



學術研究與發表工作坊

講師：洪翊軒
105/10/25



撰寫SCI論文觀念與原則

- 論文為學術生涯筆記本
- 投稿像長跑，養成固定寫作習慣→發展出個人Style
- 善用零碎時間寫稿
(行政、服務、計畫、教學、帶小孩)
- 研究成果決不庫存(個人FC案例慘痛案例)
- 被Reject一個星期內依意見修改衝下一篇(十一次革命成功!)
- 飛彈射後不理 (衝下一篇)
- 接受不接受 **不一定等於** 論文品質好不好

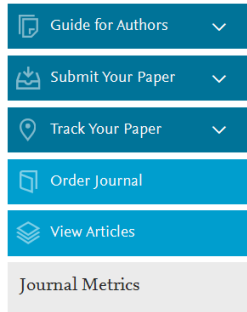


撰寫SCI論文觀念與原則

必勝

必勝投稿法則-五對四不

• 對的期刊 → Aim and Scope



Applied Energy provides a forum for information on innovation, research, development and demonstration in the areas of **energy conversion** and **conservation**, the optimal use of **energy resources**, analysis and optimization of **energy processes**, mitigation of **environmental pollutants**, and **sustainable energy systems**. The journal publishes original papers, review articles, technical notes, and letters to the **editor**. Authors are encouraged to **submit** manuscripts which bridge the gaps between research, development and implementation. The breadth of coverage ranges from innovative technologies and systems of both fossil and renewable energy to the economic industrial and domestic use of energy with no or minor impact on the environment. *Applied Energy* is also concerned with the attendant problems of modeling and forecasting, conservation strategies, and the environmental, social and economic impacts of energy policies and usage, including climate change mitigation and other environmental pollution reduction.

• 對的主題 → 夯!ex: 石墨烯、大數據、智慧機械、電動車、物聯網、VR、MR、新能源



(圖片來源:相關網站)



撰寫SCI論文觀念與原則

必勝

必勝投稿法則-五對四不

- 對的撰寫原則 → 一針見血、量化數據、重覆檢視

ABSTRACT

This study developed an online suboptimal energy management system by using improved particle swarm optimization (IPSO) for engine/motor hybrid electric vehicles. The vehicle was modeled on the basis of second-order dynamics, and featured five major segments: a battery, a spark ignition engine, a lithium battery, transmission and vehicle dynamics, and a driver model. To manage the power distribution of dual power sources, the IPSO was equipped with three inputs (rotational speed, battery state-of-charge, and demanded torque) and one output (power split ratio). Five steps were developed for IPSO: (1) initialization; (2) determination of the fitness function; (3) selection and memorization; (4) modification of position and velocity; and (5) a stopping rule. Equivalent fuel consumption by the engine and motor was used as the fitness function with five particles, and the IPSO-based vehicle control unit was completed and integrated with the vehicle simulator. To quantify the energy improvement of IPSO, a four-mode rule-based control (system ready, motor only, engine only, and hybrid modes) was designed according to the engine efficiency and rotational speed. A three-loop Equivalent Consumption Minimization Strategy (ECMS) was coded as the best case. The simulation results revealed that IPSO searches the optimal solution more efficiently than conventional PSO does. In two standard driving cycles, ECE and FTP, the improvements in the equivalent fuel consumption and energy consumption compared to baseline were (24.25%, 45.27%) and (31.85%, 56.41%), respectively for the IPSO. The CO₂ emission for all five cases (pure engine, rule-based, PSO, IPSO, ECMS) was compared. These results verify that IPSO performs outstandingly when applied to manage hybrid energy. Hardware-in-the-loop (HIL) implementation and a real vehicle test will be conducted in the near future.

