

Pemanfaatan Tenaga Angin Dan Surya Sebagai Alat Pembangkit Listrik Pada Bagan Perahu

AWB Santosa, IP Mulyatno - Kapal: Jurnal Ilmu Pengetahuan ..., 2014 - ejournal.undip.ac.id

Tenaga matahari dapat dikonversi langsung menjadi energi listrik dengan menggunakan solar cell atau photovoltaik. Begitu pula energi gerak angin yang dapat dimanfaatkan dengan cara menerapkan angin tersebut ke penampang baling-baling supaya berputar. Putaran inilah yang akan membangkitkan listrik sedemikian rupa sehingga energi listrik tersebut dapat disimpan dalam baterai. Pengujian alat pembangkit listrik tenaga angin dan surya pada bagan perahu di laksanakan di perairan utara Demak. Hasilnya Solar cell lebih ...

☆ Simpan  Kutip  Dirujuk 19 kali  Artikel terkait  5 versi 

Menampilkan hasil terbaik untuk penelusuran ini. [Lihat semua hasil](#)

Kapal: Jurnal Ilmu Pengetahuan dan Teknologi Kelautan

(Kapal: Journal of Marine Science and Technology)



Open Access Journal

e-ISSN: 2301-9069

Recent articles

- > [Reliability-Based Analysis of Main Propulsion Fuel Oil System Maintenance for Tugboats with Qualitative and Quantitative Methods](#)
- > [Passengers and Crew's Evacuation from Passenger Ships Under Fire: An Agent-Based Model Simulation Study](#)
- > [Integrity Assessment of Wall Distorted of Buried Gas Pipeline](#)
- > [Maturity of digital transformation in the shipping industry: Case study among enterprises in Gulf Cooperation Council countries](#)
- > [Analysis of Material Supplier Selection in Laminated Bamboo Shipyards Using the Analytical Hierarchy Process Method](#)

[More recent articles](#)

Cited articles

- > [KAJIAN PENGGUNAAN PROGRAM APLIKASI DESAIN KAPAL TRADISIONAL PADA GALANGAN KAPAL KAYU DI KABUPATEN BATANG](#)
- > [ANALISA PENGARUH MODIFIKASI BENTUK HALUAN KAPAL TERHADAP HAMBATAN TOTAL DENGAN MENGGUNAKAN CFD](#)
- > [PENGELASAN PLAT KAPAL MENGGUNAKAN BAHAN BAKAR GAS](#)
- > [ANALISIS KEKUATAN STRUKTUR PADA KAPAL WISATA SUNGAI KALIMAS](#)
- > [PEMANFAATAN TENAGA ANGIN DAN SURYA SEBAGAI ALAT PEMBANGKIT LISTRIK PADA BAGAN PERAHU](#)

[More cited articles \(18\)](#)

Latest issue

- > [Forthcoming: 2023: Publication In-Press](#)
- > [Current: Vol 20, No 1 \(2023\): February](#)
- > [Vol 19, No 3 \(2022\): October](#)
- > [Vol 19, No 2 \(2022\): June](#)
- > [Vol 19, No 1 \(2022\): February](#)
- > [Vol 18, No 3 \(2021\): October](#)
- > [Vol 18, No 2 \(2021\): June](#)
- > [Vol 18, No 1 \(2021\): February](#)
- > [Vol 17, No 3 \(2020\): October](#)
- > [Vol 17, No 2 \(2020\): June](#)

[Complete issues](#)

More information

- > [Submit Your Article](#)
- > [Author Guidelines](#)
- > [Focus and Scope](#)
- > [Peer Review Process / Policy](#)
- > [Publication Ethics](#)
- > [Publication Frequency](#)
- > [Open Access Policy](#)
- > [Indexing and Abstracting](#)
- > [Archiving](#)
- > [Publisher](#)
- > [Editorial Team](#)
- > [Contact](#)

