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128



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Process Optimization of Friction Stir Welding Process for 6062 Alloy using Taguchi Method

Abstract

Introduction

Methodology

Conclusion

FKP

Chemical and Mechanical Treatments of Recycled Carbon Fiber Reinforced Polymer

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1. Introduction

Carbon fiber (CF) is a high-strength, lightweight material used in various applications. However, the recycling of CF is a challenge due to the presence of epoxy resin. This study aims to optimize the chemical and mechanical treatments of recycled CF to improve its properties for use in CFRP.

2. Methodology

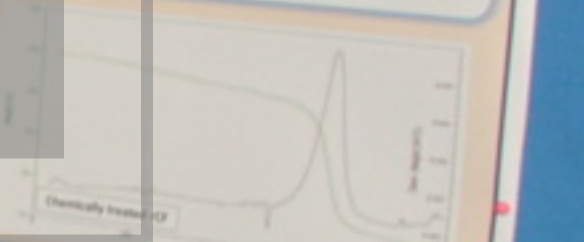
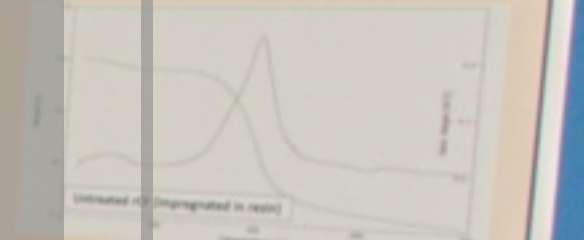
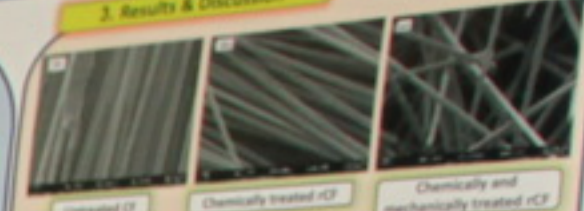
The methodology involves the preparation of recycled carbon fiber (RCF) from CFRP waste. The RCF is then treated with different chemical and mechanical processes. The treated RCF is then used to fabricate CFRP samples, which are tested for their mechanical properties.

3. Results & Discussion

The results show that the chemical and mechanical treatments significantly improve the properties of the recycled CF. The treated CF shows a higher tensile strength and elongation compared to the untreated CF. The CFRP samples made from the treated CF also show improved mechanical properties.

4. Conclusion

The study concludes that the chemical and mechanical treatments are effective in improving the properties of recycled carbon fiber. This makes it a viable option for the recycling of CFRP waste.



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HAPTIC ROBOT ASSIST FOR PATH MANIPULATION IN V-REP SIMULATION
Center for Robotics and Industrial Automation (CRiA), Faculty of Electrical Engineering, Universiti Teknikal Malaysia Melaka
Heng Tuck Joo, 76100 Durian Tunggal, Melaka, Malaysia

INTRODUCTION
This paper presents a novel haptic assist method for path manipulation. Whenever the user moves the robot, the haptic assist will provide a force feedback to the user. This force feedback will help the user to control the robot more precisely. The haptic assist can be applied in various scenarios, such as in rehabilitation for the patients who have difficulty in controlling the robot, or in training works out in manual assembly or path manipulation.

To cut the cost and shorten the time spent in making the haptic assist, a simple study using robotic simulation platform is conducted. This study aims to determine whether the idea can be applied on a robotic system for haptic assist in path manipulation without assistance from a human.

METHODOLOGY
The experiment carried out in simulation using V-REP and Python. KUKA youbot is used as the robot system. The target object (green cuboid and red sphere) is used as the path manipulation.

RESULTS AND DISCUSSION
The experiment was carried out to test the performance of the haptic assist. The rate of occurrence of large error in the path manipulation is being investigated. The results of path and error data is being investigated.

CONCLUSION
The haptic assist method is effective in assisting the user to control the robot more precisely. The haptic assist can be applied in various scenarios, such as in rehabilitation for the patients who have difficulty in controlling the robot, or in training works out in manual assembly or path manipulation.

REFERENCES
[1] H. T. Joo, "Haptic assist for path manipulation in V-Rep simulation," in *Proceedings of the 2018 International Conference on Intelligent and Innovative Systems (IIS'18)*, pp. 1-6, 2018.

120

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Effect of Various Coating Materials on the Properties of Electrospun Composite Coating
1. INTRODUCTION
2. MATERIALS
3. RESULTS & DISCUSSION
4. METHODOLOGY
5. CONCLUSION

