

利用受挫式全反射法配合 Otto 組態 激發表面電漿波對丙酮之量測

Acetone Measurement Using Surface Plasma Wave Excited by Frustrated Total Reflection Method with Otto Configuration

李正民 ¹Cheng-Min Lee

健行科技大學電子工程研究所

咎德立 ³De-Li Zan

健行科技大學電子工程研究所

陳冠宇 ³Guan-Yu Chen

健行科技大學電子工程研究所

趙文鴻 ²Wen-Hung Chao

元培醫事科技大學生物醫學工程系

羅鳴謙 ³Ming-Cian Luo

健行科技大學電子工程研究所

黃沛晴 ³Pei-Qing Huang

健行科技大學電子工程研究所

¹Department of Electronic Engineering, Chien Hsin University of Science and Technology

²Department of Biomedical Engineering, Yuanpei University of Medical Technology

³Department of Electronic Engineering, Chien Hsin University of Science and Technology

(Received March 3, 2014; Revised October 7, 2014; Accepted October 24, 2014)

摘要：本篇論文是利用受挫式全反射法和 Otto 組態 (BK-7 稜鏡-銀金屬薄膜-丙酮) 激發表面電漿波對丙酮的量測，我們的主要研究方向針對：銀金屬薄膜厚度的變化、雷射光源波長的變化、不同的量測物質對表面電漿波之共振角影響。由實驗結果顯示，丙酮在銀薄膜厚度為 51 奈米條件下，對不同的雷射光源波長、不同的量測物質，都具有最佳檢測響應。

關鍵詞： Otto 組態、表面電漿波、丙酮、共振角

Abstract : The object of this paper is to measure acetone using surface plasma wave excited by a frustrated Total Reflection method with otto configuration [BK7 prism - metal film of silver(Ag)-acetone/air] . Our main research contents include silver metal film thickness variation, changes in the wavelength of the laser light source, and the impact of different substances to the influence in surface plasma resonance angle. Experimental results showed that the optimal detection response for different laser light wavelength and measurement of different material were under the conditions, acetone silver film thickness was 51 nm.

Key words : Otto configuration, Surface plasma wave, Acetone, Resonance angle

含 5-胺基間苯二甲酸和 4,4'-二吡啶之 鈷(II)金屬配位聚合物合成及其結構 分析

The Synthesis and Crystal Structure of Cobalt (II) 5-aminoisophthalic acid and 4,4'-bipyridine Complex *via* Hydrothermal Reaction

沈福銘^{*1} Fwu-Ming Shen

元培醫事科技大學生物科技暨製藥技術系

駱詩富² Shie-Fu Lush

元培醫事科技大學通識教育中心

¹Department of Biotechnology and Pharmaceutical Technology, Yuanpei University of Medical Technology

²General Education Center, Yuanpei University of Medical Technology

(Received May 15, 2014; Revised September 28, 2014; Accepted October 30, 2014)

摘要:將 $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ 加 4,4'-二吡啶及 5-胺基間苯二甲酸加水混合, 利用水熱反應合成, 得到含鈷(II)的配位高分子聚合物, 其化學式為 $\{[\text{Co}_2(\text{AIP})_2(\text{bipy})(\text{H}_2\text{O})_2] \cdot 4\text{H}_2\text{O}\}_n$ (1), (AIP = 5-胺基間苯二甲酸根、bipy = 4,4'-雙吡啶)。利用 X-Ray 晶體繞射儀、FT-IR 光譜及元素分析儀測定產物晶體結構及性質, X-Ray 結果顯示化合物 1 經由 AIP²⁻ 三連接(μ_3)鈷金屬, 再藉由 4,4'-雙吡啶為橋鍵形成二維雙層平面的幾何結構, 此結構含有約 8.902 Å x 11.281 Å 的奈米孔洞。化合物 1 經由 AIP²⁻ 配位基、配位水分子及晶格水分子(內)間的氫鍵(O-H...O、N-H...O)及非典型氫鍵(C-H...O)作用力, 還有芳香環間的 $\pi \cdots \pi$ 相互作用力[最近距離為 3.683(3) Å, 芳香環雙面夾角為 25.2(3)°], 使得此晶體更加穩定。

