

<b>Judul Artikel</b>	: Synthesis and Characterization of SnO <sub>2</sub> thin layer with a doping aluminium is deposited on quartz substrates
<b>Penulis</b>	: Aris Doyan, Susilawati, dan Yanika Diah Imawanti
<b>Nama Seminar/Konferensi/Simposium</b>	: The 6th International Conference on Theoretical and Applied Physics
<b>Penyelenggara/Penerbit</b>	: American Institute of Physics
<b>Waktu/Tempat Pelaksanaan</b>	: 19-21 September 2016/Makasar-Indonesia
<b>Halaman</b>	: 020005-1 -020005-7
<b>ISBN/ISSN</b>	: ISBN: 978-0-7354-1469-3
<b>Web Prosiding</b>	: <a href="https://aip.scitation.org/toc/apc/1801/1">https://aip.scitation.org/toc/apc/1801/1</a>
<b>URL Dokumen</b>	: <a href="https://aip.scitation.org/doi/10.1063/1.4973083">https://aip.scitation.org/doi/10.1063/1.4973083</a>
<b>DOI</b>	: <a href="http://doi.org/10.1063/1.4973083">http://doi.org/10.1063/1.4973083</a>
<b>URL Peer Review</b>	: <a href="http://eprints.unram.ac.id/17378/">http://eprints.unram.ac.id/17378/</a>
<b>URL Dokumen Cek Similarity atau Originality</b>	: <a href="http://eprints.unram.ac.id/17453/">http://eprints.unram.ac.id/17453/</a>
<b>LINK INDEX</b>	: <a href="https://www.scopus.com/authid/detail.uri?authorId=57205535848">https://www.scopus.com/authid/detail.uri?authorId=57205535848</a>
<b>Tanggal/Waktu</b>	: Semester Gasal 2016/2017
<b>Satuan</b>	: 1 Makalah/tahun
<b>Volume Kegiatan</b>	: 1

# Profil Prosiding dan Publisher

← → 🔍 scimagojr.com/journalsearch.php?q=26916&tip=sid&clean=0

\_apps/ Gmail/ YouTube/ Maps/ Gmail/ Edmodo/ Quiz | Edmodo/ Google Scholar/ WhatsApp Web/ Sci-Hub: removing.../ Quiz | Edmodo/ Quiz | Edmodo/ ↗

SJR Scimago Journal & Country Rank

Home Journal Rankings Country Rankings Vis Tools Help About Us

Enter Journal Title, ISSN or Publisher Name

## AIP Conference Proceedings

Country United States   
Subject Area and Category Physics and Astronomy  
Physics and Astronomy (miscellaneous)  
Publisher American Institute of Physics  
Publication type Conferences and Proceedings  
ISBN 0094242X, 15517616  
Coverage 1974-1976, 1988-1984, 1993, 2000-2001, 2008-2020  
Scope Today, AIP Conference Proceedings contain over 100,000 articles published in 1700+ proceedings and is growing by 100 volumes every year. This substantial body of scientific literature is testament to our 40+ year history as a world-class publishing partner, recognized internationally and especially by scientific organizations and societies. Whether you are planning a special issue or organizing an international conference, contact us, or read these testimonials, to find out why so many organizers publish with AIP Conference Proceedings.

Homepage How to publish in this journal Contact Join the conversation about this journal













Citations per document



Chas / Doc (4 years) Chas / Doc (3 years) Chas / Doc (5 years)

Metrics based on Scopus® data as of April 2020

← → 🔍 scimagojr.com/journalsearch.php?q=26916&tip=sid&clean=0

\_apps/ Gmail/ YouTube/ Maps/ Gmail/ Edmodo/ Quiz | Edmodo/ Google Scholar/ WhatsApp Web/ Sci-Hub: removing.../ Quiz | Edmodo/ Quiz | Edmodo/ ↗

Email (will not be published)

Save button robot  

**Submit**

The users of Scimago Journal & Country Rank have the possibility to dialogue through comments linked to a specific journal. The purpose is to have a forum in which general doubts about the processes of publication in the journal, experiences and other issues derived from the publication of papers are resolved. For topics on particular articles, maintain the dialogue through the usual channels with your editor.