KAPAL: Jurnal Ilmu Pengetahuan & Teknologi Kelautan (e-ISSN: 2301-9069 (<http://issn.pdii.lipi.go.id/issn.cgi?daftar&1342508490&1&&>))

is international, open access and peer-reviewed journal published by the **Department of Naval Architecture** (<http://perkapalan.undip.ac.id/>), **Faculty of Engineering** (<https://ft.undip.ac.id/>), **Diponegoro University** (<https://www.undip.ac.id/>) in February, June and October each year. Manuscripts approved for publication have been reviewed by reviewers and are free to download via our website. The specific areas of interest include, but are not limited to:

1. Ship Hydrodynamics
2. Ship Design and Production
3. Ship Structure
4. Naval and Marine System
5. Marine Engineering
6. Ship Material
7. Marine Transport Engineering
8. Ocean Renewable Energy
9. Ocean and Offshore Engineering
10. Coastal & Port Engineering

KAPAL: Jurnal Ilmu Pengetahuan & Teknologi Kelautan accepts manuscripts written in English. This Journal has been indexed in **Sinta (S2)** (<https://sinta3.kemdikbud.go.id/journals/profile/3860>) (Kemendikbudristek No. 158/E/KPT/2021 (https://drive.google.com/file/d/1_FDZ7wHXTsZIEgOprqybAPYNW9yueWCp/view?usp=sharing)), **DOAJ** (https://doaj.org/toc/2301-9069?source=%7B%22query%22%3A%7B%22filtered%22%3A%7B%22filter%22%3A%7B%22bool%22%3A%7B%22must%22%3A%5B%7B%22terms%22%3A%7B%22index.issn.exact%22%3A%5B%221829-8370%22%2C%222301-9069%22%5D%7D%7D%5D%7D%7D%2C%22query%22%3A%7B%22match_all%22%3A%7B%7D%7D%7D%2C%22size%22%3A%100%2C%22sort%22%3A%5B%7B%22created_date%22%3A%7B%22order%22%3A%22desc%22%7D%7D%5D%2C%22_source%22%3A%7B%7D%7D), **Garuda (Garba Rujukan Digital)** (<http://garuda.ristekdikti.go.id/journal/view/1257>), **Google scholar** (<https://scholar.google.com/citations?user=aRpJLxwAAAAJ&hl=id>), **Portal Garuda/Indonesian Publication Index** (<http://id.portalgaruda.org/?ref=browse&mod=viewjournal&journal=1257>), **PKP Index** (<http://index.pkp.sfu.ca/index.php/browse/index/637>), **SHERPA/RoMEO** (<http://www.sherpa.ac.uk/romeo/search.php?issn=1829-8370>), **Microsoft Academic** (<https://academic.microsoft.com/#/detail/2737423788>), **CiteFactor** (<http://www.citefactor.org/journal/index/16325/jurnal-kapal>), **Crossref** (<https://search.crossref.org/?q=kapal&publication=Kapal&source=Crossref>), **Dimensions** (https://app.dimensions.ai/discover/publication?and_facet_source_title=jour.1155160).

The Article Processing Charge (APC) is effectively applied from the issue of June 2023 for all accepted papers. The APC was used to increase journal services and the editorial process (see APC Section).

User

Username Password
 Remember me

Journal Content

Search

Search Scope

All

Browse

- [By Issue](#) (<https://ejournal.undip.ac.id/index.php/kapal/issue/>)
- [By Author](#) (<https://ejournal.undip.ac.id/index.php/kapal/search>)
- [By Title](#) (<https://ejournal.undip.ac.id/index.php/kapal/search>)
- [Other Journals](#) (<https://ejournal.undip.ac.id/index.php/index/search>)
- [Categories](#) (<https://ejournal.undip.ac.id/index.php/index/search>)

Notifications

- [View](#) (<https://ejournal.undip.ac.id/index.php/kapal/notific>)
- [Subscribe](#) (<https://ejournal.undip.ac.id/index.php/kapal/notific>)

Current Issue

<https://ejournal.undip.ac.id/index.php/kapal/gateway/pl>

<https://ejournal.undip.ac.id/index.php/kapal/gateway/pl>

<https://ejournal.undip.ac.id/index.php/kapal/gateway/pl>

Kapal: Jurnal Ilmu Pengetahuan dan Teknologi Kelautan

(Kapal: Journal of Marine Science and Technology)



