

0-23

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah : Intact stability and seakeeping characteristics of autonomous surface vehicle (asv) using swath hullform to support bathymetry survey activities on the coastal area

Jumlah Penulis : 4 Orang

Status Pengusul : Penulis ke-2

Identitas Prosiding : a. Judul Prosiding : The 5th International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management (ISOCEEN 2017)

b. ISBN/ISSN : eISSN: 2261-236X

c. Thn Terbit, Tempat Pelaks. : 2017, Surabaya, Indonesia

d. Penerbit/Organiser : EDP Sciences

e. Alamat Repository/Web : https://www.matec-conferences.org/articles/mateconf/abs/2018/36/mateconf_isoceen2017_01001/mateconf_isoceen2017_01001.html

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f. Terindeks di (jika ada) : Scopus

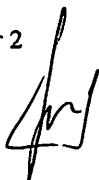
Kategori Publikasi Makalah : ☒ Prosiding Forum Ilmiah Internasional
 (beri ✓ pada kategori yang tepat) ☐ Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi prosiding (10%)	2,50	2,70	2,60
b. Ruang lingkup dan kedalaman pembahasan (30%)	8,50	8,50	8,50
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	8,75	8,75	8,75
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	8,80	8,80	8,80
Total = (100%)	28,58	28,75	28,65
Nilai Pengusul = (40% x 28,65)/3= 3.82			

Semarang,

Reviewer 2



Dr. Iwan Setiawan, S.T., M.T.
 NIP. 197309262000121001
 Unit Kerja : Teknik Elektro FT UNDIP

Reviewer 1



Dr. Wahyudi, S.T., M.T.
 NIP. 196906121994031001
 Unit Kerja : Teknik Elektro FT UNDIP

**LEMBAR
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Kategori Publikasi Makalah : ☒ Prosiding Forum Ilmiah Internasional
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Hasil Penilaian Peer Review :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional ☐	Nasional ☐	
a. Kelengkapan unsur isi prosiding (10%)	3,00		2,50
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		8,50
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00		8,75
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9,00		8,80
Total = (100%)	30,00		28,55
Nilai Pengusul = $(40\% \times 28,55)/3 = 3.81$			28,55

Catatan Penilaian Paper oleh Reviewer :

- Kesesuaian dan kelengkapan unsur isi paper:** Isi paper cukup baik dan memenuhi standar kualifikasi untuk publikasi internasional.
- Ruang lingkup dan kedalaman pembahasan:** Lingkup jurnal luas, pembahasan paper cukup detail.
- Kecukupan dan kemutakhiran data/informasi dan metodologi:** Referensi mutakhir, metode bukan novelty, aplikasi pengembangan.
- Kelengkapan unsur dan kualitas terbitan:** Kualitas terbitan baik (terindex Scopus Q4).

Semarang,

Reviewer 1

Dr. Wahyudi, S.T., M.T.
NIP. 196906121994031001
Unit Kerja : Teknik Elektro FT UNDIP

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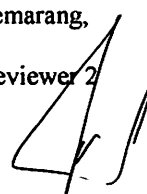
Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional ☐	Nasional ☐	
a. Kelengkapan unsur isi prosiding (10%)	3,00		2,70
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		8,50
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00		8,75
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9,00		8,80
Total = (100%)	30,00		28,75
Nilai Pengusul = $(40\% \times 28,75)/3 = 3.83$			

Catatan Penilaian Paper oleh Reviewer :

- Kesesuaian dan kelengkapan unsur isi paper:** Isi paper cukup baik dan merupakan hasil eksperimen yang lengkap.
- Ruang lingkup dan kedalaman pembahasan:** Lingkup jurnal cukup luas, pembahasan paper kurang detail.
- Kecukupan dan kemutakhiran data/informasi dan metodologi:** Referensi mutakhir, metode dan aplikasi bukan novelty.
- Kelengkapan unsur dan kualitas terbitan:** Kualitas terbitan baik, terindex Scopus.

