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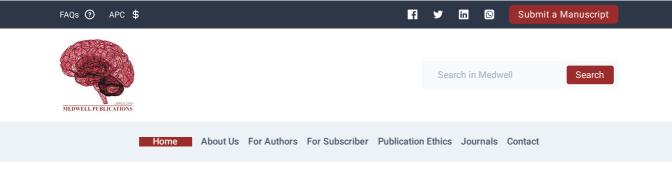
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Tuberculosis is at the top of health problems in the various regions of Sudan, where this disease is associated with poverty and poor environmental and health conditions. Therefore, it spreads among poor communities as well as the displaced. The present study aimed to study patterns

# Gardener's itchy eye turns out to be maggot larvae infestation

#### Posted on Monday June 06, 2022

A 53-year-old man went to a French emergency room complaining of a persistently itchy eye. He told his medical team that earlier that day while gardening be had "felt something enter his right eye."

### Exacerbation of Autoimmune Hemolytic Anemia after COVID-19

Posted on Monday June 13, 2022

Complementary and Alternative Medicine (CAM) use for chronic dermatological conditions is common. However, such usage data in

of tuberculosis infection. A retrospective

Posted on Wednesday July 13, 2022

the South Indian population is lacking. The study aimed to investigate the frequency and types of CAM users among patients with chronic dermatological conditions in a tertiary care South



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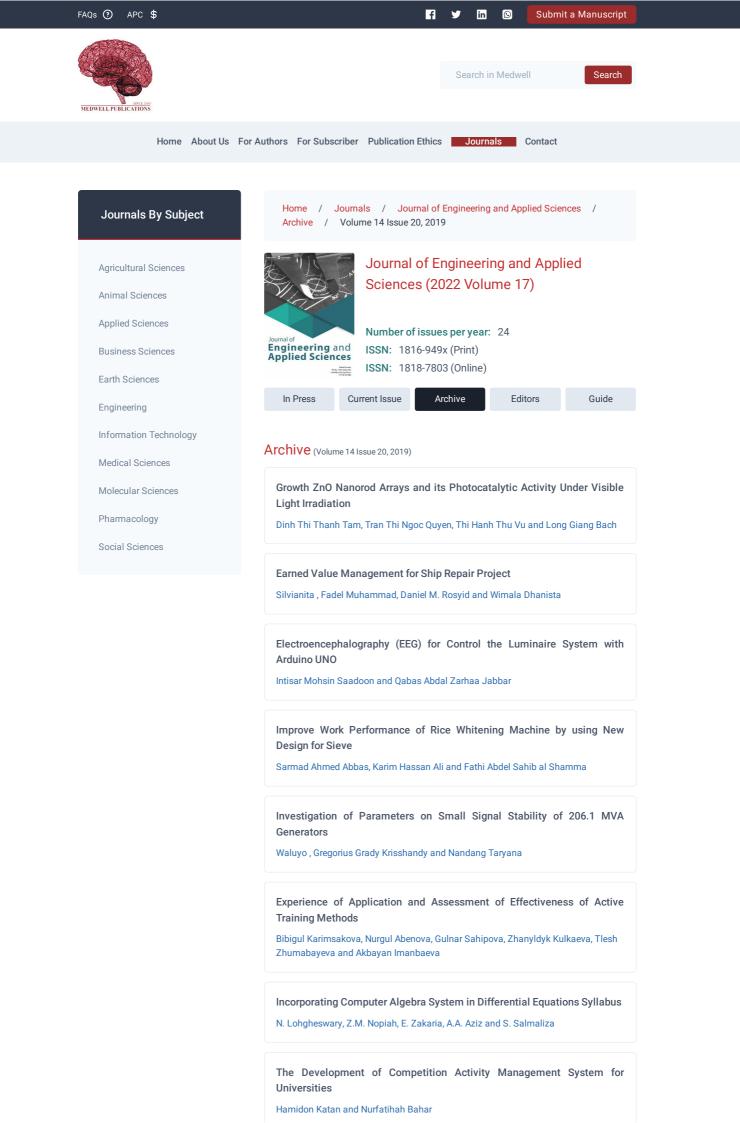
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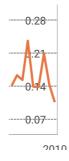
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Scope	Our vision is simple: to partner with researchers and scientific institutes of a literacy, to enable a realization of the full potential of their content in the digit the efficiency of research in our world. Our services are differentiated by the through our comprehensive experience and singular focus on the research s economies of scale and simplified communications of working with a single	tal environment, and to increas scope of research issues, ector. Our clients value the
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Engineering (miscellaneous)

2010

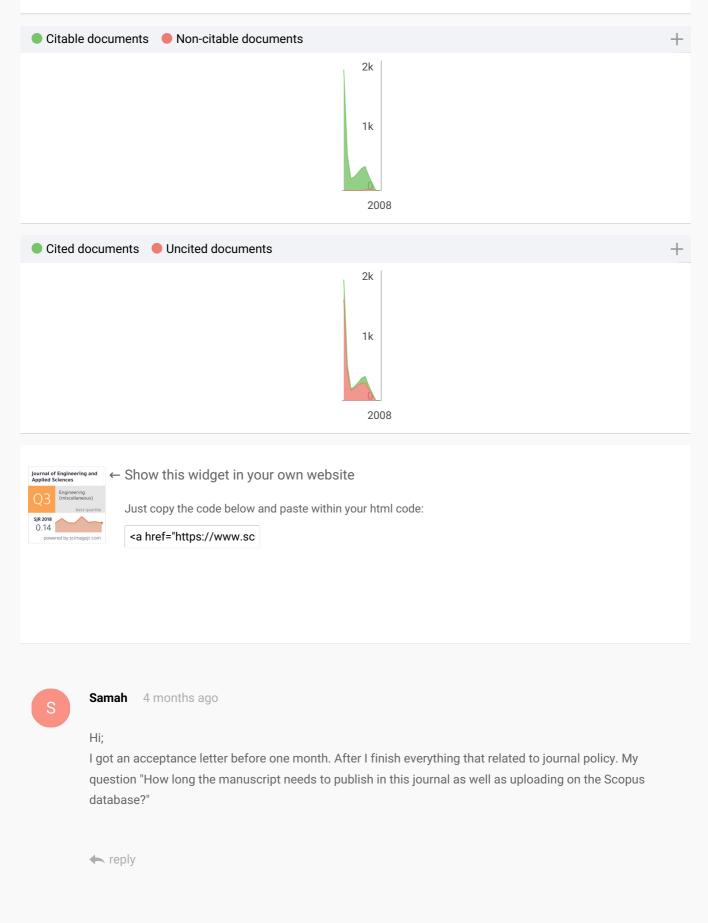
+

SJR





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2008
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D

Dr. Farah 8 months ago

#### Hi Elena

I've just to check if there is any renew for the scopus database now after January 2019) to check if some journals leave the database in this year

#### Best wishes

reply



#### Lulu 4 months ago

If any Query regarding above Journal, Please contact Whatsapp No.91-81898 86138



#### Semin 8 months ago

Dear JEAS,

In year of 2016 we have submit 3 manuscript with author Semin et al. to publish in JEAS. We have revised and paid the processing cost clear. But, until now just 1 paper published in Nov 2017. Unfortunately, this published paper is not indexed in scopus until now.

With this case, we have contacted the editor via website but no response.

If you do not have publish and index in Scopus of our paper, please comeback our money for 3 paper and withdraw 1 paper from your JEAS website in Nov. 2017.

Regards Author

reply



#### Elena Corera 8 months ago

Dear Semin,

sorry, but we cannot help you, you should contact Journal of Engineering and Applied Sciences, you are contacting SCImago Journal and Country Rank.

We hope you find your answer.

