

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : JURNAL ILMIAH**

Judul Karya Ilmiah (Artikel) : Mixed Geographically Weighted Regression Using Adaptive Bandwidth To Modeling Of Air Polluter Standard Index

Jumlah Penulis : 5 Orang Penulis ke : 3

Nama Penulis : Dwi Ispriyanti, Budi Warsito, **Hasbi Yasin**, Kukuh Winarso, Abdul Hoyyi

Identitas Jurnal Ilmiah

a. Nama Jurnal : ARPN Journal of Engineering and Applied Sciences

b. Nomor ISSN : 1819-6608

c. Volume, No, Bulan, Tahun : Vol. 12 No. 15, Agustus 2017

d. Penerbit : Asian Research Publishing Network

e. DOI artikel (jika ada) : -

f. Alamat web jurnal : http://www.arpnjournals.org/jeas/research_papers/rp_2017/jeas_0817_6234.pdf

g. Indexing : Scopus Q3

Kategori Publikasi Jurnal Ilmiah : Jurnal Ilmiah Internasional / Internasional Bereputasi
(beri ✓ pada kategori yang tepat) Jurnal Ilmiah Nasional Terakreditasi
 Jurnal Ilmiah Nasional/Nasional Terindeks di DOAJ, CABI

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi buku (10%)	3	3	3
b. Ruang lingkup dan kedalaman pembahasan (30%)	10	10,2	10,1
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	10	9,9	9,95
d. Kelengkapan unsur dan kualitas penerbit (30%)	10	9,5	9,75
Total = (100%)	33	32,6	32,8

Reviewer 2



Drs. Sudarno, M.Si
NIP. 19640709 199201 1 001

Unit kerja :
Departemen Statistika Undip

Semarang, 19 April 2019
Reviewer 1



Dr. Rukun Santoso, M.Si
NIP. 19650225 199201 1 001

Unit kerja :
Departemen Statistika Undip

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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah	Nilai Akhir Yang Diperoleh
	Internasional/ Internasional Bereputasi **	
	40	
a. Kelengkapan unsur isi buku (10%)	4	3
b. Ruang lingkup dan kedalaman pembahasan (30%)	12	10,1
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12	9,95
d. Kelengkapan unsur dan kualitas penerbit (30%)	12	9,75
Total = (100%)	40	32,8

Reviewer 2



Drs. Sudarno, M.Si
NIP. 19640709 199201 1 001

Unit kerja :
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Jurnal Ilmiah Nasional/Nasional Terindeks di DOAJ, CABI

Hasil Penilaian Peer Review :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah = 40					Nilai Akhir Yang Diperoleh
	Internasional Bereputasi	Internasional	Nasional Terakreditasi	Nasional Tidak Terakreditasi	Nasional Terindeks DOAJ dll.	
a. Kelengkapan unsur isi buku (10%)	4					3
b. Ruang lingkup dan kedalaman pembahasan (30%)	12					10
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12					10
d. Kelengkapan unsur dan kualitas penerbit (30%)	12					10
Total = (100%)	40					33
Kontribusi Pengusul (Penulis Anggota)						4 (40%/4)

Komentar Peer Review:

- a. Kelengkapan dan kesesuaian unsur:
Cukup lengkap
- b. Ruang lingkup dan kedalaman pembahasan:
pembahasan tidak lengkap
- c. Kecukupan dan kemutakhiran data/informasi dan metodologi:
Musalah kurang direview dengan baik ada salah tulis
- d. Kelengkapan unsur dan kualitas penerbit:
Cukup lengkap
- e. Indikasi Plagiasi:
tidak ada
- f. Kesesuaian bidang ilmu:
Sesuai