Open Access Journal

e-ISSN: 2301-9069

[Home](https://ejournal.undip.ac.id/index.php/kapal/index/) / [About the Journal](https://ejournal.undip.ac.id/index.php/kapal/about/) / [Editorial Team](https://ejournal.undip.ac.id/index.php/kapal/about/EditorialTeam)

Editorial Team

People > [Editorial Team](https://ejournal.undip.ac.id/index.php/kapal/about/EditorialTeam) / [Peer Reviewer](https://ejournal.undip.ac.id/index.php/kapal/about/displayMembership/74/0)

Editor in Chief



Dr. Andi Trimulyono (ScopusID: [57200045412](http://www.scopus.com/authid/detail.uri?authorId=57200045412))
[ORCID](http://orcid.org/0000-0002-0670-4178) [P](https://publons.com/researcher/2316433) Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia

Associate Editors



Dr. Tuswan Tuswan (ScopusID: [57212199710](http://www.scopus.com/authid/detail.uri?authorId=57212199710))
[ORCID](https://orcid.org/0000-0002-0314-2616) Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia



Dr. Eng. Samuel Samuel, ST, MT (ScopusID: [56741121300](http://www.scopus.com/authid/detail.uri?authorId=56741121300))
 Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia



Muhammad Iqbal (ScopusID: [56739963100](http://www.scopus.com/authid/detail.uri?authorId=56739963100))
[ORCID](http://orcid.org/0000-0003-3762-3757) [P](https://publons.com/researcher/3141305) Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia

Editorial Boards



Prof. Dr. Ir I Ketut Aria Pria Utama (ScopusID: [39661404700](http://www.scopus.com/authid/detail.uri?authorId=39661404700))
 Department of Naval Architecture, Faculty of Marine Technology, Sepuluh Nopember Institute of Technology, Indonesia, Indonesia



Dr. Tahsin Tezdogan (ScopusID: [56046196100](http://www.scopus.com/authid/detail.uri?authorId=56046196100))
[ORCID](https://orcid.org/0000-0002-7032-3038) [P](https://publons.com/researcher/1476604) Department of Naval Architecture Ocean and Marine Engineering, Faculty of Engineering, University of Strathclyde, United Kingdom



Assoc. Prof. Dr Jung-Min Sohn (ScopusID: [57204241794](http://www.scopus.com/authid/detail.uri?authorId=57204241794))
 Department of Naval Architecture & Marine Systems Engineering, Pukyong National University, South Korea



Prof. Dr. Ir Eko Budi Djatmiko (ScopusID: [6504287354](http://www.scopus.com/authid/detail.uri?authorId=6504287354))
[ORCID](http://orcid.org/0000-0002-0776-7162) Department of Ocean Engineering, Faculty of Marine Technology, Sepuluh Nopember Institute of Technology, Indonesia



Prof. Dr. Ir Sunaryo Sunaryo (ScopusID: [55362517600](http://www.scopus.com/authid/detail.uri?authorId=55362517600))
[ORCID](https://orcid.org/0000-0002-9787-0058) Naval Architecture and Marine Engineering Study Program, University of Indonesia, Indonesia



Prof. Dr. Daeng Paroka (ScopusID: [14030511600](http://www.scopus.com/authid/detail.uri?authorId=14030511600))
 Department of Ocean Engineering, Faculty of Engineering, Hasanuddin University, Indonesia



Assoc. Prof. Dr Ngo Van He (ScopusID: [55850920700](http://www.scopus.com/authid/detail.uri?authorId=55850920700))
 Department of Fluid Mechanics and Ship Engineering, Hanoi University of Science and Technology, Viet Nam



Assoc. Prof. Dr Zobair Ibn Awal (ScopusID: [15057614200](http://www.scopus.com/authid/detail.uri?authorId=15057614200))
[ORCID](https://orcid.org/0000-0003-0261-7314) Department of Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology (BUET), Bangladesh



