

**THE 2ND INTERNATIONAL CONFERENCE ON  
HIGH VOLTAGE ENGINEERING AND POWER SYSTEMS  
(ICHVEPS) 2019**

**BALI, OCTOBER, 1<sup>st</sup> - 4<sup>th</sup>, 2019**

**Inna Grand Bali Beach Hotel, Sanur, Bali, Indonesia**



***The 74<sup>th</sup> National Electricity Day 2019***

## ORGANIZED BY



School of Electrical Engineering and Informatics  
Institut Teknologi Bandung, Bandung, Indonesia

## SPONSORED BY



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Website: <http://www.ichveps.org/>


## WELCOMING MESSAGES



Distinguish participants and guests, welcome to Bali, welcome to Indonesia and welcome to The International Conference on High Voltage Engineering and Power System 2019 (ICHVEPS 2019). The conference will be held in Inna Grand Bali Beach Hotel Sanur Bali, Indonesia on 1-4 October 2019. The ICHVEPS 2019 is a biannual conference organized by the School of Electrical Engineering and Informatics, Institut Teknologi Bandung (ITB), Indonesia and sponsored by IEEE Indonesia Section, IEEE Power and Energy Society Indonesia Chapter, IEEE Indonesia Student Branch and PT. PLN (Persero). The conference is designed to be an international forum for exchange ideas, discussion and dissemination of research results and recent technologies in the field of High Voltage Engineering and Power System from power utilities, universities, research institutes as well as industries. The conference received a large number of abstracts/papers submission of more than 186. After review, finally 136 papers from 14 countries (Indonesia, Germany, Malaysia, India, Australia, South Korea, China, Japan, Taiwan, Vietnam, Canada, Italy, USA, and Morocco) were accepted. The papers will be presented in 2 invited plenary sessions and 16 technical sessions. All accepted papers will be sent to IEEE Xplore (and Scopus) and selected papers will be invited to be published in International Journal on Electrical Engineering and Informatics.

I hope ICHVEPS 2019 will provide all of you a fruitful meeting, memorable experience and pleasant stay in Bali

I am looking forward to welcoming you in Bali, Indonesia.

A handwritten signature in black ink, appearing to read 'Suwarno'.

**Prof. Dr. Ir. Suwarno,**  
**General Chairman of ICHVEPS 2019**

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## ABOUT BALI

Indonesia is one of the very few nations on earth to span such a broad spectrum of world history and human civilizations from its ancient Hindu-Javanese temples to Bali's modern luxury resorts, and from the stone-age lifestyle in West Papua to an immense metropolis that is Jakarta. The population of nearly 234 million people is derived from 300 ethnic groups people who speak over 250 distinct languages. The common element is the national language of Bahasa Indonesia



Situated almost smack in the middle of the Indonesian archipelago, Bali is approximately 5,620 sq km (2,170 sq miles) in size with a population of almost 3 million. As one of the eight regencies, Badung is the

urban and commercial center. Here, most tourists spend their holidays at the beach, playing and partying, most often in the tourist enclaves of Nusa Dua, Sanur or Kuta/Legian. But even here, despite blatant commercialism, traditional undercurrents remain.

Bali lies between the islands of Java and Lombok and is one of more than 17,000 islands that makes up the Indonesian Archipelago. Bali is small, stretching approximately 140 km from east to west and 80 km from north to south. Slightly off-center, and running east to west, are a string of volcanic mountains. Lying just 8° south of the Equator, Bali boasts a tropical climate with just two seasons, wet and dry, a year and an average annual temperature of around 28° C. The rich volcanic soil and healthy monsoon season make this island extremely fertile and a range of crops are grown here. The wide and gently sloping southern regions play host to Bali's famed rice terraces, among some of the most spectacular in the world. In the hill, northern coastal regions, mainly coffee, copra, spices, vegetables, cattle, and rice are produced.

The Balinese people have strong spiritual roots and despite the large influx of tourists over the years, their culture is still very much alive. Naturally creative, the Balinese have traditionally used their talents for religious purposes and most of the beautiful works to be seen here, have been inspired by stories from the Ramayana and other Hindu epics. With a reputation as being one of the most beautiful and diverse tourist spots in Asia, Bali attracts almost 1,000,000 visitors a year, from all around the world.



## GENERAL INFORMATION

Indonesia Government had granted visa on arrival favor to 52 countries to be able to purchase the visa on arrival facility upon their arrival in Indonesia's designed "International Gateway" at 15 airports and 21 seaports.

### BUSINESS HOURS

Government offices open at 8 am every day except Sunday, Monday to Thursday the are open to around 3 pm. Fridays to 11.30 and Saturday to 2 pm. Shops in Denpasar and other towns close in the afternoon for a siesta (usually 1 pm to 6 pm) and re-open in the evening until 9 pm.

### CLIMATE

The average temperature in Bali in December is between 28<sup>0</sup>C (82.4) - 30<sup>0</sup>C (86) and the relative humidity is about 88%. There is comparatively little difference between the daytime and nighttime temperatures.

### CURRENCY

Only Rupiah (Indonesian currency) is acceptable at regular stores and restaurants. Certain foreign currencies and major credit cards are accepted by most hotels. Restaurants and souvenirs shops. The exchange rates 1 US\$ is about Rp. 14,000,-

### TRAVELERS CHECK AND CREDIT CARDS

Travelers' checks are accepted by leading banks and hotels in principals cities. The use of travelers' checks in Indonesia is as popular as in any other countries. Dinners Club and American Express, Visa and Master Card are widely accepted at hotel, department stores, shops, restaurants and night clubs. According to the Indonesian banking regulations, payment of credit card should be charged in local currency.

### ELECTRICITY

The electricity used in Indonesia is 220 Volt at 50 Hz.

### SIGHTSEEING

There are various tourist attractions to visit in Bali, from diving sites to sunrise destinations, cultural landmarks, and shopping spots. Some of the most popular ones are Pura Tanah Lot, Mount Batur, Uluwatu Temple, Ubud, and beaches, such as Sanur and Kuta. The interested participants could receive further information from the hotel's front desk.

### IDD (INTERNATIONAL DIRECT DIALING)

Country Code = Indonesia :+62

City Code = Bali :+62-361

For further information please contact ICHVEPS secretariat office.

## REGISTRATION

### Registration Fee

The registration fee includes conference kit, conference proceedings, admission to all sessions, welcoming reception, banquet, lunches, and coffee breaks.

### CONFERENCE PROGRAM :

<b>IEEE Member</b>	USD 300
<b>Non-IEEE Member</b>	USD 350
<b>Overseas Student</b>	USD 250
<b>Local Academia (Lecturer/Student)</b>	IDR 2,500,000

### WORKSHOP PROGRAM :

<b>Overseas Participant</b>	USD 125
<b>Domestic Participant</b>	IDR 1,500,000

## CONFERENCE VENUE

The conference venue of ICHVEPS 2019 is Inna Grand Bali Beach Hotel, Sanur. It is [located](#) on a wide stretch and white sand of Sanur beach, the most complete and competitive resort in Bali, in over 40 hectares, with extensive landscaped gardens around mature trees.

There are some international direct flights to Denpasar – Bali from several countries such as Singapura, China, Japan, Europe, etc.

From Ngurah Rai International Airport to Conference Venue or Inna Grand Beach Bali Hotel, delegates may use a taxi (price to Sanur about IDR 150,000), it will take about 24 minutes. The hotel is only 10 minutes to the traditional art market with a range of recreational facilities.

Sanur, Bali's original seaside, has long been known for its world-class facilities and atmosphere of comfort and privacy. This oasis of luxury offers a wide range of dining and leisure opportunities.



