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Comparison Power Consumption 125 Watts Pump by Using AC and DC Based on Solar Energy

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Abstract

The development of photovoltaic has shown the maturity of technology. The application can already be used as a source of electrical energy and is an environmentally friendly source of electrical energy. The use of PV technology in Indonesia has developed well for the generation of electricity for companies or household units as an alternative energy source. Currently, Indonesia has begun to develop electric car transportation by using batteries, so that it was need inverter equipment which change a direct current to the alternating current. This paper discusses the comparison of power

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7TH ICEVT 2022

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CONFERENCE PROCEEDING

SEPTEMBER 14-16, 2022



WELCOMING MESSAGES



The 6th International Conference on Electric Vehicular Technology (ICEVT) 2019 is organized by the National Center for Sustainable Transportation Technology (NCSTT), Institut Teknologi Bandung, and Universitas Udayana. The 6th ICEVT 2019 will be the part of Automotive Engineering Week 2019 which consists of 11th ASEAN Automobile Safety Forum, 4th International Conference of Sustainable Mobility, and Stop the Crash 2019. Altogether, the event will feature the presentations from all around the world in the newest development in electric vehicle and sustainable mobility research.

The aim of the conference is to provide opportunities for the different areas delegates in the field of Electric Vehicle (EV) technology to exchange new ideas and application experiences and to establish friendly relation among peers for future global collaboration. All accepted and presented papers will be forwarding for consideration to be published in the IEEE Xplore Digital Library (Normally will be indexed in SCOPUS database), and non-presented papers will be publed from submission to IEEE Xplore (Catalog Number: CFP19N65-ART). Selected good quality papers will be considered to be published in International Journal of Sustainable Transportation Technology (IJSTT) with normal review process by the journal editor.

This conference will be held in Four Points by Sheraton Bali, Ungasan Indonesia. Bali is the most popular island holiday destination in the Indonesian archipelago. The island's home to an ancient culture that's known for its warm hospitality. Exotic temples and palaces set against stunning natural backdrops are some of its top attractions. Dining in Bali presents endless choices of local or far-flung cuisine. After sunset, famous nightspots come to life offering exciting clubbing and packed dance floors. Inland, towering volcanoes and pristine jungles greet you with plenty to see and do. Most can't stay away from the beach for long, though. Enjoy amazing beach resorts and luxury resorts in any of Bali's famous areas. These include Kuta, Seminyak and Jimbaran where most of the great hotels and villas are right on the beach. They're also home to most of Bali's exciting surf spots. For tranquil seascapes and sunrises, the eastern beach resorts are your best bets. Looking forward to seeing you in the exotic Bali!

Dr. Agus Purwadi, General Chairman of 6th ICEVT 2019



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PLENARY KEYNOTE SCHEDULE

Date Time

Venue

: Tuesday, November 19, 2019

- : 09.00 11.55
- : Pandawa Ballroom



09.00 - 09.35

Prof. Qing Zhou

Tsinghua University, China

"Failure Mechanisms of Lithium-ion Batteries under Mechanical Loading"



09.35 - 10.10

Prof. Elham Sahraei

Temple University, USA

"Homogenized Modelling and Failure Characterization of Lithiumion Battery for Electric Vehicle Application"



10.10 - 10.45

Prof. Simon Shepherd

University of Leeds, UK

"A Reflection on using Product Diffusion Models in Forecasting the Electric Vehicle Market"





10.45 - 11.20

Dr. techn. Stephan Brandl

AVL List GmbH, Austria

"Development of an Integrated Axle for MD Trucks for Urban Distribution Traffic"



11.20 - 11.55

Prof. Kikuo Kishimoto

Tokyo Institute of Technology, Japan

"Multi-Material Structures and Mechanics of Materials Research"



Date: Wednesday, November 20, 2019Time: 08.30 - 10.00Venue: Pandawa Ballroom



09.00 - 09.30

Prof. Masaki Omiya

Keio University, Japan

"Fracture and Strength of Advanced Materials for Automotive Application"