Semarang, 13-8-2019
 Reviewer 1



Dr. Rukun Santoso, M.Si.
 NIP. 19650225 199201 1 001

Unit kerja:
 Departemen Statistika Undip
 Jabatan Fungsional:
 Lektor Kepala

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	Internasional Bereputasi	Internasional	Nasional Terakreditasi	Nasional Tidak Terakreditasi	Nasional Terindeks DOAJ dll.	
a. Kelengkapan unsur isi buku (10%)	4					3
b. Ruang lingkup dan kedalaman pembahasan (30%)	12					10,2
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	12					9,9
d. Kelengkapan unsur dan kualitas penerbit (30%)	12					9,5
Total = (100%)	40					32,6
Kontribusi Pengusul (Penulis Anggota)						4 (40%/4)

Komentar Peer Review:

- a. Kelengkapan dan kesesuaian unsur:
 -- Hasil Penelitian belum muncul di abstrak

- b. Ruang lingkup dan kedalaman pembahasan:
 ada pernyataan yang salah tentang nilai MSE

- c. Kecukupan dan kemutahiran data/informasi dan metodologi:
 Sitasi Posisi Penelitian Kurang banyak

- d. Kelengkapan unsur dan kualitas penerbit:
 Review dan editing kurang bagus

- e. Indikasi Plagiasi:
 tidak ada

- f. Kesesuaian bidang ilmu:
 sesuai dengan ilmunya

Semarang, 16/9-2019
 Reviewer 2

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Title: Islanding detection in microgrid with wind turbine and reduce non detection zone

Author (s): Abdolreza Behvandi, Mehrdad Kankanan and Omid Rahat

Abstract: The most important protective needs for connected microgrids to the network are detection and protection against islanding conditions. In this paper, a new method is presented for islanding detection condition for a standard microgrid equipped with various generation source including wind turbine with double feed induction generator (DFIG), CHP, photovoltaic. The proposed method for islanding detection conditions is based on injecting disturbed current through axis q or controller orthogonal axis of double feed induction generator- side converter. Therefore, by applying the proposed method, the variation frequency voltage of wind turbine stator is considered as islanding detection condition index. In this method, stator voltage is considered as islanding detection conditions signal is fed to a logical circuit, and then, the system frequency is studied and if the frequency exceeds the threshold (59.9-60.1) Hz, the conditions are detected as islanding conditions. The proposed method is able to detect islanding conditions in comparison to mentioned transient states that result in significant decrease in NDZ. The simulation result, using PSCAD/EMTDC, shows the effectiveness of applying of the proposed method in islanding conditions detection.

[Full Text](#)

Title: Investigation the effects of adding waste plastic on asphalt mixes performance

Author (s): Ahmad M. Abu Abdo

Abstract: Recently, calls for greener and more sustainable construction projects have gained momentum and are spreading worldwide. With the increase of the amount of wastes worldwide, many attempts are made to incorporate these waste materials into construction projects, especially flexible pavements. Thus, this study was initiated to investigate the effects of adding plastic waste particles to hot mix asphalt (HMA) when it comes to performance. Two different Superpave mixes with 0%, 0.2%, 0.5%, and 1% plastic waste of aggregates weight were investigated. 3D Move Analysis software was utilized to determine rutting depths and top down and bottom up cracking in a typical asphalt concrete layer with the different plastic waste contents at various temperatures. Results showed that adding 0.2% plastic waste to HMA would enhance the performance of these mixes. Also, mixes with 0% (control) and 0.5% plastic waste performed similarly. However, when adding 1% plastic waste, mixes performed poorly. Based in these results, utilizing 0.5% plastic waste by weight of aggregates in HMA would make flexible pavement design eco-friendlier and more sustainable, since a big amount of plastic waste could be incorporated without effecting the performance of hot mix asphalt.

