

Judul Artikel : Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers

Penulis : Aris Doyan, Susilawati, Kosim, Iwan Dahlan dan Ahmad Pauzi

Nama Seminar/Konferensi/Simposium : Journal of Physics: Conference Series

Penyelenggara/Penerbit : IOP Publishing Ltd

Waktu/Tempat Pelaksanaan : 20-21 September 2018/Medan, Indonesia

Halaman : 012001-1 -012001-6

ISBN/ISSN : *ISSN: 1742-6596*

Web Prosiding : <https://iopscience.iop.org/issue/1742-6596/1120/1>

URL Dokumen : <https://iopscience.iop.org/article/10.1088/1742-6596/1120/1/012001/pdf>

DOI : <http://doi.org/10.1088/1742-6596/1120/1/012001>

URL Peer Review : <http://eprints.unram.ac.id/17385/>

URL Dokumen Cek Similarity atau Originality : <http://eprints.unram.ac.id/17446/>

LINK INDEX : <https://www.scopus.com/authid/detail.uri?authorId=57205535848>

Tanggal/Waktu : Semester Gasal 2018/2019

Satuan : 1 Makalah/tahun

Volume Kegiatan : 1

Profil Prosiding dan Publisher



scimagojr.com/journalsearch.php?q=130053&tip=sid&clean=0

also developed by scimago: **SCIMAGO INSTITUTIONS RANKINGS**

SJR Scimago Journal & Country Rank

Home Journal Rankings Country Rankings Viz Tools Help About Us

Journal of Physics: Conference Series

Country	United Kingdom -  	70 H Index
Subject Area and Category	Physics and Astronomy Physics and Astronomy (miscellaneous)	
Publisher	IOP Publishing Ltd.	
Publication type	Conferences and Proceedings	
ISSN	17426588, 17426596	
Coverage	2005-2020	
Scope	The open access Journal of Physics: Conference Series (JPCS) provides a fast, versatile and cost-effective proceedings publication service.	

scimagojr.com/journalsearch.php?q=130053&tip=sid&clean=0

Scope The open access Journal of Physics: Conference Series (JPCS) provides a fast, versatile and cost-effective proceedings publication service.

- [Homepage](#)
- [How to publish in this journal](#)
- [Contact](#)
- [Join the conversation about this journal](#)

SJR

Year	SJR
2006	0.26
2007	0.25
2008	0.25
2009	0.26
2010	0.27
2011	0.28
2012	0.29
2013	0.28
2014	0.25
2015	0.26
2016	0.24
2017	0.23
2018	0.23

Citations per document

Year	Total Cites	Self-Cites
2005	0.15	0.15
2006	0.48	0.48
2007	0.45	0.45
2008	0.48	0.48
2009	0.50	0.50
2010	0.52	0.52
2011	0.50	0.50
2012	0.55	0.55
2013	0.45	0.45
2014	0.52	0.52
2015	0.50	0.50
2016	0.52	0.52
2017	0.55	0.55
2018	0.58	0.58
2019	0.60	0.60

Year	Total Cites	Self-Cites
2005	0	0
2006	1000	1000
2007	2000	1000
2008	3000	1000
2009	4000	1000
2010	5000	1000
2011	6000	1000
2012	7000	1000
2013	8000	1000
2014	9000	1000
2015	10000	1000
2016	12000	1000
2017	14000	1000
2018	16000	1000
2019	18000	1000

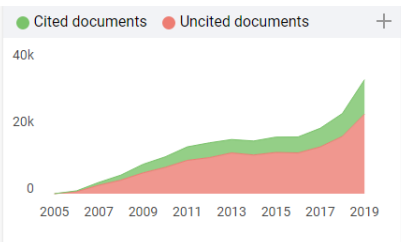
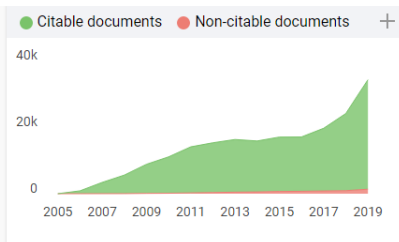
Year	2 years	3 years	4 years
2005	0.15	0.15	0.15
2006	0.48	0.48	0.48
2007	0.45	0.45	0.45
2008	0.48	0.48	0.48
2009	0.50	0.50	0.50
2010	0.52	0.52	0.52
2011	0.50	0.50	0.50
2012	0.55	0.55	0.55
2013	0.45	0.45	0.45
2014	0.52	0.52	0.52
2015	0.50	0.50	0.50
2016	0.52	0.52	0.52
2017	0.55	0.55	0.55
2018	0.58	0.58	0.58
2019	0.60	0.60	0.60