Best regards, SCImago Team



#### Nada 8 months ago

I sent by email i will pay the fee and its 600\$ and i some researchers pay 450\$ why different in fees

reply

Aram 10 months ago

#### Dear sir,

How can I check my acceptance paper for publishing?

reply



#### Elena Corera 9 months ago

Please, contact Journal of Engineering and Applied Sciences, you are contacting Scimago Journal and Country Rank. Best,

SCImago Team

#### Nguyen Phuoc Minh 10 months ago

Dear Editor - Journal of Engineering and Applied Sciences,

- Your email on May 25th said that my articles will be published in volume 13, issue 17.

- Your email on October 29th mentioned that my articles will be published in volume 13, issue 23.

- However today I see the issue 23 on your website but I don't see my articles:

36423-JEAS

36425-JEAS

Perhaps you forget my 2 articles??? Or you cheat me??? I so worry about your promise because I paid the publication fee from March 2018.

Would you please let me know exactly the time of publication for following articles: 36423-JEAS, 36425-JEAS? Please remember your emails in the attached files! I want you clarify with me if you can publish my articles on issue 23 or not?

Regards,

reply



#### John Wick 10 months ago

The same situation here, finding journals indexed in Scopus give me probably assurance, but not in this case, after payment they don't answer anymore. I am thinking to re-send the paper else where since this is happening to people and no publication happened yet.



Elena Corera 10 months ago

Thank you for your participation!

Δ



Dear Nguyen Phuoc,

we are so sorry, but we cannot help you. Please, contact Journal of Engineering and Applied Sciences, you are contacting Scimago Journal and Country Rank.

Best,

SCImago Team



Navid 10 months ago

Dear Madam/Sir

I couldn't find the journal, Journal of Engineering and Applied Sciences, in Scopus database. highly appreciated if guide me regarding the matter. Regard,

Navid

reply



Tem 10 months ago

Is this journal a legitimate one? Is it currently listed in Scopus? The comments above make it hard to do business with.

Would you please give comment on the above questions.

reply



Mushtaq A.K. Shiker 10 months ago

Hi every one, I ask about the time of publishing my paper with title (( A modified Technique for Solving Unconstrained Optimization )), I've got ( Acceptance letter on 20 May 2018, you said that it will be publish on November 2018, to date it has not been published, Please I need it to be publish as soon as possible, my university want it to be published.

(Note : This is the third letter that I send to you about this publishing, I've got no response about the first two letters, so please give me response about this letter).

yours sincerely Mushtaq A.K. Shiker

reply

#### Hi,

I tried to submit a manuscript and after one day, I received an email that tells me that my paper has not been uploaded on the server machine successfully and the paper cannot progress to peer review and I was asked for sending the complete article with a cover letter in MSWord format via E-MAIL and after I sent it there was no response yet

reply



Dr. Julius Otutu Oseji 11 months ago

WANT TO FIND OUT IF MY ARTICLE TITLED "GEOELECTRIC ASSESSMENT OF GROUND WATER PROSPECTS AND VULNERABILITY OF OVERBURDENED AQUIFER IN OLEH DELTA STATE, NIGERIA" WAS ACCEPTED FOR PUBLICATION WITHOUT PAPER ID NUMBER AND NO DIRECT PAYMENT INVOICE FROM Journal of Engineering and Applied Sciences. INSTEAD IT WAS TO A PRIVATE ACCOUNT. tHIS LIMITS MY PAYMENT.

reply



Itimad Azzawi 11 months ago

Hi

Could you please inform me if you have an account in scopous or not? because i haرث searched by your ISSN number and gave me 0 results?

#### Best Regards

reply



Elena Corera 11 months ago

Dear Itmad,

thank you for your request, all the journals included in SJR are indexed in Scopus. Elsevier / Scopus is our data provider.

Best Regards, SCImago Team



Irina 12 months ago

I want to publish my paper

V.



Elena Corera 12 months ago

Dear Irina,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you look for author's instructions in journal's website https://www.medwelljournals.com/guidetoauthor.php?jid=1816-949x

Best Regards, SCImago Team



wafaa 1 year ago

#### Dear sir

Regarding my paper "speed control of induction motor using fuzzy logic control", manuscript number 37909. I have sent the fees (450\$) on 9-9-2018 but no reply was sent to me as weather you have received the money, when my paper will be published. I need an answer as soon as possible please. Please reply through my email (wafaa.a.abdullah@gmail.com) Thanks

reply



Hiba 12 months ago

Dear Wafaa, Have you got a reply from the journal?, did they publish your paper? or did they tell you when they are going to publish it?



#### Elena Corera 1 year ago

Dear Wafaa,

thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact journal's editorial staff so they could inform you more deeply. Best Regards, SCImago Team



luaay 1 year ago

I want published my paper

# D

#### Dr. Mohsin Abdullah Al-Shammari 1 year ago

I have submit my manuscript 9 months ago and I have payed the fee of publication and then they sent me the final acceptance letter. Since that time they procrastinating with me about the date of publication.since more than two months they told me that my article will be online with 15 days and no action. four days ago the sent me a final PDF to check the final mirror then I answer them that it is OK and also no answer. I am wondering what is the problem with them.

Note: This was happened with my colleagues in my department(more than four professors)

reply



#### Elena Corera 1 year ago

Dear Dr. Mohsin,

thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact journal's editorial staff so they could inform you more deeply. Best Regards, SCImago Team

karolina 1 year ago

we had been submit our manuscript almost 2 years ago,

first time when i submit, a reviewer seems like make spams everyday to my email for complete as soon as possible payment, he said our paper will publish be publish 6 month, after we pay and sent "proof of payment", i dont know why, they are very slow responds almost 1 month, after that we tried to contact sent to email several time, and they only answer "your payment confirm", till now its not publish yet.

i am not recomended for your all submit your article in this journal, they are just want your money

Regards

Karolina

reply



Zaid Al-Tameemi 1 year ago

Dear Dr I received a acceptance letter for my manuscript A comparative study of DTC-SVM and FOC-SVM techniques of PMSM motor

4 months ago but it hasn't been published right now Regards

reply



Lê Đức Thuân 4 months ago

I want to ask: Has your article been published in Journal of Engineering and Applied Sciences yet?



Mustafa taha 1 year ago

i submit a manuscript and i need to know review process time please tell me the period between submit and get acceptance thanks



Mojtaba Harati 1 year ago

Hi,

I have published a paper in this journal. I should say that the DOI they assigned to my paper doesn't work properly. I have said this problem to the authorities of this journal several times!!!!

They do not respond to me right now, and in this case, I do like to inform you that they are ignoring my request to resolve this problem!!!

Title of the paper:

An Investigation on the Effect of the Near-Fault Earthquakes on the Seismic Behavior of RC Moment Resisting Frames (MRFs) Designed Based on Iranian Seismic Code (Standard No. 2800)

authors: Mojtaba Harati , Ahmad Hojjati Sabet and Ataollah Hajati Modaraei

The DOI that doesn't work: 10.3923/jeasci.2016.274.283

Best regards, Mojtaba Harati

reply



Elena Corera 1 year ago

Thanks for the info!

### ali abdulhassan abbas 1 year ago

The publishing process takes a very long time. May reach up to a full year

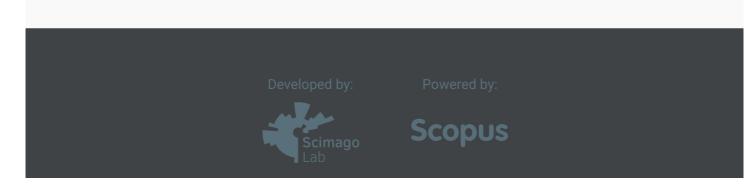
reply



Elena Corera 1 year ago

Dear Ali, we suggest you locate the author's instructions on the journal's website. Best Regards, SCImago Team

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Name	
Email (will not be published)	
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Please upgrade to a supported bro	wser
Please upgrade to a <u>supported bro</u> to get a reCAPTCHA challenge. <u>Why is this happening to me?</u>	
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maintain the dialogue through the usual channels with your editor.