[Full Text](#)

Title: Study on the compressor performance change according to the machine room environment in a refrigerator

Author (s): Y. N. Jang and Y. L. Lee

Abstract: The performance of the compressor varies depending on the ambient environment in which the compressor is located in the refrigerator. The performance of the compressor varies depending on the presence or absence of the cooling fan, in particular. In this study, the convective heat transfer coefficient of the compressor shell surface is calculated numerically with varying the speed of the fan in the refrigerator machine room. The results show that the convective heat transfer coefficient of the compressor surface changes to about $4 \sim 10 \text{ W / m}^2\text{K}$ depending on the presence or absence of the cooling fan. This change of the convective heat transfer coefficient can reduce the compressor superheat up to about 7 K.

[Full Text](#)

Title: Assessing of environmental impact for the coal-fired power plant based on expert system

Author (s): Ikhlas Kitta, Salama Manjang and Zahir Zainuddin

Abstract: Environmental impact assessment based on expert systems caused by construction of the coal-fired power plants necessary because of the need for people to be able to advocate for environmental issues around the power plant. As well as in the preparation of environmental impact analysis report of power plants need a lot of expert opinions from various fields of science so that it requires substantial investment. This research aims to design and develop an environmental impact assessment system in the coal-fired power plant that has adopted the mind an expert on the environment based on expert system in order to minimize the presence of environmental experts.

[Full Text](#)

Title: Verification of mathematical model of a cracked cantilever beam to U-shape cracks

Author (s): S. Ramachandran and V. Khalkar

Abstract: Structures defects may be inborn in the materials or they develop during service period. The magnitude of defects in materials increases in service time and may cause catastrophic failure. Various kinds of cracks are existing in the materials in service, i.e. V-shape, Rectangular shape and U-shape cracks. So classification, investigation and detection of cracks are of great importance in structural health monitoring. Previously, mathematical model was developed by W. M. Ostachowicz and M. Krawczuk for the cantilever beam which has two open single-sided V-shape cracks. This model is used to find the natural frequency of vibration in bending mode. The objective of this study is to verify whether the developed mathematical model can be used for U-shape cracks. Therefore, a result obtained for V-shape cracked cases is used as a reference model. Simulation is done by ANSYS software to get the fundamental natural frequencies for the different cracked cases considered by W. M. Ostachowicz and M. Krawczuk. After that the same mathematical model is used to calculate the characteristics roots of different cracked cases of a cantilever beam by keeping the similar material and geometrical properties. Through this study, it is found that the value of characteristics roots obtained for a V-shape cracked cases by W. M. Ostachowicz and M. Krawczuk and a U-shape cracked cases studied in this work has shown good agreement. So mathematical model of W. M. Ostachowicz and M. Krawczuk of V-shape crack can be used to cantilever beam which has two open single-sided U-shape cracks. Close results of characteristics roots are obtained from most of the U-shape and V-shape cracked cases, and it is revealed that results are not much sensitive to the change in crack shape geometry. Also for various cracked cases, the effects of two open single-sided U-shape cracks on the characteristics roots are investigated.

[Full Text](#)

Title: Characterization of nickel lead sulphide thin films: X-ray diffraction studies

Author (s): Ho. Sm

Abstract: In this work, nickel lead sulphide thin films were grown by inexpensive and simple method, namely chemical bath deposition technique. Nickel sulphate, sodium thiosulfate and lead nitrate as the sources of Ni²⁺, S²⁻ and Pb²⁺ ions, respectively. The effect of deposition period will be studied from 8 to 34 hours at room temperature. The obtained films were characterized by X-ray diffraction. The results reveal that the number of peaks was increased from two to five peaks as the deposition time increased up to 34 hours. In other words, more materials will be deposited onto substrates for longer deposition time.