## WORKSHOP PROGRAM

Date : **Tuesday, Oct 1<sup>st</sup>, 2019.**

Time : 09.00 – 17.00

Room : Bali Hai (10<sup>th</sup> Floor, Inna Grand Bali Beach Hotel)

\*Open Registration: 07.30 – 09.00

1 Opening Speech by ICHVEPS2019 General Chair

2



**Prof. Andrea Cavallini**

*University of Bologna, Italy*

“HV Cables: Fundamental, Aging, and Diagnostics”

3



**Prof. Masayuki Hikita**

*Kyushu Institute of Technology, Japan*

“Recent Progress on Electrical Insulation and Diagnosis  
Technology in Gas Insulated Power Apparatus”

4



**Dr. Anita Pharmatrisanti**

*PT. PLN (Persero), Indonesia*

“Asset Management for High Voltage Transmission  
Systems (Case Study: Jawa-Bali)”

5



**Prof. Ahmed Abu Siada**

*Curtin University, Australia*

“Intelligent Trends in Frequency Response Analysis  
Technique”

6

*Lunch Break*

7



**Prof. Guan-Jun Zhang**

*Xi'an Jiaotong University, China*

"High Voltage Engineering in China, Prospect, Problem, and Solution"

8



**Prof. Suwarno**

*Bandung Institute of Technology, Indonesia*

"New Liquid Insulating Materials for High Voltage Transformers"

9



**Jeff Butler, P.E.**

*Hubbell Power Systems, USA*

"Optimization of Transmission Line Design and Insulating Materials"

10

Closing Speech by ICHVEPS2019 General Chair

## CONFERENCE PROGRAM OUTLINE

Date : **Wednesday, October 2<sup>nd</sup>, 2019**

Time	Program	Venue
07.30 – 08.30	Registration	Agung Room (1 <sup>st</sup> Floor)
08.30 – 09.00	Opening Ceremony	Agung Room
09.00 – 10.45	Plenary Invited Lecture Session I	Agung Room
10.45 – 11.00	<i>Coffee Break and Group Photo</i>	
11.00 – 13.00	Plenary Invited Lecture Session II	Agung Room
13.00 – 14.00	<i>Lunch Break</i>	
14.00 – 16.00	Parallel Technical Session I	<i>*See details in each session</i>
16.00 – 16.15	<i>Coffee Break</i>	
16.15 – 18.15	Parallel Technical Session II	<i>*See details in each session</i>
18.15 – 19.00	<i>Break</i>	
19.00 – 21.00	Gala Dinner (Banquet)	Pendawa Stage

Date : **Thursday, October 3<sup>rd</sup>, 2019**

Time	Program	Venue
07.30 – 08.00	Registration	Agung Room (1 <sup>st</sup> Floor)
08.00 – 10.00	Plenary Invited Lecture Session III	Agung Room
10.00 – 10.15	<i>Coffee Break</i>	
10.15 – 12.30	Plenary Invited Lecture Session IV	Agung Room
12.30 – 13.30	<i>Lunch Break</i>	
13.30 – 15.30	Parallel Technical Session III	<i>*See details in each session</i>
15.30 – 15.45	<i>Coffee Break</i>	
15.45 – 17.45	Parallel Technical Session IV	<i>*See details in each session</i>
17.45 – 18.00	Closing Ceremony	Agung Room

## PLENARY INVITED LECTURES

Date : **Wednesday, October 2<sup>nd</sup>, 2019**  
Venue : Agung Room (1<sup>st</sup> Floor, Inna Grand Bali Beach Hotel)  
Moderator : Prof. Suwarno, Dr. Ir. Umar Khayam (ITB, Indonesia)

IN-1



09.00 – 10.00

**Prof. Masayuki Hikita**

*Kyushu Institute of Technology, Japan*

“Electrical Insulation Technology in High Voltage Equipment and Power Electronics Integrated Packaging”

IN-2



10.00 – 10.45

**Ir. Haryanto W.S**

*PT. PLN (Persero), Indonesia*

“Increasing the Security and Reliability of Jawa-Bali Transmission System”

IN-3



11.00 – 12.00

**Prof. Andrea Cavallini**

*University of Bologna, Italy*

“High Voltage Insulation used in Aerospace”

IN-4



12.00 – 13.00

**Prof. Ahmed Abu Siada**

*Curtin University, Australia*

“Power Transformer Dissolved Gas Analysis – Challenges and Opportunities”

Date : **Thursday, October 3<sup>rd</sup>, 2019**  
Venue : Agung Room (1<sup>st</sup> Floor, Inna Grand Bali Beach Hotel)  
Moderator : Prof. Reynaldo Zoro, Prof. Pekik Argo Dahono (ITB, Indonesia)

IN-5



08.00 – 09.00

**Dr. Nanang Hariyanto**

*Bandung Institute of Technology, Indonesia*

“Power System Stability under Penetration of Renewable Energy Sources”

IN-6



09.00 – 10.00

**Prof. Guan-Jun Zhang**

*Xi'an Jiaotong University, China*

“FDS based Non-Uniform Moisture Content Distribution of Oil-Paper Insulation”

IN-7



10.15 – 11.00

**Evy Haryadi, S.T., M.Sc.**

*PT. PLN (Persero), Indonesia*

“Technology Challenges, Research and Development for Reliable and Sustainable Electric Power System”

IN-8



11.00 – 11.45

**Franco D'Alessandro, PhD**

*Lightning Protection International Pty Ltd (LPI), Australia*

“New Approach for Lightning Protection of Substations”

IN-9



11.45 – 12.30

**Prof. Zulkarnain Abdul- Malek**

*Universiti Teknologi Malaysia, Malaysia*

“Lightning Related EMC and Safety of Petrochemical Plants”



## TECHNICAL SESSIONS

<b>ORAL SESSION TS-1</b>	: <i>Insulation Materials and Diagnostics</i>
Date & Time	: Wednesday, October 2 <sup>nd</sup> , 2019, 14.00 – 16.00
Venue	: Agung Room-1
Chair	: <i>Andrea Cavallini (Univ. of Bologna – Italy)</i>
Co-chair	: <i>Moch Dhofir (Univ. Brawijaya – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	118	A Novel Setup to Investigate Partial Discharges in Interfaces Subjected to HVDC Voltages
		<i>D.D. Kurniawan<sup>1</sup>, Suwarno<sup>1</sup>, A. Cavallini<sup>2</sup>, L. Cirioni<sup>2</sup>, and R. Candela<sup>3</sup></i> <i><sup>1</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>2</sup>University of Bologna, Italy</i> <i><sup>3</sup>Prysmian Electronics, Italy</i>
2	67	Maximum Likelihood-based Technique for Accurate Estimation of Time-delay between UHF Signals Radiated from Partial Discharge Sources
		<i>Bhukya Anitha and Chiranjib Koley</i> <i>National Institute of Technology Durgapur, India</i>
3	125	Comparison of The Characteristics and Mechanism of Surface Discharge Occurrence on The Acrylic Surface in Air and Oil Insulation With Circular Plane-Plane Electrodes
		<i>Rian Nurdiansyah and Umar Khayam</i> <i>Bandung Institute of Technology, Indonesia</i>
4	8	The Making Processes of Natural Ester from Palm Oil Through Transesterification Reaction for Transformer Application
		<i>Suwarno, Yulia Erina Sari, and Tjokorda Istri Diah Karisma Dewi</i> <i>Institut Teknologi Bandung, Indonesia</i>
5	143	Partial Discharge Pattern Detected by New Design Partial Discharge Sensors
		<i>Muhammad Sukri Habibi Daulay and Umar Khayam</i> <i>Institut Teknologi Bandung, Indonesia</i>
6	130	The Step of Partial Discharge Pattern Recognition Using Fuzzy Logic
		<i>Lury Amatullah Lumba, Umar Khayam, Lunnetta Safura Lumba, and Claysius Dewanata Widjaja</i> <i>Institut Teknologi Bandung, Indonesia</i>

