

Mechanical Engineering

Sharif

1

**Spring
2026**

Editor-in-Chief: Mehrdad Taghizadeh Manzari

This Journal is published under the auspices of Sharif University of technology, Office of the Vice-Chancellor-in-Charge of Research.

The Journal is published semiannually in Farsi language, aims at establishing a relationship between scientists active in different branches of science and technology and, in particular, at providing a forum for exchange of knowledge between scientists and technologists related to scientific problems prevailing in contemporary society. The journal also strives to present practical and theoretical analyses of these issues and facilitates the circulation of modern scientific findings by scientists and researchers for practical application. In addition, ``**Sharif**'' publishes original papers focusing on issues of specific concern to universities, including research, technological advancements, and topics related to matters of higher education.

P.O.BOX 11155-8639 AZADI AVENUE, TEHRAN, I.R. IRAN

Phone: (98-21) 66005419 - 66164093 Fax: (98-21) 66012983

Web: <http://journal.sharif.ir/>

<http://www.globalsciencejournals.com>

E-mail: pajouhesh@sharif.edu

CONTENTS

- 3 Numerical Study of the Effect of Combining Passive Flow Control Methods to Improve Cyclone Performance**
Arman Moghadaszadeh and Saeed Karimian Aliabadi
- 17 Modal-based Structural Health Monitoring of a Composite Wind-Turbine Blade**
Seyed Mohammad Hossein Sharifi, Gholamreza Rashed and Mohammad Foad Salamizadeh
- 27 Thermodynamic Modeling and Performance Assessment of a Clean Hydrogen Production Energy System Using a Palladium Separation Membrane Based on Gibbs Free Energy Minimization and Lagrange Undetermined Multipliers Method**
Parisa Mojaver
- 37 Novel Acoustic Absorbers Based on TPMS Structures: Implementation in Axial Fan Casings and Ducted Wind Turbines**
Mostafa Mozafari and Mehran Masdari
- 53 Enhanced Interfacial Fracture Prediction in Electronic Solder Joints Considering T-Stress under Mixed-Mode I/II Loading**
Zahra Khaji, Mahdi Fakoor, Saeid Shakhesi and Saeid Sarkeil
- 65 Localization of a Mobile Robot by Fusing Encoder and Digital Compass Data Using Extended and Unscented Kalman Filters**
Samane Maleki and Seyed Mohammad Bozorg
- 79 Static Bending Analysis of Single-Walled Carbon Nanotubes Using Shell Theory and Nonlocal Elasticity**
Mahdi Babakhani and Isa Ahmadi
- 95 Investigation of Parametric Dynamic Mode Decomposition for 2D Flow Field Estimation**
Mohammad Sadegh Keyvanipour, Foroogh Mohandespour and Nowrouz Mohammad Nouri
- 105 Attitude Determination of Geosynchronous Satellites with Sun and Earth Sensors Using Artificial Intelligence Algorithms**
Farid Hajiwaysa, Hossein Nejat Pishkenari and Taleb Abdollahi
- 119 Investigation of Blade Parameterization Methods for Axial Compressors**
Mohammad Farahani, Mehrab Kalabi, Arman Mohammadi Joozdani and Sajjad Ghadiri

APPENDIX

- 135 TOTAL PAGE NUMBER**