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- 對的格式 → APA、工程文獻寫法
- 對的文法/寫法 → 華樂絲、科泰德、英文編修服務



(圖片來源:英文編修網站)

必勝投稿法則-五對四不

- **不違反學術道德**:抄襲、變造、一稿多投
- **不拖延撰寫時程**:一鼓作氣、再而衰、三而竭(密集完成)
(ex:北科教師，研討會論文獎，no SCI)
- **不文不對題**:Revise意見回答精確(具體改善，頁數)
- **不患得患失**:論文如我於浮雲、寫之在我，刊之在天



(圖片來源:相關網站)



如何提升學術品質：**以個人跨領域為例**



功效矩陣式發想與規劃

綠能車輛

控制策略		Bat EV	HEV	PHEV	FCHV	FC/CAP EV
	ECMS	V	VVVVV	VVV	VV	VVV
	PSO	VV	VVV	VV	VV	VV
	BFA	X	VVV	VV	V	V
	GA	X	V	VV	V	X

X:不可行

V:國內研討會級別

VV:國外研討會級別

VVV:國外SCI Q4-Q3級別

VVVV:國外SCI Q2-Q1級別

VVVVV:國外SCI 15%內級別



跨領域整合

PPAP (Pen Pineapple Apple Pen)

I have a Pen, I have an Apple → Apple Pen



(圖片來源:相關網站)

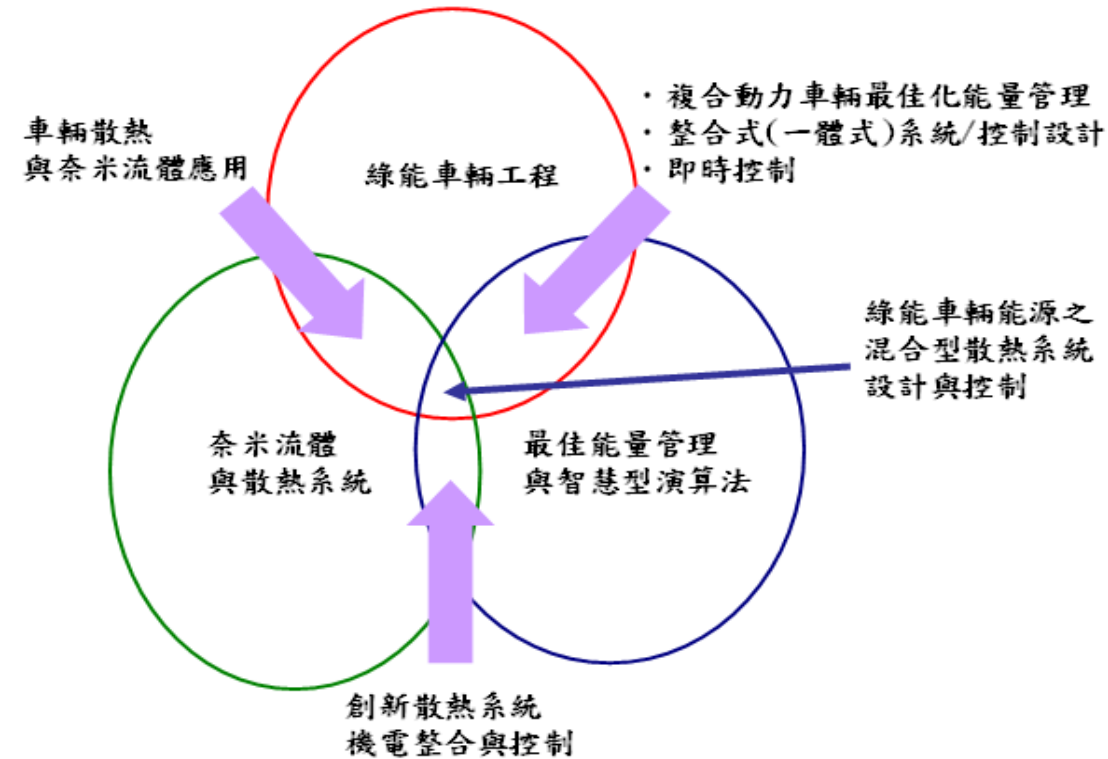
I have an EV, He has a Control → New EV!

I have an Battery, He has a Nanofluid → New Cooling!

