Source details

International Journal on Engineering Applications

Scopus coverage years: from 2018 to 2022

Publisher: Praise Worthy Prize

ISSN: 2281-2881 E-ISSN: 2533-2295

Subject area: Engineering: Architecture | Engineering: General Engineering | Mathematics: Applied Mathematics | Materials Science: Materials Science (miscellaneous) | Computer Science: Computer Science Applications

Source type: Journal

CiteScore 2021
2.4

SJR 2021
0.240

SNIP 2021
0.548

View all documents > | Set document alert | Save to source list | Source Homepage

CiteScore | CiteScore rank & trend | Scopus content coverage

¡ Improved CiteScore methodology

CiteScore 2021 counts the citations received in 2018-2021 to articles, reviews, conference papers, book chapters and data papers published in 2018-2021, and divides this by the number of publications published in 2018-2021. Learn more >

CiteScore 2021

$$2.4 = \frac{307 \text{ Citations } 2018 - 2021}{128 \text{ Documents } 2018 - 2021}$$

Calculated on 05 May, 2022

CiteScoreTracker 2022

$$2.6 = \frac{371 \text{ Citations to date}}{144 \text{ Documents to date}}$$

Last updated on 05 April, 2023 • Updated monthly

CiteScore rank 2021

Category	Rank	Percentile
Engineering — Architecture	#31/149	79th
Engineering — General Engineering	#125/300	58th
Mathematics — Applied	#255/590	56th

View CiteScore methodology > | CiteScore FAQ > | Add CiteScore to your site

International Journal on Engineering Applications (IREA)

ISSN: 2281-2881
eISSN: 2533-2295
CD-Rom: 2281-289X

Supports Open Access

Editor-in-Chief:

Prof. Qinghua Qin
Professor and Leader of Materials and Manufacturing Group
Department of Engineering
Shenzhen MSU-BIT University
Shenzhen, 518172, China

Editorial Board

2021 Journal Metrics NEW
2.4 CiteScore 2021
79th percentile
Powered by Scopus

International Journal on Engineering Applications is in

Q1 in the Scopus subject categories:
- *Architecture*

Q2 in the Scopus subject categories:
- ***General Engineering***
- *Applied Mathematics*
- *Materials Science (miscellaneous)*

Q3 in the Scopus subject categories:
- *Computer Science Applications*

Submit Your Paper

Journal Aims

The **International Journal on Engineering Applications (IREA)** is a peer-reviewed journal that publishes original theoretical and applied papers on all aspects of Engineering applications.

The topics to be covered include but are not limited to all fields regarding:

Electrical Engineering, Electronic Engineering, Mechanical Engineering, Chemical Engineering, Engineered Materials, Dielectrics & Plasmas, Fields, Waves & Electromagnetics, Nuclear Engineering, Photonics & Electro-Optics, Power, Energy & Environment, Sustainable Engineering and Development, Signal Processing & Analysis, Transportation, Aerospace Engineering, General Topics for Engineers (Math, Science & Engineering), Total Quality Management and Quality Technology, Engineering Economy Analysis, Healthcare Systems Engineering, Hazard and Risk Assessment and Mitigation, Infrastructure Engineering, Textile Engineering, Nano Technology, Control Engineering Applications, Machine Tool Applications.

The Editorial policy is to maintain a reasonable balance between papers regarding different research areas so that the Journal will be useful to all interested scientific groups.

Praise Worthy Papers
Highly commended papers
Commended papers

Most Popular Papers
Individual Electronic Pill Dispenser - ePillbox
R. Cruz et al.
891 views since: 2014-09-30

Review of the Constitutive Modeling of Shape Memory Alloy Material
K. Bajoria et al.
574 views since: 2014-05-31

Short Review on Controller Design Approaches of Heating Ventilation Air Conditioner Systems Towards Energy-Efficient Buildings
S. Attaran et al.
508 views since: 2014-03-31

Investigation of Single Phase to Earth Fault and Protection Methods in Medium Voltage Networks
A. R. Al-Zyoud
443 views since: 2014-03-31

Comparison of Different Optimization Criteria for Optimal Sizing of Hybrid Active Power Filters

PRAISE WORTHY PRIZE HOMEPAGE

SUBSCRIPTION
Login to verify subscription
Give a gift subscription

NOTIFICATIONS
- View
- Subscribe / Unsubscribe

JOURNAL CONTENT
Search
All
Search

Browse
- By Issue
- By Author
- By Title
- Other Journals

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

INFORMATION
- For Readers
- For Authors
- For Reviewers

FONT SIZE

USER
Username
Password
Remember me
Login
Privacy Policy

Praise Worthy Papers

Highly commended papers
Commended papers

Most Popular Papers

Individual Electronic Pill Dispenser - ePillbox
R. Cruz et al.
891 views since: 2014-09-30