Semarang,

Reviewer 2



Dr. Iwan Setiawan, S.T., M.T.
NIP. 197309262000121001
Unit Kerja : Teknik Elektro FT UNDIP



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Volume 177, 4 July 2018, Article number 01001
5th International Seminar on Ocean and Coastal Engineering, Environmental and Natural
Disaster Management, ISOCEEN 2017; Surabaya; Indonesia; 8 November 2017 through ;
Code 140727

Intact stability and seakeeping characteristics of autonomous surface vehicle (asv) using swath hullform to support bathymetry survey activities on the coastal area (Conference Paper) (Open Access)

Ahmad Fauzan, Z.^a ✉️, Triwiyatno, A.^b, Sasmito, B.^c, Nubly, M.H.^a 👤

^aNaval Architecture Department, Engineering Faculty, Diponegoro University, Indonesia

^bElectrical Engineering Department, Engineering Faculty, Diponegoro University, Indonesia

^cGeodetical Engineering Department, Engineering Faculty, Diponegoro University, Indonesia

Abstract

↕ View references (16)

The information is an important thing to search a new resource. In this decade, with leading-edge technology is easier to find any information about our earth. Thus, that is must be explored by the ships. The exploration works usually take a long time, and for convenience, the unmanned technology is much promised. In this research, we focused on the autonomous surface vehicle for bathymetry survey. To design the ASV, we must consider the reliability, efficiency, and safety. To reach those three components, the analysis of resistance, stability and wave response are necessary. Therefore, the hull form design is focused on Small Waterplane Area Twin Hull (SWATH) hull form. According to the numerical analysis, the proposed SWATH hull form of ASV is suitable for bathymetry activities. It can be proved by the stability performance which the maximum value of GZ is at 26.40. The resistance calculation result is indicated that the drag of coefficient of this hull form is about 0.013. © 2018 The Authors, published by EDP Sciences.

SciVal Topic Prominence ⓘ

Topic: Autonomous underwater vehicles | Vehicles | Vehicle AUV

Prominence percentile: 98.905 ⓘ

Indexed keywords

Engineering controlled terms:

Bathymetry Coastal engineering Disaster prevention Disasters
Environmental management Surveys

Engineering uncontrolled terms

Autonomous surface vehicles Intact stability Leading edge technology Resistance calculation
Small waterplane area twin hulls Stability performance Three component Wave response

Engineering main heading:

Unmanned surface vehicles

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2 Citations in Scopus

3.89 Field-Weighted
Citation Impact



PlumX Metrics

Usage, Captures, Mentions,
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Cited by 2 documents

Study on hydrodynamics coefficients of swath Autonomous Surface Vehicles (ASV) hullform for bathymetry survey activities

Zakki, A.F. , Triwiyatno, A. , Sasmito, B.
(2019) *ARPJ Journal of Engineering and Applied Sciences*

Design and control of autonomous surface vehicle to support bathymetry survey in the coastal environment

Zakki, A.F. , Triwiyatno, A. , Sasmito, B.
(2019) *Advances in Science, Technology and Engineering Systems*

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- Coastal, Delta, River and Estuary Management and Its Environmental
- Natural Disaster Management
- Sea Transportation and Ship Technology
- Ocean renewable Energy and Development

The 5th International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management (ISOCEEN) 2017

8TH NOVEMBER 2017

Introduction

We are delighted to announce that Institut Teknologi Sepuluh Nopember (ITS) especially Department of Ocean Engineering and Tohoku University have collaboration since 1997. In which, in the year 2006, a Memorandum of Understanding (MoU) has been signed between Tohoku University, Japan and Institut Teknologi Sepuluh Nopember to promote further collaboration between two institutions and and it has been extended until 20 December 2016. Many activities that have performed well in term of collaborative research, faculty and student exchange, joint educational program, seminars, workshops etc, especially for the seminar and workshop has been done several times before, namely; Japan-Indonesia Estuary Workshop, August 22nd, 2005 Jakarta, Japan – Indonesia Workshop on Estuary and Climate Change (JIWECC), August 8th -10th Surabaya, Indonesia and The first International Seminar on Ocean, Coastal Engineering, Environmental and Natural Disaster Management (ISOCEEN), Novem-