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# Journal of Engineering and Applied Sciences 8

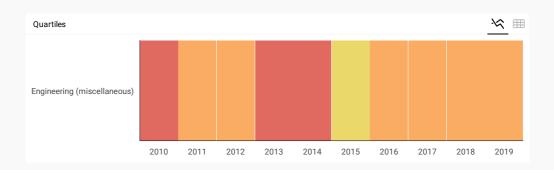
Discontinued in Scopus as of 2019

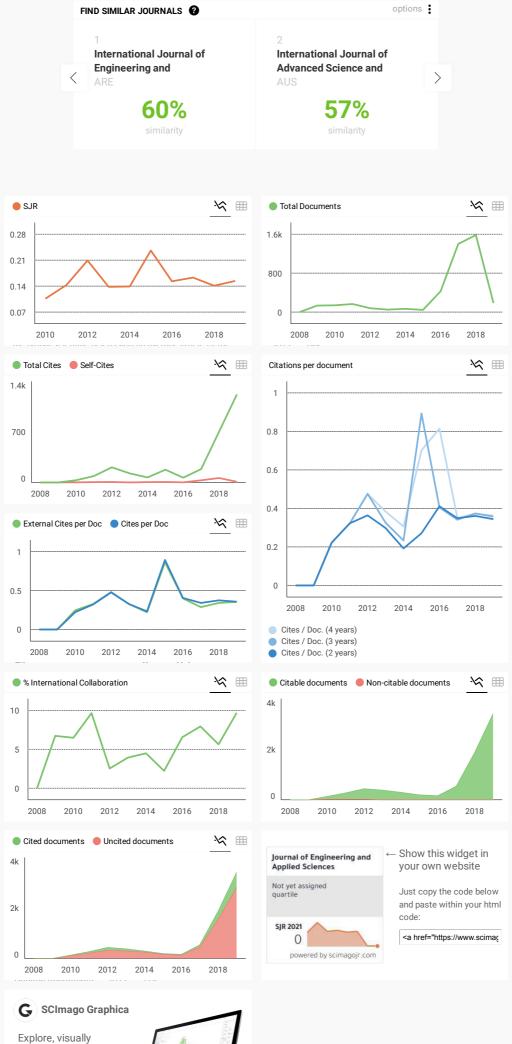
COUNTRY Pakistan Universities and research institutions in Pakistan	SUBJECT AREA AND CATEGORY Engineering └─ Engineering (miscellaneous)
PUBLISHER Medwell Journals	H-INDEX
PUBLICATION TYPE Journals	ISSN 1816949X, 18187803
COVERAGE 2008-2019	

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communicate and make sense of data with our new data visualization tool.



Metrics based on Scopus® data as of April 2022



Ahmed Fadhil 2 years ago

#### Hello

May I know in which month volume 13 issue 10 (2018) of the journal (Journal of Engineering and Applied Sciences) was published? Best regards

k reply



Melanie Ortiz 2 years ago



SCImago Team

Dear Ahmed, thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact the journal's editorial staff so they could inform you more deeply. Best Regards, SCImago Team

A

Ali N. Hamoodi 2 years ago

Dear Sir, Please can you send to me the cite score until 2018 of JEAS Thanks Regards

k reply



#### Melanie Ortiz 2 years ago

Dear Ali, thank you very much for your comment. We suggest you consult the Scopus database directly to see the CiteScore. Best Regards, SCImago Team



Akbar Tizfahm 2 years ago

Hi Dear

We submitted our paper 7 months ago and it is still in the under review stage. How long does it take for them to respond?

Best regards

K reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Akbar,

Thank you for contacting us. Please see comments below.

Best Regards, SCImago Team



ajay kumar 2 years ago

why this journal out of scopus? this is good journal scopus must try to reconsider this journal.

K reply



Melanie Ortiz 2 years ago



Dear Ajay,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support: https://service.elsevier.com/app/answers/detail/a\_id/14883/kw/scimago/supporthub/sc opus/ Best Regards, SCImago Team

Ali Mozaffari 2 years ago

Hi Dear

We have been submitting our paper for almost 6 months and no response has been received from the journal. Please advise how to follow up?

Best regards

reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Ali. thank you for contacting us. Please see comments below. Best Regards, SCImago Team



#### Prince Nweke 2 years ago

Medwell Publications (Journal of Engineering and Applied Sciences) is a wonderful research impact factor journal, very reliable, dedicated, effective, cost friendly and highly applauded. I appreciate your professionalism and being time conscious. Bravo! Assalamu Alaikum! Thank you!!! Prince Nweke O.

University of Nigeria, Nsukka

reply



#### jhon 2 years ago

Scopus must review the decision i am surprised that how this journal can be discontinue as it was working great. too much disappointed i will strongly recommend this journal



Aijay 3 years ago

#### Hello,

I have a paper to publish but i dont know how to go about it. Can I get assistance here.

reply



Marieah 2 years ago

please submit your article after taking these steps, please click http://www.medwelljournals.com/ams register yourself first, user ID and Password than submit your article online

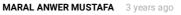


Hi,

Melanie Ortiz 3 years ago

Dear Aijay, thank you very much for your comment, we suggest you look for author's instructions/submission guidelines in the journal's website. Best Regards, SCImago Team

M



I have published a paper almost 14 months ago in this journal. We wont to withdraw the research from the journal. Note that the article is published in your journal. Journal of Engineering and Applied Sciences 14 (Special Issue 8): 10311-10317, 2019 article title: (In the Way of having an Optimum Wireless Ad-Hoc Sensor Networks: Analysis of Deploying Homogeneous and Inhomogeneous Nodes)

K reply



Melanie Ortiz 3 years ago

SCImago Team

SCImado Team

Dear Maral, thank you for contacting us. We are sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus. Unfortunately, we cannot help you with your request, we suggest you contact the journal's editorial staff , so they could inform you more deeply. Best Regards, SCImago Team



MUHTADI 3 years ago

dear ALi.

how many pages maximum allowed ?

📥 reply



MS 3 years ago

Dear SCImago Team, this journal is out of scopus now but still in SJR. so what relation between scopus and SJR. Best Regards

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Sir/Madam,

Thank you for contacting us. Our data come from Scopus, they annually send us an update of the data. This update is sent to us around April / May every year. However, we always suggest our users to consult the Scopus database directly. Keep in mind that the SJR is a static image (the update is made one time per year) of a database (Scopus) which is changing every day. Best Regards, SCImago Team

R

rita sundari 3 years ago

I'm interested in paper publication. If I have a paper, how to submit the paper to this journal ?

	Thanks.
	Sincerely,
	Dr Rita Sundari
	reply
М	Muhammad Kamran 3 years ago
	please submit your article after taking these steps, please click http://www.medwelljournals.com/ams register yourself first, user ID and Password than submit your article online
М	Marieah 3 years ago
	Kindly submit the paper on site www.medwelljournals.com/ams
	SCImago Team
	Melanie Ortiz 3 years ago
	Dear Marieah, thanks for your participation! Best Regards, SCImago Team
M	Mohammed Sabah Ali 3 years ago
	This journal out of scopus
	Melanie Ortiz 3 years ago
	Thanks for your participation! Best Regards, SCImago Team
A	ahmed 3 years ago
	dont submit your paper because this journal is not in scopus anymore
	SCImago Team
	Dear Rita, thank you very much for your comment, we suggest you to look for author's
	instructions/submission guidelines in the journal's website or click on "How to Publish"
	just above. Best Regards, SCImago Team
	Ahmed 3 years ago
	More than one year and my article not getting in Scopus and today I check on the Scopus database
	that the journal is not in scoops any more , you always keep saying soon your paper will be in

scoops

They are a great cheater !!!!!!!!

