to the large-scale tank manufacturing in the large-scale marine aquarium, and it is not easily imitated by the general industry. The market prospect has considerable output value, and the product has been fully commercialized at present.

上野水極國際有限公司 / SHANG YEN AQUA TAIJI INTERNATIONAL CO., LTD.

高雄市鳥松區中正路東豐巷 30 號

No. 30 Tung Lane, Chung Rd., Niao Sung Hsiang, Kaohsiung County

聯絡人：黃志遠 / HUANG CHIH-YUAN

E-Mail : ueno8899@yahoo.com.tw

Tel : +886-7-7313318

Fax : +886-7-7331180



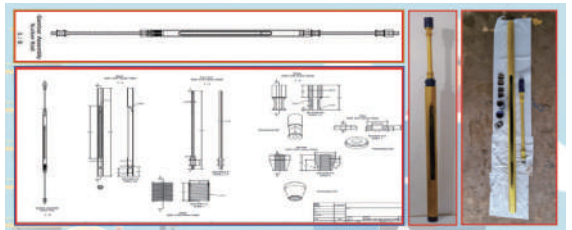
專利技術名稱

Increasing the effectiveness of parted sucker rod fishing operation using MOMOD (Mousetrap Modification) in Pendopo Oil Field

Patent No : (R.O.C. 優先) S-00202210818

Patentee : Ministry of Law and Human Rights - Indonesia

Inventor's Name : Anang Arie Kuncoro, R Nova Rifika Arifien, Mario Aditya Haris Putra, Muhammad Rasyid, Utuh Khair, Sucipto



Patented technology introduction:

The Sucker rod pump is one of the artificial lifts installed in oil wells that commonly used in oil and gas industries. Sucker rod pump consist of surface and downhole components. The surface drive is connected to the downhole pump at the bottom of the well by a series of interconnected sucker rods. The common issue of sucker rod pump is parted sucker rod while operated due to lifetime and workload. Parted sucker rod causes pump off, the pump unable to lift the liquid from the subsurface to the surface. The fishing tool that usually used to catch the sucker rod fish (left in the downhole) is overshot. The fishing operation use overshot has low success ratio, only about 33%. MOMOD (Mousetrap Modification) is an innovative fishing tool designed to overcome the problem of fishing on a parted sucker rod body with various sizes and irregular shapes that cannot be carried out by common fishing tool available in the market. MOMOD is also easy to assemble, lightweight, easy to operate, strong, and low cost. This innovation has succeeded in accelerating and increasing the effectiveness or success ratio of fishing job compared to common fishing tools, thereby reducing non-productive time and costs.

PT Pertamina EP

Signature Park Grande, The Light Tower 10F, MT. Haryono, Jakarta Timur, DKI Jakarta Post Code 13630

Contact person: Meitriana Nurelifah

E-Mail: Info.ayisi@gmail.com

Tel: +62 81295992885



2021
鉑金獎

Platinum Awards



專利技術名稱

消毒殺菌電動三輪車

ELECTRIC DISINFECTION TRICYCLE

Patent No : (R.O.C. 優先) 110207426

專利權人：亞全科技有限公司 / ATOZ -PULLMAN CO., LTD.

發明人：王素英博士 / Dr. Susan Wang



專利技術介紹：

消毒殺菌電動三輪車，經由電能驅動，機動穿梭於巷弄間，提供快速噴灑消毒，提升效率的三輪車。

1 騎 2 開 3 點 go~

- 1). 消毒殺菌電動三輪車，節能減碳，永續發展。
- 2). 全方位 360 度、半自動、手動噴灑方式，所經之處無遺漏。
- 3). 車寬 1.2 米設計，可以深入狹窄街道巷弄值勤。
- 4). 500 公升大容量儲液桶設計，對照傳統一次出動 20 公升 / 每人，要 25 人次才能達到與 PULLMAN 相同的效率，25 比 1 的人力節省差異。
- 5). PULLMAN 僅需目前大型消毒殺菌車十分之一的預算，經濟型投資高效益。

- 6). 三合一功能—消毒防疫、農業噴灑、街道降溫清潔灑水，登革熱、瘧疾、COVID-19 OUT。
- 7). 藉由手持噴灑器及軟管配置，可延伸噴灑距離 50 米以上，增加消毒殺菌的範圍。
- 8). 操作簡便，性別平等。

Patented technology introduction:

The electric disinfection tricycle is running between lanes and lanes by electric power transmission, providing rapid spraying and disinfection and improving efficiency.

- 1). Disinfect electric tricycles, green energy, No using petrochemical energy for the earth sustainable
- 2). All-round 360-degree, semi-automatic, manual spraying method.
- 3). The 1.2-meter-wide design can be used in narrow streets and lanes
- 4). 500 liters large-capacity storage tank design, compared with the traditional 20 liters/tradition man power using, it takes 25 person-times to reach the difference between PULLMAN 500 liters/person-time, 25 to 1 labor saving
- 5). Low cost and high efficiency-PULLMAN take economic budget to compare with current large disinfection vehicle.
Economical investment
- 6). 3in1 function-disinfection, agricultural spraying, street cooling and cleaning watering, dengue fever, malaria, COVID19 OUT
- 7). With the hand-held sprayer and the hose, it can extend more than 50 meters disinfection area.
- 8). Easy operation, gender friendly.

亞全科技有限公司 / ATOZ -PULLMAN CO., LTD.

台南市東區東門路一段 354 號 5 樓

5F, No. 354, Sec. 1, Dong Men Road, Tainan, Taiwan

聯絡人：王素英

E-Mail : project@pullman-motor.com

Tel : +886-6-2094858

Web : www.pullman-motor.com

Fax : +886-6-2098977



專利技術名稱

前驅組成物及非晶型碳材

Precursor composition and amorphous carbon material

Patent No : (R.O.C. 優先) I603528

專利權人：台灣中油股份有限公司 / CPC Corporation, Taiwan

發明人：陳彥旭、廖權能、呂國旭 / Chen, Yan-Shi、Liao, Chyuan-Neng、Leu, Gao-Shee

軟碳導入電池產業應用之技術優勢

搭配高容量錳三元正極		人工石墨	人工石墨+中油軟碳
循環壽命*	充電時間		
	慢充 (3小時~8小時)	<1500 次	>6000 次
	快充 (1小時)	<1000 次	>4500 次
	特快充 (30分鐘)	<500 次	>4000 次
	更高速快充(12分鐘)	---	>2000 次
搭配高容量錳三元正極		人工石墨	人工石墨+中油軟碳
快充能力	充電時間		
	慢充 (3小時~8小時)	100%	100%
	快充 (1小時)	<90%	>94%
	特快充 (30分鐘)	<85%	>90%
	更高速快充(12分鐘)	---	>84%

導入中油軟碳可以大幅提升動力電池壽命與快充/快放能力

*循環壽命測試(100%SOC)準則為原電容量留存率80%。

煉研所1

專利技術介紹：

中油公司軟碳材料技術優勢與特色如下：

- (1) 採用中油公司自有重質油原料，掌握自有原料，擁有自行研發關鍵專利技術。
- (2) 開發優於日本軟碳之高容量軟碳技術，解決軟碳容量偏低問題。
- (3) 掌握更高速快充(6~12分鐘)軟碳壽命提升技術。
- (4) 縮短充電時間至6~20分鐘；大幅降低充電溫升，減少鋰金屬析出，提升電池安全性能。
- (5) 人工石墨負極無法快充，軟碳具有12分鐘快充且壽命長(大於7年)。

Patented technology introduction:

The technical advantages and characteristics of CPC's soft carbon materials are as follows:

- (1) To use CPC's own raw materials of heavy oil; To master its own raw materials, and have key patented technologies developed by CPC.
- (2) To develop high-capacity soft carbon technology superior to Japanese soft carbon to solve the problem of low-capacity soft carbon.
- (3) To master the technology of improving the life of soft carbon with higher fast charging (6~12 minutes).
- (4) To shorten the charging time to 6-20 minutes, greatly reduce the charging temperature rise, reduce the precipitation of lithium metal, and improve the safety performance of the battery.
- (5) The anode material of artificial graphite cannot be charged quickly, and the soft carbon has a fast charging capability of 12 minutes and a long life (more than 7 years).

台灣中油股份有限公司煉製研究所

CPC Corporation, Taiwan Refining & Manufacturing Research Institute

600026 嘉義市西區民生南路 217 號

No. 217, Minsheng S. Rd. West Dist., Chiayi City 600026, Taiwan (R.O.C.)