Dr. Min Han Htet (ScopusID: [56188606000](http://www.scopus.com/authid/detail.uri?authorId=56188606000))
 Department of Marine Engineering, Myanmar Maritime University, Myanmar



Dr. Ahmad Fitriadhy (ScopusID: [36559082600](http://www.scopus.com/authid/detail.uri?authorId=36559082600))
[ORCID](https://orcid.org/0000-0002-5470-2871) Program of Naval Architecture, Faculty of Ocean Engineering Technology and Informatics, Universiti Malaysia Terengganu (UMT), Malaysia



Dr. Muhammad Luqman Hakim (ScopusID: [57203267750](http://www.scopus.com/authid/detail.uri?authorId=57203267750))
 Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia



Dr. Abdillah Suyuthi (ScopusID: [35367225200](http://www.scopus.com/authid/detail.uri?authorId=35367225200))
 Senior Data Scientist DNV GL Digital Solutions Norway, Norway



Dr. Eng. Ardhana Wicaksono (ScopusID: [57197831808](http://www.scopus.com/authid/detail.uri?authorId=57197831808))
 Intelligent Processing Laboratory, Research and Innovation Center, Furuno Electric Co., Ltd., Japan



Dr. Eng. Ahmad Fauzan Zakki (ScopusID: [56912379300](http://www.scopus.com/authid/detail.uri?authorId=56912379300))
[ORCID](http://orcid.org/0000-0003-1183-9090) Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia, Indonesia

User

Username Password Remember me

Journal Content

Search

Search Scope

All

Browse

- [By Issue](https://ejournal.undip.ac.id/index.php/kapal/issue/)
- [By Author](https://ejournal.undip.ac.id/index.php/kapal/search)
- [By Title](https://ejournal.undip.ac.id/index.php/kapal/search)
- [Other Journals](https://ejournal.undip.ac.id/index.php/index/search)
- [Categories](https://ejournal.undip.ac.id/index.php/index/search)

Notifications

- [View](https://ejournal.undip.ac.id/index.php/kapal/notific)
- [Subscribe](https://ejournal.undip.ac.id/index.php/kapal/notific)

Current Issue

<https://ejournal.undip.ac.id/index.php/kapal/gateway/pl><https://ejournal.undip.ac.id/index.php/kapal/gateway/pl><https://ejournal.undip.ac.id/index.php/kapal/gateway/pl>



Dr. Eng. Muhammad Arif Budiyanto (ScopusID: [57197818048](http://www.scopus.com/authid/detail.uri?authorId=57197818048) (<http://www.scopus.com/authid/detail.uri?authorId=57197818048>))

[id.](http://orcid.org/0000-0001-8118-7521) (<http://orcid.org/0000-0001-8118-7521>) Naval Architecture and Marine Engineering Study Program, Department of Mechanical Engineering, Faculty of Engineering, University of Indonesia, Indonesia



Muhammad Zubair Muis Alie, ST, MT, Ph.D-Eng (ScopusID: [56912289300](http://www.scopus.com/authid/detail.uri?authorId=56912289300) (<http://www.scopus.com/authid/detail.uri?authorId=56912289300>))

[id.](http://orcid.org/0000-0003-0566-4781) (<http://orcid.org/0000-0003-0566-4781>) Department of Ocean Engineering, Engineering Faculty, Universitas Hasanuddin, Indonesia



Dr. Eng. Fredhi Agung Prasetyo (ScopusID: [57204528440](http://www.scopus.com/authid/detail.uri?authorId=57204528440) (<http://www.scopus.com/authid/detail.uri?authorId=57204528440>))

[id.](http://orcid.org/0000-0003-1813-5782) (<http://orcid.org/0000-0003-1813-5782>) Division of Research and Development, Biro Klasifikasi Indonesia (BKI), Indonesia



Dr. Teguh Muttaqie (ScopusID: [57200943067](http://www.scopus.com/authid/detail.uri?authorId=57200943067) (<http://www.scopus.com/authid/detail.uri?authorId=57200943067>))