K reply



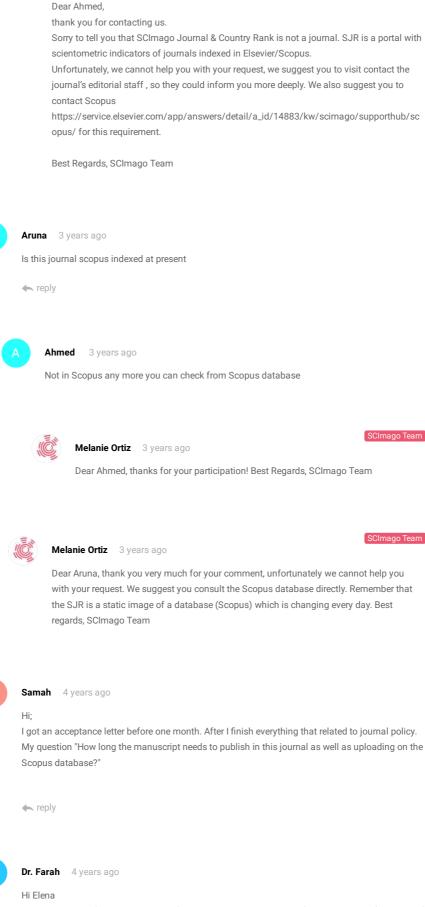
Marieah 3 years ago

Dear Ahmed this journal was discontinue by Scopus in the mid of 2019 after the month of August kindly check the details again carefully.



Melanie Ortiz 3 years ago

SCImago Team



I've just to check if there is any renew for the scopus database now after January 2019) to check if some journals leave the database in this year

Best wishes

K reply





#### Semin 4 years ago

#### Dear JEAS,

In year of 2016 we have submit 3 manuscript with author Semin et al. to publish in JEAS. We have revised and paid the processing cost clear. But, until now just 1 paper published in Nov 2017. Unfortunately, this published paper is not indexed in scopus until now.

With this case, we have contacted the editor via website but no response.

If you do not have publish and index in Scopus of our paper, please comeback our money for 3 paper and withdraw 1 paper from your JEAS website in Nov. 2017.

Regards Author

reply



Elena Corera 4 years ago



Dear Semin,

sorry, but we cannot help you, you should contact Journal of Engineering and Applied Sciences, you are contacting SCImago Journal and Country Rank.

We hope you find your answer.

Best regards, SCImago Team



Nada 4 years ago

I sent by email i will pay the fee and its 600\$ and i some researchers pay 450\$ why different in fees

reply



Aram 4 years ago

Dear sir, How can I check my acceptance paper for publishing?

reply



#### Elena Corera 4 years ago

SCImago Team

Please, contact Journal of Engineering and Applied Sciences, you are contacting Scimago Journal and Country Rank. Best, SCImago Team



Nguyen Phuoc Minh 4 years ago

Dear Editor - Journal of Engineering and Applied Sciences,

- Your email on May 25th said that my articles will be published in volume 13, issue 17.
- Your email on October 29th mentioned that my articles will be published in volume 13, issue 23.
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- 36425-JEAS

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36425-JEAS? Please remember your emails in the attached files! I want you clarify with me if you can publish my articles on issue 23 or not?

Regards,

**(**reply



John Wick 4 years ago

The same situation here, finding journals indexed in Scopus give me probably assurance, but not in this case, after payment they don't answer anymore. I am thinking to re-send the paper else where since this is happening to people and no publication happened yet.

SCImago Team

SCImago Team



Elena Corera 4 years ago

Thank you for your participation!



Elena Corera 4 years ago

Dear Nguyen Phuoc,

we are so sorry, but we cannot help you. Please, contact Journal of Engineering and Applied Sciences, you are contacting Scimago Journal and Country Rank.

Best, SCImago Team



#### Navid 4 years ago

Dear Madam/Sir I couldn't find the journal, Journal of Engineering and Applied Sciences, in Scopus database. highly appreciated if guide me regarding the matter. Regard, Navid

k reply



#### Tem 4 years ago

Is this journal a legitimate one? Is it currently listed in Scopus? The comments above make it hard to do business with.

Would you please give comment on the above questions.

reply



#### Mushtaq A.K. Shiker 4 years ago

Hi every one, I ask about the time of publishing my paper with title (( A modified Technique for Solving Unconstrained Optimization )), I've got ( Acceptance letter on 20 May 2018, you said that it will be publish on November 2018, to date it has not been published, Please I need it to be publish as soon as possible, my university want it to be published.

(Note : This is the third letter that I send to you about this publishing, I've got no response about the first two letters, so please give me response about this letter).

yours sincerely Mushtaq A.K. Shiker

K reply

M

#### **Mais** Hi,

4 years ago

I tried to submit a manuscript and after one day, I received an email that tells me that my paper has not been uploaded on the server machine successfully and the paper cannot progress to peer review and I was asked for sending the complete article with a cover letter in MSWord format via E-MAIL and after I sent it there was no response yet

reply



#### Dr. Julius Otutu Oseji 4 years ago

WANT TO FIND OUT IF MY ARTICLE TITLED "GEOELECTRIC ASSESSMENT OF GROUND WATER PROSPECTS AND VULNERABILITY OF OVERBURDENED AQUIFER IN OLEH DELTA STATE, NIGERIA" WAS ACCEPTED FOR PUBLICATION WITHOUT PAPER ID NUMBER AND NO DIRECT PAYMENT INVOICE FROM Journal of Engineering and Applied Sciences. INSTEAD IT WAS TO A PRIVATE ACCOUNT. THIS LIMITS MY PAYMENT.

reply



Itimad Azzawi 4 years ago

Hi

Could you please inform me if you have an account in scopous or not? because i haن searched by your ISSN number and gave me 0 results?

Best Regards

K reply



Elena Corera 4 years ago

SCImago Team

Dear Itmad,

thank you for your request, all the journals included in SJR are indexed in Scopus. Elsevier / Scopus is our data provider.

Best Regards, SCImago Team



Irina 4 years ago

I want to publish my paper

Dear Irina,

K reply



Elena Corera 4 years ago

SCImago Team

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you look for author's instructions in journal's website https://www.medwelljournals.com/guidetoauthor.php?jid=1816-949x

Best Regards, SCImago Team



#### Dear sir

Regarding my paper "speed control of induction motor using fuzzy logic control", manuscript number 37909. I have sent the fees (450\$) on 9-9-2018 but no reply was sent to me as weather you have received the money, when my paper will be published. I need an answer as soon as possible please. Please reply through my email (wafaa.a.abdullah@gmail.com) Thanks

reply



#### Hiba 4 years ago

Dear Wafaa, Have you got a reply from the journal? , did they publish your paper? or did they tell you when they are going to publish it?



Elena Corera 4 years ago



Dear Wafaa,

thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact journal's editorial staff so they could inform you more deeply. Best Regards, SCImago Team

L luaay 4 years ago I want published my paper

K reply



#### Dr. Mohsin Abdullah Al-Shammari 4 years ago

I have submit my manuscript 9 months ago and I have payed the fee of publication and then they sent me the final acceptance letter. Since that time they procrastinating with me about the date of publication.since more than two months they told me that my article will be online with 15 days and no action. four days ago the sent me a final PDF to check the final mirror then I answer them that it is OK and also no answer. I am wondering what is the problem with them. Note: This was happened with my colleagues in my department(more than four professors)

reply



Elena Corera 4 years ago

#### SCImago Tea

Dear Dr. Mohsin,

thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact journal's editorial staff so they could inform you more deeply. Best Regards, SCImago Team

Scimago Team



karolina 4 years ago

we had been submit our manuscript almost 2 years ago,

first time when i submit, a reviewer seems like make spams everyday to my email for complete as soon as possible payment, he said our paper will publish be publish 6 month, after we pay and sent "proof of payment", i dont know why, they are very slow responds almost 1 month, after that we tried to contact sent to email several time, and they only answer "your payment confirm", till now its

not publish yet.

i am not recomended for your all submit your article in this journal, they are just want your money

Regards

Karolina

K reply

Z

Zaid Al-Tameemi 4 years ago

Dear Dr I received a acceptance letter for my manuscript A comparative study of DTC-SVM and FOC-SVM techniques of PMSM motor 4 months ago but it hasn't been published right now Regards

K reply



#### Lê Đức Thuân 4 years ago

I want to ask: Has your article been published in Journal of Engineering and Applied Sciences yet?