聯絡人：黃柏憲 / Huang Po Shan

E-Mail : 631701@cpc.com.tw

Tel : +886-5-2224171 #2314

Web : <https://www.cpc.com.tw/cl.aspx?n=3375>

Fax : +886-5-2270527



專利技術名稱

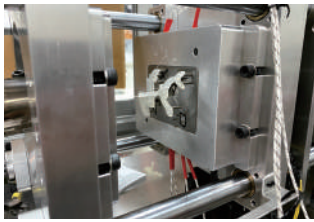
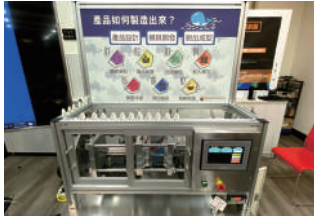
用於模具的智能監測系統

Intelligent monitoring system for mold

Patent No : (R.O.C. 優先) I673583

專利權人：國立高雄科技大學 / National Kaohsiung University of Science and Technology

發明人：鄭瑞鴻 / Jui-Hung Cheng



專利技術介紹：

一種用於模具的智能監測系統，在模具上設置複數感測器，透由智慧機上盒收集模具及機台感測器訊號後，從物聯網串聯雲端資料庫，如此便能於遠端即時掌控模具的各項數據。這些數據資料也可以進一步彙整，作為製程改善或參數調整依據，使產線升級為自動化及智慧化。除可單機台監測之外，亦可多機台同步監測，模擬智慧工廠生產狀況。透由本模具智能監測系統，所建置的桌上型塑膠射出成型機教學平台，主要技術突破點在於：透由寓教於樂將複雜技術簡化，安排 DIY 課程讓民眾近距離接觸，推廣技職教育動手實作精神。除適合高中程度以上學生學習之外，也適合於中小企業產品開發小批量生產，及進行相關技能培訓，兼具產業及教學應用價值。

Patented technology introduction:

This patented technology is an intelligent monitoring system for molds. Multiple sensors are set on the mold. After collecting the mold and machine sensor signals from the smart machine box (SMB), the cloud database is connected in series from the Internet of Things. It can control the data of the mold in real-time at the remote end. These data can also be further aggregated and used for process improvement or parameter adjustment to upgrade the production line to automation and intelligence. In addition to monitoring by a single machine, multiple machines can also be monitored to simulate the production status of an intelligent factory. The desktop plastic injection molding machine teaching platform built by the intelligent monitoring system for molds is: through education and fun to simplify complex technology, arrange DIY courses for the public to get close to each other, and promote technical occupations hands-on educational spirit. In addition to learning for students above high school level, it is also suitable for small and medium-sized enterprise product development and small-batch production and related skills training, which has both industrial and educational application value.

國立高雄科技大學 / National Kaohsiung University of Science and Technology

807618 高雄市三民區建工路 415 號 (國立高雄科技大學模具工程系)

No. 415, Jiangong Rd., Sanmin Dist., Kaohsiung City 807618, Taiwan

聯絡人：鄭瑞鴻 / Jui-Hung Cheng

E-Mail : rick.cheng@nkust.edu.tw

Tel : +886-7-381-4526 #15416

Web : <https://reurl.cc/r1Y7O1>

Fax : +886-7-383-5015



專利技術名稱

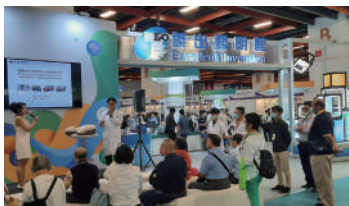
基於手勢動作的混合實境評量系統

EVALUATION SYSTEM OF MIXED REALITY BASED ON GESTURES

Patent No : (R.O.C. 優先)

專利權人：國軍花蓮總醫院 / Hualien Armed Forces General Hospital

發明人：陳穎信、許秀珠 / CHEN, YING-HSIN、HSU, HSIU-CHU



專利技術介紹：

本發明特色是採用混合實境，由多名學員一起演練，多名學員中，包括一位指揮者和其他操作者，必須用「語音」或「手勢控制」下達指揮命令，訓練系統會同時評價指揮者和操作者的表現，給予評價結果，學員用「語音」或「手勢控制」演練心肺復甦術+AED，眼鏡裡面顯示病人狀況，「真實的環境」加上「虛擬的病人、虛擬AED、心律專業儀器、指令視窗等」，攝影機會拍攝學員的手勢，判斷學員的處置是否正確。若是正確則會提示或累積分數，若有錯誤則會提醒或扣減分數，攝影機還能依據手掌佔據畫面的比例，來判斷深度。本軟體把學員帶入真實體驗、減少學員暈眩感，不需要「手持控制器」，節省建置成本，模擬實際操作環境，即時挽救更多的生命。

Patented technology introduction:

The feature of the present invention is that it uses mixed reality and is practiced by multiple trainees. Among multiple trainees, including a commander and other operators, they must use "voice" or "gesture control" to issue command commands, and the training system will evaluate them at the same time. The performance of the conductor and the operator is evaluated. The trainees use "voice" or "gesture control" to practice CPR + AED, the patient's condition is displayed in the glasses, and the "real environment" plus "virtual patient, virtual AED, Professional instrument for heart rhythm, command window, etc.", the camera will take the trainee's gestures to judge whether the trainee's handling is correct. If it is correct, it will prompt or accumulate points. If there is an error, it will remind or deduct points. The camera can also judge the depth based on the proportion of the palm that occupies the screen. This software brings the students into the real experience, reduces the students' dizziness, does not need a "handheld controller", saves the cost of construction, simulates the actual operating environment, and saves more lives in real time.

國軍花蓮總醫院 / Hualien Armed Forces General Hospital

971051 花蓮縣新城鄉嘉里村嘉里路 163 號

No. 163, Jiali Rd., Jiali Villade, Xincheng Township, Hualien County 971051, Taiwan (R.O.C.)

聯絡人：許秀珠 / HSU, HSIU-CHU

E-Mail : a0922345677@gmail.com

Tel : +886-922345677



專利技術名稱

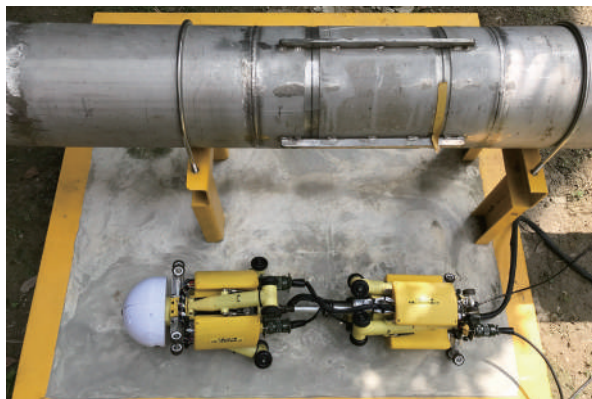
管線清潔機器人

Industrial pipeline cleaning robot

Patent No : (R.O.C. 優先) 110107379

專利權人：正修學校財團法人正修科技大學 / Cheng Shiu University

發明人：張法憲、呂亞循、李冠瑜、吳家宏、蘇上祺、陳政方 / Fa-Shian Chang、Ya-Jin Lyu、Guan-Yu Li、Jia-Hong Wu、Shang-Chi Su、Cheng Fang Chen



專利技術介紹：

本發明是一種管線清潔機器人，操作人員在管線外操作，機器人在管壁內可以進行水平與垂直管線中行走，藉由攝影模組提供操作人員觀看管壁內的情況。控制頂部的清潔模組，垂直壁面旋轉或來回刷動將管壁內的焊渣加以去除，同時以吹氣與吸塵模組將鐵屑殘渣吹除與吸取，移除因施工時產生的鏽渣、細鐵屑、沙塵與雜物。避免於完工後通氣通油時，因異物卡於凹槽處與閥內部凹槽處，造成閥體磨損進而發生危險事故。本機器人員備有提高施工品質、提升施工效率與降低意外事件的發生，此外尚具備模組化與便於攜帶等功能之各種優點。

Patented technology introduction:

The invention is a pipeline cleaning robot. The operator operates outside the pipeline. The robot can walk in the horizontal and vertical pipelines inside the pipe wall. The camera module provides the operator to watch the situation inside the pipe wall. Control the cleaning module on the top, rotate the vertical wall surface or brush back and forth to remove the welding slag in the pipe wall, while blowing and sucking the iron slag residue with the blowing and dusting module to remove the welding slag generated during construction, fine iron filings, sand and debris. Avoid the risk of abrasion of the valve body due to foreign matter stuck in the groove and the inner groove of the valve when the oil is ventilated after the completion of the work. This robot has various advantages such as improving construction quality, improving construction efficiency and reducing accidents. In addition, it also has various advantages such as modularization and portability.

正修科技大學 / Cheng Shiu University

83347 高雄市鳥松區澄清路 840 號

No. 840, Chengqing Rd., Niasong Dist., Kaohsiung City 83347, Taiwan (R.O.C.)