External Cites per Doc **Cites per Doc**

Year	External Cites per Doc	Cites per Doc
2005	0.15	0.15
2006	0.48	0.48
2007	0.45	0.45
2008	0.48	0.48
2009	0.50	0.50
2010	0.52	0.52
2011	0.50	0.50
2012	0.55	0.55
2013	0.45	0.45
2014	0.52	0.52
2015	0.50	0.50
2016	0.52	0.52
2017	0.55	0.55
2018	0.58	0.58
2019	0.60	0.60

% International Collaboration

Year	% International Collaboration
2005	20
2006	25
2007	28
2008	30
2009	28
2010	25
2011	28
2012	30
2013	25
2014	28
2015	25
2016	20
2017	15
2018	10
2019	10



Journal of Physics: Conference Series

← Show this widget in your own website

Not yet assigned quartile

SJR 2019 0.23

powered by scimagojr.com

Just copy the code below and paste within your html code:

```
<a href="https://www.scimagojr.com" style="color: #000000; text-decoration: none; border: 1px solid #000000; padding: 2px 5px;">https://www.scimagojr.com
```

Artikel tulisan author yang terbit di Journal of Physics: Conference Series

← → ↻ iopscience.iop.org/issue/1742-6596/1120/1 🔍 ☆ 🌐 🗄️

Apps Gmail YouTube Maps Gmail Edmodo Quiz | Edmodo Google Scholar WhatsApp Web Sci-Hub: removing... Quiz | Edmodo Quiz | Edmodo

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).

IOPscience Journals Books Publishing Support Login

Journal of Physics: Conference Series

Table of contents

Volume 1120
2018
◀ Previous issue Next issue ▶

The 8th International Conference on Theoretical and Applied Physics 20–21 September 2018, Medan, Indonesia
Accepted papers received: 29 October 2018
Published online: 23 December 2018

[Open all abstracts](#)

Preface

OPEN ACCESS 011001
The 8th International Conference on Theoretical and Applied Physics
+ Open abstract | [View article](#) | [PDF](#)

OPEN ACCESS 011002
Peer review statement
+ Open abstract | [View article](#) | [PDF](#)

Papers

OPEN ACCESS 012001
Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers
Aris Doyan, Susilawati, Kosim, Iwan Dahlan and Ahmad Pauzi
+ Open abstract | [View article](#) | [PDF](#)

OPEN ACCESS 012002
Synthesis and Characterization of Barium M-Hexaferrite with Metal Doping Mn and Ni for Microwaves Absorbent
Susilawati, Aris Doyan, Muhammad Taufik and Wahyudi
+ Open abstract | [View article](#) | [PDF](#)

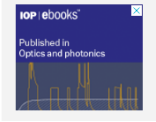


OPEN ACCESS 012003
Mechanical properties of composite thermoplastic hdpe / natural rubber and palm oil boiler ash as a filler
N. Bukit, E M Ginting, I S Pardeede, E. Frida and B.F Bukit
+ Open abstract | [View article](#) | [PDF](#)

OPEN ACCESS 012004
Preparation And Characterization Of Oil Palm Empty Bunches Powder
E.M. Ginting, Motlan, N. Bukit, M. T. Saragih, A. H. Sinaga and E. Frida
+ Open abstract | [View article](#) | [PDF](#)

OPEN ACCESS 012005
Supercapacitor Electrodes Based on Corn Stalk Binderless Activated Carbon
Awitdrus, R Juliani, E Taer, R Farma, Iwantonio and M Deraman
+ Open abstract | [View article](#) | [PDF](#)

JOURNAL LINKS

- [Journal home](#)
- [Information for organizers](#)
- [Information for authors](#)
- [Search for published proceedings](#)
- [Contact us](#)
- [Reprint services from Curran Associates](#)



This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).

