Journal of Advanced Materials and Processing

Islamic Azad University - Najafabad Branch

Founder: Islamic Azad University - Najafabad Branch

Editor-in-Chief: Dr. Reza Ebrahimi-Kahrizsangi Islamic Azad University, Najafabad Branch **Managing Editor:** Dr. Hossein Monajatizadeh **Executive manager:** Farid Naeimi Islamic Azad University, Najafabad Branch Islamic Azad University, Najafabad Branch

Editorial Board:

Dr. Constantin Politis (Professor of Physics and Materials Science, University of Patras, Greece)
Dr. Seeram Ramakrishna (Professor of Mechanical Engineering, National University of Singapore)

Dr. Mohed Sapuan b. Salit (Professor of Mechanical and Manufacturing Engineering, University of Putra Malaysia)

Dr. Abbas Najafizadeh
Dr. Ahmad Saatchi
Dr. Ali Saidi
(Professor of Materials Engineering, Isfahan University of Technology, Iran)
(Professor of Materials Engineering, Isfahan University of Technology, Iran)
(Professor of Materials Engineering, Isfahan University of Technology, Iran)

Dr. Ali Shafyei

Dr. Ali Shafyei

CASSOciate Professor of Materials Engineering, Isfahan University of Technology, Iran)

Dr. Hossein Edris

CASSOciate Professor of Materials Engineering, Isfahan University of Technology, Iran)

Dr. EbrahimHeshmat Dehkordi

CASSOciate Professor of Materials Engineering, Atomic Energy Agency of Iran)

Dr. Reza Ebrahimi-Kahrizsangi (Associate Professor of Materials Engineering, Najafabad Branch, Islamic Azad

University, Isfahan, Iran)

Dr. Ramin Ebrahimi (Associate Professor of Materials Engineering, Shiraz University, Iran)

Dr. Masoud Kasiri (Assistant Professor of Materials Engineering, Najafabad Branch, Islamic Azad

University, Isfahan, Iran)

Dr. Hossein Monajatizadeh (Assistant Professor of Materials Engineering, Najafabad Branch, Islamic Azad

University, Isfahan, Iran)

Journal of Advanced Materials and Processing

Vol.3, **No.**2, spring, 2015. ISSN: 2322-388X E-ISSN: 2345-4601

Publisher: Najafabad Branch, Islamic Azad University, Iron and Steel Association of Iran

Production manager: Mostafa Salehi

Executive assistant: Leily Rezaei, Marzie Kheradmand

Address: Journal of Advanced Materials and Processing

Department of Materials Engineering, Najafabad Branch, Islamic Azad University, Najafabad, Isfahan, Iran P.O. Box: 517

Tel:+98-31-342292659 **Fax:**+98-31-342291008

Website: www.jmatpro.ir Email:journal.iaun@gmail.com

CONTENTS

Solvothermal Synthesis of Copper Nanoparticles Loaded on Multi-wall Carbon Nanotubes as Catalyst for Thermal Decomposition of Ammonium Perchlorate
H. Tavakoli, R. Sarraf-Mamoory, A. R. Zarei.
Fabrication and Characterization of the Ti-6Al-4V/Mg Scaffold S. M. Kalantari, H. Arabi, SH. Mirdamadi, S. A. Mirsalehi
Modeling and Optimization of Precipitation Hardening Heat Treatment Factors of the Al2024 Alloy Using a Two-Level Full Factorial Design
M. Moazeni, A. Ashrafi, A. Zeinal Hamadani
Numerical Investigation of Strain Distribution During Cyclic Expansion Extrusion (CEE) H. Torabi, M. M. Samandari, G. Faraji, A. Masoumi
Failure Mode and Analysis of the Bonded/bolted Joints between a Hybrid Fibre Reinforced Polymer(HFRP) and Aluminium Alloy T. L. Yogesh, N. Arunkumar
Investigating the Effect of Tool Dimension and Rotational Speed on Microstructure of Al-B4C Surface Composite Layer Produced by Friction Stir Processing (FSP)
M. Narimani, B. Lotfi, Z. Sadeghian
Chemical Synthesis and Characterization of Zn-doped Cadmium Oxide Based Nanoparticles: As Nanofluids for Thermophysical Applications
M. Sheela Pauline W, A. Samson Nesaraj71
The Effect of the Mg Content on Mechanosynthesis of ZrB2–SiC–ZrC Composite in the Mg/ZrSiO4/B2O3/C System
O. Torabi, S. Naghibi, M. H. Golabgir, H. Tajizadegan, A. Jamshidi