*Corresponding author

關鍵詞：水熱反應、5-胺基間苯二甲酸、4,4'-雙吡啶、氫鍵。

Abstract : A metal-organic coordination polymer, $\{[\text{Co}_2(\text{AIP})_2(\text{bipy})(\text{H}_2\text{O})_2]\cdot 4\text{H}_2\text{O}\}_n$ (1), (AIP = 5-aminoisophthalate, bipy= 4,4'-bipyridine), is hydrothermal synthesized from the reaction of $\text{Co}(\text{NO}_3)_2\cdot 6\text{H}_2\text{O}$, 5-aminoisophthalic acid and 4,4'-bipyridine. Title compound is fully characterized by FT-infrared spectroscopy and elemental analysis. Its crystal structure was determined by single crystal X-ray diffraction techniques. The analysis of crystal structure indicates that the title compound has an infinite two-dimensional (2-D) structure. An open-channel of approximate 8.902 Å x 11.281 Å is present in the crystal structure. There are classical hydrogen bonding (O–H···O and O–H···N) and weak non-classical hydrogen bonding (C–H···O) is observed in the crystal structure. The crystal structure is further consolidated by $\pi\cdots\pi$ stacking between nearly parallel aryl ring systems [dihedral angle = 25.2(3)°], the centroid–centroid distance between aryl rings of adjacent AIP ligands being 3.683(3) Å.

Key words : Hydrothermal reaction, 5-aminoisophthalate , 4,4'-bipyridine, Hydrogen bonding.

國際資本移動對台灣紡織業產出 之影響

The Effect from International Capital Flows on the Yield of Textile Industry in Taiwan

陳詠霖 Yung-Lin Chen

華中科技大學公共管理學院行政管理系

Department of Administrative Management, College of Public Administration of Huazhong
University of Science and Technology

(Received January 14, 2014; Revised July 10, 2014; Accepted August 19, 2014)

摘要：金融自由化與國際化在當前已成為一不可逆的趨勢潮流，並且成為產官學各界所重視的議題。近二十年來，在經濟危機發生機率趨於頻繁，以及衰退與失業問題的日益嚴重及擴大，但國際間各國合作遏止危機擴散卻成效不彰的情形之下，學者們開始質疑經濟全球化的價值，並對國際資本移動對資本流入國的經濟與產業發展究竟是正面或負面產生了爭論，產業界與大眾亦對此有各種不同的聲音。但至今卻尚未獲得一致性的結論。

因此本研究的主旨，乃在利用了台灣紡織產業 11 家廠商的追蹤資料 (panel data)，探討了 1992 年至 2010 年間，國際的資本移入對台灣紡織產業產出水準的影響性。利用實質匯率概念所計得的台灣紡織產業產出指標的迴歸方程式，並且運用追蹤資料迴歸模型 (panel data regression model) 進行實證估計以及分析。經由本研究的實證結果，得到了以下的幾點發現，第一，外資來臺直接投資 (FDI) 對紡織業的長期投資有正面的影響。第二，外資來臺的債權投資若有利於銀行引進國外之短期融資金，則其對紡織業的產出有正面的影響。第三，利用標準化變數所估計的結果顯示，影響產出最顯著者為外人的在台直接投資，其次則為銀行所引進的短期融通資金。

關鍵詞：紡織業、全球化、產出、境外投資

Abstract : Financial liberalization and internationalization has become an irreversible trend, this issue is respected by the industry, government and scholars. The past two decades, the probability of economic crisis to frequent and the economic recession and the unemployment are worsened, however, the effect is low of cooperation among the countries in the world to curb the spread of the crisis, the scholars call in question on the value of economic globalization, and they have an controversy on the topic of the international capital mobility effect whether positive or negative to the country's economic and industrial development, the industry and the public also have a variety of different voices. But so far it has not been the conclusions of consistency.