論文名稱	期刊名稱	期刊出版地點	期刊出版國家...	期刊收錄分類	期刊是否收錄...	期刊之Scopu...	出版年
Intelligent motion control of voice coil motor using PID-based fuzzy neural network with optimized membership function	Engineering C...	ENGLAND	其他地區	SCI	是	自然科學	2016
Application of a recurrent wavelet fuzzy-neural network in the positioning control of a magnetic-bearing mechanism	Computers an...	ENGLAND	其他地區	SCI	是	自然科學	2016
Speed control of vane-type air motor servo system using proportional-integral-derivative-based fuzzy neural network	International J...	US	其他地區	SCI	是	自然科學	2016
Optimal control of integrated energy management/mode switch timing in a three-power-source hybrid powertrain	Applied Energy	Netherland	其他地區	SCI	是	自然科學	2016
Performance Assessment and Scooter Verification of Nano-Alumina Engine Oil	Applied Scien...	Switzerland	其他地區	SCI	是	自然科學	2016
An Integrated Optimal Energy Management/Gear-Shifting Strategy for an Electric Continuously Variable Transmission H...	Mathematical...	New York	其他地區	SCI	是	自然科學	2016
Mechatronics design and experimental verification of an electric-vehicle-based hybrid thermal management system	Advances in ...	UNITED STA...	其他地區	SCI	是	自然科學	2016
System design and mechatronics of an air supply station for air-powered scooters	Computers an...	ENGLAND	其他地區	SCI	是	自然科學	2016
Development of a thermal management system for energy sources of an electric vehicle	IEEE/ASME ...	UNITED STA...	其他地區	SCI	是	自然科學	2016
Performance evaluation of an air-cooled heat exchange system for hybrid nanofluids	Experimental ...	United States	其他地區	SCI	是	自然科學	2016

Yi-Hsuan Hung
NTNU-IE

跨領域實績



研究方向	SCI/EI國際期刊
綠能(車輛)工程	[1],[4],[17],[18],[19]
奈米流體與散熱系統	[6],[8],[9],[11]
最佳化能量管理與智慧型演算法	[13],[15],[16],[20]
車輻散熱與奈米流體應用	[7]
創新散熱系統機電整合與控制器開發	[2]
複合動力車輛最佳化能量管理、整合式(一體式)系統/控制設計	[3],[5],[10],[12],[14]



翻轉領域→跳脫舒適圈

- 不執著於之前投稿之領域
- **A+B** , Why not **B+A**?

大躍進!

Rank	Abbreviated Journal Title (linked to journal information)	ISSN		
			Total Cites	Impact Factor
1	COMPUT-AIDED CIV INF	1093-9687	1935	5.288
2	TRANSPORT RES B-METH	0191-2615	7358	3.769
3	TRANSPORT SCI	0041-1655	3945	3.295
4	NETW SPAT ECON	1566-113X	813	3.250
5	TRANSPORT RES C-EMER	0968-090X	4153	3.075
6	IEEE VEH TECHNOL MAG	1556-6072	510	2.783
7	TRANSPORTMETRICA B	2168-0566	70	2.560
8	IEEE T INTELL TRANSP	1524-9050	4163	2.534
9	TRANSPORT RES E-LOG	1366-5545	3204	2.279
10	IEEE T VEH TECHNOL	0018-9545	10280	2.243
11	TRANSPORT RES A-POL	0965-8564	5024	1.994
12	TRANSPORT RES D-TR E	1361-9209	2546	1.864
13	J INTELL TRANSPORT S	1547-2450	395	1.565
14	IEEE INTEL TRANSP SY	1939-1390	159	1.547
15	TRANSPORTATION	0049-4488	2011	1.545
16	INT J ENGINE RES	1468-0874	846	1.479
17	TRANSPORTMETRICA A	2324-9935	150	1.477
18	J ADV TRANSPORT	0197-6729	538	1.292
19	P I MECH ENG F-J RAI	0954-4097	710	0.900
20	INT J AUTO TECH-KOR	1229-9138	791	0.876

