

3.3. Research Publications and Awards

# **CRITERION 3.3.3**

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## 2023 International Conference on

# Advanced Technologies in Chemical, Construction and Mechanical Sciences (ICATCHCOME 2023)

09 - 10, February 2023 | Coimbatore, Tamil Nadu, INDIA

## This certificate is presented to



Assistant Professor, CARE college of Engineering, Trichy, Tamil Nadu, India.

for presenting the research paper entitled "Structural Behavior Of Retrofitted Rc Beam-column Joint Using Frp Wrapping Technique" in the 2023 International Conference on Advanced Technologies in Chemical, Construction and Mechanical Sciences (ICATCHCOME 2023) held at KPR Institute of Engineering and Technology, Coimbatore, Tamil Nadu, India during 09 - 10, February 2023. The Conference has been organized by the Center for Research and Development (CfRD), KPR Institute of Engineering & Technology.

Dr. Rajeshkumar L Coordinator

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## 2023 International Conference on

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V . Mohanalakshmi

Assistant Professor, CARE college of Engineering, Trichy, Tamil Nadu, India.

for presenting the research paper entitled "Structural Behavior Of Retrofitted Rc Beam-column Joint Using Frp Wrapping Technique" in the 2023 International Conference on Advanced Technologies in Chemical, Construction and Mechanical Sciences (ICATCHCOME 2023) held at KPR Institute of Engineering and Technology, Coimbatore, Tamil Nadu, India during 09 - 10, February 2023. The Conference has been organized by the Center for Research and Development (CfRD), KPR Institute of Engineering & Technology.

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Home > Recent Advances in Materials Technologies > Conference paper

## Experimental Vibration Analysis on E-Glass/Epoxy and Jute/Epoxy Composite Plates

D. R. Rajkumar 🗁, K. Santhy & S. Karthik

Conference paper | First Online: 20 September 2022

323 Accesses

Part of the <u>Lecture Notes in Mechanical Engineering</u> book series (LNME)

#### Abstract

The present work focus on the determination of experimental modal frequency of fabricated laminate composite plates under cantilever boundary condition. For the fabrication of composite, E-glass and Jute fiber are chosen as a reinforcement material and epoxy as a matrix. Using the hand lay-up method, E-glass/Epoxy (G/E plate) and Jute/Epoxy



Home > Materials, Design and Manufacturing for Sustainable Environment > Conference paper

## Effect of the Hardness in Al/TiB<sub>2</sub> MMC with Sand Mould and Permanent Mould

<u>C. Rajaravi</u> <sup>⊡</sup>, <u>B. Gobalakrishnan</u>, <u>Ganapathi Srinivasan</u>, <u>S.</u> <u>Palani</u> & <u>Karthik</u>

Conference paper First Online: 29 September 2022

328 Accesses

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Part of the <u>Lecture Notes in Mechanical Engineering</u> book series (LNME)
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### Abstract

Fabrication of Aluminium matrix reinforced with insitu formed TiB<sub>2</sub> MMCs. It has higher strength and stiffness than Al/TiB<sub>2</sub> MMCs. Al/TiB<sub>2</sub> MMCs can also be made using the vortex process. These features make Al/TiB<sub>2</sub> MMCs very desirable. Typically, experimental techniques are employed to



ScienceDirect

#### Materials Today: Proceedings

Volume 72, Part 4, 2023, Pages 2402-2409

## Influence of TIG welding processing parameters on mechanical properties of austenitic stainless steel using Taguchi analysis

<u>C. Rajaravi</u><sup>a</sup>, <u>B. Ganesh<sup>b</sup></u>, <u>S. Lakshmanan<sup>b</sup></u>, <u>B. Gobalakrishnan<sup>c</sup></u>

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https://doi.org/10.1016/j.matpr.2022.09.422 A Get rights and content A

#### Abstract

<u>Austenitic stainless steel</u> 316 is used in a variety of applications. Due to the lack of post-hardening operations such as strong intergranular <u>corrosion resistance</u>, annealing, and increased toughness, ASS 316 are chosen in the construction of thermal power plants, pressure vessels, and vehicle components. The effects of process parameters such as current and travel speed, as well as weld filler <u>rod</u> diameter, are explored in this paper. The Taguchi approach was used to optimize the output parameters in this paper. Weld speed and input power are the process parameters studied during TIG welding. The experimental results indicated that <u>flux welding</u> might increase the weld depth/width ratio and reduce the HAZ range, leading in less angular distortion in the weld men. The Taguchi approach was employed in this work to optimize the output parameters.a result of which the weld men have reduced angular distortion.