聯絡人：張法憲 / Fa-Shian Chang

E-Mail : changfs1968@gmail.com

Tel : +886-7-735-8800 #3210

Fax : +886-7-7331758



專利技術名稱

六聚乳糖 NOTA 衍生物、六聚乳糖正子肝受體造影劑的 Ga-68 放射標誌方法及六聚乳糖正子肝受體造影劑

Hexa-Lactoside Tri-azanonane Tri-acetic Acid (NOTA) / Derivative, Method for Radiolabeling Hexa-Lactoside Positron Emission Tomography (PET) Imaging Agent for Liver Receptor with Ga-68, and Hexa-Lactoside PET Imaging Agent for Liver Receptor

Patent No : (R.O.C. 優先) 發明第 I671077 號

專利權人：核能研究所 / Institute of Nuclear Energy Research

發明人：林武智、王美惠、于鴻文、林昆諒、江彥峰、陳瑞宇 / Wuu-Jyh Lin, Mei-Hui Wang, Hung-Man Yu, Kun-Liang Lin, Yan-Feng Jiang, Rui-Yu Chen



專利技術介紹：

維持足夠肝功能，是肝病患者存活的決勝關鍵。由於肝臟實質細胞細胞膜表面的去唾液酸醣蛋白受體數量，在正常肝臟和肝病肝臟有很顯著的差異，因此透過去唾液酸醣蛋白受體造影術，可靈敏看出正常肝臟與肝病肝臟的造影差別。「核研多蕾克鎳肝受體造影劑」作為肝貯存量評估已通過第一期臨床驗證，具絕佳肝標靶與高安全藥理特性，預期用於評估肝貯存量的準確度可優於並取代大部分現行的影像術。「核研多蕾克鎳肝受體造影劑」有全球專利佈局，已是醫藥級凍晶配方，只需將鎳-68 加到凍晶瓶中，溶解靜置 15 分鐘，就可以作為正子造影使用。標誌產物對肝受體有高專一標靶特性，背景值低，靈敏度高，具有方便、快速、半衰期短、穩定性佳、可全球銷售等銷售優勢。

Patented technology introduction:

Competent residual liver function is crucial to patients' survival from liver diseases. As a significant difference exists between the number of asialoglycoprotein receptors on the parenchymal cell membrane of a normal liver and a diseased liver, asialoglycoprotein receptor imaging can be used to differentiate normal and diseased livers sensitively. INER Dolacga Kit as a tool for evaluation of liver reserve has proven in a phase I clinical trial to be highly liver-targeting and safe, and is expected to provide more accurate evaluation of residual liver function than most existing imaging technologies and replace them. INER Dolacga kit has world-wide patent map and has been developed to give lyophilized formulation that can be used for PET imaging after simple and fast (15 min) Ga-68 labeling. The labeled product specifically targets to liver receptors with high sensitivity and low background level. Convenient and rapid labeling (15 minutes), short half-life of Ga-68 (environmentally friendly), and stable (favorable to global distribution) are the key features and are advantageous to product commercialization.

核能研究所 / Institute of Nuclear Energy Research

325207 桃園龍潭文化路 1000 號核能研究所 (同位素組)

No.1000, Wunhua Rd., Longtan Dist., Taoyuan City 325207, Taiwan (R.O.C.)

聯絡人：王美惠 / Mei-Hui Wang

E-Mail : mhwang@iner.gov.tw

Tel : +886-3-4711400 #7162

Web : www.iner.gov.tw

Fax : +886-3-4711416



專利技術名稱

用於微電網之電壓控制系統及方法

VOLTAGE CONTROL SYSTEM AND METHOD FOR MICROGRID

Patent No : (R.O.C. 優先) 發明第 1735062 號

專利權人：行政院原子能委員會核能研究所 / Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan

發明人：高俊廷、李奕德 / Gao, Jun-Ting、Lee, Yih-Der



專利技術介紹：

本發明係為一種用於微電網之電壓控制系統及方法，該微電網包括一分散式電源模組，該分散式電源模組用於輸出一輸出電壓以及一輸出電流，並即時偵測該輸出電流，以根據該輸出電流的電流值決定是否降低該輸出電壓，藉由此舉，本發明可即時偵測該輸出電流並降低該輸出電壓，以對應的降低該輸出電流，達到提升微電網供電品質的目的。

Patented technology introduction:

The present application relates to a voltage control system and method for a microgrid, the microgrid comprising a distributed generation module for outputting an output voltage, an output current and detecting the output current instantly to determine whether to reduce the output voltage according to the current value of the output current. Therefore, the present application can instantly detect the output current and reduce the output voltage to correspondingly reduce the output current to achieve purpose that to improve the power quality of the microgrid.

行政院原子能委員會核能研究所

Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan

325207 桃園市龍潭區佳安里文化路 1000 號 (核儀組)

No.1000, Wunhua Rd., Longtan Dist., Taoyuan City 325207, Taiwan (R.O.C.)

聯絡人：高俊廷 / Gao, Jun-Ting

E-mail: jtgaoiner.gov.tw

Tel : +886-3-4711400 #6323

Web : www.iner.gov.tw

Fax : +886-3-471-1064



專利技術名稱

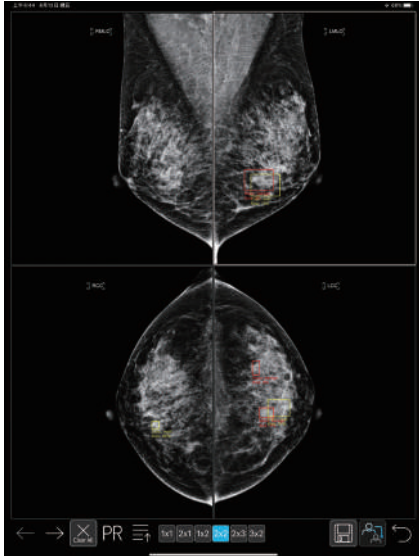
多視角乳房影像分析方法、多視角乳房影像分析系統及非暫態電腦可讀取媒體

MULTI-VIEW MAMMOGRAM ANALYSIS METHOD, MULTI-VIEW MAMMOGRAM ANALYSIS SYSTEM, AND NON-TRANSITORY COMPUTER-READABLE MEDIUM

Patent No : (R.O.C. 優先) 發明 I707663

專利權人：財團法人資訊工業策進會 / INSTITUTE FOR INFORMATION INDUSTRY

發明人：詹凱軒 / CHAN, KAI-HSUAN



專利技術介紹：

一種乳房影像分析方法，包含複數個乳房影像；利用病徵辨識模型判斷乳房影像是否具有對應的異常狀態，產生乳房影像對應的複數個熱圖；利用假陽性濾除模型，判斷熱圖是否具有假陽性特徵，以產生對應於熱圖的異常機率值；以及利用第一門檻值判斷異常機率值，如果異常機率值大於第一門檻值，偵測並輸出熱圖對應的病灶位置。

Patented technology introduction:

A mammogram image analysis method is disclosed herein. The method includes the following operations: inputting a plurality of mammograms; utilizing a symptom identification model to determine whether the breast images has an abnormal state, and generating a plurality of heat maps corresponding to the mammograms; utilizing a false positive filtering model to determine whether the heat maps has a false positive feature, and generating an abnormal probability corresponding to the heat maps, and utilizing a first threshold to determine the abnormal probability, if the abnormal probability is greater than the first threshold, detecting and outputting a lesion position corresponding to the heat maps.

財團法人資訊工業策進會 / Institute of Information Industry

台北市民生東路四段 133 號 5 樓 D 室

Room D, 5F, #133 Minsheng E. Rd. Sec. 4, Taipei, Taiwan

聯絡人：詹凱軒 / CHAN, KAI-HSUAN

E-Mail : kaihsuanchan@iii.org.tw

Tel : +886-2-66072930

Fax : +886-2-66076311



專利技術名稱

膝關節輔具

KNEE FIXATION DEVICE

Patent No.: (R.O.C. 優先) 發明第 1706800 號

專利權人：輔英科技大學 / FOOYIN UNIVERSITY

發明人：陳姝希、李美誼、曾清祥 / Chen Shu Shi、Lee Mei Yi、Tseng Ching Shiang

膝彎曲輔具

發明人：李美誼、陳姝希、曾清祥

發明第 1706800 號

創新價值

本輔具能改善中樞、周邊神經損傷及下肢肌肉功能缺損患者，因肌力不足、異常肌肉張力或異常動作模式導致站立時的膝過度伸直，能維持行走的膝關節彎曲角度和穩定，使其趨近正常步態。

產品特色

- ✓ 兩截式之設計
- ✓ 保留行走時膝關節的活動度
- ✓ 交叉固定綁帶
- ✓ 維持站立期膝關節彎曲角度
- ✓ 依需求客製化
- ✓ 個別化調整膝關節彎曲角度

臨床價值

- ✓ 預防異常步態，減少合併症，防止關節過度伸直
- ✓ 維護行走能力，提升生活品質。
- ✓ 輕便操作容易，增強獨立自主信心。
- ✓ 改善膝關節動作控制，提升復健效益。

性別友善性 本作品無性別使用之區分或年齡之限制，具性別友善性，雖有考量疾病造成膝關節角度之差異，需量身訂做。

專利技術介紹：

本輔具係關於一種膝關節行走輔具，其中包括一大腿支架、一小腿支架、膝內外側連接單元各一個、固定帶。大腿支架包覆股骨遠端 1/2，小腿支架包覆脛腓骨近端 2/3，大小腿兩支架於膝內外側以一可轉動方式連接，使個案穿戴此輔具後行走仍能展現膝關節伸直與彎曲動作。膝關節前側預留一髌骨 (patellar) 活動空間，並於小腿支架脛骨處裝置一緩衝裝置可於站立期維持膝角度於微彎曲。於大腿支架近心端、小腿支架遠端各使用一綁帶固定，膝窩處兩條綁帶以交叉方式固定可避免膝反屈。

Patented technology introduction:

The auxiliary device relates to a knee walking assisting device, which consists of a one-legged bracket, a small leg bracket, a knee inner and outer connecting unit, and a fixing strap. The thigh stent covers half the distal end of the femur, the calf stent covers 2/3 of the proximal end of the tibia, and the two legs of the large and small legs are connected in a rotatable manner on the inner and outer sides of the knee, so that the patient can still show the knee after walking with the aid. The joints are straight and flexible. A patellar active space is reserved on the anterior side of the knee joint, and a cushioning device is arranged on the shin of the calf support to maintain the knee angle in micro-bending during the standing period. Use a strap to fix the proximal end of the thigh bracket and the distal end of the calf support. The two straps at the knee socket are fixed in a crosswise manner to prevent Genu recurvatum.