Developed by:   Powered by:

Follow us on @ScimagoJR

Scimago Lab Copyright 2007-2020. Data Source: Scopus®

EST MODUS IN REBUS

# Artikel tulisan author yang terbit di AIP Conference Proceedings

Screenshot of the AIP Conference Proceedings website showing the Table of Contents for Volume 1801 (2017).

The page header includes the URL [aip.scitation.org/toc/apc/1801/1](https://aip.scitation.org/toc/apc/1801/1), a search bar, and navigation links for SIGN IN/REGISTER, SEARCH, and CITATION SEARCH.

The main content area features a banner with the text "YOUR WORK ILLUMINATES NEW POSSIBILITIES LET US HELP IT SHINE" and the AIP Publishing logo. Below the banner, the title "AIP Conference Proceedings" is displayed, along with social media icons for Facebook and Twitter, and a "BUY PRINT BOOK" button.

The left sidebar shows a "Browse Volumes" section for Volume 1801, with a "Submit" button. The right sidebar includes a "SIGN UP FOR ALERTS" link and a "DISPLAY" dropdown set to 20 items.

The central "Table of Contents" section displays the following information:

- THE 6TH INTERNATIONAL CONFERENCE ON THEORETICAL AND APPLIED PHYSICS (THE 6TH ICTAP)**
- Conference date: 19–21 September 2016
- Location: Makassar, Indonesia
- ISBN: 978-0-7354-1469-3
- Editors: Dahlang Tahir, Halmar Halide, Tasrief Surungan and Nur Hasanah
- Volume number: 1801
- Published: Jan 10, 2017

The table of contents lists several articles, each with a thumbnail, title, authors, and download options (PDF, E-READER, ADD TO FAVORITES, SHARE, EXPORT CITATION). Some articles are marked as "Free".

Article ID	Year	Title	Authors	Status
2284 (2020)	2020	Synthesis and characterization of SnO <sub>2</sub> thin layer with a doping aluminum is deposited on quartz substrates	Aris Doyan, Susilawati and Yanika Diah Imawanti	Free
2282 (2020)	2020	Preparation and characterization of natural bentonite in to nanoparticles by co-precipitation method	Makmur Sirait, Nurdin Bukit and Nurdin Siregar	Free
2281 (2020)	2020	Effect of growth temperature on structural and electronic properties of ZnO thin films	Dahlang Tahir and Kang Hee Jae	Free
2289 (2020)	2020			
2266 (2020)	2020			
2274 (2020)	2020			
2261 (2020)	2020			
2275 (2020)	2020			
2271 (2020)	2020			
2264 (2020)	2020			
2287 (2020)	2020			
2262 (2020)	2020			
2260 (2020)	2020			
2254 (2020)	2020			

## Synthesis and characterization of SnO<sub>2</sub> thin layer with a doping aluminum is deposited on quartz substrates

Cite as: AIP Conference Proceedings 1801, 020005 (2017); <https://doi.org/10.1063/1.4973083>  
Published Online: 10 January 2017

Aris Doyan, Susilawati, and Yanika Diah Irawanti



### ARTICLES YOU MAY BE INTERESTED IN

[A novel synthesis of tin oxide thin films by the sol-gel process for optoelectronic applications](#)  
AIP Advances 5, 027122 (2015); <https://doi.org/10.1063/1.4909542>

[Structural and optical properties of Cu doped SnO<sub>2</sub> nanoparticles: An experimental and density functional study](#)  
Journal of Applied Physics 113, 233514 (2013); <https://doi.org/10.1063/1.4811374>

[Structural and photoluminescence properties of tin oxide and tin oxide: C core-shell and alloy nanoparticles synthesised using gas phase technique](#)  
AIP Advances 6, 095321 (2016); <https://doi.org/10.1063/1.4964313>