09.30 - 10.00

Ir. Sigit P. Santosa, MSME, Sc.D., IPU

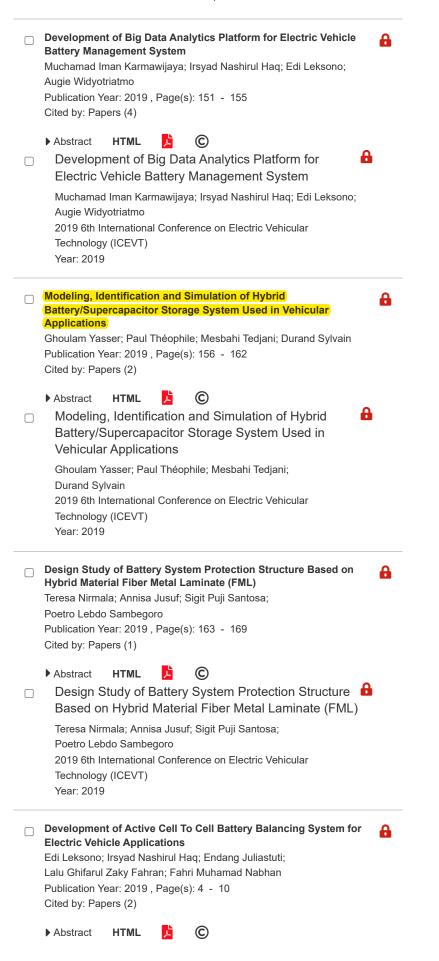
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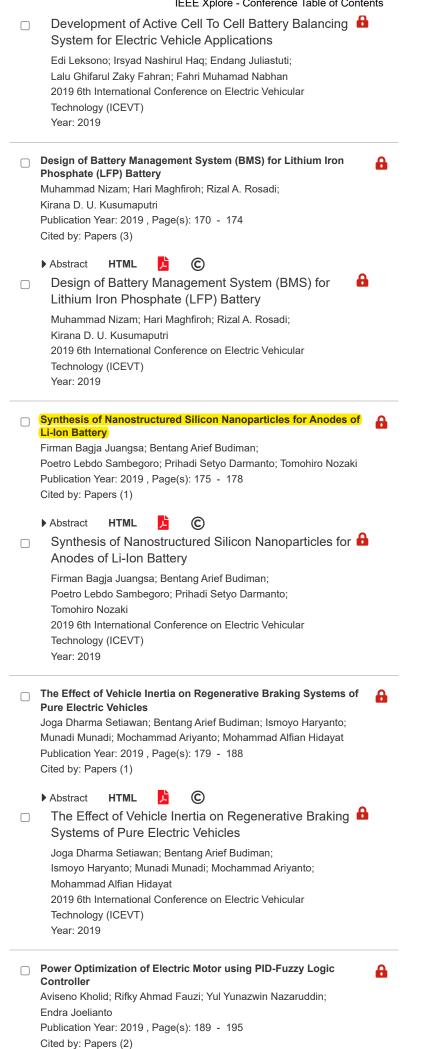
"International Collaboration Initiative: Best Practice in Transportation Field"