輔英科技大學 / FOOYIN UNIVERSITY

831301 高雄市大寮區進學路 151 號

No. 151, Jinxue Rd., Daliao Dist., Kaohsiung City 831301, Taiwan (R.O.C.)

聯絡人：林憶珊

E-Mail: P0305@fy.edu.tw

Tel: +886-7-7811151 #2400

Web: <https://www.fy.edu.tw/>

Fax: +886-7-7828172



專利技術名稱

3D 列印機之自動換料機構

Automatic material changing mechanism of 3D printer

Patent No : (R.O.C. 優先) 發明專利第 I734559 號

專利權人：龍華科技大學 / Lunghwa University of Science and Technology

發明人：陳志文、蕭志仁、蕭士凱、葉厚廷、李光耀、呂毓倫 / CHEN CHIH WEN、HSIAO CHIH JEN、HSIAO SHIH KAI、YE HOU TING、LEE KUAN YEW、LU YU LUN



專利技術介紹：

一般 Delta 型式的低階 3D 列印機皆為單色，在列印過程中如欲換色，則需暫停並完成換料後才能繼續列印，如此不但效率降低，且造成接續處有高低落差現象，導致列印品質不佳。本發明品「3D 列印機之自動換料機構」不需改變原本機器的結構，以模組化方式外掛結合，即可達成列印中自動換色線的目的，此舉不但提高使用效率且因換色列印過程中機台不需暫停，列印品質可理想維持。其功能及產品特點說明如下：

1. 可將單色 3D 列印機升級成多色 3D 列印機
2. 自動換料機構，可快速達成換色列印
3. 模組化方式外掛結合，使用簡便
4. 不需改變原本機器結構，機台強度無虞
5. 機台在換色過程中不需暫停，提高列印效率
6. 多色列印過程無中斷，避免接續處有高低落差現象，維持列印品質
7. 支援高速 3D 列印，列印速度可達一般機台的 2~4 倍以上
8. 不需加購高價位多色 3D 列印機，降低使用成本達 3~5 倍

Patented technology introduction:

Generally, the low-end Delta 3D printers are all monochrome. If you want to change the color during the printing process, you need to pause and complete the material change before you can continue printing. This not only reduces the efficiency, but also causes a gap in the connection. This phenomenon leads to poor print quality. The product of the present invention, "Automatic material changing mechanism for 3D printers", does not need to change the original machine structure, and can be combined externally in a modular manner to achieve the purpose of automatic color-changing lines during printing, which not only improves the efficiency of use And because the machine does not need to be paused during the color-changing printing process, the printing quality can be maintained ideally. Its functions and product features are described as follows:

1. Can upgrade a single color 3D printer to a multi-color 3D printer.
2. Automatic material change mechanism, can quickly achieve color change printing.
3. Modular way of external connection, easy to use.
4. There is no need to change the original machine structure, and the machine strength is safe.
5. The machine does not need to pause during the color change process, which improves printing efficiency.
6. There is no interruption in the multi-color printing process, avoiding the high and low drop phenomenon at the connection, and maintaining the printing quality.
7. Supports high-speed 3D printing, the printing speed can reach more than 2~4 times that of ordinary machines
8. There is no need to purchase high-priced multi-color 3D printers, reducing the use cost by 3~5 times.

龍華科技大學 / Lunghwa University of Science and Technology

333326 桃園市龜山區萬壽路一段 300 號

No. 300, Sec. 1, Wanshou Rd., Guishan District, Taoyuan City, 333326, Taiwan (R.O.C.)

聯絡人：陳志文 / CHEN CHIH WEN

E-Mail : F12064@yahoo.com.tw

Tel : +886-922797262



專利技術名稱

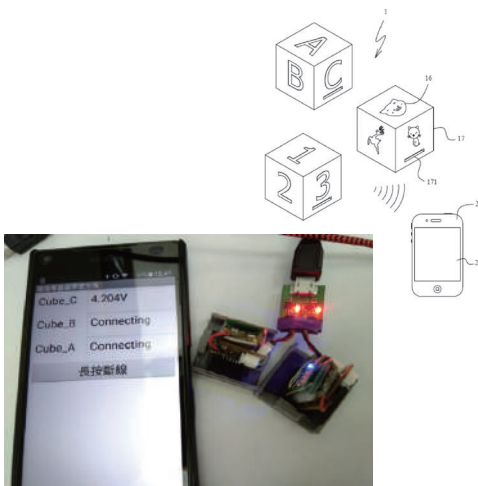
智慧型發聲多面載體

Smart Word Hedron

Patent No : (R.O.C. 優先) 第 110114318 號

專利權人：許祖嘉、李有名 / HSU, TSU-CHIA JULIA, LI, YOU-MIN

發明人：許祖嘉、李有名 / HSU, TSU-CHIA JULIA, LI, YOU-MIN



專利技術介紹：

本發明係一種智慧型發聲多面載體，其設計有兩部份：
 一、積木骰子中 32 位元微控制器通過藍芽連接到設備；
 二、手機下載遊戲的應用程式後，下載手機 App 後並確認開啓手機藍芽功能，此時，積木方塊插上電池，藍芽模組 LED 燈閃爍表示未連接，App 畫面之積木方塊狀態顯示 "Disconnect"（非連結狀態）；此時，按下手機 App 畫面中的連線按鍵，進行藍芽連線，已連接方塊之藍芽模組 LED 燈恆亮，App 畫面之方塊狀態顯示 "Connected"（連結狀態），完成積木方塊藍芽連結後，手機 App 將播放方塊進行擲骰子動作的結果，最後靜止朝上的部分發出正確的英語詞彙音檔。例如：英語詞彙 (cheetah)，選取對應的音檔會直接播放聲音。
 使用者只要進行擲骰子的動作，利用垂直加速重力系統對應模組來學習英語詞彙，每次至多三個積木同時進行，積木方塊面朝上的介面會發出圖案中的英語發音。

Patented technology introduction:

This device design, Smart Word Hedron, has two parts: First, the dice preinstalled with a 32-bit micro-control connected by Bluetooth to a mobile device. Second, a downloadable app. After downloading the mobile app and confirming the opening of the mobile blue tooth, at the time, the building block plug battery, blue bud module LED light flashing indicates that they are not connected, the app screen building block status would show "Disconnect." The mobile app will play the box as a result of the roll of the dice, and finally English vocabulary pronunciation will be sent out in the up-and-coming part. The function and design of this invention can attain its convenience for users, for example, the Bluetooth communication is sent to the mobile device, which has been paired with its Bluetooth. The building blocks are proceeded to roll the dices, and the final static face would directly correspond to the audio file and directly sound English pronunciation.

Up to three dice can be rolled at one time. Users rolling the dice to play board games will simultaneously hear on the phone the pronunciation of the English word they can see in the pattern on the upward face of the dice.