No.	Paper Submission No.	Title & Authors
7	74	Comparison of Algorithms for Clustering of Partial Discharge Signals under DC Voltage
		<i>Benedikt Hochbrückner<sup>1</sup>, Martin Spiertz<sup>1</sup>, Markus H. Zink<sup>1</sup>, Andreas Küchler<sup>1</sup>, and Karsten Backhaus<sup>2</sup></i> <i><sup>1</sup>University of Applied Sciences Würzburg-Schweinfurt, Germany</i> <i><sup>2</sup>Technische Universität Dresden, Germany</i>
8	65	The Influence of Nanocomposite Filler on the Lifetime Performance of Polypropylene Under Voltage Polarity Reversal
		<i>A. Setiawan<sup>1,3</sup>, P. Seri<sup>2</sup>, A. Cavallini<sup>2</sup>, Suwarno<sup>1</sup>, and H. Naderiallaf<sup>2</sup></i> <i><sup>1</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>2</sup>University of Bologna, Italy</i> <i><sup>3</sup>PT. PLN (Persero), Indonesia</i>

**ORAL SESSION TS-2** : *Asset Management and Energy Business*

Date & Time : Wednesday, October 2<sup>nd</sup>, 2019, 14.00 – 16.00

Venue : Agung Room-2

Chair : *Ahmed Abu Siada (Curtin Univ. – Australia)*

Co-chair : *A.P. Purnomoadi (PT. PLN (Persero) – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	83	Developing Norms for Condition Assessment of High Voltage Apparatus
		<i>A.P. Purnomoadi<sup>1</sup>, H.I. Septyani<sup>2</sup>, B.S. Munir<sup>1</sup>, D.A. Nugraha<sup>1</sup>, and H. Usman<sup>1</sup></i> <i><sup>1</sup>PLN Research Institute, Indonesia</i> <i><sup>2</sup>PLN TJBT UPT Cirebon, Indonesia</i>
2	54	Risk Calculation Formula of the bay in Switchyard to Determine the Main Priority of Maintenance at PLN UIT JBTB
		<i>Daniel B Limbong, Rachel I Silaban, Feri Febriandi, and Bayu Tri Nugroho</i> <i>PT. PLN (Persero) UIT JBTB, Indonesia</i>

No.	Paper Submission No.	Title & Authors
3	132	The Impact of Wall Materials to Reduce Energy Costs for Air Conditioning
		<i>Marwan Marwan</i> <i>Polytechnic State of Ujung Pandang, Indonesia</i>
4	28	Risk Cost Analysis and Impact of Dip Voltage, Case Study of The Food and Beverage Industry in East Java
		<i>Bustani Hadi Wijaya<sup>1</sup> and Nanang Hariyanto<sup>2</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i>
5	104	Optimizing Stakeholder Management: Operational Decision Making for Transformer Replacement
		<i>A.Tryollinna</i> <i>PT. PLN (Persero) UIT JBB, Indonesia</i>
6	127	Risk Assessment Method for Pending Maintenance
		<i>Anna Dwita Paulus Sudin</i> <i>PT. PLN (Persero) UIT JBB, Indonesia</i>
7	156	A Review of Feed-In Tariff Model (FIT) for Photovoltaic (PV)
		<i>Iswan Prahastono<sup>1</sup>, Ngapuli Irmea Sinisuka<sup>1</sup>, Muhammad Nurdin<sup>1</sup>, and Herry Nugraha<sup>2</sup></i> <i><sup>1</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>2</sup>PT. Indonesia Power, Indonesia</i>
8	170	Economic valuation of Efficient Pricing: Case study of Java Bali Power System
		<i>Dzikri Firmansyah Hakam, Evy Haryadi, Harry Indrawan, and Arionmaro Asi Simaremare</i> <i>PT. PLN (Persero), Indonesia</i>

<b>ORAL SESSION TS-3</b>	: <i>Power System</i>
Date & Time	: Wednesday, October 2 <sup>nd</sup> , 2019, 14.00 – 16.00
Venue	: Agung Room-3
Chair	: <i>Dhany Harmeydi Barus (PT. PLN (Persero)– Indonesia)</i>
Co-chair	: <i>Fathin Saifur Rahman (ITB – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	97	Bali Energy Planning: Optimization of Energy Resources for Electrical Generation 2019-2028
		<i>Eldi Firmansyah Nasution, Jakfar Shadiq, Heri Setyo Purnomo, and Joanna Francisca Socaningrum</i> <i>PT. PLN (Persero), Indonesia</i>
2	122	Study of FACTS Implementation to Balance Transmission Line Loading under Steady, Dynamic, and SSR Simulation. Study Case : Suralaya – Balaraja 500 kV
		<i>Fajar Ari Kristianto<sup>1</sup>, Iwa Garniwa<sup>2</sup>, Aristo Adi Kusuma<sup>1</sup>, and Musa Marbun<sup>1</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>Universitas Indonesia, Indonesia</i>
3	148	Study of Increasing Surge Impedance Loading (SIL) and Voltage at DEPOK Substation by Changing TASIK-DEPOK 500 kV Transmission Line's Configuration
		<i>Fajar Tri Wardana<sup>1</sup> and Rudy Setiabudy<sup>2</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>University of Indonesia, Indonesia</i>
4	165	Validation Simulation Model and Stability Analysis of Interconnecting Two Weak Subsystems
		<i>Joko Hartono<sup>1</sup>, Eko Aptono Triyuwono<sup>1</sup>, Didik Fauzi Dakhlan<sup>1</sup>, Rizky Rahmani<sup>2</sup>, Nanang Hariyanto<sup>2</sup>, and Muhammad Nurdin<sup>2</sup></i> <i><sup>1</sup>PLN Research Institute, Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i>
5	106	Integrated Energy and Economic Model for Rooftop Photovoltaics on Distribution System
		<i>Ika Khoirun Nisa<sup>1,2</sup> and Iwa Garniwa<sup>1</sup></i> <i><sup>1</sup>Universitas Indonesia, Indonesia</i> <i><sup>2</sup>PT. PLN (Persero), Indonesia</i>

No.	Paper Submission No.	Title & Authors
6	168	Small Signal Stability Analysis as Impact of System Reconfiguration in Pacitan Sub-system
		<i>Muhammad Ridwan, Joko Hartono, Didik Fauzi Dakhlan, and Eko Aptono Tri Yuwono</i> <i>PLN Research Institute, Indonesia</i>
7	169	System Modeling and Its Effect on State Estimation in Unbalanced Low Voltage Networks in the Presence of Measurement Errors
		<i>Kevin M. Banjar-Nahor<sup>1,3</sup>, Florent Cadoux<sup>1</sup>, Kalle Rauma<sup>2</sup>, Nanang Hariyanto<sup>3</sup>, and Ngapuli Sinisuka<sup>3</sup></i> <i><sup>1</sup>Univ. Grenoble Alpes, France</i> <i><sup>2</sup>TU Dortmund University, Germany</i> <i><sup>3</sup>Institut Teknologi Bandung, Indonesia</i>
8	35	Modelling of Synchronous Generator for Transient Stability in Power System
		<i>Yurika, Suwarno, Gibson HM Sianipar, and Janson Naiborhu</i> <i>Institut Teknologi Bandung, Indonesia</i>

**ORAL SESSION TS-4** : *Renewable Energy*

Date & Time : Wednesday, October 2<sup>nd</sup>, 2019, 14.00 – 16.00

Venue : Baris Room

Chair : *Agus Purwadi (ITB – Indonesia)*

Co-chair : *Ignatius Rendroyoko (PT. PLN (Persero) – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	66	Study of PV Development in Bali Island with 3 Aspects Consideration
		<i>Musa Partahi Marbun, Fajar Ari K., and Anindita Satria Surya</i> <i>PT. PLN (Persero), Indonesia</i>
2	133	Analysis of Waste Power Plant With Steam-Organic Rankine Cycle (S-ORC) Technology Using R245fa, iso-pentana, and R1234ze [E] Working Fluid : Case Study Bandung City
		<i>Bambang Anggoro, Setiyawan Edi Prasetyo, and Burhanuddin Halimi</i> <i>Institut Teknologi Bandung, Indonesia</i>