New

Your Qubits. Measured.  
Meet the next generation of quantum analyzers

- Readout for up to 64 qubits
- Operation at up to 8.5 GHz, mixer-calibration-free
- Signal optimization with minimal latency

[Find out more](#)

Zurich Instruments

# Synthesis and Characterization of SnO<sub>2</sub> Thin Layer with a Doping Aluminum is Deposited on Quartz Substrates

Aris Doyan<sup>a)</sup>, Susilawati<sup>b)</sup> and Yanika Diah Imawanti<sup>c)</sup>

*Master of Science Education Program, University of Mataram, Lombok, West Nusa Tenggara, 83125, Indonesia*

<sup>a)</sup>Corresponding author: arisdoyan@yahoo.co.id

<sup>b)</sup>susilawatihamali@yahoo.co.id

<sup>c)</sup>yeanika\_85@yahoo.com

**Abstract.** In this research, SnO<sub>2</sub> and SnO<sub>2</sub>:Al thin films have been successfully deposited on quartz substrates. Starting from Tin (II) chloride dehydrate as precursor, ethanol as solvent, and AlCl<sub>3</sub> as dopant substance. The film was deposited by spin coating method. Structural and morphological analysis was carried out by X-Ray Diffraction (XRD) measurement and Scanning Electron Microscope (SEM). Optical characteristics were analyzed from the study of transmission and absorption spectrum data obtained by UV-Vis Spectrophotometer. Aluminum was added by various concentrations (5%, 10%, and 15%). Transmissions of visible light were better on the low concentrations of Al, but absorptions were low too. The band gap energy was decreased by increasing the Al concentration. From XRD measurement, there were crystal system alterations. They were confirmed that SnO<sub>2</sub> and SnO<sub>2</sub> doped Al have cubic structure (by material phase classification of Al<sub>2</sub>O<sub>4</sub>Sn) because of the substrate compositions contained Al. In this study, XRD pattern indicates that grain size of thin film decreased just after the Al dopant was added. EDX analysis confirms the presence of SnO<sub>2</sub> and Al in thin film material deposited on quartz substrate.

## INTRODUCTION

For decades, nanotechnology is a key priority in the field of science and technology. Nano technology is one of them realized in the form of a thin layer or thin film. A thin layer is made of organic materials, inorganic, metal, or metal-organic mixture of very thin (scale of nanometers to millimeters) and can have the properties of conductors, semiconductors, superconductors, and insulators [1-3]. This thin layer technology already undergone many developments, both in terms of the materials used, method of manufacture, and its application in people's lives since it was introduced by M Faraday, W. Grove, T.A. Edison in 1850 [4,5]. In materials engineering, there has been some metal oxide materials are often used in thin film technology, both pure and that has been doped with other materials [6,7]. Studies on the synthesis and characterization of thin layers has always attracted the attention of researchers because of its application widely in everyday life, both in the field of decoration, construction, and electronics [8,9]. In the field of electronics, thin film used to make semiconductors. The application of thin layers for semiconductors developed in the form of transparent conductive oxides (TCO), capacitors, diodes, transistors and sensors. Application TCO develop rapidly and has been applied to electronic devices such as LCD TVs, Plasma TVs, organic electroluminescence (EL), for example touch screen monitors on automatic teller machine (ATM), ticker vending machines were installed in train stations, car navigation systems, handheld game consoles, mobile phones, and electrodes in solar cells [10-14]. SnO<sub>2</sub> attractive for development because it is transparent to light (the energy gap 3.6 eV) [15], obstacles electricity is low, and has chemical stability is, the price is cheap, is responsive to a number of gas, durable, and requires only a simple electronic device in its application [16].

This research is used to determine the characteristics of SnO<sub>2</sub> thin film material by adding a dopant variations Aluminium (Al). Aluminum is an extrinsic n-type dopant used in thin film technology. This element is the third largest after oxygen and silicon. Aluminum, like copper, silver and gold, has a crystalline structure with atomic arrangement face center cubic surface (fcc).