龍華科技大學 / Lunghwa University of Science and Technology

333326 桃園市龜山區萬壽路一段 300 號

No. 300, Sec. 1, Wanshou Rd., Guishan District 333326, Taoyuan City, Taiwan

聯絡人：許祖嘉 / Hsu, Tsu-Chia Julia

E-Mail : hsuinhk@gm.lhu.edu.tw

Tel : +886-928831018



2020
鉑金獎

Platinum Awards



專利技術名稱

移動平均低通濾波裝置與方法

MOVING AVERAGE LOW-PASS FILTERING DEVICE AND METHOD

Patent No. : (R.O.C. 優先) I625935

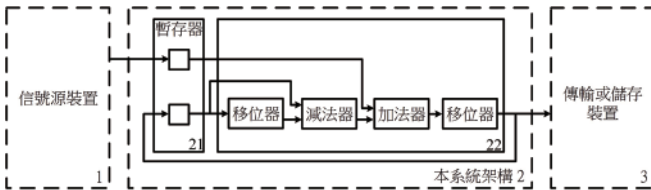
專利權人：中原大學 / Chung Yuan Christian University

發明人：陳世綸、林鼎然、趙文瑋 / Chen, Shih-Lun / Lin, Ting-Lan / Zhao, Wen-Xuan



專利技術介紹：

本發明提出一個創新的低通濾波器架構，此架構結合移動平均濾波的概念，利用前一次濾波的结果乘以一个倍率，再与新的输入相加来近似输入讯号的总合，如此可有效减少计算输入讯号总合的数量，相较于传统低通滤波器架构，本发明具有固定单一硬體架构可支援多样输入讯号之新颖性，与低成本、低硬體複雜度、高弹性与高效能之进步性；本发明有效节省平均约 46% 硬體成本，运算时间平均下降 9.6%，可广泛应用于各式电子产品如穿戴式装置、物联网、手机、平板电脑等产品中。



Patented technology introduction:

The present invention proposes a novel architecture of low-pow filter which combines the concept of a moving average filter. Compared with traditional low-pass filter, the present invention has novelty of a signal hardware architecture can support multiple input signals. In addition, the present invention has benefits of low-cost, low-hardware-complexity, high flexibility and high performance. The present invention saves 46% average hardware cost and reduces 9.6% average computing time. The present invention can be widely applied in consumer electronics such as wearable devices, Internet of Things (IoT), smart phone, tablet computer, etc.

中原大學 / Chung Yuan Christian University

320314 桃園市中壢區中北路 200 號

No. 200, Zhongbei Rd., Zhongli Dist., Taoyuan City 320314, Taiwan (R.O.C.)

聯絡人：陳世綸 / Shih-Lun Chen

E-Mail : chrischen@cycu.edu.tw

Tel : +886-3-2654610

Fax : +886-3-2654699



專利技術名稱

醫療氣液體供應系統

Medical Gas-Liquid Supply System

Patent No : (R.O.C. 優先) I63494

專利權人：元智大學 / Yuan Ze University

發明人：鐘國濱、葉佳鎮、余浚璋、馬嘉慶、謝崇偉 / Guo-Bin Jung / Chia-Chen Yeh / Jyun-Wei Yu /
Chia-Chin Ma / Chung-Wi Hsieh



專利技術介紹：

在已知的醫療技術中，氫氣、高壓氧氣及超氧已被證實可應用於輔助治療糖尿病、心血管疾病、聽力損傷、心血管病及脊髓神經等而上述氣體各有不同生產裝置。有鑑於此，本發明提供一種(綠色)醫療系統，其藉由質子交換膜電解技術(Proton Exchange Membrane Water Electrolysis, PEMWE)將水電解來產生產生超氧，來處理提供病患所需的醫療氣體、減少化學藥劑的使用、提升病患免疫力，希望由目前化學藥物使用的醫療現況邁向綠色醫療未來。

Patented technology introduction:

Our invention is to explore the possibility to replaced chemicals used as medicine. The generation of high pressure oxygen, high purity hydrogen, and medical grade ozone from water with innovative proton exchange membrane water electrolysis (PEMWE) and their application is addressed. The effectiveness of oxygen, hydrogen, ozone on specific disease cure and prevention, ex. diabetes, cardiovascular unique disease, spinal nerve, hearing has been proven in literature separately. Our team hope that high quality gases from our unique device will be better utilized in these disease cure and will be the best green invention in this century.

元智大學 / Yuan Ze University

32003 桃園市中壢區遠東路 135 號

135 Yuan-Tung Road, Chung-Li, Taiwan 32003, R.O.C.

聯絡人：鐘國濱 / Guo-Bin Jung

E-Mail : guobin@saturn.yzu.edu.tw

Tel : +886-922189879



專利技術名稱

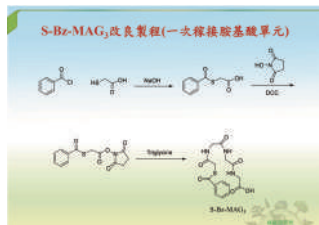
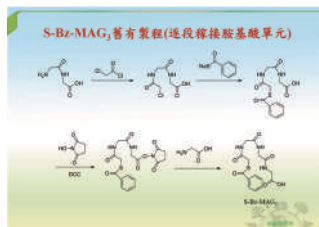
造影劑前驅物 S-Bz-MAG3 之製備方法

Method for preparing S-Bz-MAG3 as a precursor of contrast media

Patent No.: (R.O.C. 優先) I663174

專利權人：行政院原子能委員會核能研究所 / Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C

發明人：李青雲、張瑜、徐成芳 / Li, Ching-Yun / Chang, Yu / Hsu, Cheng-Fang



專利技術介紹：

Tc-99m-MAG3 為專一性診斷有效腎血流量及腎小管功能造影劑，能精確掌握及分析腎臟分泌排泄的藥理特質，已成為全世界進行腎功能診斷時重要的核醫藥物。

本專利將 Tc-99m-MAG3 造影劑之前驅物 S-Bz-MAG3 合成途徑進行調整，由四步驟反應簡化為三步驟，其關鍵在於將結構中的三個胺基酸單元一次嫁接完成，而非舊製程的逐段嫁接。改良後之製程總產率為 64%，較舊製程總產率提升了 10-20%；產品純度均達 99% 以上，在產率及純度品質上均有長足的精進，促成 Tc-99m-MAG3 造影劑的順利生產與獲得核准上市。

本專利製程不需繁複的管柱層析純化，易於進行 10 公克級以上擴量製程，並已進行多批次的驗證生產。期能將此專利技術轉移給民間製藥產業，使國內腎臟泌尿系統病患，獲得更精準有效的醫療診斷服務。

Patented technology introduction:

Tc-99m-MAG3 is a specific diagnostic and effective contrast agent for renal blood flow and renal tubular function. It can accurately control and analyze the pharmacological characteristics of renal secretion and excretion. It has become an important pharmaceutical for renal function diagnosis worldwide.

This patent adjusts the synthetic pathway of the precursor, S-Bz-MAG3 for Tc-99m-MAG3 contrast agent from a four-step reaction to three steps. The key is to complete grafting of the three amino acid units in the structure at one time, rather than step by step of the conventional process. The total yield of the improved process is 64%, which is 10-20% higher than that of old one. The purity of the product achieves more than 99% and shows considerable improvements in terms of yield and purity quality, which has contributed to Tc-99m MAG3 contrast agent was successfully produced and approved for marketing.

The process of patent does not require complicated column chromatography purification, and is easy to carry out an expansion process above 10 grams, then has undergone multiple batches of verified production. It is anticipated to transfer this patented technology to the private pharmaceutical industry, then domestic patients with renal and urinary system can obtain more accurate and effective medical diagnosis services.

行政院原子能委員會核能研究所

Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.

32546 桃園市龍潭區佳安里文化路 1000 號

1000 Wenhua Rd. Jiaan Village, Longtan District, Taoyuan City 32546, Taiwan

聯絡人：張瑜 / Chang, Yu

E-Mail: yuchang@iner.gov.tw

Tel: +886-3-4711400#5336

Web: www.iner.gov.tw

Fax: +886-3-4711400#5312



專利技術名稱

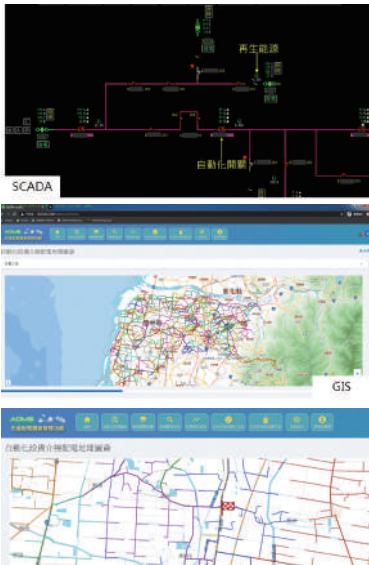
含綠能之配電饋線轉供方法

Method of transfer supply containing green energy for distribution feeder

Patent No : (R.O.C. 優先) I691144

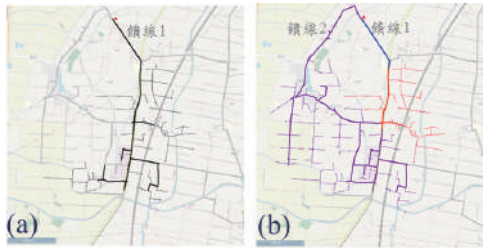
專利權人：行政院原子能委員會核能研究所 / Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.