[Full Text](#)

Title: Descriptive classification of cost risks in construction projects

Author (s): Ehsan Ali Al-Zubaidi, Hafez Ibrahim Naji and Rouwaida Hussein Ali

Abstract: The construction industry face a lot of risks and that because it is categorized that it has long duration and require a lot of recourse like manpower, Funding, equipment and technical requirement and an addition of project constraints, i.e. time, cost and quality and thus some time projects fail to achieve their desired outcomes and not finish according to project constraints and that lead to risk. And therefore, risk, and its management is vital for project success. Risk management is defined as the process identifications, analysis, arrange mitigations, planning, monitoring and control of events, which has the potential to cause undesirable changes in the goals of the projects. One of these goals is the cost; cost is defined as the economic value of any sacrifice whether it was material or moral, which can be measured in monetary currency to get benefits in present or future. These risks need to be classified, and thus classification is the process of training the objective function f in which each attribute x is map to class labels y that already known. Resulting in a group of records (training set), every and each record include a collection of attributes, in which the class is among one of them. The questionnaire is split into two parts. The Part one includes general information about the respondent, while part two consist of identified risks the effect on the cost in a list. For each risk there were two questions asked: what is the probability of the risk to occur in construction projects? And what is the impacts of these risk on the cost of the projects, these risks classify by using j48 decision tree algorithm using descriptive classification and the correctly classified instances was about 92.753%, The result from the statistical analysis results in 2006-2007 showed that the risks that have the highest qualitative analysis are same that resulting from the classification while 2008-20013 one risk miss classify and 2013-2014 have two risks miss classify.

[Full Text](#)

Title: Pentagonal shaped Koch fractal monopole slot antenna for multiband applications

Author (s): D. S. Ramkiran, B. T. P. Madhav, B. Lakshmi Anusha, T. Lakshmi Bhargavi, L. Vardhan Reddy, P. Yashwanth and T. Anilkumar

Abstract: In this paper, a compact monopole multiband antenna is presented. A microstrip line fed pentagon shaped monopole element is served as radiating patch in this antenna. The slots are made in the patch in Pentagonal-Gasket-Koch (PGK) structure. The performance of antenna with different fractal iterations is studied. The base antenna structure results multiple resonating modes, where as the consecutive antenna iterations are contributing a multiple wideband response. The proposed radiating structure exhibits the multiple wideband 1.432-3.064 GHz, 5.02-7.189 GHz, 9.302-15.579 GHz, 16.831-20 GHz. The PGK fractal slot iterative structures incorporated in pentagon monopole antenna is studied in terms of other parameters such as peak gain, radiation performance and proves to be useful in various multiband applications such as DCS, LTE 2600, WLAN and radiolocation, mobile applications.

[Full Text](#)

Title: Modeling and evaluation of clustering algorithm performances in wireless sensor networks using the experiment design strategy

Author (s): Omar Moussaoui, Mohammed Jabri and Mimoun Moussaoui

Abstract: In wireless sensor networks (WSN) enhancing the energy efficiency is a major challenge due to the scarce energy resources in sensor nodes. Therefore, many procedures have been developed for maximizing nodes lifespan and reducing the energy consumption without any alteration of sensor features. In this context, we have adopted clustering techniques and a surface experiment design (SED) strategy to optimize some performances in WSN and manage energy reserves. The criteria evaluated are the number of created clusters, connectivity and latency, in function of three significant factors such as the number of system nodes, transmission range and the clusters' size threshold. Through the Taylor-Mac Laurin polynomial equation, we have studied how these factors, their interactions and their quadratic effects can exactly modify the response of the three parameters. So, in order to measure the response of the different parameters, we have employed a clustering algorithm which has been used for efficient energy saving in Wireless Sensor Networks. In addition, a graphical method has been used to carry out the multi-objective optimization of three parameters.