No.	Paper Submission No.	Title & Authors
3	110	Study and Design of Energy-Saving Solar Lamp in Ciater, Indonesia
		<i>Naftalin Winanti<sup>1</sup>, Giri Angga Setia<sup>1</sup>, Nana Heryana<sup>2</sup>, Handoko Rusiana<sup>1</sup>, and Agus Purwadi<sup>2</sup></i> <i><sup>1</sup>Universitas Jenderal Achmad Yani, Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i>
4	99	Design of Solar Power Plant for Electrical Engineering Department Laboratory
		<i>Handoko Rusiana Iskandar, Eldy Darmawan, Yuda Bakti Zainal, Giri Angga Setia, Naftalin Winanti, and Fauzia Haz</i> <i>Universitas Jenderal Achmad Yani, Indonesia</i>
5	51	Hosting Capacity Analysis for Photovoltaic Rooftop in Indonesia
		<i>Dianing Novita Nurmala Putri<sup>1</sup>, Eddie Widiono Suwondo<sup>2</sup>, Syamsir Abduh<sup>1</sup>, Habibi Husain Arifin<sup>3</sup>, Andrie Syatriawan<sup>4</sup>, and Chairul G Irianto<sup>1</sup></i> <i><sup>1</sup>Universitas Trisakti, Indonesia</i> <i><sup>2</sup>Prakarsa Jaringan Cerdas Indonesia, Indonesia</i> <i><sup>3</sup>Dassault Systèmes, Thailand</i> <i><sup>4</sup>ESDM, Indonesia</i>
6	139	Harvesting Solar Energy by Combining Thermal and Photovoltaic System in Fish Dryer
		<i>Elita Fidiya Nugrahani, Yunita Siti Mardhiyyah, and Ahmad Tavif</i> <i>Universitas Internasional Semen Indonesia, Indonesia</i>
7	107	Study of Feasibility Planning Power Plant Micro Hydro in Kampung Mului, Paser
		<i>Rizky Monica Virgine and Rudy Setiabudy</i> <i>Universitas Indonesia</i>
8	1	One-Hour-Ahead Solar Power Forecasting Using Artificial Neural Networks in Taiwan
		<i>Rois Ahmad Hanafi<sup>1</sup>, Chih-Wen Liu<sup>2</sup>, and Suwarno<sup>3</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>National Taiwan University, Taiwan</i> <i><sup>3</sup>Institut Teknologi Bandung, Indonesia</i>

<b>ORAL SESSION TS-5</b>	: <i>Insulation Materials and Diagnostics</i>
Date & Time	: Wednesday, October 2 <sup>nd</sup> , 2019, 16.15 – 18.15
Venue	: Agung Room-1
Chair	: <i>Masayuki Hikita (Kyushu Inst. of Tech. – Japan)</i>
Co-chair	: <i>Abdul Rajab (Andalas University – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	160	The Investigation of the Hydrophobicity and Flashover strength of Silicon Rubber with Coal Fly Ash (CFA) Micro-Filler
		<i>Tajuddin Waris, Tomohiro Kawashima, Naohiro Hozumi, and Yoshinobu Murakami</i> <i>Toyohashi University of Technology, Japan</i>
2	151	Methods for Remaining Life Prediction of Power Cable based on Partial Discharge with Regard to Loading Factor Calculation and Voltage Variation
		<i>Arpan Zaeni, Umar Khayam, and Deny Viviantoro</i> <i>Institut Teknologi Bandung, Indonesia</i>
3	85	Leakage Currents on the Distribution Post Insulator with Different Profile Factors
		<i>Moch Dhofir, Unggul Wibawa, Rini Nur Hasanah, and Hadi Suyono</i> <i>Universitas Brawijaya, Indonesia</i>
4	68	Algorithms for a Multi-Sensor Partial Discharge Expert System Applied to Medium Voltage Cable Connectors
		<i>Björn Böttcher<sup>1</sup>, Ali Sinai<sup>1</sup>, Matthias Menge<sup>1</sup>, Thomas Gräfl<sup>1</sup>, Ronald Plath<sup>2</sup>, and Thomas Hücker<sup>1</sup></i> <i><sup>1</sup>University of Applied Sciences HTW-Berlin, Germany</i> <i><sup>2</sup>Technische Universität Berlin, Germany</i>
5	47	Temporal Transition of Partial Discharge Characteristics in XLPE Cable Joint Model Taking Account of Long-Term Operation and Deterioration
		<i>Nurchahyo Wibowo<sup>1,2</sup>, Takafumi Mashimo<sup>3</sup>, Toshihiro Takahashi<sup>3</sup>, and Suwarno<sup>1</sup></i> <i><sup>1</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>2</sup>PT. PLN (Persero), Indonesia</i> <i><sup>3</sup>Central Research Institute of Electric Power Industry, Japan</i>

No.	Paper Submission No.	Title & Authors
6	70	Multi-Physical Sensor Fusion Approach For Partial Discharge Detection On Medium Voltage Cable Connectors
		<i>Ali Sinai<sup>1</sup>, Björn Böttcher<sup>1</sup>, Matthias Menge<sup>1</sup>, Thomas Gräf<sup>1</sup>, Ronald Plath<sup>2</sup>, and Thomas Hücker<sup>1</sup></i> <i><sup>1</sup>University of Applied Sciences HTW-Berlin, Germany</i> <i><sup>2</sup>Technische Universität Berlin, Germany</i>
7	38	Observation of Partial Discharge Waveform of Electrical Treeing in Epoxy Resin with Filler
		<i>Totoh Abdul Matin<sup>1,2,3</sup>, Tomohiro Kawashima<sup>1</sup>, Yoshinobu Murakami<sup>1</sup>, Naohiro Hozumi<sup>1</sup>, and Suwarno<sup>2</sup></i> <i><sup>1</sup>Toyohashi University of Technology, Japan</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>3</sup>PT. PLN (Persero), Indonesia</i>
8	29	Development of Real-Time Monitoring and Identification System of Aging Insulators in the Tropics
		<i>Tambi<sup>1</sup>, Salama Manjang<sup>2</sup>, Syafaruddin<sup>2</sup>, and Ikhlas Kitta<sup>2</sup></i> <i><sup>1</sup>Halu Oleo University, Indonesia</i> <i><sup>2</sup>Hasanuddin University, Indonesia</i>

**ORAL SESSION TS-6** : *Power System Automation*

Date & Time : Wednesday, October 2<sup>nd</sup>, 2019, 16.15 – 18.15

Venue : Agung Room-2

Chair : *Deny Hamdani (ITB – Indonesia)*

Co-chair : *Dzikri Firmansyah Hakam (PT PLN Persero – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	155	Information System Management on Asset Management in PT. PLN West Java Transmission Regional
		<i>Ira Mardya Sari and Lia Frisila</i> <i>PT. PLN (Persero), Indonesia</i>



No.	Paper Submission No.	Title & Authors
2	87	Mitigation of Communication Failures on Line Current Differential Relays by adding Automatic Function Switching Logic to Improve Protection System Reliability: Study Case in PT PLN (Persero)
		<i>Nurul Ibnu Majid, Hikmah Prasetya, and Amdid Nopriansyah PT. PLN (Persero), Indonesia</i>
3	98	IoT Application for On-line Monitoring of 1 kWp Photovoltaic System Based on NodeMCU ESP8266 and Android Application
		<i>Handoko Rusiana Iskandar<sup>1</sup>, Marsudiono<sup>1</sup>, Dede Irawan Saputra<sup>1</sup>, Susanto Sambasri<sup>1</sup>, Nana Heryana<sup>2</sup>, Arwindra Rizqiawan<sup>2</sup>, and Agus Purwadi<sup>2</sup></i> <i><sup>1</sup>Universitas Jenderal Achmad Yani, Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i>
4	59	Consideration in Communication Media Selection for Advanced Metering Infrastructure in Indonesia
		<i>Kemas M. Tofani, Kevin Gausultan M., Nur Widi Priambodo, and Buyung S. Munir</i> <i>PLN Research Institute, Indonesia</i>
5	117	Radiated Emissions Anomaly Caused by High Voltage Disturbance of an Optical Network Terminal (ONT) Installation
		<i>Kiswanto and Dian Agung Nugroho</i> <i>PT Telkom Indonesia, Indonesia</i>
6	4	Implementation of Multiple CAASDU IEC-104 Gateway for an Efficient SCADA Communication in PT PLN UP2D Jakarta
		<i>I Gede Nyoman Chidhi A., Eka Dharma Yanthi, and Isti Dwi Hermawati</i> <i>PT. PLN (Persero) UP2D Jakarta, Indonesia</i>
7	149	Automation Of Electricity System PLN UPDL Banjarbaru Using Passive Infrared Sensors
		<i>Soni Asmaul Fuadi and Ario Dwi Prabowo</i> <i>PT. PLN (Persero) UPDL Banjarbaru, Indonesia</i>
8	113	Effect of Distributed Generation on Transformer Ageing in Industrial and Residential Area with High Penetrations of Electric Vehicles (Study Case in Jakarta, Indonesia)
		<i>Yudi Saputra and Suwarno</i> <i>Institut Teknologi Bandung, Indonesia</i>