Research Centre for Hydrodynamics Technology, National Research and Innovation Agency, Indonesia



Dr. Richard Benny Luhulima (ScopusID: [55957005500](http://www.scopus.com/authid/detail.uri?authorId=55957005500) (<http://www.scopus.com/authid/detail.uri?authorId=55957005500>))

[id.](https://orcid.org/0000-0001-7533-5268) (<https://orcid.org/0000-0001-7533-5268>) Department of Naval Architecture, Universitas Pattimura, Jl. Ir. M. Putuhena, Poka, Tlk. Ambon, Kota Ambon, Maluku, Indonesia



Dr. Eng. Deddy Chrismianto (ScopusID: [56805265800](http://www.scopus.com/authid/detail.uri?authorId=56805265800) (<http://www.scopus.com/authid/detail.uri?authorId=56805265800>))

Department of Naval Architecture, Faculty of Engineering, Diponegoro University, Indonesia., Indonesia



Pratiwi Fudlailah (ScopusID: [57225097407](http://www.scopus.com/authid/detail.uri?authorId=57225097407) (<http://www.scopus.com/authid/detail.uri?authorId=57225097407>))

Department of Ocean Engineering, Texas A&M University, United States

[View statistics](#) 00367405



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

Copyright ©2023 [Universitas Diponegoro](https://ejournal.undip.ac.id/). Powered by [Public Knowledge Project OJS](https://www.pkp.scribner.com/) and [Mason Publishing OJS theme](https://masonpublishing.com/).

[Home](https://ejournal.undip.ac.id/index.php/kapal/index/) (<https://ejournal.undip.ac.id/index.php/kapal/index/>) / [Archives](https://ejournal.undip.ac.id/index.php/kapal/issue/archive/) (<https://ejournal.undip.ac.id/index.php/kapal/issue/archive/>) / [Vol 11, No 3 \(2014\)](https://ejournal.undip.ac.id/index.php/kapal/issue/view/1385) (<https://ejournal.undip.ac.id/index.php/kapal/issue/view/1385>)

Vol 11, No 3 (2014): Oktober

Table of Contents

Research Articles

PEMANFAATAN TENAGA ANGIN DAN SURYA SEBAGAI ALAT PEMBANGKIT LISTRIK PADA BAGAN PERAHU

(<https://ejournal.undip.ac.id/index.php/kapal/article/view/7670>)

 Ari Wibawa Budi Santosa, Imam Pujo Mulyatno

 Citations ?

(<https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7670?domain=https://ejournal.undip.ac.id>)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7670](https://doi.org/10.14710/kpl.v11i3.7670)

(<https://doi.org/10.14710/kpl.v11i3.7670>)

 Published: .

DESAIN LAMBUNG KAPAL LAYAR MOTOR KATAMARAN DENGAN SISTEM PALKA IKAN HIDUP

(<https://ejournal.undip.ac.id/index.php/kapal/article/view/7727>)

 Parlindungan Manik, Sarjito Jokosisworo

 Citations ?

(<https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7727?domain=https://ejournal.undip.ac.id>)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7727](https://doi.org/10.14710/kpl.v11i3.7727)

(<https://doi.org/10.14710/kpl.v11i3.7727>)

 Published: .

OPTIMIZATION OF CATAMARAN DEMIHULL FORM IN EARLY STAGES OF THE DESIGN PROCESS

(<https://ejournal.undip.ac.id/index.php/kapal/article/view/7735>)


 Muhammad Iqbal, Andi Trimulyono

 Citations ?

(<https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7735?domain=https://ejournal.undip.ac.id>)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7735](https://doi.org/10.14710/kpl.v11i3.7735)

(<https://doi.org/10.14710/kpl.v11i3.7735>)

 Received: 10 Nov 2014; Published: 11 Nov 2014.