#### Introduction

TIG welding is easily adaptable to high-speed robotics, hard automation, and semi-automation applications. The weld beads have a superb appearance, with less slag and weld splatter, allowing for rapid and easy weld cleanup. The increased heat input of TIG welding often limits its application to heavier foundation materials [1]. TIG welding's higher heat input mode is only available in horizontal or flat welding positions. The price of argon-based shielding gas is higher than pure carbon dioxide (CO <sub>2</sub>) [2]. In the current experiment, a certain grade of stainless steel was chosen for welding. Steel is currently the most adaptable engineering material on the market. Steel is easy to weld and process, and it makes a considerable contribution to the world's high standard of living [3]. Steel's adaptability is obvious. It has a wide range of applications, including high-strength structural applications and outstanding corrosion resistance in corrosive fluids. Austenitic stainless steel is the most frequent kind. It comprises at least 7% nickel, resulting in a totally austenitic steel structure that provides ductility, a wide range of assistance temperatures, high capacity, and non-magnetic weldability[4].



#### Materials Today: Proceedings

Available online 18 April 2023

In Press, Corrected Proof (?) What's this? 🛪

# Experimental analysis of mechanical properties of in-situ formed MMC from Al/TiB $_2$ /Cu and Al/TiB $_2$

<u>C. Rajaravi</u><sup>a</sup> 2 🖂 , <u>B. Gobalakrishnan<sup>b</sup></u>, <u>R. Ganapathi Srinivasan<sup>c</sup>, B. Ganesh<sup>c</sup></u>

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#### Abstract

The In-situ formed <u>Metal Matrix composites</u> 94% of Al & 6% of TiB2 and 90% of Al, 6% of TiB2 and 4% of Cu are examined in this study. Both composites underwent testing after being produced using the <u>stir casting</u> technique. To make the composite, a melt of A356 <u>Aluminum</u> is combined with <u>potassium</u> tetra fluoro boreate (K2TiF6) and <u>potassium</u> hexafluoro <u>titanate</u> (KBF4), the precursor salts at the temperature of 820°C, stirring condition of 300rpm, and a 30min choking time. The stoichiometric ratios of these salts translate into 6% of TiB2 particles by weight. The composite melt was added with 4wt% of copper powder and the poured into the permanent mould. Utilizing <u>XRD</u> and optical microscopy, the TiB2 and Cu particles in the metal matrix composite were studied. <u>Mechanical properties</u> tensile strength, hardness, and fracture toughness are tested according to ASTM standards. The mechanical properties of the In- situ formed metal matrix composite with Copper Al/6wt% TiB2/4wt% Cu are higher than that of the composite Al/6wt% TiB2.

#### Introduction

The presence of reinforcing particles in metal matrix composites increases their performance in terms of mechanical properties and microstructural properties. Aluminium matrix composites (AMCs) have excellent stiffness, strength, low density, and corrosion resistance. [1]. Because of their high wear resistance, strength, and thermal stability, the most commonly used reinforcement materials are Al2O3, TiC, B4C, TiB2, and SiC. [1], [2]. Stir casting routes involve two methods for producing AMCs: in-situ and ex-situ techniques. Non-uniformity, clustering, weak bonding, porosity, and limited thermal stability are some of the drawbacks of MMC formed in situ [2]. These drawbacks are overcome by the in-situ techniques using an exothermic reaction between the salts and Aluminium in molten form which intensely agitates the melt and evenly distributes the reinforcement particles. The In- situ formed composites have very strong interfacial bonds excluding the limitations of ex-situ process. [3].



SARANATHAN COLLEGE OF ENGINEERING Venkateswara Nagar, Panjappur, Tiruchirappalli - 620 012 Department of Electrical & Electronics Engineering



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Engineering, Tiruchirappalli, Tamil Nadu, India on 10-05-2023.