М

Mustafa taha 4 years ago

i submit a manuscript and i need to know review process time please tell me the period between submit and get acceptance thanks



Mojtaba Harati 4 years ago

Hi,

I have published a paper in this journal. I should say that the DOI they assigned to my paper doesn't work properly. I have said this problem to the authorities of this journal several times!!!!

They do not respond to me right now, and in this case, I do like to inform you that they are ignoring my request to resolve this problem!!!

Title of the paper:

An Investigation on the Effect of the Near-Fault Earthquakes on the Seismic Behavior of RC Moment Resisting Frames (MRFs) Designed Based on Iranian Seismic Code (Standard No. 2800)

authors: Mojtaba Harati , Ahmad Hojjati Sabet and Ataollah Hajati Modaraei

The DOI that doesn't work: 10.3923/jeasci.2016.274.283

Best regards, Mojtaba Harati

reply



Raheela 3 years ago

I already checked your article DOI but its properly running in medwell site kindly again check. I think you may have misunderstood something.....

-	-
	A
A.	P

Elena Corera 4 years ago

Thanks for the info!

SCImago Team

<u> </u>	/	

ali abdulhassan abbas 4 years ago

The publishing process takes a very long time. May reach up to a full year

4	roply
-	repry



Elena Corera 4 years ago

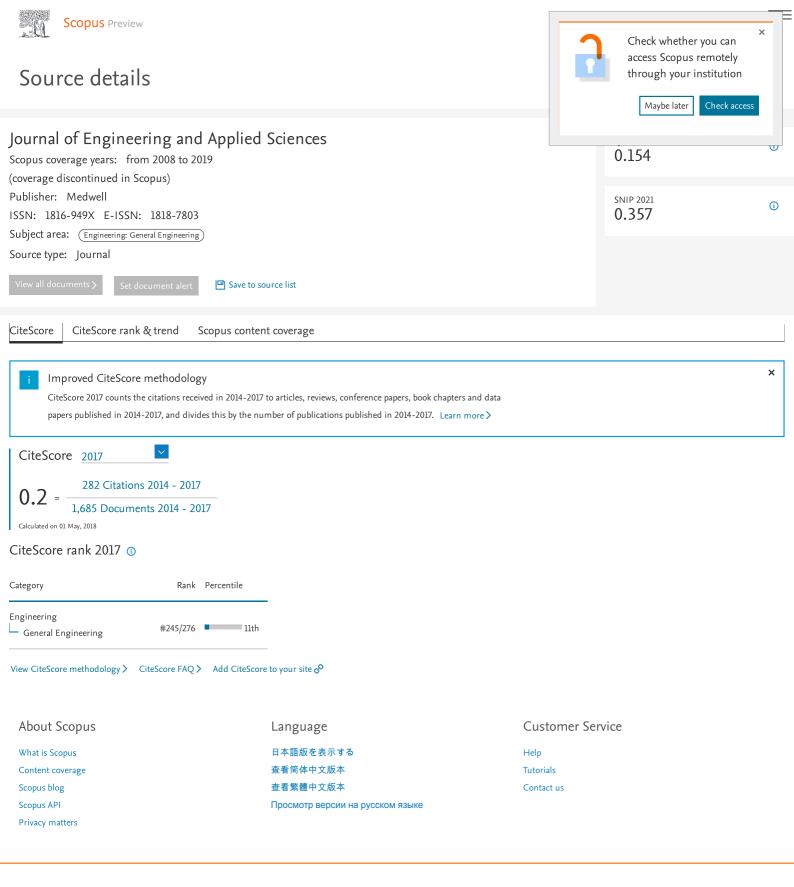
SCImago Team

Dear Ali, we suggest you locate the author's instructions on the journal's website. Best Regards, SCImago Team

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Email (will not be published)		
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Submit		
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journal, experiences and	ther issues derived from the publication of papers are resolved. For topics on particul oque through the usual channels with your editor.	



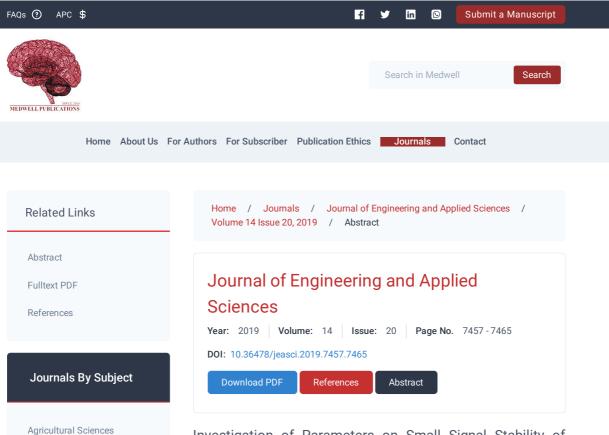
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# Investigation of Parameters on Small Signal Stability of 206.1 MVA Generators

#### Authors : Waluyo , Gregorius Grady Krisshandy and Nandang Taryana

**Abstract:** This research was investigation on small signal stability on two generators. The analyses were based on the single machine infinite bus with the increasing load as 25% of 175 MW and 85 MVAR. It was yielded the damping ratios, oscillating frequencies and stability conditions. Furthermore, it could be calculated the system synchronizing and damping constants. The results for the active and reactive powers and for the terminal and bus voltages in both generators were the same as the oscillating in 8-9.3 sec. The chosen data for the computations were at the time before the increasing load in 7.8 sec with every sampling oscillation as 0.05 sec. The results were the system in asymptote stables with the 0.0043-0.0044 damping ratios, 1.2108-1.2132 Hz for oscillating frequencies, around 1.47 pu torque for synchronizing constant and 0.50 pu torque per changing speed for the damping constant

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#### Investigation of Parameters on Small Signal Stability of 206.1 MVA Generators

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**Abstract:** This research was investigation on small signal stability on two generators. The analyses were based on the single machine infinite bus with the increasing load as 25% of 175 MW and 85 MVAR. It was yielded the damping ratios, oscillating frequencies and stability conditions. Furthermore, it could be calculated the system synchronizing and damping constants. The results for the active and reactive powers and for the terminal and bus voltages in both generators were the same as the oscillating in 8-9.3 sec. The chosen data for the computations were at the time before the increasing load in 7.8 sec with every sampling oscillation as 0.05 sec. The results were the system in asymptote stables with the 0.0043-0.0044 damping ratios, 1.2108-1.2132 Hz for oscillating frequencies, around 1.47 pu torque for synchronizing constant and 0.50 pu torque per changing speed for the damping constant.

Key words: Asymptote stable, damping constant, damping ratio, synchronizing constant, small signal stability, oscillation

#### INTRODUCTION

Stability is a ability of system to remain stable in face of interference. The stability plays an important role in an electric grid system. Therefore, the generation should be remained in a stable condition, both in the face of small and large disturbances. The small disturbances in a generator can disturb the frequency, load and voltage on the system. They are caused by minor changes at the load and generation such as accretion rotor angle due to lack of synchronization and insufficient torque of rotor oscillation damping. The ability of system to be stabilized in the synchronous system due to minor disturbances is called small-signal stability (Kundur, 1994). Stability is the most important constraint in power system operation (Saini et al., 2013; Sabapathi, 2015; Sulistiawati et al., 2012; Gan et al., 2000). A damping of oscillations has been recognized as important in power system operations. Oscillations among generators appeared as soon as the generators operate in parallel and it tend to be continually excited (Grigsby, 2012). The synchronous generator may sometimes be able to withstand a large impact but it may fail to retain synchronism under a small impact due to growing oscillations (Bunnoon, 2013; Maity et al., 2013). The general concepts were associated with applying power system stabilizers utilizing shaft speed, AC bus frequency and electrical power inputs (Ranjan et al., 1993; Vu and Turitsyn, 2016; Amin and Aqilah, 2013; Patel et al., 2002; Salim and Ramos, 2012;