Journal of Physics: Conference Series

PAPER • OPEN ACCESS

Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers

Aris Doyan¹, Susilawati¹, Kosim¹, Iwan Dahlan² and Ahmad Pauzi²

Published under licence by IOP Publishing Ltd

[Journal of Physics: Conference Series, Volume 1120, The 8th International Conference on Theoretical and Applied](#)

[Physics 20-21 September 2018, Medan, Indonesia](#)

Citation Aris Doyan et al 2018 *J. Phys.: Conf. Ser.* **1120** 012001

 Article PDF

References

+ Article information

Abstract

This study aims to determine the tensile strength of composite fibers of banana and pineapple. Mixed fiber composites use polyester resin as the binding matrix. The research sample was made by varying the fiber concentration with a matrix using mass fractions ((10:90)%, (20:80)%, (30:70)%, (40:60)% and (50:50)%). From the results of tensile strength testing, betel fiber composites with fiber (50:50)%

166 Total downloads

Turn on MathJax

Share this article



Leading technology for Accelerators
Contact us about how we can benefit your application
www.danfysik.com
DANFYSIK

CERN COURIER LIVE WEBINAR
Presented by Dr. Oliver Brüning, the leader for the HL-LHC project
Click to join the audience

IOP ebooks
Published in Optics and photonics

physicsworld jobs

PDF
Help

Journal of Physics: Conference Series

PAPER • OPEN ACCESS

Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers

To cite this article: Aris Doyan et al 2018 *J. Phys.: Conf. Ser.* **1120** 012001

View the [article online](#) for updates and enhancements.

Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers

Aris Doyan¹, Susilawati¹, Kosim¹, Iwan Dahlan¹, Ahmad Pauzi¹

¹Magister Science, Post Graduate of Mataram University, Mataram, Indonesia

Email: aris_doyan@unram.ac.id, susilawatihambali@unram.ac.id

Abstract. This study aims to determine the tensile strength of composite fibers of banana and pineapple. Mixed fiber composites use polyester resin as the binding matrix. The research sample was made by varying the fiber concentration with a matrix using mass fractions ((10:90)%, (20:80)%, (30:70)%, (40:60)% and (50:50)%). From the results of tensile strength testing, betel fiber composites with fiber (50: 50)% concentration is the best fiber because it has a maximum stress of 15.422 Mpa, elasticity modulus of 1350.5 MPa, elongation of 0.0402 mm and break point value of 0, 0048. This tensile strength value is greater than the standard SNI 03-2105 which is a minimum of 8 MPa and higher than previous researchers who use natural fiber.

Keywords: composite of banana and pineapple fiber

1. Introduction

The progress of science and technology has resulted in pollution that disrupts human comfort and health. One of the most common pollution is noise or noise pollution, especially for buildings or buildings that are close to the highway. To overcome this, various types of sound absorbing materials were developed, to create buildings or buildings with certain acoustic characteristics so as to create comfort and be able to reduce noise caused.

The materials commonly used as sound absorbers are fibers, both natural fibers and synthesis. When compared with synthetic fibers, natural fibers are more profitable to develop. This is because natural fibers are made from materials that are easily obtainable, are biodegradable or can be broken down again if they are damaged or cannot be used anymore and the manufacturing process is not complicated and economical. The development of natural fiber composites not only includes the development of natural fibers in the form of fiber composites and composite structures as described previously. Natural fiber research also exists in the form of particle composites. The results of this study indicate that the optimum composition is achieved by adding 6% (volume) of empty oil palm bunches fiber [1].

Natural fiber which has great potential to be developed as a natural fiber material is banana fiber. The results of the study of banana fiber composites are able to absorb sound with a sound absorption coefficient of 0.84 at a fiber volume fraction of 50%, this shows that banana stem fiber composites are able to absorb sound well for low frequency and medium frequency, in accordance with ISO 11654: 1997 standards (E) where the sound absorption coefficient of acoustic material is at least 0.15. [2].