This study employed the panel data of the 11 firm of the Taiwan textile industry and the panel regression model to examine the influence of the four factors of international capital inflows on the output of the textile industry in Taiwan during the period from 1992 and 2010. The concept of real exchange rate as proxy for the output of Taiwan textile industry index is considered in the empirical model, the three main findings in our study as follows, first of all, the foreign direct investment (FDI) has a positive impact on the long term investment of the textile industry in Taiwan. Secondly, if the foreign securities investment in bond is advantageous to the business bank recommend the foreign capital of short term, it has a positive impact on the output of the textile industry in Taiwan. Thirdly, regression analysis by using the standardized variables reveals that the magnitudes of the effects of the four types capital inflows vary whereas the FDI plays the most important role while the foreign capital of short term the second.

Key words : Textile Industry, Globalization, Yield, Foreign Investment

雲林縣國中生網路使用現況、網路素養 與網路態度之相關性研究

The Study of Relationship about Internet Use Situation, Internet Knowledge, and Internet Attitude for Yunlin County Junior High School Student

張介耀^{*1} Chieh-Yao Chang

南華大學電子商務管理學系

蔡德謙² Der-Chian Tsaih

南華大學電子商務管理學系

黃俊捷³ Chun-Chieh Huang

南華大學資訊管理研究所

¹Department of Electronic Commerce Management, Nan Hua University

²Department of Electronic Commerce Management, Nan Hua University

³Graduate Institute of Information Management, Nan Hua University

(Received November 19, 2013; Revised June 5, 2014; Accepted June 17, 2014)

摘要：本研究旨在探討雲林縣某國中學生之網路使用現況、網路素養及網路態度之相關性研究，採問卷調查法進行，共分為個人基本資料、網路使用現況、網路素養、網路態度等四個構面，其中網路素養細分為網路知識、網路安全、網路智慧財產權三個分量表；網路態度細分為網路興趣、網路運用、網路情緒反應三個分量表，以雲林縣某國中進行調查，總計發出 314 份問卷，有效問卷為 279 份，統計分析以百分比、卡方檢定、獨立樣本 t 檢定、單因子變異數分析、皮爾森積差相關來進行。經綜合討論與分析後，研究結果分以下三方面加以討論：1.個人基本資料與網路使用現況之差異性；2.不同個人基本資料、網路使用現況的國中學生其網路素養之差異性；3.不同個人基本資料、網路使用現況的國中學生其網路態度之

*Corresponding author

差異性。結論發現擁有愈多網路知識的國中學生，會對網路的世界更加瞭解與勇於探索，在各領域的技術應用也會更加純熟，連帶的情緒反應與態度也會趨於積極正向。

關鍵詞：網路使用現況、網路素養、網路態度

Abstract : The research is to explore the internet use situation, internet knowledge, and internet attitude for Yunlin county junior high school student. It is adopted expert consulting method, which has the four dimension of personal profile, internet use situation, internet knowledge, internet attitude. And, we implement internet knowledge, internet safety, and internet intellectual property rights as evaluation scale and the Yunlin county junior high school student is our target. There are 314 questionnaire are distributed, and its 279 questionnaires are valid. The statistical analysis we adopted is the percentage, chi-square test, independent samples t-test, ANOVA analysis, Pearson correlation. As the general discussion and analysis above, the research result is as below: 1. Personal profile and internet use situation ; 2. Personal profile, internet use situation, and internet knowledge for the junior high school student ; 3. Personal profile, internet use situation, and internet attitude. **The** Conclusions from the study are the more network-knowledge of junior high school students, the more skillful and better understand the internet. They will have the courage to explore technology applications in various fields. And the emotional reactions and attitudes of the students will tend to behave positively.