Larsen and Swann, 1981; Pavella *et al.*, 2000). The eigenvalue will influence the limits on power system that contains oscillations due to variety of interactions among components. The small signal stability analysis is very useful due to interaction of distributed energy resources with the utility system. It was possible to improve the small-signal stability margin by including constraints on the eigenvalue real parts. The use of energy storage enhanced the small-signal stability (Lerm *et al.*, 2001; Dong, 1998; Kumar *et al.*, 2009; Ogata, 2002; Gulvender, 2016; Condren and Gedra, 2006; Canizares *et al.*, 2017; Kanchanaharuthai, 2012). The system dynamic behavior can be described by following vector-matrix form (Kundur, 1994):

Where:

$$\mathbf{x} = \begin{bmatrix} \mathbf{x}_1 \\ \dots \\ \mathbf{x}_n \end{bmatrix}, \mathbf{u} = \begin{bmatrix} \mathbf{u}_1 \\ \dots \\ \mathbf{u}_n \end{bmatrix}, \mathbf{f} = \begin{bmatrix} \mathbf{f}_1 \\ \dots \\ \mathbf{f}_n \end{bmatrix}$$

 $\dot{\mathbf{x}} = \mathbf{f}(\mathbf{x}, \mathbf{u}, \mathbf{f})$ 

(1)

The column vector x leads the state vector and its inputs  $x_1$  is a state variable. While, the column vector u declares the input system, t is expressed in its own time and derivative of state variable x with respect to time.

There were many researches those related to stability and voltage collapse, especially, in the Self-Excited Induction Generators (SEIGs) and Doubly Fed Induction Generators (DFIGs) (Rajambal *et al.*, 2009; Sun *et al.*, 2013;

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Shawon *et al.*, 2013; Adachi and Yokoyama, 2016; Shi *et al.*, 2011; Vittal *et al.*, 2009; Mishra *et al.*, 2009; Pozhhana *et al.*, 2016). Nevertheless, this research was focused on the synchronous generators, another type of induction generators.

The research related to small signal stability of generators is need to be further developed. Usually, the analysis on the stability involves only one or some behaviors of parameters and less consider to the real parameters on a generator. Therefore, it was necessary to investigate the more parameters on the small signal stability simultaneously and considering the real generator parameters. The parameters were not dawdled. The objectives of research were to obtain the small signals, based on the 206.1 MVA generator parameters in the form of relationship on the additional incoming load, the output signals of active and reactive powers, the terminal and system bus voltages of generators. Furthermore, it was determined the stability of system during small disturbances, parameters of small signal stability such as synchronous constant, damping constant, damping ratio and the oscillating frequency during small disturbance. Besides that, it was identified the problems of small signal stability values of oscillating frequency in the generation system. The analyzing signal changes of active power, reactive power, voltage terminals and bus voltages during small disturbances using the simulations. The analysis was performed in the machine infinite bus and the two typical generators.

#### MATERIALS AND METHODS

Figure 1 describes the research stages in the analysis of generator small-signal stability shortly. First step, it should be done was to collect the data of generation system.

Furthermore, the system was modeled in a block diagram, that the generator supplied power to the system infinite bus. The next step was simulating the model, where the single line is shown in Fig. 2a.

The data were analyzed by using the simulations, which could then be computed the parameters to form a state matrix. Furthermore, it was obtained the eigenvalues of system and it was known from the real values whether the system was stable or not. If the value was the real negative, the system asymptote was stable, otherwise the system was unstable. It could also, be obtained the value of damping ratio, oscillating frequency, synchronous constant and the damping constant. The model block diagram of small-signal stability can be seen in Fig. 2b. While, the modeling for the excitation system is shown in Fig. 3 (Anonymous, 2015).

In a small-signal stability analysis, it should be noted that the study was conducted when the condition of interruption was in the flow and flux linkage, so that, it

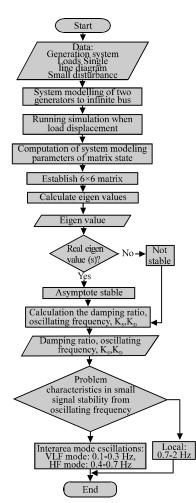


Fig. 1: Flow chart research stages

was need to add an incremental saturation factor. The matrix was mainly influenced by the field changes, revealed as:

$$\mathbf{p} \begin{bmatrix} \Delta \boldsymbol{\varpi}_{r} \\ \Delta \boldsymbol{\delta} \\ \Delta \boldsymbol{\Psi}_{fd} \\ \Delta \boldsymbol{v}_{1} \\ \Delta \boldsymbol{v}_{2} \\ \Delta \boldsymbol{v}_{3} \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & a_{13} & 0 & 0 & 0 \\ a_{21} & 0 & 0 & 0 & 0 & 0 \\ 0 & a_{32(incr)} & a_{33(incr)} & a_{34} & 0 & a_{36} \\ 0 & a_{42} & a_{43} & a_{44} & 0 & 0 \\ a_{51} & a_{52} & a_{53} & 0 & a_{55} & 0 \\ a_{61} & a_{62} & a_{63} & 0 & a_{65} & a_{66} \end{bmatrix}$$
(2) 
$$\begin{bmatrix} \Delta \boldsymbol{\varpi}_{1} \\ \Delta \boldsymbol{\delta} \\ \Delta \boldsymbol{\Psi}_{fd} \\ \Delta \boldsymbol{v}_{1} \\ \Delta \boldsymbol{v}_{2} \\ \Delta \boldsymbol{v}_{3} \end{bmatrix} + \begin{bmatrix} b_{11} \\ 0 \\ 0 \\ b_{51} \\ b_{61} \end{bmatrix} \Delta T_{m}$$

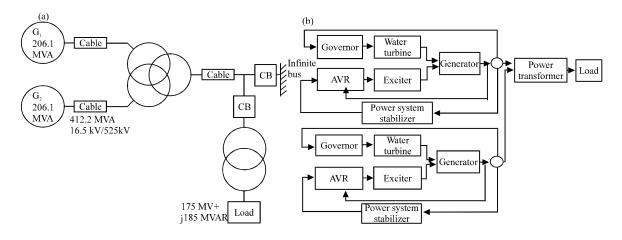


Fig. 2: a) System model of two generators and b) Small signal stability block diagram

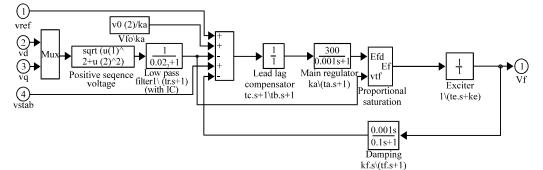


Fig. 3: Block diagram of excitation system

From the eigenvalues of state-matrix, it would be calculated the values of damping ratio and oscillating frequency, so that, the problems could be identified whether as local or global problems. The local problems could be distinguished by two causes, namely when the generator suffered from a rotor angle oscillation, commonly called a local plant mode oscillation and at a fraction generator adjacent experiencing oscillation or called as intermachine or interplant mode oscillation. Both oscillations might be identified by the oscillation frequencies between 0.7 and 2 Hz. Otherwise, the global problem was caused by an interaction among generators largely as an interarea mode oscillation. Based on the oscillation frequencies, it could be divided into two categories as very low and higher frequencies. The former involved all generators in the system with the frequency range between 0.1 and 0.3 Hz and the latter ranged between 0.4 and 0.7 Hz.

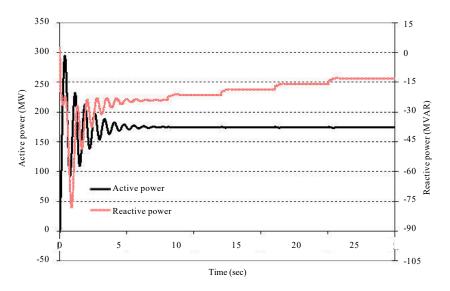
#### **RESULTS AND DISCUSSION**

In this study, it was used two identical generators where the parameters can be listed in Table 1.