[Full Text](#)

Title: Carbonation of concrete taking into account the cracks in the protective concrete layer

Author (s): Timur Zinnurovich Gil'mutdinov, Pavel Anatol'evich Fedorov, Valerij Markazovich Latypov, Ekaterina Valeryevna Lutsyk and Tatyana Vladimirovna Latypova

Abstract: Nowadays, the application of the reinforced concrete structures for the construction of various national economy facilities all around the world is growing. Although this material appeared more than 150 years ago, from the position of the complex safety and lifetime of any facility of the national economy it is understudied. If a reinforced concrete structure is operated in the normal conditions with time the emergency situation can happen due to the change of the operation conditions. The typical reason of such failure is an impact of the aggressive gas and air environment of the atmosphere. The most wide-distributed aggressive gas regarding to the reinforced concrete structures is carbon dioxide. As a result of the interaction of the aggressive environment and components of the hardened cement paste, the concrete loses its protective properties regarding the reinforcement. The presence of cracks in the protective concrete layer of the reinforced concrete structures also promotes the increase of access of the aggressive environment to the zone of the reinforcement. This article considers the main approaches to the study of the kinetics of concrete neutralization under the impact of carbon dioxide. The results of the accelerated tests of the reinforced concrete samples are specified, in which the cracks of the set crack width are formed at CO₂ concentration 2% and relative humidity 75%. The method of recording of the impact of cracks in the reinforced concrete structures on the rate of the concrete carbonation was offered.

[Full Text](#)

Title: Buckling behavior of steel column having an intermediate support

Author (s): Sumeet Chakraborty, M. S. Hora and K. K. Pathak

Abstract: The present work focuses on the study of buckling behavior of square steel column by varying the position of single intermediate support along the height of column. The analysis of long steel column of size 200 mm x 200 mm and height 10 m is carried out using finite element software (ANSYS) to obtain the position of intermediate support which provides maximum buckling load and lateral deflection of the column for different boundary conditions. The position of single intermediate support is varied by 1 m along the height of column measured from the bottom end of the column and buckling load and lateral deflection is evaluated for each position to determine the maximum value of buckling load and lateral deflection for different boundary conditions. The results of analysis are compared with Euler's theory for general end support conditions.

[Full Text](#)

Title: Impact of paraffin as Phase Change Material in concrete cubes for enhancing the thermal energy storage

Author (s): K. Christopher Gunasingh and G. Hemalatha

Abstract: In this present work, the impact of paraffin as Phase Change Material (PCM) on M20 grade concrete cubes is studied through an experiment. The addition of different weight percentage (0.5, 0.75, 1.0 and 1.25 wt. percentage of cement) of paraffin as PCM with concrete cubes were tested. Trying out on concrete cubes was done for X-ray diffraction pattern (XRD) analysis, compressive strength and thermal energy storage measurement. The XRD pattern of the cast concrete cube revealed the presence of paraffin without any chemical reaction with cement. For evaluating the strength of the M20 grade concrete cubes with the addition of PCM compressive strength was performed. The optimum percentage of PCM to be added for giving maximum thermal energy storage in concrete cubes is obtained from the experimental results. There is reduction in temperature to improve the thermal comfort also evident from the results.

[Full Text](#)

Title: Analysis of load-bearing structure of multi-story buildings by means of concentrated deformation method

Author (s): Abduvop M. Zulpuyev, Kadanbay Baktygulov and Beyshenbek S. Ordobayev

Abstract: The paper deals with analysis of the segments of reinforced concrete of framed structures and flatworks of the load bearing structures of multistory buildings based on the concentrated deformation method and development of discrete analytical models for reinforced concrete framed structures and flatworks of the load bearing structures of multistory buildings, compilation of algorithms and programs with the use of computer machines and obtaining the construction solutions thereupon, which are characterized by economical efficiency and engineering simplicity. Besides, a concentrated deformation method has been developed for the analysis of reinforced concrete framed structures and flatworks of load bearing structures of multistory buildings, taking into account the actual nonlinear deformation curves of concrete and steel with different load duration and is caused by discrete nonlinear analytical models and algorithms, providing the cost-effective design solutions for framed structures and flatworks of the load bearing structures of multistory buildings.