發明人：蔡佳豪、姜政綸、李奕德、劉力源、何元祥 / Cai, Jia-Hao / Jiang, Jheng-Lun / Lee, Yih-Der / Liu, Li-Yuan / Ho, Yuan-Hsiang



專利技術介紹：

本系統係整合配電監控 (SCADA)、地理圖資系統 (GIS)、及配電潮流程式之本土配電網絡圖資管理系統，提供饋線地理空間資訊及定位服務，透過資料視覺化技術，呈現饋線上電力設備與再生能源相關電力資訊，可輔助調度員迅速掌握饋線故障位置。SCADA 除了可進行饋線故障偵測與區間判斷、隔離、上游復電與下游轉供 (FDIR) 等快速復電功能外，透過配電潮流計算方法提出饋線裕度、最高/最低電壓、及線路損失等重要資訊，可供調度員作為轉供調度決策參考依據，以加速排除故障並恢復用戶供電。使用本系統，期可有效提高饋線調度運轉與管理再生能源能力。



Patented technology introduction:

This system is a domestic distribution network management system with graphic visualized information that integrates SCADA(Supervisory Control and Data Acquisition), GIS(Geographic Information System), and distribution power flow programs. It provides feeder geospatial information and positioning services, and displays power generation information of electric devices and renewable energy on feeders through data visualization technique, which can assist dispatchers to quickly track the fault locations on feeders. Besides ability to conduct fast FDIR, with distribution flow calculations, SCADA can also provide important information such as feeder margin, maximum/minimum voltage, and line loss for dispatchers as a reference for decision-making to speed up troubleshooting and restoration of user power supply. It is expected that the proposed system can enhance the ability of feeder dispatch operation and renewable energy management.

行政院原子能委員會核能研究所

Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan, R.O.C.

32546 桃園市龍潭區佳安里文化路 1000 號

1000 Wenhua Rd. Jiaan Village, Longtan District, Taoyuan City 32546, Taiwan

聯絡人：蔡佳豪、韓品翎 / Cai, Jia-Hao / Han, Pin-l

E-Mail : stevetasy@iner.gov.tw

Web : www.iner.gov.tw

Tel : +886-3-4711400#6376 / 6221

Fax : +886-3-4711415



專利技術名稱

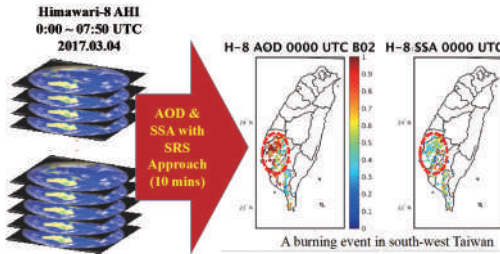
大氣層頂反射率之時間空間影像融合方法於氣膠光學厚度反演

A TOA-reflectance-based Spatial-temporal Image Fusion Method for Aerosol Optical Depth Retrieval

Patent No : (R.O.C. 優先) I684755

專利權人：國立中央大學 / National Central University

發明人：黃智遠、何炫騏、林唐煌 / Chih-Yuan Huang / Hsuan-Chi Ho / Tang-Huang Lin



專利技術介紹：

本技術克服傳統影像融合方法 (STARFM) 在大氣參數反演之限制，提出 TOA-STFM 方法進行大氣層頂反射率高時、空影像融合，應用於氣膠光學厚度 (大氣懸浮微粒) 之反演，並整合高空間 (Landsat-8 與 SPOT-6) 與高時間 (Himawari-8) 解析影像，產製高時、空之衛星影像 (每 10 分鐘 6~30 米亞洲地區)，並應用至空氣品質監測，彌補現行傳統與衛星觀測之不足，掌握空氣污染時、空之變化。

Patented technology introduction:

The proposed TOA-STFM is a spatiotemporal remote sensing image fusion technology that can preserve top-of-atmosphere (TOA) reflectance. By fusing high spatial resolution images (Landsat-8 and SPOT-6) and high temporal resolution images (Himawari-8), the fused 10-minute- and 6~30-meter-resolution TOA images can solve the problem of existing air quality monitoring techniques and effectively capture the dynamic changes of air quality in a large region.

國立中央大學 / National Central University

32001 桃園市中壢區中大道 300 號 太空及遙測研究中心

No. 300, Zhongda Rd., Zhongli District, Taoyuan City 32001, Taiwan (R.O.C.)

聯絡人：黃智遠 / Chih-Yuan Huang

E-Mail : cyhuang@csrsr.ncu.edu.tw

Tel : +886-3-4227151 ext. 57692



專利技術名稱

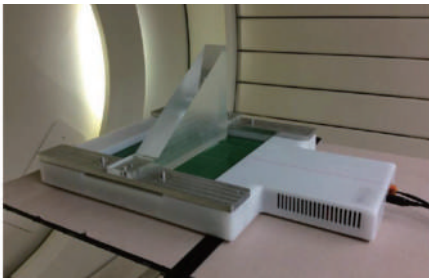
用於放射治療中掃描式離子束量測的偵測器

DETECTOR FOR MEASURING SCANNING ION BEAMS IN RADIATION THERAPY

Patent No. : (R.O.C. 優先) I610698 / US9,884,207

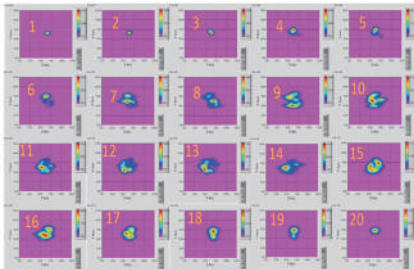
專利權人：國立中央大學、中央研究院 / National Central University, Academia Sinica

發明人：陳鑑鋒、林志勳、鄧炳坤 / Augustine Ei-fong Chen / Chih-Hsun Lin / Ping-Kun Teng



專利技術介紹：

以掃描式離子束進行放射治療為進行中趨勢。此發明為游離腔式探測器，以陣列條型電極方式讀出取得掃描式離子束一維空間分布訊息，分別以 XY 方向讀出粒子束訊息，而後再行重建其二維分布，因此達到快速及高空間解析度目的；可依此準確量測掃描式離子束的不同參數及輻射劑量。並依此架構搭配不同配件及軟體可進行每日品保及病患劑量品保，同樣達到快速精準效果。



Patented technology introduction:

Particle therapy with pencil beam scan (PBS) has becoming major trend in radiotherapy. This invention is an ionization chamber detector with array of strip electrodes to readout one dimensional information of PBS beam profile. Information readout from XY directions are used to reconstruct two dimensional beam profile. Therefore detector can be operated at high speed and with high spatial resolution. Beam profile parameters and dose of a pencil beam can be accurately measured. Daily QA and patient dose QA can be executed with high accuracy and speed, if proper auxiliary and software are applied.

國立中央大學 / National Central University

32001 桃園市中壢區中大路 300 號 中央大學物理系

No. 300, Zhongda Rd., Zhongli District, Taoyuan City 32001, Taiwan (R.O.C.)

聯絡人：陳鑑鋒 / Augustine Ei-fong Chen

E-Mail : t220042@ncu.edu.tw

Web : www.science.ncu.edu.tw/detector

Tel : +886-3-422-7151 ext 65329



專利技術名稱

預測癌症放射線治療之預後的分析器及方法

Analyzer and method for predicting the prognosis of cancer after radiation therapy

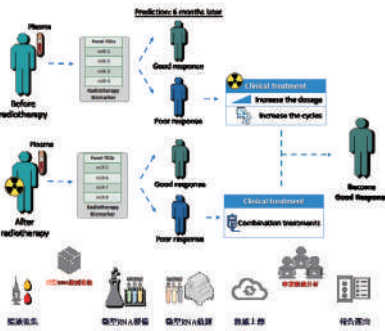
Patent No : (R.O.C. 優先) I614629 / US 10,738,363

專利權人：國立中央大學、張煥禎 / National Central University, Huan-Cheng Chang

發明人：馬念涵、鍾道生、李安倫、詹曜寧、陳建隆 / Nian-Han Ma / Tao-Sheng Chung / An-Lun Li / Yao-Ning Chan / Chien-Lung Chen

專利技術介紹：

目前有半數以上的癌症病患需要接受放射線治療，伴隨而來的為治療後的復發，臨床上，醫師會利用影像學或臨床數據判斷治療的預後，但都亟需經驗豐富的醫師評斷；另外，臨床上也沒有用來監測病人復發可能性的預測標的。所以，在此技術中，透過抽取病人的血液，使用臨床上最快速之精準檢測法即時定量 PCR 偵測血液所純化之微型 RNA，達到預測病人接受放射線治療 6 個月後的效果，提供臨床醫師資訊進行治療處方。並且對於通用性而言，此技術不需要一個新穎的儀器，配合相佐的檢測試劑，即可以完成定量。本發明具有簡易性、穩定性等特色，檢測者、受試者於不同性別皆可實施，提供癌症病患即時提供臨床預後評估，增加癌症病患治療之醫療品質，更進一步提高癌症治療之存活率。



Patented technology introduction:

With more than 50% of the cancer patients will receive radiation therapy as part of treatment in cancer, recurrence is still a major cause of treatment failure. Computed tomography imaging (CT) and tumor markers are the methods to evaluate the prognosis status of patients, but the diagnosis need to rely on the clinical experience of doctors. In this technology, the detection device is configured to detect expression levels of a plurality of miRNAs in a plasma for predicting the prognosis of cancer radiotherapy. The plan of radiation therapy could be adjusted through the prediction results of miRNAs expression. The advantage is that the reagents are suitable for different platform of Q-PCR. The hospital or institute don't need to purchase the new equipment for the detection of miRNAs. We could apply the result for clinical diagnosis and prognosis, and give the benefits to cancer patients in the future.