Parameters	Values
S (MVA)	206.1
V (kV)	16.5
I (kA)	7.212
f (Hz)	50
pf	0.85 lagging
n	333 (rpm)
Reactance (pu) 1 pu = $1.32 \Omega$	
$X_{ds}$	0.93
X <sub>du</sub>	1.09
$D_d$ '	0.199
X <sub>d</sub> "	0.128
Xq	0.65
X <sub>q</sub> X <sub>d</sub> "	0.151
X <sub>2</sub>	0.142
X <sub>1</sub>	0.134
X <sub>o</sub>	0.105
Time constant (sec)	
T <sub>do</sub> '	12.8
T <sub>d</sub> '	2.22
T <sub>d</sub> "	0.063
Ta	0.20

The small-signal stability calculations were required AVR, exciter and PSS. These parameters were also, identical for two generators as shown in Table 2.

Figure 4 shows that the generator experienced an oscillation when starting in the beginning of the system



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Fig. 4: Active and reactive power charts of generator 1

Table 2: Excitation system and PSS parameters

Parameters	Values
Excitation system	
$T_{t}(sec)$	20×10 <sup>-3</sup>
Ka	300
$T_{a}(sec)$	0.001
K <sub>e</sub>	1
T.	0
T <sub>b</sub> (sec)	0
$T_c(sec)$	0
K <sub>f</sub>	0.001
T <sub>f</sub> (sec)	0.1
E <sub>fmin</sub> (pu)	-11.5
E <sub>fmax</sub> (pu)	11.5
Kp	0
V <sub>to</sub> (pu)	1
V <sub>fo</sub> (pu)	1.0071
PSS	
Sensor time constant	30×10-3
Gain	0.5
Wash-out time constant	2
$T_1$	50×10 <sup>-2</sup>
$T_2$	0.2
V <sub>smin</sub>	-0.2
V <sub>smax</sub>	0.2

in the second 0-7 and that time, there was an additional load on the second of 8, 12, 16 and 20. The active and reactive power oscillations at the baseline or starting were occurred due to plant or system seeking an equilibrium point when connected to the infinite bus. Nevertheless, this oscillation was still within the safe ability limits of system itself. The highest magnitude was occurred on the second of 0.35 as 294.6 MW and at the second of 0.55, decreased as 199.4 MW. This meant that the highest oscillation was occurred for 0.2 sec. For every new equilibrium condition, the system would experience a dense oscillation for 0.08 sec for early adaptation. Otherwise, the reactive power also, experienced an oscillation, however, it had a different behaviour. It tent to increase, especially, on the additional loads at 8, 12, 16 and 20 sec.

The figure described the active power oscillations of the generator 1, due to the additional load of 175 MW and 85 MVAR with the oscillations that more dense from 8-8.06 sec where the rest of oscillations tent to swing down to the steady state in 9.3 sec. This occurrence was caused the system search for a new equilibrium point. The system to warded to the steady state after 1.3 sec oscillation. The active power oscillation itself reached the maximum point of 154.57 MW when in 8.05 sec. In this simulation, the generator 1 and 2 were typical, so, the active power which issued for both generators were the same, when starting and oscillation.

In a contrast to active power that occurred during the dense oscillation of 0.06 sec, the reactive power oscillation signal that was densely occurred during 0.08 sec whether when searching for a new equilibrium state with the largest magnitude of -25.63 MVAR when oscillation in second of 8.05 or -19.168 MVAR when starting. The reactive power of generator 1 was in a leading state because the generator was shortage of reactive power, so that, it utilized amount of reactive power on the infinite bus. Besides that, this case was to keep the voltage in amount corresponding to the infinite bus itself. As load addition, the reactive power also experienced an oscillation as illustrated in the chart.

Figure 5 shows the oscillating crest and trough magnitudes of active and reactive power due to additional loads on seconds of 8, 12, 16 and 20. The oscillating

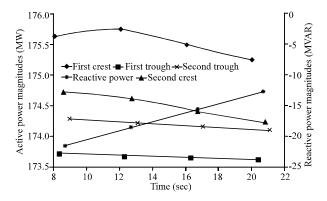


Fig. 5: Oscillating magnitudes of active and reactive powers

magnitudes tentded to decrease as the second of additional loads increased. This case was occurred significantly enough, especially, for the first crest and first trough. This case was also, occurred on the second crest and the second trough of oscillating waves but not so, significant. These occurrences were also, applied for the reactive power ones, however, they were in negative values. Therefore, it was more resistant to the additional loads on the system due to the power in the system would be greater than the previous ones.

Figure 6a describes the speed graph of the generator 1 for 25 sec in which there were the additional loads at the second to 8, 12, 16 and 20 with each rise level as 25% of 175 MW and 85 MVAR. From the figures, it can be seen the starting oscillation occurs because the generator seek a balance in the face of infinite bus. The oscillation itself was occurred the starting for 7 sec from second 0-7, in which the maximum amplitude was equal to around 336.88 rpm. Nevertheless, it was still within safe limits generator. For this condition, there were small oscillations due to additional load on the network 500 kV. One of effects of the minor disturbance was an oscillation in the generator rotor angle which can be shown in Fig. 6b. It shows the oscillations in the generator, either when starting or due to the additional load. When starting, its own oscillation occurs were the minimum of -37.28 and -27.51° of first and second values, respectively where the oscillation occurs during 7 sec. This case was due to the current system was beginning to adjust to the balance of infinite bus system. The rotor small angle oscillation was also, experienced due to the load additions.

Figure 6c describes the magnitude of the voltage on the terminal and bus for the generator 1. When starting, the system voltages were experiencing the oscillations for 7 sec. The oscillations would closer occur during the second of 0-0.08 because like as the previous section that the system adapted to the load condition or in this case, the infinite bus. The greatest amplitudes were occurred in seconds to 0 as 17.1 kV and 540.7 kV for the terminal and bus voltage, respectively. When there were the additional loads at the seconds to 8, 12, 16 and 20, the voltage oscillations were also occurred, although, smaller compared to the starting conditions. The terminal voltage tent to be constant, closed to 16.5 kV. Nevertheless, the bus voltage tended to decrease due to the additional loads to the nominal voltage of 500 kV. The voltage on the system should be kept as the constant value, so that, the expected changes were not significantly influenced by the changes of power.

Figure 7 shows the synchronizing constant, damping constant and oscillating frequency charts of generator 2 due to additional load at second of 8. It is shown that the synchronizing and damping constants were relatively constant. The rotor oscillating frequency would vary slightly due to additional loads.

The oscillation due to the load addition was not too large because the voltage must be kept to its reference of infinite bus. The highest signal voltage amplitude at the second of 8.55 as 0.9997 pu or 16.494 kV. While the time required returning to the steady state was 1.3 sec.

Actually, the phase angle due to the load addition did not change significantly because basically, the power factor for this system on the network was constantly kept, so that, the angle did not change too. The smallest voltage, phase angle was at 8.3 sec as  $9.057^{\circ}$  and the highest one as  $9.16^{\circ}$ . Thus, the difference between the largest and smallest angles was  $0.103^{\circ}$ . The terminal voltages for both generators and both starting and oscillating conditions were same, due to both generators were identical.

The  $E_B$  bus voltage oscillating chart was occurred when the starting because the system searched for the appropriate voltage to the condition on the infinite bus. The oscillation was also, occurred when there was an additional load, however, it was not too significant. This phenomenon could be attributed to the system that would keep  $E_B$  voltage remained constant, since, the voltage was the reference to be kept. The oscillation was occurred when starting for 3 sec from 0-3 sec with the dense oscillation was occurred during 0.08 sec with the maximum amplitude of 1.03 pu or 540.8 kV. When there was an additional load, it would yield the oscillation from 8-9.3 sec or during 1.3 sec.