Rank	Abbreviated Journal Title (linked to journal information)	ISSN		
			Total Cites	Impact Factor
1	ENERG ENVIRON SCI	1754-5692	48114	25.427
2	PROG ENERG COMBUST	0360-1285	7884	16.784
3	ADV ENERGY MATER	1614-6832	15724	15.230
4	J MATER CHEM A	2050-7488	41927	8.262
5	PROG PHOTOVOLTAICS	1062-7995	7802	7.365
6	RENEW SUST ENERG REV	1364-0321	30596	6.798
7	BIOTECHNOL BIOFUELS	1754-6834	4521	6.444
8	J POWER SOURCES	0378-7753	90839	6.333
9	GCB BIOENERGY	1757-1693	2053	6.151
10	APPL ENERG	0306-2619	30986	5.746
11	BIORESOURCE TECHNOL	0960-8524	77360	4.917
12	ENERG CONVERS MANAGE	0196-8904	25161	4.801
13	SOL ENERG MAT SOL C	0927-0248	25597	4.732
14	BIOFUEL BIOPROD BIOR	1932-104X	2136	4.416
15	ENERGY	0360-5442	29364	4.292
16	COMBUST FLAME	0010-2180	17512	4.168
17	P COMBUST INST	1540-7489	11217	4.120
18	INT J GREENH GAS CON	1750-5836	6949	4.064
19	FUEL PROCESS TECHNOL	0378-3820	12869	3.847
20	IEEE J PHOTOVOLT	2156-3381	2469	3.736