<b>ORAL SESSION TS-7</b>	: <i>High Voltage Engineering</i>
Date & Time	: Wednesday, October 2 <sup>nd</sup> , 2019, 16.15 – 18.15
Venue	: Agung Room-3
Chair	: <i>Chuangyang Li (Univ. of Bologna – Italy)</i>
Co-chair	: <i>Harry Gumilang (PT. PLN (Persero) – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	172	Spacer Flashover in Humid SF <sub>6</sub> under Different Electrical Stresses
		<i>A.P. Purnomoadi<sup>1</sup>, A. Rodrigo Mor<sup>2</sup>, J.J. Smit<sup>2</sup>, G. Supriyadi<sup>1</sup>, and B.S. Munir<sup>1</sup></i> <i><sup>1</sup>PLN Research Institute, Indonesia</i> <i><sup>2</sup>Delft University of Technology, Netherland</i>
2	10	Novel HVDC Spacers in GIS/GIL by Adaptively Controlling Surface Charges - Insulation Compounding Scheme
		<i>Chuangyang Li<sup>1</sup>, Bo Liu<sup>2</sup>, Jiancheng Wang<sup>2</sup>, Ruilei Gong<sup>2</sup>, Guan Wang<sup>3</sup>, Zhipeng Lei<sup>1</sup>, Davide Fabiani<sup>1</sup>, Chuanjie Lin<sup>4</sup>, and Jun Hu<sup>4</sup></i> <i><sup>1</sup>University of Bologna, Italy</i> <i><sup>2</sup>Shandong Taikai High Voltage Switchgear Co., Ltd., China</i> <i><sup>3</sup>Tai'an Sheng Yuan Powder Co., Ltd., China</i> <i><sup>4</sup>Tsinghua University, China</i>
3	174	Risk Assessment Model for GIS Operating under Tropical Conditions
		<i>A.P. Purnomoadi<sup>1</sup>, D.S. Rahmani<sup>1</sup>, A. Rodrigo Mor<sup>2</sup>, J.J. Smit<sup>2</sup>, and G. Supriyadi<sup>1</sup></i> <i><sup>1</sup>PLN Research Institute, Indonesia</i> <i><sup>2</sup>Delft University of Technology, Netherland</i>
4	94	Asset Wellness Calculation Method of 150 - 500 KV Oil Immersed Power Transformer Using Combination Technical Diagnostic and Risk Assessment
		<i>I Gusti Ngurah Mahendrayana, Rahman Azis Prasajo, Suwarno, and Sinanuri Surawijaya</i> <i>Institut Teknologi Bandung, Indonesia</i>
5	182	Investigating the Impact of Corona Ageing on Physicochemical properties of Natural Ester Oil Nanofluid
		<i>Soumya Thakur and R Sarathi</i> <i>Indian Institute of Technology Madras, India</i>

No.	Paper Submission No.	Title & Authors
6	177	Effect of The Presence of Hole on Metal Enclosed Power Apparatus on Partial Discharge Detected by External Sensor
		<i>Umar Khayam and Mukhlisah Yunus Bandung Institute of Technology, Indonesia</i>
7	178	Effect of Spacer Insulation Material Permittivity on the Electric Field of 150 kV Three-Phase GIS Spacer
		<i>Umar Khayam, Rachmawati, F. Damani, and Syarif Hidayat Institut Teknologi Bandung, Indonesia</i>
8	136	Optimization of Transmission Line Design and Insulating Materials
		<i>Jeff Butler Hubbell Power Systems, Inc., USA</i>

**ORAL SESSION TS-8** : *Renewable Energy Integration*

Date & Time : Wednesday, October 2<sup>nd</sup>, 2019, 16.15 – 18.15

Venue : Baris Room

Chair : *Arwindra Rizqiawan (ITB – Indonesia)*

Co-chair : *Musa Partahi Marbun (PT. PLN (Persero) – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	90	Study and Design of an Off-Grid Hybrid System for Administrative Load at Amaru Village, Asmat, Papua
		<i>Bernardus Galih Dwi Wicaksono, Arga Iman Malakani, Dwi Handoko Arthanto, and Agus Purwadi Institut Teknologi Bandung, Indonesia</i>
2	23	Interconnection Study of Photovoltaic – Battery Storage Hybrid Power Plant in A Coal Mine Microgrid
		<i>Dimas Jalaluddin Ahmad<sup>1</sup>, Dadan Nurafiat<sup>2</sup>, and Nanang Hariyanto<sup>1</sup> <sup>1</sup>Institut Teknologi Bandung, Indonesia <sup>2</sup>PT. Tritama Mitra Lestari (TMLEnergy), Indonesia</i>

No.	Paper Submission No.	Title & Authors
3	128	Synchronous Generator Stability Investigation in Power System with High-Penetration Photovoltaics Under Varying Solar Irradiances
		<i>Muammar Zainuddin<sup>1</sup>, Frengki Eka Putra Surusa<sup>1</sup>, Wayan Eka Sastra Wibawa<sup>2</sup>, Syafaruddin<sup>3</sup>, and Salama Manjang<sup>3</sup></i> <i><sup>1</sup>Universitas Ichsan Gorontalo, Indonesia</i> <i><sup>2</sup>PT. PLN (Persero) UIKL Sulawesi, Indonesia</i> <i><sup>3</sup>Universitas Hasanuddin, Indonesia</i>
4	89	Off-Grid PV System Modeling for Communal Load at Jifak Village-Asmat Regency, Papua Province Based on Matlab/Simulink
		<i>Dwi Handoko Arthanto, Arga Iman Malakani, Bernardus Galih Dwi Wicaksono, and Agus Purwadi</i> <i>Institut Teknologi Bandung, Indonesia</i>
5	157	The Requirement of Indonesian Grid Code Adaptation toward Variable Renewable Energy Penetration (case study: Solar Power Plant in Kupang Sub System)
		<i>Dhany Harmeidy Barus and Rinaldy Dalimi</i> <i>University of Indonesia, Indonesia</i>
6	161	Optimizing Unit Commitment Schemes for Variable RES Power Plant Integration in Microgrid Systems
		<i>Ignatius Rendroyoko, Ngapuli Irmea Sinisuka, and Deddy P Koesrindartoto</i> <i>Institut Teknologi Bandung, Indonesia</i>
7	91	Study and Design of Off-Grid PV Power System in Pirien, Asmat Regency, Papua Province using MATLAB/SIMULINK
		<i>Arga Iman Malakani, Dwi Handoko Arthanto, Bernardus Galih Dwi Wicaksono, and Agus Purwadi</i> <i>Institut Teknologi Bandung, Indonesia</i>
8	31	Increasing Reliability of Coal-Fired Plant by Integrating Battery Energy Storage (Part 1: Heat Rate Side)
		<i>Aditya Eka Purba Sejati and Nanang Hariyanto</i> <i>Institut Teknologi Bandung, Indonesia</i>