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Energy Consumption Simulation and Analysis of Rear-Driven Electric Bus with Regenerative Braking Metha Islameka; Irsyad Nashirul Haq; Edi Leksono; Brian Yuliarto 2019 6th International Conference on Electric Vehicular Technology (ICEVT) Year: 2019	
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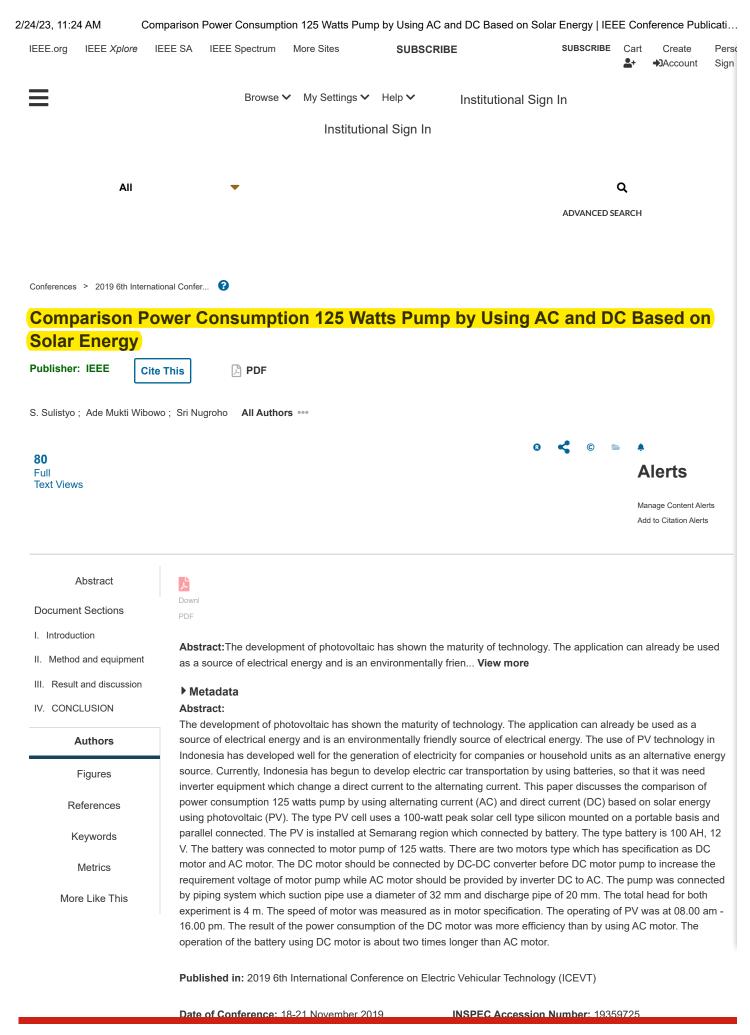
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Battery Discharging Temperature Prediction Using Holt's Double Exponential Smoothing Christio Revano Mege; Irsyad Nashirul Haq; Edi Leksono; F. X. Nugroho Soelami 2019 6th International Conference on Electric Vehicular Technology (ICEVT) Year: 2019 Modelling of Field Orientation Control (FOC) Method in 120 kW A \square Brushless DC Motor (BLDC) M. Rivandi Fadli; M. Mushthofa Musyasy; Jihad Furqani; Agus Purwadi Publication Year: 2019 , Page(s): 383 - 389 Cited by: Papers (4) Abstract HTML C بكر Modelling of Field Orientation Control (FOC) Method in 120 kW Brushless DC Motor (BLDC) M. Rivandi Fadli; M. Mushthofa Musyasy; Jihad Furqani; Agus Purwadi 2019 6th International Conference on Electric Vehicular Technology (ICEVT) Year: 2019 Comparison Power Consumption 125 Watts Pump by Using AC and DC Based on Solar Energy S. Sulistyo; Ade Mukti Wibowo; Sri Nugroho Publication Year: 2019, Page(s): 390 - 392 нтмі C Abstract Comparison Power Consumption 125 Watts Pump by Using AC and DC Based on Solar Energy S. Sulistyo; Ade Mukti Wibowo; Sri Nugroho 2019 6th International Conference on Electric Vehicular Technology (ICEVT) Year: 2019 Design of Five Stages Cockroft-Walton with Passive Filter \square 8 Vicky Mudeng; Yun Tonce Kusuma Priyanto; Himawan Wicaksono; Vicky Andria Kusuma; Mohammad Muntaha Publication Year: 2019, Page(s): 393 - 396 Abstract HTML C يكر 8 Design of Five Stages Cockroft-Walton with Passive Filter Vicky Mudeng; Yun Tonce Kusuma Priyanto; Himawan Wicaksono; Vicky Andria Kusuma; Mohammad Muntaha 2019 6th International Conference on Electric Vehicular Technology (ICEVT) Year: 2019 Low Cost Charging Station for Electric Vehicle: Design and A \square Prototyping Hari Maghfiroh; Chico Hermanu; Muhammad Hamka Ibrahim; Muhammad Nizam Publication Year: 2019, Page(s): 20 - 24 Cited by: Papers (4) Abstract HTML \bigcirc



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Contents

I. Introduction

The development of photovoltaic has shown the maturity of technology. The application can already be used as a source of electrical energy and is an environmentally friendly source of electrical energy [1]. The use of PV technology in Indonesia has developed well for the generation of electricity for companies or household units as an alternative energy source [2],[3],[4]. Currently Indonesia must be prepared the diversification of cleaned energy to reduce the Green house effect [4]. There are several type of clean energy include nuclear energy [5] wind energy, energy of water fall, hydrogen energy and solar power. Situation of direct current which has relatively low voltage each of panel. The equipment should be installed series or parallel to produce the certain voltage. Usually photovoltaic system was equipped with battery as storage energy due to the sun power was available in half day while the electricity should be one day operation full. Fig. 1 show the schematic diagram of the photovoltaic (PV) which was conneted by battery as power electric generation [7].