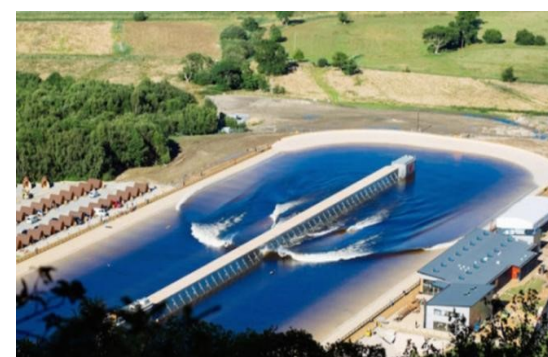
ber 11, 2013, Surabaya Indonesia. The 2nd International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management was held on December 2, 2014. in which the selected papers have been published to the International Journal, Procedia Earth and Planetary Science. <http://www.sciencedirect.com/science/journal/18785220/14>.

The 3rd International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management was held on December 10, 2015. Published to Applied Mechanics and Material, <https://www.scientific.net/AMM.862>

The 4th International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management was held on December 13, 2016, the selected paper was processed to publish into IOP Conference

Series – Earth and Environmental Sciences indexed in Scopus .

The 5th International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management will be held on November 8, 2017. The selected paper will be published into: IOP Conference Series – Earth and Environmental Sciences indexed in Scopus.



Call For Papers

The technical program of the Conference will consist of keynote addresses, contributed papers and special sessions with invited speakers. Authors are invited to submit an extended abstracts (short papers) of 2-3 pages, including some results and/or graphics ([ISOCEEN-2017-Extended AbstractTemplate](#)). The extended abstracts will be reviewed and selected by an International Technical Committee for oral presentation. Prospective authors are requested to submit an extended abstracts to the Seminar Secretariat. It may be submitted either online through conference website or via regular mail. After the seminar, the full paper must be submitted and will be reviewed to be aligned with the requirements published in MATEC Web of Conference indexed in Scopus.

IMPORTANT DATES

Deadline for Extended abstracts submission	21 Oktober 2017
Notification of Acceptance	24 Oktober 2017
Deadline for Authors' Registration	30 Oktober 2017
Seminar Date	8 November 2017
Deadline for Full Paper submission	30 December 2017
Review process	1-30 January 2018
Revision process	1-28 February 2018
Final checking and editing by Editors	30 May 2018
Deliver the Final Manuscript to the Publisher	15 June 2018

REGISTRATION FEE

	Foreign	Indonesian
Delegates	Delegates	Delegates
Delegates	US \$ 75	IDR 600,000
Contributing Author	US \$ 400	IDR 3,000,000
Accompanying Person	US \$ 75	IDR 600,000
Extra One Paper	US \$ 200	IDR 2,000,000



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Surabaya, Indonesia, November 8, 2017

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Determination of shoreline change along the East-Java coast, using Digital Shoreline Analysis System

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Abstract. This study focused on determining the shoreline change at the East- Java coast by comparing the shorelines between 2006 and 2015, using digital shoreline analysis system (DSAS) techniques to identify and measure erosion (shoreline retreat) and accretion (shoreline advance). Shoreline change rates are calculated according to Shoreline Change Envelope (SCE), Net Shoreline Movement (NSM), End Point Rate (EPR), and Linear Regression Rate (LRR). Results present local variations in shoreline change distance as well as in shoreline change rates. The statistical methods showed similarities with the highest accretion distance of 991.57 meters in the region of Mulyorejo and highest erosion distance of 928.75 meters in Sidoarjo. The EPR shows a rate with a maximum of 169.98 m/year and a minimum of 3.428 m/year. As for the LRR a maximum of 189.58 m/year and a minimum of 5.467 m/year were conducted from calculations.