[Full Text](#)

Title: Mechanical properties on friction stir welding of aluminum alloy 5052

Author (s): Rusdi Nur, Ahmad Zubair Sultan and Muhammad Arsyad Suyuti

Abstract: Aluminum alloy was a material widely used in the fields of engineering but not easily connected by welding process. In this research experiments conducted using friction stir welding (FSW). This study aims to analyze the resulting mechanical properties as well as studying the effect of welding parameters i.e. shoulder diameter, round tool, and speed in welding (feeding) in the friction stir welding on aluminum material AA 5052. The mechanical properties was analyzed include tensile strength and bending strength of results welding. Best mechanical properties are on the tool with a shoulder diameter of 17.8 mm the highest tensile strength at 1300 rpm with a feeding rounds of 50 mm/min at 222.1 MPa and the highest of bending strength at 1300 rpm with a feeding round 208 mm/min at 422.6 MPa. With a smaller shoulder diameter, round and proper feeding friction and forging processes that occur while welding gives smaller influence on the decline in good mechanical properties in the material to be joined.

[Full Text](#)

Title: Multi-operation of SPWM based Single Phase Matrix Converter

Author (s): R. Sriranjani, M. Bharathi and P. N. S. Chandana

Abstract: This paper presents the multi - operation of Sinusoidal Pulse Width Modulation (SPWM) based Single Phase Matrix Converter (SPMC). The matrix converter converts fixed AC/DC to variable AC/DC. Single converter replaces rectifier, AC voltage controller, inverter, frequency changer and chopper. Losses due to the dc link used in the inverter are eliminated as the SPMC is a single stage converter. This increases the efficiency of the converter. The output waveform of SPMC can be synthesized using the SPWM techniques which utilize AC or DC supply as the input. The anti-parallel

connection of common emitter Integrated Gated Bi-Polar Transistor (IGBT) and diode is used as a bi-directional switch. Simulation studies have been carried out in MATLAB/Simulink and the results are presented.

[Full Text](#)

Title: Enhanced security and immediate acknowledge of moving object in surveillance

Author (s): G. Ramya Durga, Iswariya R. and A. Pravin

Abstract: Vision-based recognition of unlawful or incidental exercises in urban activity has pulled in awesome intrigue. Since best in class online computerized identification calculations are far from impeccable, much research exertion on disconnected video reconnaissance has been made to keep police or security staff from watching all recorded video outlines superfluously. To take care of the issue, this think about spotlights on video buildup, which gives quick checking of moving articles in a long term of reconnaissance recordings. Considering the computational many-sided quality and the buildup proportion as the two fundamental criteria for proficient video buildup, we propose a video buildup calculation, which comprises of the accompanying: 1) introductory buildup by disposing of edges of nonmoving articles; 2) intra-GCM (gathering of edges with moving objects) buildup; and 3) between GCM buildup. In the intra-GCM and between GCM buildup, spatiotemporal static pixels inside each GCM and transient static pixels between two continuous GCMs are dropped to abbreviate the worldly separations between back to back moving articles. Trial comes about show that our video buildup spares a lot of computational loads contrasted and the past strategies without relinquishing the buildup proportion and visual quality.

[Full Text](#)

Title: Influence of bioadditive to acid numbers and base oil viscosity index lubricants mixed vegetable oil and minerals