Key words : Internet use situation, Internet knowledge, Internet attitude

《詩經·曹風》詩旨於春秋曹史之研究

Studies on the Poetry Objectives of the Tsao Feng, The Book of Songs and the Tsao History, Spring and Autumn Period

劉逸文 Yi-Wen Liu

南榮科技大學通識教育處

Office of General Education, Nan Jeon University of Science and Technology

(Received November 29, 2013; Revised March 24, 2014; Accepted May 5, 2014)

摘要：本篇研究《詩經·曹風》詩旨於春秋曹史中地位，以歷史之角度研究詩經，希還原詩經於周史中原貌，此為本人研究之動機。並採用歷史法、分析、歸納法，典籍與地下文物「二重證據法」加以考證。今寫《詩經·曹風》詩旨於春秋曹史之研究，從曹昭公至曹共公之史實而言之。

本文內容分為五節，第一節前言：研究動機、前人研究成果、研究內容、研究方法、研究目的。第二節：分述曹國之歷史、地理、闡釋詩旨。第三節敘述一段：周惠王之時，曹昭公即位，曹國政衰，曹昭公好奢，而任小人，民無所依，詩人憂國破將亡，作詩以刺之。第四節分述三段：曹共公素行輕慢，無禮於晉文公，且侵刻諸地，晉文公討伐於曹，分諸地於諸國，詩人作詩以刺之。第五節結論：周惠王時，曹國政衰，曹昭公好奢而任小人。曹共公輕慢無禮於晉文公，晉文公討伐曹國，分諸地於諸國。至曹伯陽好田獵，宋景公滅之，曹國亡。

詩序云：「上以風化下，下以風刺上，主文而譎諫，言之者無罪，聞之者足以戒，故曰風」。「風」有二義(1)風化(2)諷刺之義。詩之功用乃在移風易俗，獎善罰惡。詩為歷史之眼，希借曹國詩歌與歷史興衰之弊 足為後人殷鑑，此為研究目的。

關鍵詞：詩經、曹風、曹史、詩旨、春秋史

Abstract : This paper studied the role of the poetry objectives of Tsao Feng Chapter of The Book of Songs in the Tsao History in the Spring and Autumn Period. To study The Book of Songs from the historical aspect aiming to restore the original pictures of the Book in the Zhou History was the motivation of the author. The paper applied the historical method, analyzing, induction method, literatures and excavated documents and used the dual attestation method to verify the results.

The paper consisted of five sections. Section I was the Preface: Describing the motivation of the study, the research content, used research methods and research purposes. Section II described the history and geography of the Tsao State and explained the poetry objectives.

Section III described one historical fact: When King Hui of Zhou governed the country, Duke Tsao become the Load of Tsao State. Duke Tsao was extravagant. His ruling power was weak and always recruited flunky people to his administration. His people were helpless since there was few official they could count on. Poets worried that the State might soon be conquered by other states and composed songs to satirize the situation.

Section IV contained three parts: Duke Kung of Tsao State was irreverent. He insulted Duke Wen of Chin State and occupied lands of other states' intentionally. Duke Wen of Chin led troops to fight and beat that of Tsao. Tsao returned the occupied plus extra lands to the states to cease the battle. Poets wrote songs to satirize the event.

Section V was the Conclusion: In the period of King Hui of Zhou, the ruling power of the Tsao State was weak. Duke Zhao of Tsao State was extravagant and liked to use flunky persons. Duke Kung of Tsao was irreverent and conducted unbelievable rude behavior to Duke Wen of Chin, resulting in his leading of his troops to fight against Tsao. Tsao was beaten and forced to surrender lands to states. When it came to the period of Duke Yang of Tsao, who enjoyed farming and hunting, Duke Ching of Sung State conquered Tsao State. It disappeared from then on.

The preface of The Book of Songs says: "The king educates the people with moral, and based on this, the people satirize the king. It's all about deceitful admonishing through literature. The singers get no blame and the listeners receive the warnings. This is decency." "Feng" means (1) to educate and (2) to satirize. Poems play roles to educate people to move from wrong to right and to praise the good and penalize the evil. Poems are the eyes of the history. It was sincerely hoped that the songs and the up and rise of the history of Tsao State provided strong warnings to the modern people, and this was the purpose of the project.

Key words : The Book of Songs, Tsao Feng, Tsao History, Poetry objective, Spring and Autumn Period History