Dr.S.Vijayalakshmi (Programme Coordinator)

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28 <sup>th</sup> & 29 <sup>th</sup> April 2022 at M.A.M. College of Engineering, Tiruchirappalli.
Dr. M.Shanmugapriya Co-Coordinator / Principal Dr. V. Shanmuganathan Co-ordinator / Principal Director Director

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## An Effective Deep Learning based Recommender System with user and item embedding

Publisher: IEEE

Cite This DF

R. Nareshkumar; K. Agalya; A. Arunpandiyan; M. Vijayalakshmi; V. Ranjani; A. Ramya All Authors

3	70
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#### Abstract

#### Abstract:



The success of deep learning in a variety of fields has spurred a rush of desire to develop new novel recommender systems. As a result, our research introduces new RecDNNing, a ground-breaking technique that combines integrated people and products with a deep learning model. There are two phases to the suggested suggestion method. We begin by constructing a

National Conference New Horizon in Science, Engineering & Technology 24th March, 2023

## ABSTRACIS Vehicle Speed Control System: Jurisdiction is Restricted Area Using Deep learning and RF Communication

<sup>3</sup> S.Subashini, <sup>2</sup> S.Swathi, <sup>3</sup> P.Varalakshmi

<sup>1,2,3</sup>IV year - UG

<sup>1</sup> subashiniselvaraj02@gmail.com.

Dhanalakshmi Srinivasan Engineering College (Autonomous) Perambalur-621212, Tamilnadu

n our day today life, time is very important thing so everyone trying to complete the task in less time is the human tendency. Therefore to complete the desired task as early as possible we should increase the speed, for example speed of vehicle. If we see the scenarios of vehicle density, it is continuously going on increasing form. As well as the drivers are not following the s and regulation given by traffic control department at specific areas. Most of the drivers drive the vehicle very fast in that iesed areas with and without reasons. It is happened because of vehicle speed control is on drivers hand and over speed ing are there. The over speed of vehicle is the major problem due to number of accidents are increased much more. To come these problems we proposed automatic speed control of vehicle using video processing with small modification in ting system. It reduces the speed of vehicle gradually when the restricted areas are detected. For that video recording is done ngh small camera of road scene and detection and identification of Road Traffic sign/ speed limit/ school zone/hospital zone using CNN algorithm microcontroller and vehicle speed is reduced and alert the driver with a help of buzzer and LCD lao.

## ADVANCED E-VOTING DAPP ON AVALANCHE

<sup>1</sup>Saravanan.K,<sup>2</sup>Saravanaprabu.C, <sup>3</sup>Mahendra.S

<sup>1</sup>assistant professor,<sup>2,3</sup>III Year-UG <sup>1</sup>ksaravanan@care.ac.in, <sup>2</sup>saravanaprabu.c@care.ac.in, <sup>3</sup>mahendra.s@care.ac.in CARE College of Engineering, Thayanur, Trichy, Tamilnadu.

-voting system based on and improved from our previous work (Name and vote separated E-voting system, NOTE). The proposed E-voting system, referred to as Enhanced NOTE (E-NOTE), is enhanced with a new protocol design and watchdog hardware device to ensure voter confidentiality and voting accuracy. In our improved scheme, other than the tion Committee (EC) and Vote Counting Committee (VCC), an impartial third party, Ballot Distribution Centre (BDC), is osed to take the responsibility of distributing ballots. The votes and the candidates' names are separated into two parts when oters cast their votes. The watchdog device records all voting transactions to prevent voter frauds. Our proposed procedure esses issues related to voter confidentiality, voter frauds, and voting accuracy, thus providing a framework for fair elections. erent research was handling the challenges in the centralized voting systems, e-voting protocols and recently the intralized voting. Electronic voting puts forward some difficulties regarding the voter anonymity, the secure casting of the s and to prevent the voting process from fraud. The decentralized property of the blockchain technology will bring new tions for many of the challenges in the voting research area and it will bring a new security mechanism of safe and sparent voting.

<sup>word</sup>: web 3.0, Blockchain, Meta mask, Avalanche Network.



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6th FEBRUARY 2023

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econd National Level Conference on "Technical Innovation and Advancement in Computational Science" (NCTIACS -23)

ACS\_126 A Survey on Next Generation Recommender Systems: Approaches and Challenges 126

#### A Survey on Next Generation Recommender Systems:

#### Approaches and Challenges

K.Saravanan Assistant Professor, Department of Artificial Intelligence and Data Science CARE College of Engineeering, Trichy Corresponding e-mail: ksaravanan@care.ac.in

Recommender systems are software systems playing a major role, by providing personalized suggestions to users over the internet. The need for recommender system in current society is that people have more opportunities to exploit due to the information overload in the Internet. This paper discusses various approaches traditional recommender system likes content based, collaborative filtering and hybrid filtering, their taxonomy. This work provides an insight on the research challenges and metrics for evaluation they impact the performance of the various recommender models. The latest technologies concerning mobile, social networks and IoT based, context aware recommender systems and the effectively utilized to improve the efficiency of recommendations have also been discussed.

Keywords: Recommended System, IoT, Context Aware System

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