Authors

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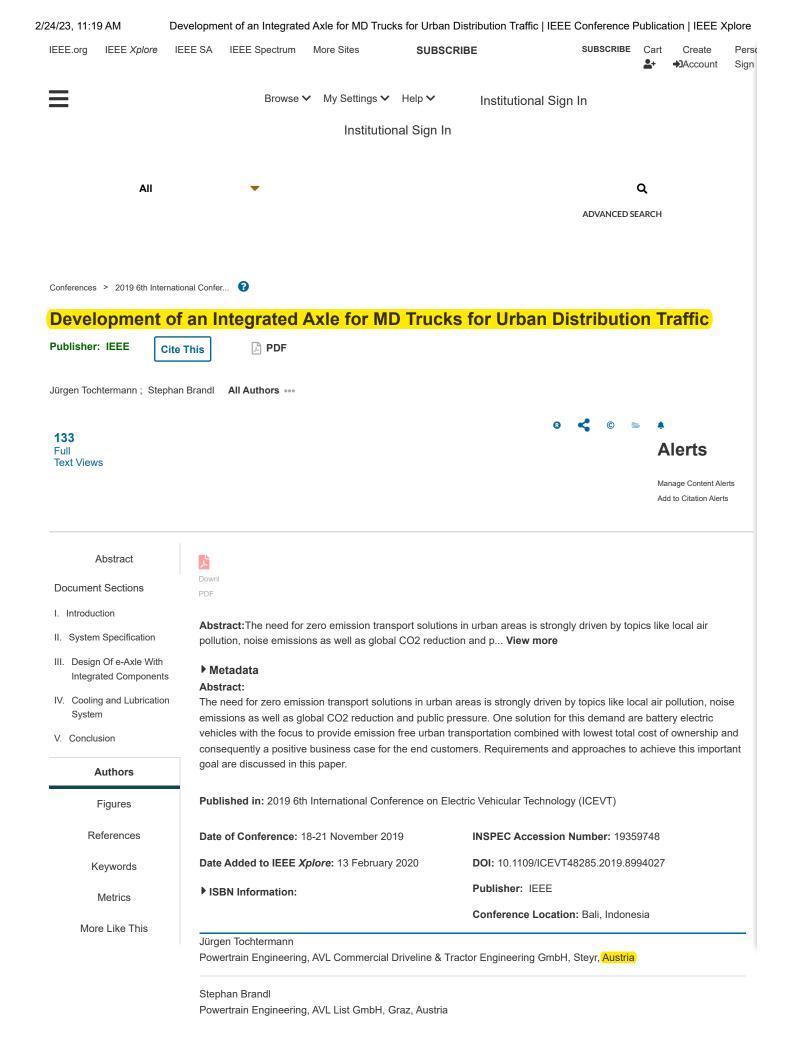
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I. Introduction

The energy transition in the field of individual transport requires first of all change in thinking: Do we need such important mobility ranges in our everyday lives? How to use the vehicles stopping times for battery charging *f*...etc. However, this energy transition also requires technological improvements, mainly in the storage of electrical energy. In this context, the electric vehicle application is a rather particular field of application since it requires both a high degree of energy and a high-power requirement. It tends not to be compatible with existing storage systems. One of the ideas to overcome this problem is to use a High Energy lithium-ion battery (HE) coupled with supercapacitors [1], [2]. The latter is usidgrain do Coefficient also be charged during the deceleration and braking phases [3]. In this case, the battery only sees the slow current changes. By taking full advantage of each of the two energy storage units, HESS can effectively satisfy the varying power and energy requirements and hence can increase the power availability [3], [4]. In addition, the application of HESS to an electric drivetrain (e-motor) can be used to fulfill one or more of the following requirements: (1) to improve the efficiency of the electric system, (2) to reduce the sizes and cost of battery, and (3) to provide better lifetime of energy supply.

Authors

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Contents

I. Introduction

In the last decades, renewable energy has been widely studied and utilized due to its potential to reduce the dependence on fossil fuels and prevent greenhouse emissions. For a similar purpose of global climate-change issues, electric vehicles or electric-hybrid vehicles are intensively used nowadays and believed to be developed furthermore in the coming years. Intermittent output of Sign in to Continue Reading renewable energy, such as wind and solar energy, and the mobility of electric vehicles require batteries as the energy storage component. Among many kinds of batteries, lithium-ion based batteries has been well developed and commercially available due to its low potential, abundant reserves, and good stability [1].

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