Review of the Constitutive Modeling of Shape Memory Alloy Material
K. Bajoria et al.
574 views since: 2014-05-31

Short Review on Controller Design Approaches of Heating Ventilation Air Conditioner Systems Towards Energy-Efficient Buildings
S. Attaran et al.
508 views since: 2014-03-31

Investigation of Single Phase to Earth Fault and Protection Methods in Medium Voltage Networks
A. R. Al-Zyoud
443 views since: 2014-03-31

Comparison of Different Optimization Criteria for Optimal Sizing of Hybrid Active

Editorial Board

Editor-in-Chief

Editorial Board members

PRAISE WORTHY PRIZE HOMEPAGE

SUBSCRIPTION
Login to verify subscription
Give a gift subscription

NOTIFICATIONS
- View
- Subscribe / Unsubscribe

JOURNAL CONTENT
Search
All
Search

Browse
- By Issue
- By Author
- By Title
- Other Journals

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

Vol 11, No 1 (2023)

Open Access Subscription or Fee Access

Full Issue

View or download the full issue VOL_11_N_1

Table of Contents

Articles

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

Open Access Subscription or Fee Access

Seakeeping Behavior of Axe Bow Patrol Boat with the Variation of Waterline Spline Type and Submerged Bow Depth

Aulia Windyandari[(1)], Adi Kurniawan Yusim[(2)], Rizaldy Ilham[(3)], Ahmad Fauzan Zakki[(4*)]

[(*)] *Corresponding author*

Authors' affiliations

[(1)] Industrial Technology Department, Vocational School, Diponegoro University, Indonesia
[(2)] Industrial Technology Department, Vocational School, Diponegoro University, Indonesia
[(3)] Karya Teknik Utama Shipyard, Research and Development Department, Indonesia
[(4)] Naval Architecture Department, Engineering Faculty, Diponegoro University, Indonesia

DOI: https://doi.org/10.15866/irea.v11i1.21741

Abstract

As a sovereign maritime country, Indonesia has been supported with patrol boats to maintain, protect, and manage the fishery and marine resources. Therefore, enhancing the patrol boat's operability is essentially needed for improving the resources maintenance and protection system. The implementation of an advanced hull forms might be conducted for the improvement of boat performance. The axe-bow hull form is one of the advanced hull forms that might improve the patrol boat operability, especially in high-speed conditions (Fr<0.60). However, in order to determine a reliable axe bow hull form, the body lines and the submerge bow depth should be defined appropriately. Based on the condition, this study focuses on the investigation of seakeeping performance of the developed axe-bow hull forms with variations of waterline spline type and submerged bow depth (the depth of foot). The waterline spline type configurations, which consist of the concave spline, convex spline, and straight spline, have been developed. At the same time, the submerged bow depths configuration have been proposed as 30%, 40%, and 50% of the boat draught. Both parameters should be recognized for the improvement of the axe bow hull seakeeping performance. The strip theory method has been adopted for the calculation of the seakeeping behavior. The results show that the waterline spline type has influenced the heave motion behavior. Otherwise, the larger depth of root might improve the pitch motion performance. It is indicated that suitable combination of spline type and depth of root might generate a reliable seakeeping performance of the axe-bow patrol boat.

Keywords

Seakeeping Behavior; Axe-Bow Hull; Spline Type; Submerged Bow Depth

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

Open Access Subscription or Fee Access

Relativistic Problem of Two Bodies

Kamal Sheikhyounis[1*], Nikolai Tsapenko[2]

[*] *Corresponding author*

Authors' affiliations

[1] Department of Electrical Engineering, College of Engineering, Salahaddin University, Iraq
[2] Department of Mathematics, National University of Science and Technology (MISIS), Russian Federation

DOI: https://doi.org/10.15866/irea.v11i1.22231

Abstract

This paper presents a developed theory of gravitational interaction of two-point bodies that takes into account the finiteness of the speed of light. The relativistic inertial (or gravitational) mass has been determined. The relativistic force of inertia, whose value is invariant to the Lorentz transformation, has been determined. A generalized form of the law of universal gravitation is presented, such that the gravitating masses in it contain corrective relativistic multipliers. Based on these new definitions, a method similar to that of classical mechanics is used to calculate a relativistic orbit of circulation. A new formula for the angle of displacement of perihelion, which takes into account both the value of the focal parameter and the eccentricity of the orbit, and which for the planet Mercury gives the correct numerical result, has been derived.

Keywords

Relativistic Mass; The Relativistic Force of Inertia; The Relativistic Orbit; Perihelion Displacement; Mercury

Full Text:

PDF

References

Veil G Space, Time, matter Lectures on General Theory of Relativity. M.: URSS, 2004.

Ginzburg V.L On Experimental Verification of General Theory of Relativity UFN 1979. T128.p.435. https://doi.org/10.3367/UFNr.0128.197907b.0435

Goldstein G. Classical Mechanics M., Nauka 1975.