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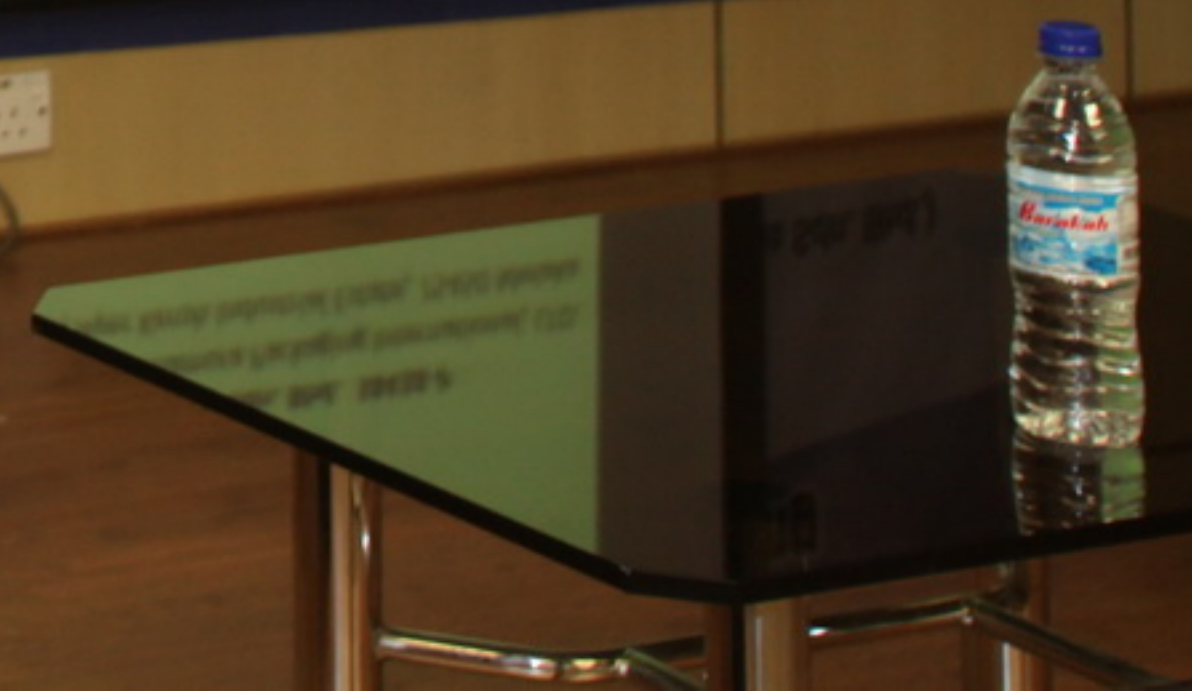


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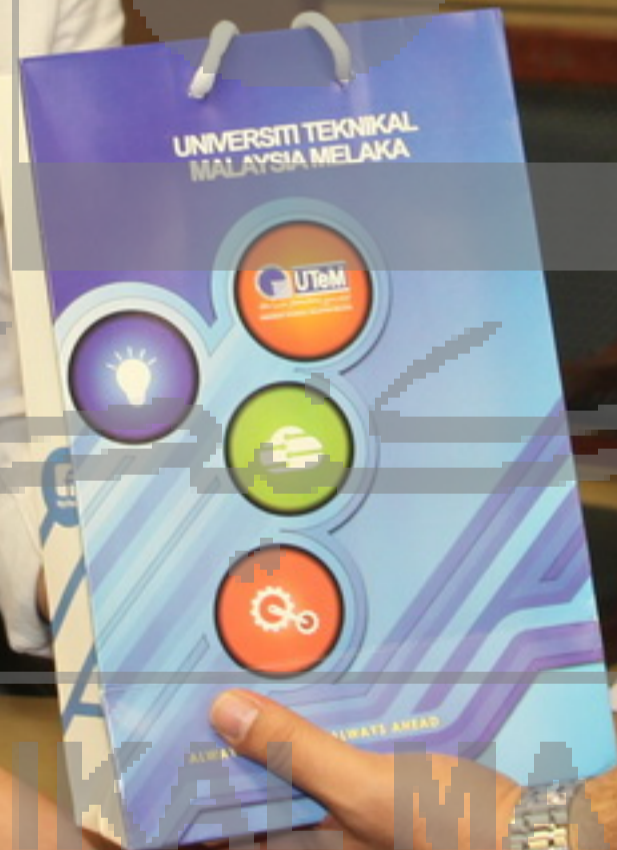




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INNOVATIVE RESEARCH AND INDUSTRIAL DIALOGUE 2018
Bridging University And Industry Through Research

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9:00 AM - 5:00 PM

Industrial Dialogue Industrial 4.0: Building the Ecosystem for Manufacturing Sustainability

PANEL
I. Mr. Shamsulizam bin Dattar
(Staff Engineer and Group Leader for External Eng. PROJECT)
II. Mr. Ameng Saifi Anwar

Industrial Research Starting Session

PANEL
I. Dr. Saiful Fauzi
(Technical Manager, Top Global Services, Proton, Inc. Sdn. Bhd.)
II. Dr. S. Perumalprasad
(Group Manager, UTeM)
III. Dr. M. S. Yusoff
(Group Manager, UTeM)
IV. Dr. M. S. Yusoff
(Group Manager, UTeM)



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Industrial Dialogue
Industrial 4.0: Building the Ecosystem for Manufacturing Sustainability

PANEL

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 (Staff Engineer and Group Leader for Exterior Group, PROTON)

II. Mrs. Azura binti Azahar
 (Principal Engineer, Refining Company Sdn Bhd)

III. Ms. Loo Guan Ki
 (Director of Operations, Infineon (Melaka) Sdn Bhd)

Industrial Research Sharing Session

PANEL

I. Dr. So Dian Meng
 (Technical Manager, San Miguel Yemasura Plastic Film Sdn Bhd)

II. Mr. R. Parameswaran Raviiah
 (Project Manager, Infineon Technology)

III. Mr. M. S. M. Yusoff
 (Manager, Heteringy Sdn Bhd)

IV. Mr. N. K. Aji
 (Lecturer, Universitas)

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- iii. Ms Loo Guan K...
(Factory Integration, Infineon...)

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