<b>ORAL SESSION TS-9</b>	: <i>Insulation Materials and Diagnostics</i>
Date & Time	: Thursday, October 3 <sup>rd</sup> , 2019, 13.30 – 15.30
Venue	: Agung Room-1
Chair	: <i>Bambang Anggoro (ITB – Indonesia)</i>
Co-chair	: <i>Zulkarnain Abdul- Malek (UTM – Malaysia)</i>

No.	Paper Submission No.	Title & Authors
1	123	Characteristics of Surface Discharge around the edges of a circle the PCB on model Plane-plane electrodes in Oil insulation
		<i>Neris Peri Ardiansyah and Umar Khayam Institut Teknologi Bandung, Indonesia</i>
2	140	Voltage Breakdown Characteristics of Transformer Mineral Oil with Varies the Composition of Corn Oil
		<i>Salama Manjang, Ikhlas Kitta, and Abdi Ikhlas Hasanuddin University, Indonesia</i>
3	34	Typical Gas Concentration Values and Typical Rate of Gas Increase on DGA Test in PLN UIT-JBT
		<i>Harry Gumilang PT. PLN (Persero), Indonesia</i>
4	45	Algorithm for Estimating the Degree of Polymerization of Paper Insulation Impregnated with Inhibited Insulating Oil
		<i>Bayu Hadi Nugraha<sup>1</sup>, Tobias Kinkeldey<sup>2</sup>, Tobias Münster<sup>2</sup>, Peter Werle<sup>2</sup>, and Suwarno<sup>3</sup> <sup>1</sup>PT. PLN (Persero), Indonesia <sup>2</sup>Leibniz University Hannover, Germany <sup>3</sup>Institut Teknologi Bandung, Indonesia</i>
5	158	The Effects of Electrical Arc Aging on Dielectric Properties and Partial Discharge Patterns of Natural Ester from Palm Oil
		<i>Yulia Erina Sari, Tjokorda Istri Diah Karisma Dewi, and Suwarno Institut Teknologi Bandung, Indonesia</i>
6	46	Determination of Acidity in Accelerated Aged Insulating Paper, Impregnated with Different Insulating Oil
		<i>Wind Adiat<sup>1,2</sup>, Peter Werle<sup>3</sup>, Tobias Kinkeldey<sup>3</sup>, and Suwarno<sup>1</sup> <sup>1</sup>Institut Teknologi Bandung, Indonesia <sup>2</sup>PT. PLN (Persero), Indonesia <sup>3</sup>Leibniz University Hannover, Germany</i>

No.	Paper Submission No.	Title & Authors
7	142	Application of Circular Patch Microstrip Antenna (CPMA) for Partial Discharge Detector in oil insulation
		<i>Yuda Muhammad Hamdani and Umar Khayam Institut Teknologi Bandung, Indonesia</i>
8	163	Gas Production and Fault Interpretation of Monoesters under Low Thermal Stresses
		<i>A. Rajab, A. Hanalde, Andi Pawawoi Andalas University, Indonesia</i>

**ORAL SESSION TS-10** : *Power Transformer Diagnostics*

Date & Time : Thursday, October 3<sup>rd</sup>, 2019, 13.30 – 15.30

Venue : Agung Room-2

Chair : *Guan-Jun Zhang (Xi'an Jiaotong Univ. – China)*

Co-chair : *Umar Khayam (ITB – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	115	Diagnostic Increasing The Water Content of The Transformers in PLN UPT Karawang
		<i>Dedi Roicandra Sihombing, Yokeu Wibisana, and Master Jan Roy Turnip PT. PLN (Persero) UIT JBT, Indonesia</i>
2	147	Analysis of The Effect of Ambient Temperature and Loading on Power Transformers Ageing (Study Case of 3 <sup>rd</sup> Power Transformer in Cikupa Substation)
		<i>Nur Al Anshari Munir, Yogasmana Al Mustafa, and Fransileo Siagian PT. PLN (Persero), Indonesia</i>
3	154	Diagnostic Magnetic Shunt Anomaly of Power Transformer 150/20 kV 60 MVA at Tambun Substation
		<i>Yokeu Wibisana, Master Jan Roy Turnip, and Dedi Roi Candra Sihombing PT. PLN (Persero) UIT JBT, Indonesia</i>

No.	Paper Submission No.	Title & Authors
4	88	Diagnosis of Power Transformer Condition using Dissolved Gas Analysis Technique: Case Studies at Geothermal Power Plants In Indonesia
		<i>Sinanuri Surawijaya, Rahman Azis Prasajo, Winanda Riga Tamma, I Gusti Ngurah Mahendrayana, and Suwarno Institut Teknologi Bandung, Indonesia</i>
5	150	The Assesment Methode for Detects Root Cause of TDCG Problem at Transformer 70 MVA
		<i>M Afip Nurul Hudah, Agung Satria Andreyansah, and Eko Aptono Tri Yuwono PT. PLN (Persero), Indonesia</i>
6	5	Development of Analytic Hierarchy Process Technique in Determining Weighting Factor for Power Transformer Health Index
		<i>Rahman Azis Prasajo, Achmad Setiawan, Suwarno, Nur Ulfa Maulidevi, and Bambang Anggoro Soedjarno Institut Teknologi Bandung, Indonesia</i>
7	40	Power Transformer Degradation Condition and Insulation Index Estimation Based on Historical Oil Data
		<i>Muhammad Fuad Al Hamdani<sup>1</sup>, Rahman Azis Prasajo<sup>2</sup>, Suwarno Suwarno<sup>2</sup>, and A. Abu-Siada<sup>3</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>3</sup>Curtin University, Australia</i>
8	50	Identification of Ferroresonance on Transformer using Wavelet Transformation
		<i>Lutfhi Lukman Hakim, I Gede Arka Prawira Putra, I Made Yulistya Negara, I Gusti Ngurah Satriyadi Hernanda, Dimas Anton Asfani, and Daniar Fahmi Institut Teknologi Sepuluh Nopember, Indonesia</i>

<b>ORAL SESSION TS-11</b>	: <i>Power System Protection</i>
Date & Time	: Thursday, October 3 <sup>rd</sup> , 2019, 13.30 – 15.30
Venue	: Agung Room-3
Chair	: <i>Evy Haryadi (PT. PLN (Persero) – Indonesia)</i>
Co-chair	: <i>Kevin Marojahan Banjar-Nahor (ITB – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	72	Classification of Faults in a Test Power System using Artificial Neural Network
		<i>Dhruba Kumar and Partha Sarathee Bhowmik National Institute of Technology Durgapur, India</i>
2	129	The Impact of The Auto-reclose using Leader-Follower Control Scheme on Transmission Power System Stability Enhancement
		<i>Wayan Eka Sastra Wibawa<sup>1</sup>, Muammar Zainuddin<sup>2</sup>, Steven Humena<sup>2</sup>, Syafaruddin<sup>3</sup>, and Salama Manjang<sup>3</sup> <sup>1</sup>PT. PLN (Persero) UIKL Sulawesi, Indonesia <sup>2</sup>Universitas Ichsan Gorontalo, Indonesia <sup>3</sup>Universitas Hasanuddin, Indonesia</i>
3	69	Implementation of Over Current Relays with Non-Cascade Scheme on Medium Voltage Switchgear as Busbar Protection: Study Case in PT PLN (Persero) UIT JBB
		<i>Hedi Purwanto, Hikmah Prasetya, and Idam Firdaus PT. PLN (Persero) UIT JBB, Indonesia</i>
4	52	Development of Fault Location for Distributed Parameter Transmission Lines of a Power System
		<i>Duy C. Huynh<sup>1</sup>, Thanh H. Truong<sup>1</sup>, Anh V. Truong<sup>2</sup>, and Matthew W. Dunnigan<sup>3</sup> <sup>1</sup>Ho Chi Minh City University of Technology, Vietnam <sup>2</sup>Ho Chi Minh City University of Technology and Education, Vietnam <sup>3</sup>Heriot-Watt University, United Kingdom</i>
5	9	The Challenge of Automatic Disturbance Analysis Methods : new method of collecting, automating, combining and processing disturbance data
		<i>Reza Widya Hutama PT. PLN (Persero), Indonesia</i>



