

IGNITE 2022



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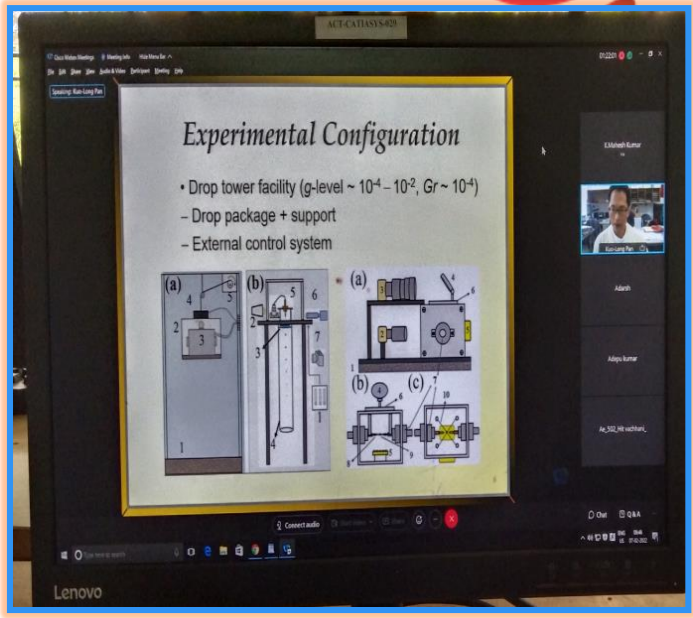
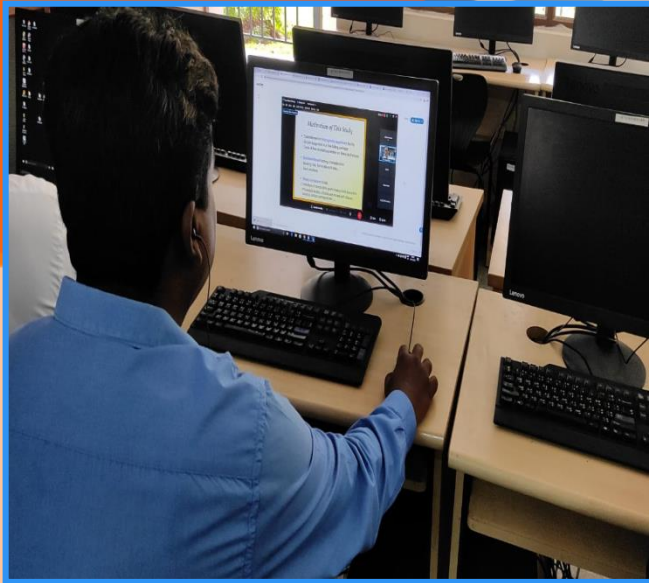


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FACULTY ACHIEVEMENT



Mr. K. Mahesh Kumar, AP, Department of MAE has been participating in a 5 Day National SPARC Workshop on “Combustion Analysis and Modern Trends in I.C.Engines” organised by NIT, Warangal in collaboration with National Taiwan University.

ALUMNA INTERACTION



Mrs Radhika Somakumar, Assistant Professor, Dept. of EEE had an interaction with the Alumna ABARNA E with regard to the job opportunities in the field of Electronics especially in the core companies and she even affirmed to share her experience to the juniors as an eyeopener for their future endeavors.

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FACULTY ACHIEVEMENT



Mrs Radhika Somakumar, Assistant Professor, Department of Electrical and Electronics Engineering successfully completed the self-paced training course on “Optimization Onramp” organized by MathWorks and she secured Cen percent success in her training.

FACULTY ACHIEVEMENT

Investigations on compressive strength of titanium diboride and graphite reinforced Magnesium Matrix Composites

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Abstract: Magnesium matrix composites are widely used materials because of its excellent properties and low weight. In this work, the magnesium-based composites have been fabricated using powder metallurgy (PM) route. The compressive strength (CP) of the Mg-1wt.% Gr- 6 wt.% TiB₂ composites were studied and reported. The effect of the compaction pressure (P), sintering temperature (T) and sintering time (h) on the compressive strength was analyzed. The increase in compaction pressure increases the mechanical properties of the composites. The optimum level of parameters for the high CS is that, A-B-C₁; that is higher Pressure, temperature and time produced the high strength composite. ANOVA showed the compaction pressure is the highly influenced parameter with the F value of 180.85. Sintering time is the least contributing factor for the response for the present study.

Key words: Magnesium, Composites, Powder metallurgy, Compressive strength

1. Introduction

Composite materials are widely used materials because if its excellent properties and freedom in changing the mechanical properties as per the desired requirement [1]. Among the various materials, metal matrix composites are playing major role because of its higher strength to weight ratio [2]. Magnesium is the lightest materials compare with other metals and its application in various industry is vital because its less in weight [3]. Magnesium based composites can improve the mechanical properties while adding the ceramics and oxides at required level [4]. Many varieties of reinforcement materials are available for manufacturing the metal-based composites [5][6]. Among the other reinforcement's titanium boride is used as excellent reinforcement, materials to fabricate the metal and magnesium-based composites [7][8][9]. Powder metallurgy is the better process to fabricate the metal-based composites. The controlled microstructure can be obtained for the composites fabricated through PM [10-26]. Khin Sandar Tun et al studied the properties of the ceramic nanoparticle reinforced Mg Composites and reported that the improved properties were observed for the addition of nano particles [12]. Karthick et al developed Al₂O₃ and SiC Reinforced Magnesium Composites using PM and reported that the hardness was improved for the addition of dual reinforcement particles [13].

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Dr. Arul Kulandaivel, ASP, Department of Mechanical engineering has published a research article on **Investigations on compressive strength of titanium diboride and graphite reinforced Magnesium Matrix Composites** in IOP publications. This article is about Magnesium Metal Matix composites were fabricated and their compressive strength was tested. The MMC was fabricated by using different percentage of Magnesium, Graphite and Titanium diboride.

STUDENT ACHIEVEMENT



Congratulations!!!

Sachin I, 2nd year student, Department of IT has successfully cleared the level 4 in National Skill Qualification Framework, conducted by Ministry of Skill Development & Entrepreneurship, Government of India.

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