Nevertheless, that interesting one, it was occurred small voltage drop of 0.001 pu or 500 V, due to the load addition. The phase angle bus voltage of 500 kV did not change significantly due to the load addition because the power factor was kept to be constant. This was evidenced

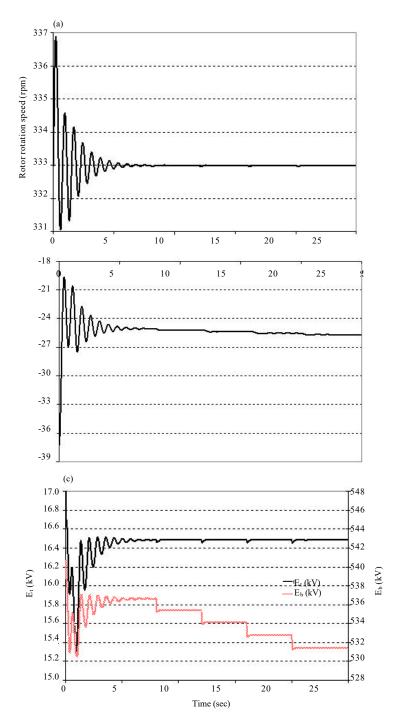


Fig. 6: a) Rotor rotation speed; b) Rotor angle and c) Terminal and bus voltage charts

by the smallest angle of  $30.29^{\circ}$  at 8.25 sec and the largest angle of  $30.38^{\circ}$  at 8.00 sec. Thus, the difference between the largest and smallest angles was  $0.09^{\circ}$ .

The speed chart of the generator 1 was one of the parameters that the system was whether stable or not. It could be seen from the rotation generator when in the face of large system or fault. In this case, it was the addition of load on the network system of 500 kV, 175 MW and 85 MVAR. The oscillation for the starting occurrence within 3.5 sec from zero to 3.5 sec in which the maximum speed was equal to 1.008 pu or 335.7 rpm. Where, it was still within safe limits.

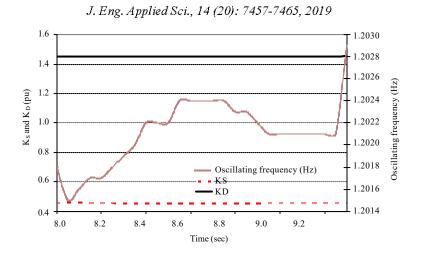


Fig. 7: Synchronizing constant, damping constant and oscillating frequency charts of generator 2 due to additional load at second of 8

1 able 5: Synchronizing and damping constants and oscinating frequency			
t (sec)	K <sub>S</sub> (pu)	K <sub>D</sub> (pu)	Oscillation frequency (Hz)
8.00	1.4771	0.5368	1.2121
8.05	1.4732	0.5395	1.2015
8.10	1.4735	0.5365	1.2017
8.15	1.4737	0.5336	1.2108
8.20	1.4738	0.5316	1.2108
12.00	1.4779	0.5277	1.2125
12.05	1.4779	0.5321	1.2125
12.10	1.4751	0.5293	1.2113
12.15	1.4758	0.5261	1.2113
12.20	1.4757	0.5239	1.2116
16.00	1.4797	0.5190	1.2132
16.05	1.4761	0.5229	1.2117
16.10	1.4766	0.5205	1.2119
16.15	1.4772	0.5175	1.2122
16.20	1.4780	0.5149	1.2125
20.00	1.4814	0.5103	1.2139
20.05	1.4778	0.5137	1.2124
20.10	1.4783	0.5115	1.2126
20.15	1.4788	0.5090	1.2128
20.20	1.4796	0.5067	1.2132

Because the load addition, the generator should supply more power than the previous one and lead generators must achieve the appropriate rotation speed, so that, the power could be well supplied and the speed of generator back to its steady state at the second to 9.3. The generators of 1 and 2, in this simulation were identical, so that, the speed of generator rotor was the same when both starting and oscillation.

In the calculations of small signal, it would be divided into several periods based on the oscillation chart. As a reference of small signal stability, the calculations on the initial conditions were done immediately before the load addition, in this case, in the second to 7.8. Then, it was resumed, when the power calculation was having the oscillation during the additional load of 175 MW and 85 MVAR on the 500 kV network. The testing with this load was based on the notion that small-signal stability was the ability of plant to maintain stability against small disturbances where the minor annoyances were disorders that could be linearized. The amount of additional load of 175 MW based on the ability of generator nameplate as 206.1 MVA with 0.85 pf lagging, so that, it was obtained 175 MW of power. Based on these data, the ability of current generator should be able to supply the infinite load bus and then there was the additional load. By effects of the load oscillations, there were evident from the charts of the figures, it could be expressed as minor nuisances because the minor disturbances could be changes of load, on the load or generating side in random, slow or fall-rise with its influence on the power flow was not significant.

As the samples on the results of eigenvalues, the second and third eigenvalues were complex numbers with a value of -0.0286+7.5481 i and -0.0285-7.5481 i where the real numbers stating the magnitude of damping in the system while the imaginary values were associated with the magnitude of damped oscillation frequency in the system when an increase in amplitude of oscillation. It could be determined the magnitude of damping ratio  $\zeta$  as 0.0038. The damping ratio determined the amount of deficiency or amplitude anomaly when an oscillation occur. It was also, obtained magnitude of the oscillation frequency to identify the problems in the mode of second to 7.8 as 1.2013 Hz. From these results, it could be stated that the problem were inter-machine or inter-plant mode oscillations.

To determine the synchronization and damping constants of the system those were influenced by the excitation system and PSS, it was required calculation analysis of each component with s = -0.0285+7.5481i. The synchronization constant was influenced by the

magnitude of phase angle difference and the attenuation constant helped system to remain at actual speed. It meant the two components helped the system to stay in synchronous state during the change of phase angle and helped damping the speed of oscillation system.

Table 3 lists the part of generator oscillating data for calculation of small-signal stability those are indicated by the synchronizing constant, damping constant and the oscillating frequency. The obtained oscillation data were sampled every 0.05 sec. Based on the samples, the first times, seconds to 8, 12, 16 and 20, the values of  $K_s$  and oscillation frequency would rise as the time increased. Otherwise, it was vice versa for  $K_D$ . Nevertheless, the system was still in stable condition.

By the magnitude of current oscillation frequency, the problem could be identified as intermachine or interplant mode oscillations. By the addition of load in increments of 25% of 175 MW and 85 MVA at the seconds to 8, 12, 16 and 20, they were resulting in the differences of K<sub>s</sub>, K<sub>D</sub> and the oscillating frequency. This was caused by every system change was always looking for a new balance point. The oscillation frequency would increase as the synchronizing and damping torque increased. although. exhibited coefficients not significantly. It could be associated with the shape of the signal oscillations were almost the same but the magnitudes were different. Thus, each phase load increased, Ks and KD also, went up to be able to keep the machine in synchronous condition and able to damp the oscillation speed. It meant the two components, AVR and PSS, helped the system to stay in synchronous condition during a change of phase angle and helped to damp the oscillation due to a speed change.

#### CONCLUSION

The disturbance in the simulated small signal applications with load testing out its entry on the second to 8 for 175 MW+j 85 MVAR, resulting oscillations in active power, reactive power, voltage terminal, rotor speed and rotor angle on each generator, so, even with infinite voltage on the bus for 1.3 sec. The charts were generated from both machines as the same due to identical characteristics. From the tests, it was known that the asymptote in the state of stable because based on the calculating results that the system had negative real eigenvalue for each condition. The faced problems were intermachine oscillations or the circumstances in which the two generators oscillated in one area with the oscillation frequency range between 1.2108-1.2132 Hz. When compared to previous additional load, the system had the oscillation frequency of 1.2 Hz which meant that it was smaller than that when the load addition. This case could be overcome by the AVR and PSS, in this test provided the synchronization and the damping constants as 1.47 and 0.50 pu of speed change, respectively. The damping ratios of the system based on the calculations were obtained as 0.0043-0.0044.

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