No.	Paper Submission No.	Title & Authors
6	64	Fault Locator Analysis With Differential Impedance Method
		<i>Alfi Yulianta</i> <i>PT. PLN (Persero) UIT JBT, Indonesia</i>
7	93	Analysis on Fault Location of TCSC Lines with Travelling Wave Method: Korean Case
		<i>Chur Hee Lee<sup>1</sup> and Seung Wan Kim<sup>2</sup></i> <i><sup>1</sup>KEPRI, Korea</i> <i><sup>2</sup>Chungnam National University, Korea</i>
8	55	Case Studies of Magnetizing Inrush Current Effect on Differential & REF Transformer Protection
		<i>Muhammad Fadli Nasution, Fajli Mustafa, and Shaga Shaulgara</i> <i>PT. PLN (Persero) UIT JBB, Indonesia</i>

**ORAL SESSION TS-12** : *Power Electronics*

Date & Time : Thursday, October 3<sup>rd</sup>, 2019, 13.30 – 15.30

Venue : Baris Room

Chair : *Pekik Argo Dahono (ITB – Indonesia)*

Co-chair : *Waluyo (ITENAS – Indonesia)*

No.	Paper Submission No.	Title & Authors
1	43	Active clamped two-switch forward converter with secondary side resonant ZCS
		<i>Chih-Chiang Hua and Cheng-Hao Hsiao</i> <i>National Yunlin University of Science and Technology, Taiwan, R.O.C.</i>
2	171	Analysis and Control of Modified DC-DC Cuk Converter
		<i>Sofyan M. Ilman, Andriazis Dahono, Muhammad Aji, Bintang Antares, Arwindra Rizqiawan, and Pekik A. Dahono</i> <i>Institut Teknologi Bandung, Indonesia</i>

No.	Paper Submission No.	Title & Authors
3	53	An active clamped two switch flyback Zeta converter with reduced switch voltage stress
		<i>Chih-Chiang Hua and Chung-Yu Huang</i> <i>National Yunlin University of Science and Technology, Taiwan, R.O.C.</i>
4	145	dSPACE Improved Direct Torque Control of Induction Motor Using Fuzzy Logic Self-Tuning Proportional Integral Controller For Electric Vehicle Propulsion Chain
		<i>Chaymae Laoufi, Ahmed Abbou, and Mohammed Akherraz</i> <i>Mohammed V University Agdal, Morocco</i>
5	44	Interleaved Voltage-Double Boost PFC With Coupled Inductor
		<i>Chih-Chiang Hua, Li-Kai Chou, Chih-Wei Chuang, and Ching-Chun Chuang</i> <i>National Yunlin University of Science and Technology, Taiwan, R.O.C.</i>
6	26	A DC To DC Step Converter With IC LT 1615
		<i>Cekmas Cekdin<sup>1</sup>, Zainuddin Nawawi<sup>2</sup>, and Muhammad Faizal<sup>2</sup></i> <i><sup>1</sup>Muhammadiyah University, Indonesia</i> <i><sup>2</sup>Sriwijaya University, Indonesia</i>
7	120	Analysis and Control of Cascade Multiphase DC-DC Boost Converters with Very Low Input Current Ripple
		<i>Bintang Antares, Faris H. Makarim, Sofyan M. Iلمان, Arwindra Rizqiawan, and Pekik A. Dahono</i> <i>Bandung Institute of Technology, Indonesia</i>
8	126	Analysis and Control of Modified DC-DC Cuk Converter
		<i>Sofyan M. Iلمان, Andriazis Dahono, Muhammad Aji, Bintang Antares, Arwindra Rizqiawan, and Pekik A. Dahono</i> <i>Bandung Institute of Technology, Indonesia</i>

<b>ORAL SESSION TS-13</b>	: <i>Insulation Materials and Diagnostics</i>
Date & Time	: Thursday, October 3 <sup>rd</sup> , 2019, 15.45 – 17.45
Venue	: Agung Room-1
Chair	: <i>Salama Manjang (Hasanuddin Univ. – Indonesia)</i>
Co-chair	: <i>I Made Yulistya Negara (ITS – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	173	Health Index Model for Gas-Insulated Switchgear Operating in Tropical Environment
		<i>A.P. Purnomoadi<sup>1</sup>, Gugun Bonar M.J.D<sup>1</sup>, A. Rodrigo Mor<sup>2</sup>, J.J. Smit<sup>2</sup>, and B.S. Munir<sup>1</sup></i> <i><sup>1</sup>PLN Research Institute, Indonesia</i> <i><sup>2</sup>Delft University of Technology, Netherland</i>
2	48	Audiosonic Acoustic Detection of Air Corona Discharge based on Fast Fourier Transform
		<i>Mochammad Wahyudi<sup>1</sup>, Tumiran<sup>1</sup>, I Made Yulistya Negara<sup>2</sup>, Noor Akhmad Setiawan<sup>1</sup>, and Bambang Sugiyantoro<sup>1</sup></i> <i><sup>1</sup>Universitas Gadjah Mada, Indonesia</i> <i><sup>2</sup>Institut Teknologi Sepuluh Nopember, Indonesia</i>
3	144	Characteristic of PD Phase Patterns, PD Pulse Sequence Patterns and PD Frequency Spectrum in Air Insulation Measured by RC Detector
		<i>Michael Stevano Sinurat and Umar Khayam</i> <i>Institut Teknologi Bandung, Indonesia</i>
4	162	Research On Hot-Point Temperature Rise Test Of UHV Dc Bushing Under Operation Condition
		<i>Wu Chao, Tang Hao, Zhang Shuqi, Yu Xinru, and Deng Junyu</i> <i>China Electric Power Research Institute, China</i>
5	79	The Influence of Silicon Rubber Cover to the Ampacity and Sagging of Overheadline
		<i>A.P. Purnomoadi, A.S. Alam, and G. Supriyadi</i> <i>PLN Research Institute, Indonesia</i>

No.	Paper Submission No.	Title & Authors
6	73	Proficiency of Double-Exponential Pulse Waveform in Food Treatment through Pulsed Electric Field
		<i>Rai Naveed Arshad<sup>1</sup>, Zolkafle Buntat<sup>1</sup>, M.A.B. Sidik<sup>2</sup>, Arbab Alamgir<sup>3</sup>, Z. Nawawi<sup>2</sup>, and Mohd. Hafizi<sup>1</sup></i> <i><sup>1</sup>UTM, Malaysia</i> <i><sup>2</sup>Universitas Sriwijaya, Indonesia</i> <i><sup>3</sup>University Technology Malaysia, Malaysia</i>
7	39	Finite Element Simulation of a 126 MW Salient Pole Synchronous Generator with Rotor Eccentricity
		<i>Muhammad Muslih Mafruddin<sup>1,2</sup>, Suwarno<sup>2</sup>, and A. Abu-Siada<sup>3</sup></i> <i><sup>1</sup>PT. PLN (Persero), Indonesia</i> <i><sup>2</sup>Institut Teknologi Bandung, Indonesia</i> <i><sup>3</sup>Curtin University, Australia</i>
8	116	The Effect of Thermal Aging on Dielectric Properties and Tracking Erosion Test of Micro Bn Composites
		<i>Yudi Saputra<sup>1,2</sup>, Myungchin Kim<sup>3</sup>, Suwarno<sup>1</sup>, Youngtaek Jeon<sup>3</sup>, and Younghun Byeon<sup>3</sup></i> <i><sup>1</sup>Bandung Institute of Technology, Indonesia</i> <i><sup>2</sup>PT. PLN (Persero), Indonesia</i> <i><sup>3</sup>Chungbuk National University, Republic of Korea</i>