國立中央大學 / National Central University

32001 桃園市中壢區中大路 300 號

No. 300, Zhongda Rd., Zhongli District, Taoyuan City 32001, Taiwan

聯絡人：李安倫 / An-Lun Li

E-Mail : t982020@gmail.com

Web : <https://in.ncu.edu.tw/~ncu36113/ch.news.html>

Tel : +886-3-4227151 ext. 36113



專利技術名稱

桌球發球機系統

TABLE TENNIS SERVING SYSTEM

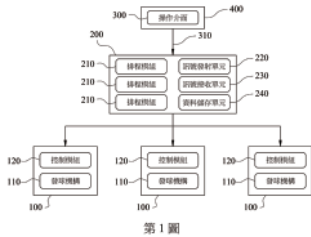
Patent No : (R.O.C. 優先) 申請號第 109205648 號

專利權人：國立虎尾科技大學

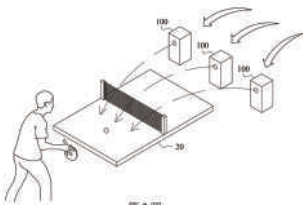
發明人：許永和、陳裕芬、吳昇光、吳承彬、吳承育、陳哲甫 / Yung Hoh Sheu / Yu Fen Chen / Sheng Kuang Wu / Chen Bin Wu / Cheng Yu Wu / Zhe Fu Chen

專利技術介紹：

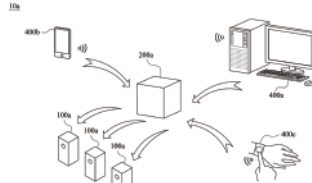
本發明提供一種桌球發球機系統，其包含複數發球機、一排程裝置以及一使用者裝置。各發球機包含一發球機構及一控制模組，控制模組訊號連接發球機構。排程裝置訊號連接各控制模組且包含複數排程模組，各排程模組分別與前述控制模組對應且包含複數參數。使用者裝置訊號連接排程裝置，並供操作以產生複數指令，各指令對應設定各排程模組的各參數。藉此，透過排程裝置改變複數發球機之球路速度，可增加發球的變化性，因而提升使用者的訓練效果；且透過使用者裝置對排程裝置進行參數設定可提升調整的便利性，使用者不須每次更換訓練模式時都要實際到發球機旁進行設定而可提升訓練效率。



第 1 圖



第 2 圖



第 3 圖

Patented technology introduction:

The present provides a table tennis serve machine, which comprises a multi-serving machines, a scheduling device and a user device. Each serving machine includes a serving mechanism and a control module, the control module signals are connected to the serving mechanism. The communication number of the user device is connected to the scheduling device, and is used for operation to generate multi-commands, and each command corresponds to setting each parameter of each scheduling module.

國立虎尾科技大學 / National Formosa University

聯絡人：許永和 / Yung-Hoh Sheu

E-Mail : yhsheu@nfu.edu.tw

Tel : +886-928471855

Fax : +886-5-6330456



專利技術名稱

太陽能熱轉換冷氣機

Solar heat conversion air conditioner

Patent No : (R.O.C. 優先) 發明第 I661163 號

專利權人：國立雲林科技大學 / National Yunlin University of Science and Technology

發明人：曾博仁、曾博彥、沈立晴、郭昭吟 / Tseng Po Jen / Tseng Po Yen / Shen Li Qing / Chao-Yin Kuo



專利技術介紹：

太陽能熱轉換製冷氣機主要由吸附劑和冷媒兩者配對使用，當吸附劑吸附系統中冷媒蒸汽時，會加速液態冷媒揮發，同時帶走周遭環境之熱量，產生製冷效果，當吸附劑吸滿冷媒後，可利用玻璃真空集熱管轉換太陽能的輻射熱能，將吸附的冷媒脫附再生，是一個非電力驅動的製冷技術。而本專利技術可設立於同時兼顧供應熱和冷氣空調的建築大樓，潛在的技轉廠商如建築業、綠能製造業等皆在範圍內，因此本專利之技術轉移可行性相當良好，對於預期之效益著眼注重於減少能量消耗、降低能源成本且提升空間製冷的效率。

本專利採取一種非電力驅動並且無污染的空調系統，以解決酷暑造成的嚴重尖峰負載問題，對於環境保護和節省能源上亦是一個重要的解決方法。



Patented technology introduction:

Solar heat conversion air conditioner of the invention is a product that does not need to use electric energy to complete the cycle cooling effect, and its working principle includes adsorption cooling and heating desorption. The basic cycle is that the liquid refrigerant absorbs heat when it evaporates, producing a cooling effect, and the evaporated refrigerant gas enters the adsorbent, thereby completing an adsorption refrigeration cycle. The heating and desorption is to use the heat source of solar energy to thermally desorb the refrigerant in the adsorbent. At this time, after the refrigerant vapor enters the condenser, the heat energy is transferred to the condensed water, and the condensed refrigerant liquid flows back to the evaporator through the valve. When the condensed water is heated, it can be used as domestic hot water. The solar heat conversion air conditioner has the advantages of low cost, simple structure, no moving parts and long working life. It can provide refrigeration air conditioning in the summer, and can obtain water source for solar heating, contributing to slowing the peak power consumption.

國立雲林科技大學 / National Yunlin University of Science and Technology

64002 雲林縣斗六市大學路 3 段 123 號

聯絡人：曾博仁 / Tseng Po Jen

E-Mail : parkernono@gmail.com

Tel : +886-988225077



專利技術名稱

可自動分離髒水之清洗桶結構

Cleaning bucket structure capable for automatically separating dirty water and clean water

Patent No : (R.O.C. 優先) M579957

專利權人：富商國際股份有限公司 / Full Sun International Co., Ltd.

發明人：吳長馨 / Wu Chang Hsin



專利技術介紹：

本專利『髒水分離拖把』是拖把界革命創新，每一次都能真正用乾淨水來洗淨拖把的髒污，創新技術可瞬間分離髒水與乾淨水，百分之百淨髒分離！

創意的發想來自三年前，觀察一般人在拖地時總是用同一桶髒水來回洗拖把，地板真的能拖乾淨嗎？想拖乾淨，就必須提著超重的水桶不斷換水，拖個地板真的好辛苦！

專利的設計，除了洗拖把時可瞬間分離髒水與淨水，都用乾淨水洗清拖把外，並且打造僅需 4 公升的淨水桶來取代傳統 16 公升的拖把桶，每桶可用乾淨水清洗拖把 20 次，讓使用者不須要來回提水換水，省時又省力！

Patented technology introduction:

Are you still use dirty water to rinse mop? Are you tried to keep changing water?

The patent is a built-in pump and innovative two-bucket system which separates

dirty water from clean water, so you never mix dirty with clean water again, and the mop head remains effortlessly clean.

富商國際股份有限公司 / Full Sun International Co., Ltd.

632 雲林縣虎尾鎮民族路 7 號

No. 7, Minzu RD., Huwei Township, Yunlin County 632, Taiwan

聯絡人：吳長馨

E-Mail : 9san3dy@gmail.com

Web : www.fullsuntv.com

Tel : +886-5-6365078

Fax : +886-5-6365079



專利技術名稱

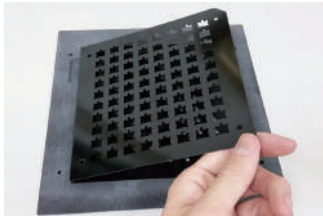
印刷載具

Printing Carrier

Patent No : (R.O.C. 優先) M579591

專利權人：程陽有限公司 / Sunny Process Co., Ltd.

發明人：江文宏 / Chiang, Wen-Hung



專利技術介紹：

本專利由三大結構——載具、真空貼片和防震板所構成，以解決電子業生產問題、改革生產程序為出發點，印刷載具進行加工製作時，業界普遍以膠帶黏貼於印刷電路板四周，此固定方式不僅無法準確定位在印刷載具上，以致發生錯位狀況，也因膠帶覆蓋部分有厚度會形成不平整的印刷層，作業環境若溫度過高導致膠帶熔化為液體，進而影響印刷品質。

本專利特點在於

- (1) 使用壽命長：經加工後的膠帶無法二次使用，本專利真空貼片可更換並重複使用高達 1,500 次以上。
- (2) 生產良率提高：印刷品質提升，防止 PCB 卡線問題，利於構裝。
- (3) 減少人力與時間成本並實現自動化生產：省去手動黏貼與撕除膠帶的步驟，搭配機器手臂，實現 SMT 自動化。
- (4) 環保：避免產生膠帶廢料帶來的污染。

Patented technology introduction:

This patent is composed of three major structures: carrier, vacuum patch and shockproof board. It takes solving production problems and reforming the production process in the electronics industry as the starting point. When the printing carrier is processed and manufactured, the industry uses tapes to stick around the printed circuit board generally. This kind of fixing method is not only unable to position accurately on the printing carrier, but also affects the printing quality because of the covered parts of tapes with thickness have an uneven printed layer and the working environment temperature is too high to melt the tape into liquid.