# E-mail dengan ICTAP 2016

full paper arisdoyan revised AIP

Dari: Aris Doyan (arisdoyan@yahoo.co.id)

Kepada: ictap2016@science.unhas.ac.id

Cc: susilawatihambali@yahoo.co.id

Tanggal: Minggu, 30 Oktober 2016 11.21 WITA

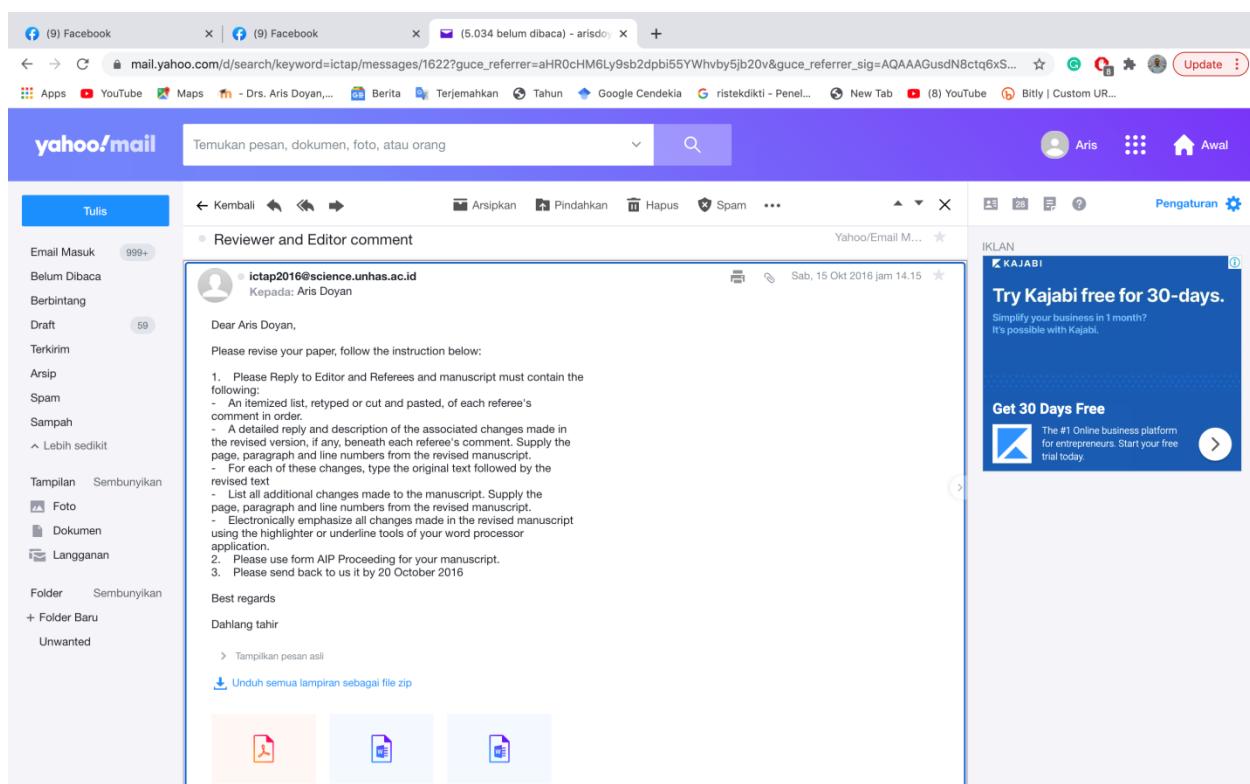
Kepada Yth.  
Bapak Prof. Dr. Dahlang Tahir

Dengan hormat. Bersama surat ini saya doakan bapak selalu sehat wal'afiat dan tidak kurang satu apapun. Pak Prof. Dahlang, saya sudah perbaiki artikel saya sesuai format AIP. Jika ada terdapat kekurangan mohon di informasikan kembali dan saya bersedia untuk perbaiki lagi. terimakasih atas bantuan bapak dan saya senang sekali pergi ke kota makassar karena perjalanan pertama saya ke sana.

wasalam,

Aris Doyan.