**ORAL SESSION TS-14** : *Transient Phenomena and Protection*

Date & Time : Thursday, October 3<sup>rd</sup>, 2019, 15.45 – 17.45

Venue : Agung Room-2

Chair : Reynaldo Zoro (ITB – Indonesia)

Co-chair : Franco D'alessandro (LPI – Australia)

No.	Paper Submission No.	Title & Authors
1	30	Lightning Protection System of Oil Storage Tank In Tropical Country
		<i>Bryan Denov, Ilham Hendratama, and Reynaldo Zoro</i> <i>Institute of Technology Bandung, Indonesia</i>

No.	Paper Submission No.	Title & Authors
2	96	Current Transformer Challenges : Respond and Improvement for detecting Saturated CT and Reliability Line Current Differential Relay's outside zone fault experience
		<i>Reza Widya Hutama PT. PLN (Persero), Indonesia</i>
3	86	Lightning Protection System in 70 kV Transmission Line in Indonesia
		<i>Reynaldo Zoro, Gde KM Atmajaya, and Bryan Denov Institut Teknologi Bandung, Indonesia</i>
4	137	Lightning Protection System Standardization on Indonesian Railway Operation Facilities
		<i>Ilham Hendratama, Bryan Denov, and Reynaldo Zoro Institut Teknologi Bandung, Indonesia</i>
5	153	Optimal Design of Grounding System Substation, Case Study : 275/150 kV Sigli Substation
		<i>Bambang Anggoro, Rathy Shinta Utami, and Luky Handayani Institut Teknologi Bandung, Indonesia</i>
6	166	Lightning Protection System Analysis on Palembang Light Rail Transit Station
		<i>Farid Pambudi and Reynaldo Zoro Bandung Institute of Technology, Indonesia</i>
7	138	Simulation of Filter and Load Influence on 1-Phase Inverter Against Voltage and Current Harmonic
		<i>Yusran Universitas Hasanuddin, Indonesia</i>

<b>ORAL SESSION TS-15</b>	: <i>Power System Optimization</i>
Date & Time	: Thursday, October 3 <sup>rd</sup> , 2019, 15.45 – 17.45
Venue	: Agung Room-3
Chair	: <i>Nanang Hariyanto (ITB – Indonesia)</i>
Co-chair	: <i>Fathin Saifur Rahman (ITB – Indonesia)</i>

No.	Paper Submission No.	Title & Authors
1	56	Optimizing Under-voltage Load-shedding Using Genetic Algorithm in Microgrid
		<i>Yuli Astriani<sup>1</sup>, GM Shafiullah<sup>2</sup>, and Farhad Shahnia<sup>2</sup></i> <i><sup>1</sup>BPPT, Indonesia</i> <i><sup>2</sup>Murdoch University, Australia</i>
2	95	Implementation of Backward-Forward Sweep Method on Load Model Variation of Distribution Systems
		<i>Giri Angga Setia<sup>1</sup>, Gibson HM Sianipar<sup>2</sup>, Kukuh Samudra<sup>2</sup>, Fauzia Haz<sup>1</sup>, Naftalin Winanti<sup>1</sup>, Handoko R Iskandar<sup>1</sup></i> <i><sup>1</sup>University of Jenderal Achmad Yani, Indonesia</i> <i><sup>2</sup>Institute of Technology Bandung, Indonesia</i>
3	7	Non-dominated Sorting Genetic Algorithm III for Multi-objective Optimal Reactive Power Dispatch Problem in Electrical Power System
		<i>Sabhan Kanata, Suwarno, Gibson Hilman Sianipar, and Nur Ulfa Maulidevi</i> <i>Bandung Institute of Technology, Indonesia</i>
4	61	Novel Runner-Root Algorithm based Maximum Power Point Tracking Approach for Permanent-Magnet Synchronous Generator Direct-Driven Wind Energy Conversion Systems
		<i>Duy C. Huynh<sup>1</sup>, Nam V. Pham<sup>1</sup>, and Matthew W. Dunnigan<sup>2</sup></i> <i><sup>1</sup>Ho Chi Minh City University of Technology, Vietnam</i> <i><sup>2</sup>Heriot-Watt University, United Kingdom</i>
5	100	The Optimization of SVC Placement in Sulselbar Transmission System Using Inertia Weight Particle Swarm Optimization
		<i>Fauzia Haz<sup>1</sup>, Giri Angga Setia<sup>1</sup>, Handoko Rusiana Iskandar<sup>1</sup>, Sri Mawar Said<sup>2</sup>, and Yusran<sup>2</sup></i> <i><sup>1</sup>University of Jenderal Achmad Yani, Indonesia</i> <i><sup>2</sup>Universitas Hasanuddin, Indonesia</i>

No.	Paper Submission No.	Title & Authors
6	103	Optimal Capacitor Placement For IEEE 118 Bus System By Using Genetic Algorithm
		<i>Hartono, Muhammad Azis, and Yusraini Muharni</i> <i>Universitas Sultan Ageng Tirtayasa, Indonesia</i>
7	152	A Literature Survey of Optimization Technique of Unit Commitment Implementation in Microgrid Electricity System With Renewable Energy Sources
		<i>Ignatius Rendroyoko, Ngapuli I Sinisuka, and Deddy P Koesrindartoto</i> <i>Institute Technology of Bandung, Indonesia</i>
8	167	Design of IoT Based Monitoring System for Miniature Smart Grid
		<i>Waluyo, Febrian Hadiatna, Andre Widura, and Rangga Maulana</i> <i>Institut Teknologi Nasional, Indonesia</i>

**ORAL SESSION TS-16** : *High Voltage Engineering*

Date & Time : Thursday, October 3<sup>rd</sup>, 2019, 15.45 – 17.45

Venue : Baris Room

Chair : *R. Sarathi (IIT Madras – India)*

Co-chair : *Arunachalam Natarajan (CSL Silicones – Canada)*

No.	Paper Submission No.	Title & Authors
1	181	Generation of Nickel Oxide Nanoparticles by Wire Explosion Process and Its Interaction with Glucose
		<i>Neelmani<sup>1</sup>, Prem Ranjan<sup>1</sup>, R. Jayaganthan<sup>1</sup>, H. Suematsu<sup>2</sup>, and R. Sarathi<sup>1</sup></i> <i><sup>1</sup>IIT Madras, India</i> <i><sup>2</sup>Nagaoka University of Technology, Japan</i>
2	183	Combating of severe pollution problems on transmission lines without the need for composite insulators
		<i>Arunachalam Natarajan</i> <i>CSL Silicones Inc. Canada, Canada</i>

No.	Paper Submission No.	Title & Authors
3	179	Design Modification of Spacer and Conductor Structure for Reducing Electrical Stress on 150 kV Three-Phase GIS Spacer
		<i>Umar Khayam, Rachmawati, F. Damanik, and Syarif Hidayat Institut Teknologi Bandung, Indonesia</i>
4	180	Improvement of Performance of PD Detector by Modification of Pi-Attenuator Circuit and Ultrawide Band Amplifier
		<i>Umar Khayam and Dede Furqon Nurjaman Institut Teknologi Bandung, Indonesia</i>
5	101	Study on Surface Charge Accumulation Mechanism of DC-GIL Insulator Based on Charge Behavior
		<i>Qiuye Li, Zhousheng Zhang, Ya Wang, Peng Liu, and Shuaichuan Shang Shanghai University of Electric Power, China</i>
6	176	Study of Electromagnetic Effect of 150 kV Transmission Line
		<i>Taufiqurrahman Akmal and Umar Khayam Institut Teknologi Bandung, Indonesia</i>
7	186	Effects of Artificial Tropical Climate Aging on Insulation Performance of Silicone Rubber Polymeric Insulators
		<i>M. Wakhidin and Suwarno Institut Teknologi Bandung, Indonesia</i>
8	185	Comparative Study of Liquid Insulating Materials for High Voltage Transformer
		<i>Alvin Daniel Sorimuda Ritonga, Yulia Erina Sari, and Suwarno Bandung Institute of Technology, Indonesia</i>

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