The features of this patent are

- (1) Long service life: After machining, the tape cannot be used twice, but the vacuum patch can be replaced and reused up to 1,500 times.
- (2) Improving the yield rate of the production: the printing quality is improved and avoid the production line getting stuck to be beneficial to packaging.
- (3) Reduce labor and time costs and realize automated production: It saves the steps of sticking and tearing off the tape manually, and works with robotic arms to realize SMT automation.
- (4) Environmental protection: To prevent pollution of the environment by tape waste.

程陽有限公司 / Sunny Process Co., Ltd.

242 新北市新莊區復興路 3 段 109 號

No.109, Sec.3, Fuxing Rd., Xinzhuang Dist., New Taipei City 242, Taiwan

聯絡人：張世容 / Melody Chang

E-Mail : melody@sunnyprocess.com

Tel : +886-2-89931730 #11

Web : www.sunnyprocess.com

Fax : +886-2-89931732



專利技術名稱

電鍍組合機構

PLATING COMBINED MECHANISM

Patent No : (R.O.C. 優先) 申請號第 106139398 號

專利權人：黃博道、劉耀崇 / Huang, Po Tao / Liu, Yao Chung

發明人：黃博道、劉耀崇 / Huang, Po Tao / Liu, Yao Chung



專利技術介紹：

傳統電鍍的缺點：

1. 精密小尺寸產品：容易卡料或漂浮無法電鍍。
2. 因為滾筒的密封結構，鍍液於被鍍物週圍補充困難。
3. 缺少金屬離子，容易造成表面粗糙及焊性不良。
4. 難鍍物須混合大量鋼珠，損失大量成本。

離心電鍍的優點：

1. 利用離心力使被鍍物於滾筒
 - (1) 高速旋轉時，貼於陰極離心環表面進行電鍍。
 - (2) 低速時被鍍物落於筒底，進行週期性混合。
2. 正反旋轉轉換，增加混和率。
3. 鍍液由上及下方進行滾筒交換，極高的金屬離子交混效率。
4. 鍍槽底部驅動滾筒，軸心磁封技術，徹底防漏。

Patented technology introduction:

Disadvantages of traditional barrel plating

1. Precision small size products; easy to jam or float and cannot be plated.
2. Mixing cycle: about 15 times per minute, the overall uniformity is difficult to control.
3. Due to the sealing structure of the barrel, it is difficult to the plating solution around the object to be plated.
4. The lower metal ions concentration, easy to cause rough surface and poor solderability.
5. The plating solution is difficult to exchange when the mesh hole size smaller than 250x250um.
6. Some product should add a lot of steel balls mixing, and it will lose a lot of material and cost.

The key to improve plating quality:

1. Alternation of centrifugal force and release.
2. Use the centrifugal force to make the object to be plated on the surface of the cathode ring when the barrel rotated at high speed, and the object fell on the bottom of the barrel at low speed for periodic mixing.
3. Positive and negative rotation switch, increase mixing rate.
4. The plating solution enters the barrel for exchange from top and bottom, extremely high efficiency of metal ion exchange.
5. Barrel driven below bottom of the plating tank and the shaft magnetic seal technology is completely leak-proof.
6. The machine is a modular design, and the installation is within 3 days.

漢瑪科技股份有限公司 / Hallmark Technology Co., Ltd

815 高雄市大社區旗楠路 97 號

No.97, Qinan Rd., Dashe Township, Kaohsiung City 815, Taiwan

聯絡人：廖志展 / George Liao

E-Mail : sales@hallmark-tech.com.tw

Tel : +886-7-3526969 ext. 16

Web : www.hallmarktek.com

Fax : +886-7-3522323



專利技術名稱

光波治療裝置及光波治療模組

Light wave treatment Device and Light wave treatment Module

Patent No. : (R.O.C. 優先) M528756

專利權人：何國梁 / Ho Ko Liang

發明人：何國梁 / Ho Ko Liang



專利技術介紹：

一種光波治療裝置，包括機台及光波治療單元，該光波治療單元包含一支架、一燈罩、多個第一光源模組、兩個燈罩翼板及多個第二光源模組，支架連接於燈罩及機台之間，該些第一光源模組設置於燈罩，兩個燈罩翼板分別樞接於燈罩的兩側，該些第二光源模組分別設置於兩個燈罩翼板。藉此，光源能同時照射於人體治療部位的多側，以具有較佳的治療效果。

Patented technology introduction:

A Light wave treatment Device includes a Machine and a Light wave treatment Unit.

The Light wave treatment Unit includes a bracket, a lampshade, a group of first light source modules, two lampshade wings, and a group of second light source modules.

The bracket is connected between the lampshade and the machine; the first light source modules are arranged on the lampshade, the two lampshade wings are pivotally connected to both sides of the lampshade; the second light source modules are respectively arranged on the two lampshade wings.

Thereby, the light source can simultaneously irradiate multiple sides of the human body to be treated, so as to have a better treatment effect.

衡奕精密工業股份有限公司 / TRANSVERSE INDUSTRIES CO., LTD.

242042 新北市新莊區化成路 305 號

No.305, Huacheng Rd., Hsin-Chuang Dist., New Taipei City 242042, Taiwan (R.O.C.)

聯絡人：蔡板佶 / Alex tsai

E-Mail : he993658@ms7.hinet.net

Web : www.transverse.com

Tel : +886-2-8521-8692

Fax : +886-2-8521-1691



專利技術名稱

電子門票入場驗證防偽系統與方法

Patent No : (R.O.C. 優先) I660308

專利權人：優票股份有限公司 / OQR Ticket Co., Ltd

發明人：曾銀宏、林俊明、劉勝昌、王冉卉、卓瑩鎔 / Tseng Yin-Hung / Lin Chun-Ming / Liu Sheng
Chang / Wang Jan-Hui / Cho Ying-Chiang

優勢 綁定手機的帳號認證(實名制)

- 驗證** 註冊、購票、轉售票、入場、互動皆須經過手機號碼與行動裝置驗證
- 唯一** 綁定並驗證手機號碼與行動裝置，達到使用者和帳號的唯一性與識別度
- 安全** 轉換裝置均須重新進行手機與帳號驗證，達到絕對的安全



專利技術介紹：

手機 APP 與驗票機台電腦各自植入本技術之程式碼，操作時 APP 顯示合法下載之 QR-Code 即可通過驗證；若為複製或截圖轉傳之 QR-Code 則無法通過驗證。本發明達到兩項效益：

- 1.100% 杜絕仿冒 QR-Code 被驗證通過。
2. 使用簡單：消費者可與一般手機 QR-Code 使用方式相同，都是手機 App 呈現 QR-Code 讓 Reader 掃讀即可。



Patented technology introduction:

The mobile phone APP and the ticket inspection machine are respectively implanted with the code of this technology. During operations, the APP displays the legally downloaded QR-Code to pass verification; if the QR-Code is copied or transmitted by the screenshot, the verification would fail.

優票股份有限公司 / OQR Ticket Co., Ltd

10489 臺北市中山區南京東路 2 段 132 號 8 樓

8F, No.132, Sec. 2, Nanjing E. Rd., Zhongshan Dist., Taipei City 10489, Taiwan (R.O.C.)

聯絡人：王冉卉 / Hazel Wang

E-Mail : raanhuea@userstar.net

Web : www.oqrticket.com

Tel : +886-972592887



tie Taiwan Innotech Expo
台灣創新技術博覽會 Hybrid

發明競賽頒獎典禮 AWARDS CEREMONY





Taiwan Innotech Expo

台灣創新技術博覽會

2023 10 / 12 ▶ 14 TWTC HALL 1

www.InvenTaipei.com.tw



Supervised by

Ministry of Economic Affairs
National Science and Technology Council
Council of Agriculture
Ministry of National Defense
Ministry of Education
Ministry of Labor
Ministry of Health and Welfare
Environmental Protection Administration
National Development Council
Academia Sinica

Hosted by

Intellectual Property Office, MOEA
Industrial Development Bureau, MOEA
Bureau of Energy, MOEA
Department of Industrial Technology, MOEA
Small and Medium Enterprise Administration, MOEA
State-owned Enterprise Commission, MOEA
Institute of Nuclear Energy Research, Atomic Energy
Council, Executive Yuan
Institute of Labor, Occupation Safety and Health, MOL

Co-organizers

World Invention Intellectual Property Associations
Taiwan Invention Association
Taiwan International Invention Award Winner's Association
Taiwan Invention Products Promotion Association
Chinese Innovation and Invention Society
The Excellent Inventors Society of The Republic Of China
The Union Association of Taiwan Innovations And Inventions
Taiwan Fashion Colour Association

Implemented by

Taiwan External Trade Development Council (TAITRA)
Industrial Technology Research Institute (ITRI)