Landau L.D. Lifshits E.M Theoretical Physics vol.2: Field theory. M.-FIZMAT.2014

Logonov A.A. Theory of Gravitational Field M.: Nauka,2000.

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

Open Access Subscription or Fee Access

Simulation and Numerical Investigation of the Effect of Temperature and Defect on ZnTe/ZnSe/ZnO Thin-Film Photovoltaic Solar Cell Performance Efficiency

Samer H. Zyoud[(1)], Ahed H. Zyoud[(2*)]

[(*)] *Corresponding author*

Authors' affiliations

[(1)] Department of Mathematics and Sciences & Nonlinear Dynamics Research Center (NDRC), Ajman University, United Arab Emirates
[(2)] Department of Chemistry, An-Najah National University, Nablus, Palestine, State of

DOI: https://doi.org/10.15866/irea.v11i1.20839

Abstract

Thin film-based solar cell semiconductor emerges as a promising candidate for solar photovoltaic future applications. A proposed heterojunction ZnTe/ZnSe/ZnO thin film-based solar cell has been simulated by using Solar Cell Capacitance Simulator-One Dimension (SCAPS-1D) in order to study the impact of temperature and defect layers on its efficiency parameters. The heterojunction thin film-based solar cell has been selected for simulation due to its low cost, availability, and reduced toxicity compared to other absorber layer materials. Numerical modeling has been used to comprehend device properties before fabrication. The results indicate that the efficiency parameters (Jsc, VOC, FF, and η) have been significantly affected by temperature and the presence of defect layers. The simulated J-V characteristics demonstrate how defect density affects solar cell efficiency parameters. In the defect system, the efficacy parameters have been reduced except for a slight increase in VOC at 300 K. The findings of this study are significant as they demonstrate the importance of understanding the impact of temperature and defect layers on the performance of thin film-based solar cells. The use of numerical modeling tools like SCAPS-1D can aid in the design and development of new solar cell technologies, which could ultimately lead to the widespread adoption of solar energy as a clean and sustainable energy source.

Keywords

Thin Film Solar Cell; ZnTe/ZnSe/ZnO; SCAPS-1D; Defect; Bandgap

Full Text:

PDF

Praise Worthy Prize

International Journal on Engineering Applications (IREA)

Open Access Subscription or Fee Access

Combined Fuzzy-PID Controller of an Inertial Stabilized Platform

Ahmed Fathi Sobh[1*], Ahmed M. Kamel[2], Ahmed Omar Elfarouk[3], Yehia Z. Elhalwagy[4]

[*] *Corresponding author*

Authors' affiliations

[1] Military Technical College, Egypt
[2] Military Technical College, Egypt
[3] Egyptian Armed Forces, Egypt
[4] Military Technical College, Egypt

DOI: https://doi.org/10.15866/irea.v11i1.22849

Abstract

An Inertially Stabilized Platform (ISP) is used when certain sensors are meant to be stable around a required orientation regardless of any movements of the carrier platform. ISPs are essential for vision-guided flying vehicles to stabilize the equipped seeker attached to the guided vehicle body for efficient target tracking and guidance. This work aims to design a suitable and robust controller for an ISP that can mitigate the disturbances and noise expected when attached to a guided vehicle seeker system. The ISP system is modeled, designed, and implemented. To overcome system uncertainties, external disturbances, and coupling, an efficient controller is to be designed to meet stability and performance requirements. In this research, a decoupled dynamic modelling of a two-axis ISP while accounting for system uncertainties is introduced. In addition to that, a combined fuzzy-PID controller is designed. To evaluate the proposed system's performance, a series of experiments based on two axes and transformations between two frames are carried out. The proposed controllers are compared to traditional PID controllers. The simulation and laboratory tests show the high performance achieved by the proposed combined fuzzy-PID controller for the designed ISP, where better robustness, transient response, and steady-state error are obtained when compared to the conventional controllers.

Keywords

Inertia Stabilized Platform; Gimbal System; Rate Gyroscope; Fuzzy-PID Controller

Full Text:

PDF

References

Dahlin Rodin C, de Alcantara Andrade FA, Hovenburg AR, Johansen TA. A survey of practical design considerations of optical imaging stabilization

Praise Worthy Papers
Highly commended papers
Commended papers

Most Popular Papers
Individual Electronic Pill Dispenser - ePillbox
R. Cruz et al.
891 views since: 2014-09-30

Review of the Constitutive Modeling of Shape Memory Alloy Material
K. Bajoria et al.
574 views since: 2014-05-31

Short Review on Controller Design Approaches of Heating Ventilation Air Conditioner Systems Towards Energy-Efficient Buildings
S. Attaran et al.
508 views since: 2014-03-31

Investigation of Single Phase to