In addition to the ability to absorb sound, an important variable that needs to be considered in the manufacture of composites is the mechanical properties of the specimen tensile test. Preliminary research conducted by several researchers, among others, coconut fiber composites with PVAc matrix produced maximum tensile strength in composition (70:30)% by 2 MPa [3], water hyacinth fiber composites produced a maximum tensile strength of 1.7 MPa [4] , banana stem fiber composites with epoxy resin matrix with maximum tensile strength in composition (50:50)% of 10.93 Mpa [5].



E-mail dengan ICTAP 2018

The screenshot shows the Yahoo! Mail interface. The browser address bar displays `mail.yahoo.com/d/search/keyword=ictap/messages/84867.lang=id-ID`. The email subject is "Register ICTAP 2018". The sender is "admin@ictap.web.id" and the recipient is "arisdoyan@yahoo.co.id". The email content reads: "Hello! ARIS DOYAN, PH.D Your abstract has been submitted, please contact us if anyone wants to be asked further, your title1: Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple Fiber for Sound Wave Absorbers your title2: Thank you, Best Regards, ICTAP 2018 Organizing Committee". The interface includes a left sidebar with navigation options like "Tulis", "Email Masuk", and "Folder". A right sidebar shows the sender's profile and an advertisement for "to next".

The screenshot shows the Gmail interface. The browser address bar displays `mail.google.com/mail/u/3/#search/ictap+2018/KtbxLvHLrHwTHKNVcmbkZxpZRDvcdQFzlg`. The email subject is "artikel aris doyan universitas mataram". The sender is "Aris Doyan <aris_doyan@unram.ac.id>" and the recipient is "kepada ictap2018". The email content includes a PDF attachment titled "Mechanical Properties of Composite Polymer Mixture of Banana and Pineapple Fiber for Sound Wave Absorbers" and a document titled "ICTAP 2018 Aris D...". The interface includes a left sidebar with navigation options like "Tulis", "Terjadwal", "Semua Email", and "Spam". A right sidebar shows the sender's profile and a "30 dari 31" indicator.

- Tulis
- Terjadwal
- Semua Email
- Spam 34
- Sampah
- Kategori
- Kalnia label
- Meet
 - Rapat baru
 - Rapat saya
- Hangout
 - Aris +
 - Tidak ada chat terbaru
 - Mulai yang baru

Fwd: Result review from reviewer Kotak Masuk x

ictap ictap <ictap2018@gmail.com> Sen, 22 Okt 2018 04:51
kepada saya
Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris x

----- Forwarded message -----
From: ictap ictap <ictap2018@gmail.com>
Date: Sun, Oct 21, 2018 at 4:58 AM
Subject: Result review from reviewer
To: aris widodo <aris_prof22@gmail.com>

this is sent from the results of the article review, please revise and adjust the template on the web, and be revised immediately.



**THE 8TH INTERNATIONAL CONFERENCE ON THEORETICAL AND
APPLIED PHYSICS (ICTAP) 2018**

Official website: <http://ictap.web.id/>

COMMENTS OF REVIEWER

Register ID: A00001

**Title: Mechanical Properties of Composite Polymer Mixture Of Banana And Pineapple
Fiber for Sound Wave Absorbers**

Instructions for Reviewer

- Please provide an overall assessment of the paper and answers to the following questions.
- Please comment directly in authors paper if necessary

Style, Content and Organization (Please check as appropriate)

1.	Is it clearly presented, well organized, and clearly written?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.	Is the title correlating to the manuscript content?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.	Does the abstract include the important points of the manuscript?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4.	Are references to related work adequate and up to date?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5.	Are the conclusions satisfactory, sounds and justified?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6.	Is the English satisfactory?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Referee's Recommendation

(Please check as appropriate)

- Accepted as it is
- Accepted with minor revision
- Accepted with major revision
- Reject

Comments (in English, please use separate sheet if necessary)

The absorption properties is not measured, so the title must be revised

The sentence is not standard, must be revised even not marked by reviewer