PENGEMBANGAN DESAIN KAPAL LNG DENGAN CARGO CONTAINMENT SYSTEM TIPE MEMBRAN BENTUK PRISMATIK SEBAGAI SOLUSI ALTERNATIF KEBUTUHAN ALAT TRANSPORTASI GAS ALAM CAIR DI INDONESIA

(<https://ejournal.undip.ac.id/index.php/kapal/article/view/7751>)


 Ahmad Fauzan Zakki, Aulia Windyandari

 Citations ?

(<https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7751?domain=https://ejournal.undip.ac.id>)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7751](https://doi.org/10.14710/kpl.v11i3.7751)

(<https://doi.org/10.14710/kpl.v11i3.7751>)

 Published: .

General information (#issueInfo)

Published: 06-10-2014

Total Articles: 7
(including Editorial)

Total Authors: 15

Total authors' affiliations (#affiliations)



affiliations)

Issues list

- > **2023: Publication In-Press**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 20, No 1 (2023): February**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 19, No 3 (2022): October**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 19, No 2 (2022): June**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 19, No 1 (2022): February**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 18, No 3 (2021): October**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 18, No 2 (2021): June**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 18, No 1 (2021): February**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Vol 17, No 3 (2020): October**
(<https://ejournal.undip.ac.id/index.php/kapal/>)
- > **Complete issues**
(<https://ejournal.undip.ac.id/index.php/kapal/>)



(<https://ejournal.undip.ac.id/index.php/kapal/article/view/7751/6362>)

132-143

**PERANCANGAN APLIKASI SISTEM REPAIR SCHEDULE
PADA KAPAL PENYEBERANGAN MERAK-BAKAUHENI
BERBASIS WEB MENURUT ATURAN BIRO KLASIFIKASI
INDONESIA**

[PDF](#)<https://ejournal.undip.ac.id/index.php/kapal/article/view/7740/6443>

144-153

<https://ejournal.undip.ac.id/index.php/kapal/article/view/7740>

Samuel Samuel, Untung Budiarto

 Citations { ? }[https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7740?](https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7740?domain=https://ejournal.undip.ac.id)

domain=https://ejournal.undip.ac.id)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7740](https://doi.org/10.14710/kpl.v11i3.7740)<https://doi.org/10.14710/kpl.v11i3.7740>

Received: 12 Nov 2014; Published: 14 Nov 2014.

**PENGARUH VARIASI BENTUK BURITAN KAPAL
TERHADAP HAMBATAN TOTAL MENGGUNAKAN
METODE CFD**

[PDF](#)<https://ejournal.undip.ac.id/index.php/kapal/article/view/7752/6442>

154-161

<https://ejournal.undip.ac.id/index.php/kapal/article/view/7752>

Deddy Chrismianto, Berlian Arswendo Adietya

 Citations { ? }[https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7752?](https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.7752?domain=https://ejournal.undip.ac.id)

domain=https://ejournal.undip.ac.id)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.7752](https://doi.org/10.14710/kpl.v11i3.7752)<https://doi.org/10.14710/kpl.v11i3.7752>

Published: .

**PEMANFAATAN MATERIAL PLASTIK HDPE BEKAS
DRUM KEMASAN SEBAGAI KULIT LAMBUNG PERAHU**

[PDF](#)<https://ejournal.undip.ac.id/index.php/kapal/article/view/8345/6874>

162-169

<https://ejournal.undip.ac.id/index.php/kapal/article/view/8345>

Wilma Amiruddin, Eko Sasmito Hadi, Kiryanto Kiryanto

 Citations { ? }[https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.8345?](https://badge.dimensions.ai/details/doi/10.14710/kpl.v11i3.8345?domain=https://ejournal.undip.ac.id)

domain=https://ejournal.undip.ac.id)

| Language: **EN (#)** | DOI: [10.14710/kpl.v11i3.8345](https://doi.org/10.14710/kpl.v11i3.8345)<https://doi.org/10.14710/kpl.v11i3.8345>

Published: .

[View statistics](#) 00367412This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).Copyright ©2023 [Universitas Diponegoro](https://www.undip.ac.id/). Powered by [Public Knowledge Project OJS](https://www.pkoj.org/) and [Mason Publishing OJS theme](https://www.masonpublishing.com/).