1. Introduction

A key requirement for effective coastal zone management is the analysis of changes in the past. Although changes along the coast over the coming century cannot be predicted simply by assuming the past trend will continue, it can contribute by constructing the basic knowledge used in future prediction formulas or models [1]. With a total length in coastline of 81 000 km spread over 17 508 islands, research in coastal development is valuable for disaster risk reduction and coastal management in the archipelagic country of Indonesia [2].

Located along the East Java Coast, the study area covers the areas of Pamurbaya and Sidoarjo. Geographically the districts are situated between 7°24' South Latitude - 112° 80' East Longitude and 7°48' South Latitude - 112°83' East Longitude. The region is known

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A comparison of the water quality between the mangrove areas Mulyorejo and Wonorejo

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Abstract. The East Coast of Surabaya consists of large mangrove and fish pond areas. These areas are crucial for the ecosystem and for providing food and shelter for the local community. If the water quality decreases the mangroves will not be able to provide these functions. The water quality of these areas can be measured in two ways: by looking at the physico-chemical parameters or by looking at the biological parameters. Both offer a very good view of what state the area is in. The purpose of this study is to find out what the differences are between the Mulyorejo and the Wonorejo areas to see what differences there are within the East Coast of Surabaya and what could be the main cause of these differences. The data shows that the physico-chemical data does not comply with the limitation factors. The main problem are the nutrients which will have to be lowered to preserve the ecosystem. In terms of the biological state of the mangrove, there are few problems found. It is, however, unclear why the tree density in one of the Wonorejo areas is declining and it should be determined what the reason for this is.

Keywords: Mangrove, Fish ponds, Wonorejo, Mulyorejo, Physico-Chemical, Biological

1 Introduction

Mangroves are an important part of the coast line of Surabaya. They provide an ecosystem that protects the people and offer a source of food for both humans and aquatic species. The East Coast of Surabaya contains a large mangrove area. This mangrove area is divided in multiple parts which are all influenced by different rivers. The area is part of a development plan in which this area is meant as a place where the main functions are to protect and rehabilitate the marine environment, develop nature tourism as well as fishing and fishery cultivation areas.

The research is focused on two areas. The first area is the Mulyorejo area, which has a small river flowing through it and which is mainly influenced by domestic waste from

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Coastal Monitoring Program of Bathymetry Using Video Images Technique

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Abstract. The objective of this research is to investigate the capabilities of optical remote sensing to monitor bathymetry in nearshore area using video images. The technique is designed to extract wave number components based on variation of intensity of brightness at each pixel in the images using cross-spectral correlation approach. This approach is based on pixel array analysis that utilizes a nonlinear inverse method 'Levenberg-Marquardt'. The technique is applied to the data collected at Hasaki beach in Japan from August to December 2006. The results indicate that the estimate of nearshore bathymetry is proved reasonable accurate near shoreline and breaking area where the differences between estimated and survey water depth are less than 10-30 cm.

1 Introduction

Bathymetry information is very important for coastal and marine engineers to understand the coastal process in nearshore area. Some nearshore activities such as recreation, fishing, navigation, beach nourishment and dredging require the knowledge of bathymetry. Good quality bathymetry information is hence required in order to make clear the physical processes that are taking place. However, combination of traditional in situ survey methods and advanced techniques such as global positioning system and modern ship vehicles are time consuming, and high cost, especially in shallow coastal water area.

The various remote sensing techniques have been applied to derive bathymetry estimate from images. These include measurement of water depth from aerial photograph [1], synthetic aperture radar (SAR) [2], X band radar [3] and SPOT (satellite) images [4] where the sequence of these images can provide a way to record information about changes in seabed topography. Recently, the invention of new digital technology of images from video camera system now can provide and improve an additional capability of automated data collection [5]. This automated data collections have much greater range of time and spatial scales. Also, this technology is suitable for measuring hazardous coastal areas such as surf zone area, where the operations of ship vehicle have limitation on maneuvers.

In these video image data it is possible to see the interaction of the incident wave field with the bathymetry (i.e. wave shoaling and refraction); hence this information can be used to obtain estimates of bathymetry [6][7]. The approach for estimating bathymetry is based on

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