- High IF→ Fast Review Process

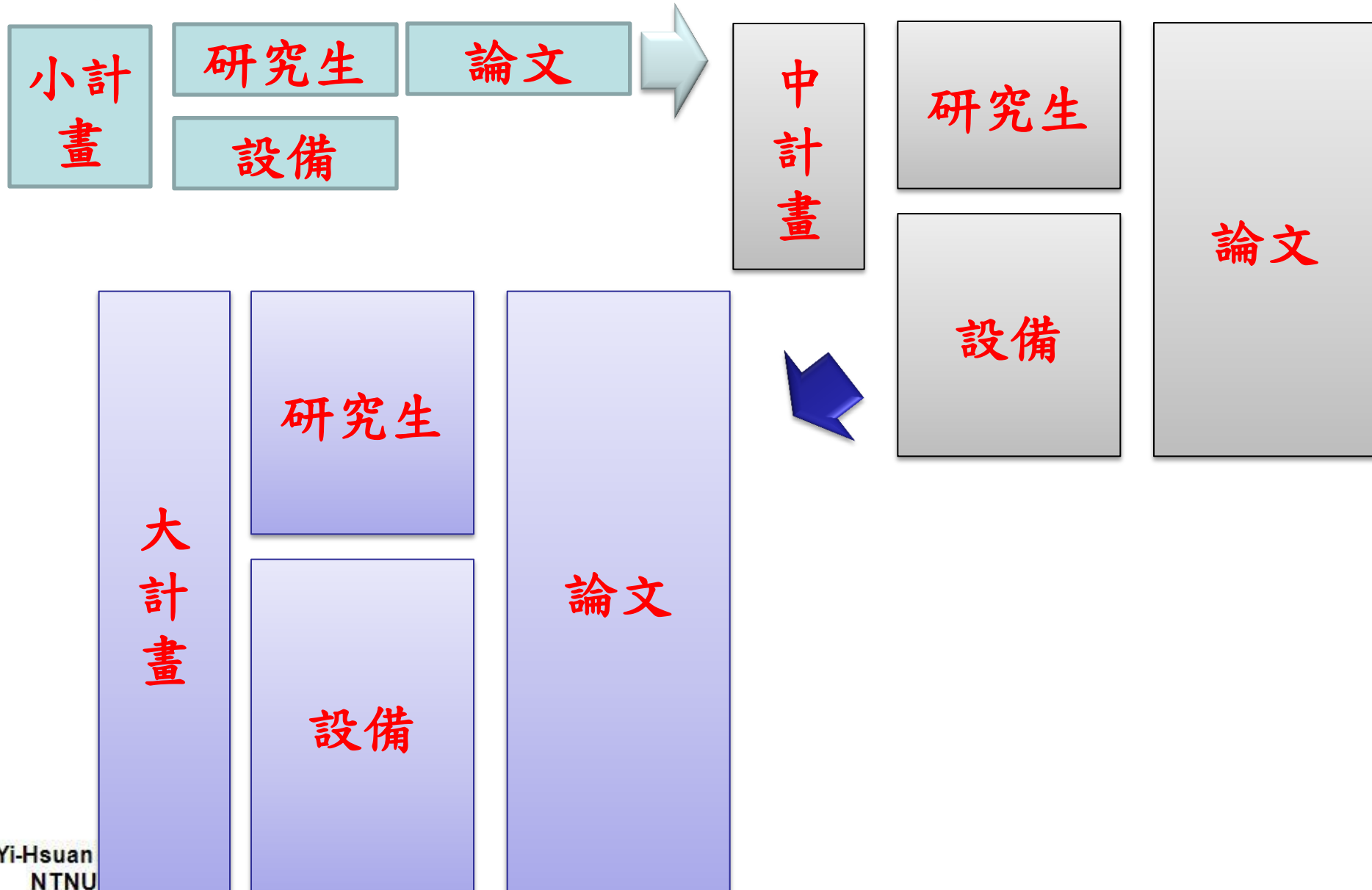


放棄執著，尋求SCI藍海

- 先有饅頭，才有滿漢全席
- 博士班畢業年限，六年升等與評鑑壓力
- 案例：台科大助升副(5-6年)，執著IEEE→能源期刊 J. Power Sources
- EI→SCI→SCI Q1 →SCI 10%