 Aris Doyan ICTAP revisi IAP 2016.docx  
581.1kB



Yahoo! mail

Temukan pesan, dokumen, foto, atau orang

Aris

Pengaturan

IKLAN

Try Kajabi free for 30-days.

Simplify your business in 1 month?  
It's possible with Kajabi.

Get 30 Days Free

The #1 Online business platform  
for entrepreneurs. Start your free trial today.

Reviewer and Editor comment

ictap2016@science.unhas.ac.id

Kepada: Aris Doyan

Sab, 15 Okt 2016 jam 14.15

Dear Aris Doyan,

Please revise your paper, follow the instruction below:

1. Please Reply to Editor and Referees and manuscript must contain the following:
  - An itemized list, retyped or cut and pasted, of each referee's comment in order.
  - A detailed reply and description of the associated changes made in the revised version, if any, beneath each referee's comment. Supply the page, paragraph and line numbers from the revised manuscript.
  - For each of these changes, type the original text followed by the revised text.
  - List all additional changes made to the manuscript. Supply the page, paragraph and line numbers from the revised manuscript.
  - Electronically emphasize all changes made in the revised manuscript using the highlighter or underline tools of your word processor application.
2. Please use form AIP Proceeding for your manuscript.
3. Please send back to us it by 20 October 2016

Best regards

Dahlang tahir

> Tampilkan pesan asli

Unduh semua lampiran sebagai file zip

IR01 Aris D... r0ff

AIPFII I P... r0vov

IR01 Aris D... r0ov

Screenshot of a web browser showing multiple tabs open. The main window displays an email message in Yahoo! Mail. The message is from Aris Doyan (<arisdoyan@yahoo.co.id>) to ictap2016@science.unhas.ac.id. The subject is "full paper arisdoyan revised AIP". The message body contains a formal letter in Indonesian, expressing gratitude for feedback and stating that the paper has been revised according to AIP format. It also mentions a file attachment named "Aris Doya...docx". The Yahoo! Mail interface includes a sidebar with navigation links like Tulis, Email Masuk, Belum Dibaca, Berbintang, Draft, Terkirim, Arsip, Spam, Sampah, and Lebih sedikit. The top bar shows various browser extensions and the URL mail.yahoo.com.

Yahoo! mail

Temukan pesan, dokumen, foto, atau orang

Aris

Awal

Tulis

Email Masuk 999+

Belum Dibaca

Berbintang

Draft 59

Terkirim

Arsip

Spam

Sampah

Lebih sedikit

Tampilan Sembunyikan

Foto

Dokumen

Langganan

Folder Sembunyikan

+ Folder Baru

Unwanted

Kembali ← Arsipkan ⌂ Pindahkan ⌂ Hapus ⌂ Spam ⌂ Pengaturan ⌂

full paper arisdoyan revised AIP

Aris Doyan <arisdoyan@yahoo.co.id>  
Kepada: ictap2016@science.unhas.ac.id  
Cc: susilawithambali@yahoo.co.id

Min, 30 Okt 2016 jam 11.21 ★

Kepada Yth,  
Bapak Prof. Dr. Dahlang Tahir

Dengan hormat. Bersama surat ini saya deakan bapak selalu sehat wal'afiat dan tidak kurang satu apapun. Pak Prof. Dahlang, saya sudah perbaiki artikel saya sesuai format AIP. Jika ada terdapat kekurangan mohon di informasikan kembali dan saya bersedia untuk perbaiki lagi. terimakasih atas bantuan bapak dan saya senang sekali pergi ke kota makasar karena perjalanan pertama saya ke sana.

wasalam,

Aris Doyan.

Aris Doya...docx 581.1KB

Balas, Balas ke Semua atau Teruskan

IKLAN

KAJABI Try Kajabi free for 30-days. Simplify your business in 1 month? It's possible with Kajabi.

Get 30 Days Free Build, market, and sell your online courses, membership sites and digital products