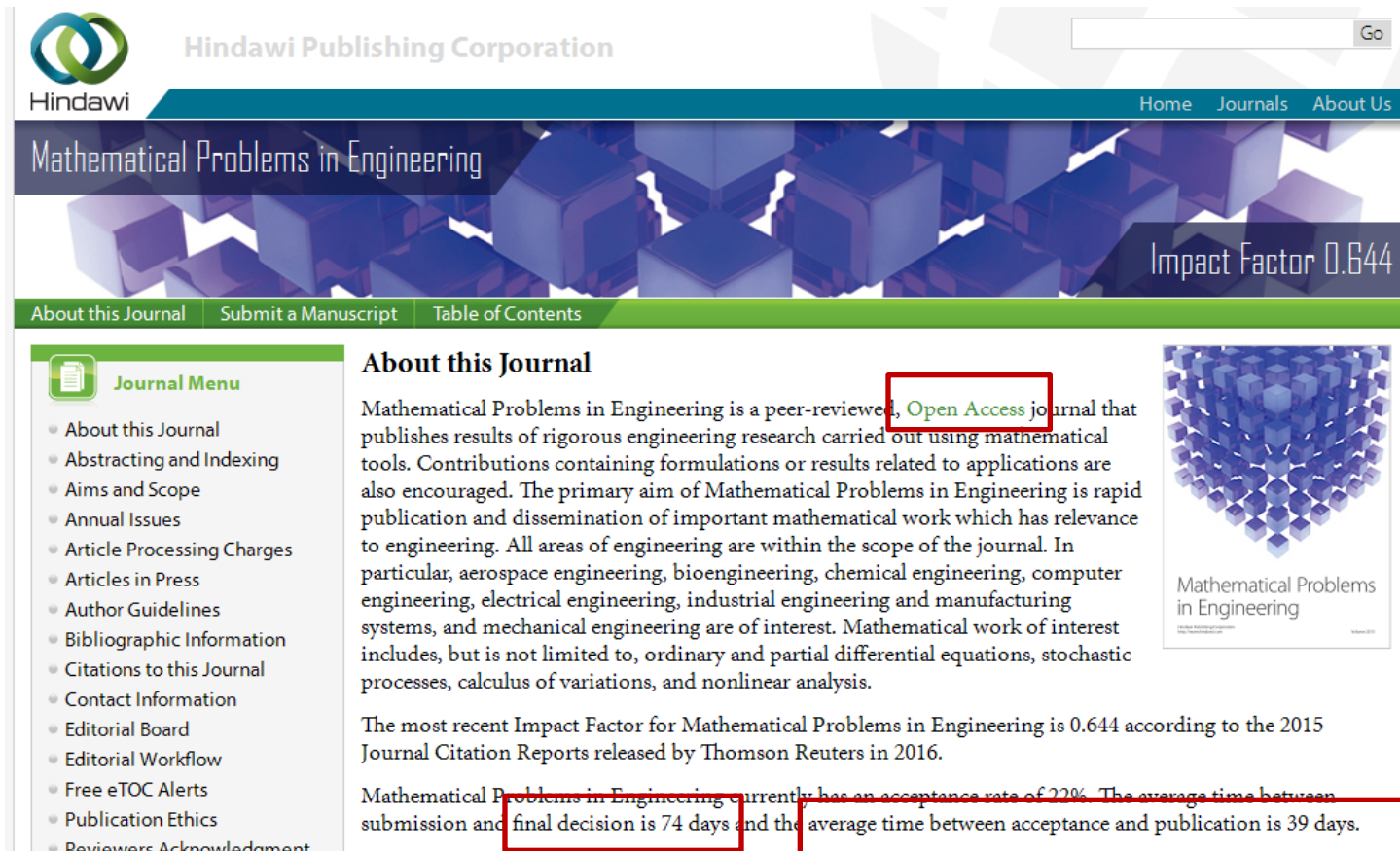


計畫加持→良性循環



Q & A

> 假設一個研究題目經過長期的研究實驗後才發現這個研究是失敗的、是不可行的，而這時候已經面臨畢業時程，如何從失敗的研究轉變成有意義的研究!?



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Mathematical Problems in Engineering

Impact Factor 0.644

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About this Journal

Mathematical Problems in Engineering is a peer-reviewed, **Open Access** journal that publishes results of rigorous engineering research carried out using mathematical tools. Contributions containing formulations or results related to applications are also encouraged. The primary aim of Mathematical Problems in Engineering is rapid publication and dissemination of important mathematical work which has relevance to engineering. All areas of engineering are within the scope of the journal. In particular, aerospace engineering, bioengineering, chemical engineering, computer engineering, electrical engineering, industrial engineering and manufacturing systems, and mechanical engineering are of interest. Mathematical work of interest includes, but is not limited to, ordinary and partial differential equations, stochastic processes, calculus of variations, and nonlinear analysis.

The most recent Impact Factor for Mathematical Problems in Engineering is 0.644 according to the 2015 Journal Citation Reports released by Thomson Reuters in 2016.

Mathematical Problems in Engineering currently has an acceptance rate of 22%. The average time between submission and final decision is 74 days and the average time between acceptance and publication is 39 days.

Mathematical Problems in Engineering

失敗

The power source of the motorcycle is a 10 l/100 kgf/cm² commercial tank, which is refilled by a 7 kW compressor with 75 s. According to the experimental results, with this tank, the motorcycle will run for 2 km for the overall weight of motorcycle as 150 kg. Therefore, the power-consuming for this motorcycle will be about 0.073 kw-hr per kilometer. For a commonly used internal combusting engine motorcycle in Taiwan SYM 125 (10 Hp, 60 km/h) the consuming power is about 0.127 kw-hr per kilometer. Although the efficiency is higher for the prototype air-powered motorcycle, the transportation distance is not practically enough at the current stage. However, the distance can be increased by equipping a larger volume or higher pressure tank.

5. Conclusion

放在未來工作

An air-powered motorcycle with fuzzy logic controller has been proposed and tested. The experiment data shows that the speed error of the motorcycle is within 1 km/h and the efficiency is above 70% for this system when its speed is over 20 km/h. The power-consuming for this prototype is about 0.073 kw-hr per kilometer compared to 0.127 kw-hr per kilometer for a commonly used internal combusting engine motorcycle. Although the efficiency is higher for the prototype, the transportation distance is not enough at the current stage. The future research will be focused on improving





Q & A

＞當研究實驗遇到技術瓶頸時，要如何面對!?

- 短期放空(興趣、嗜好大躍進)
- 異業結合(PPAP)
- 法人或業界委託(手機APP、三動力源平台)



Thanks for Your Listening!

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