Author (s): Suratmin Utomo, Ratri Ariatmi Nugrahani and Anwar Ilmar Ramadhan

Abstract: Demand for environmentally friendly products and renewable, is increasing, such as fuels, lubricants, coatings and so on. In lubricant products, efforts were made to reduce the consumption of mineral oil lubricants. This is because availability is limited, non-renewable, is not able to be degraded, and consequently may pollute the environment. Mixing between mineral oil and vegetable oil is one of the efforts to reduce the use and improve the characteristics of the mineral oil. Vegetable oils generally have a high viscosity and properties lubricity nice. High iodine number which indicates the ability of vegetable oils as lubricants, despite the low oxidation stability. Therefore the vegetable oil can be used to substitute the use of mineral oil as lubricant base oil, which is a modification of chemically or physically. Some vegetable oils are widely available in Indonesia and could be used as a base oil and lubricant bio-additive, such as palm oil, coconut oil, castor oil, rice bran oil. This research was conducted with the aim to assess the effect of the addition of vegetable oil and bio-additive on a base oil of mineral oil against oxidation stability. Oxidation stability in terms of physical and chemical properties of lubricants, namely Total Acid Number (TAN) and viscosity index (IV). The method used in this research is by mixing the mineral lubricating oil with vegetable oils and bio-additive, so that the quality of lubricating oil mixture can be increased. Mixing is done based on the ratio% (w / w) of the vegetable oil and mineral oil. The concentration of vegetable oils are added to lubricants mineral oil that is 20% (v / v) and the addition of epoxy methyl ester rice bran oil by 1%, 2%, 3%, 4% and 5% (v / v), then do the blending during 15 minutes with a temperature of 600C to 700C and allowed to stand for 30 days. Further testing TAN and IV. The relationship between the epoxy methyl ester were added (% v / v) (x) of the TAN is $y = x^2 0.0357 - 0.2543 x + 0.69$, $R^2 = 0.7874$. Methyl ester epoxy relationship tying added (% v / v) (x) of the viscosity index of the ratio of 1: 4% with $y = -0.4083 + x^3 + 5.1857x^2 - 19.977x 153.2$, the value of $R^2 = 0.9949$ approaching 1.

[Full Text](#)

Title: Smart collect - intelligent dynamic time and event switched energy efficient data gathering protocol

Author (s): A. Gnana Soundari and V. L. Jyothi

Abstract: With rapid growth in modern science and technology, performance centric automated systems play a vital role in wireless communication. Wireless Sensor Networks are randomly deployed in large scale to fetch data, which is used to establish a control system of critical and non-critical type like Disaster Alert Management, Fire and Safety Systems and Habitat Monitoring etc. Data Gathering process becomes a vital for such systems and needs continuous research to find out better solution. To maintain a successful data gathering, further WSN should able to periodically self-organize and reconfigure itself where manual interventions nor configuration is not feasible. Introducing intelligence to sensors and having self organized network is one of such attempt to have data gathering effectively. Our work contribution is towards having a Smart Network Management and Reconfigurable Sensor Nodes to achieve successful Data gathering process for mission critical applications. A novel "Proactive Event and Time driven (Pro_ET)" data gathering protocol is proposed in this article with energy efficient weighted fairness queuing (WFQ) mechanism for supporting on-demand reconfigurable sensors referred to as "Smart Collectors (SCs)". "Smart Collectors" will function as data aggregator and gatherer with self-organizing ability towards critical and non-critical events detected on time function. SCs ensure right scheduling and fairness index in packet processing maintaining Quality of Service. Simulation results of Pro_ET shows promising gains on reduced latency and high packet delivery rate compared to other existing methods.

[Full Text](#)

Title: Mixed geographically weighted regression using adaptive bandwidth to modeling of air pollutant standard index

Author (s): Dwi Ispriyanti, Hasbi Yasin, Kukul Winarso and Abdul Hoyyi

Abstract: Air pollution is one of the most concerned problems on earth today. It is closely related with and mostly generated from the transportation and industrialization sectors, as well as from the environmentally degrading effect of the urban physical development. Air pollution promotes the lower level of air quality, which in turn promotes the greater risk on health, especially that of the human being. This research aims to aid the government in the policy making process related to air pollution mitigation by developing a standard index model for air pollutant (Air Pollutant Standard Index - APST) based on the Mixed Geographically Weighted Regression (MGWR) approach using the adaptive bandwidth. The adaptive bandwidth kernel has different bandwidth value in each observation location. Akaike Information Criterion-corrected (AICc) value is used to choose the most optimum bandwidth. The Monte Carlo Simulation is used to tests for regression coefficient non-stationarity. In this research, we also consider seven variables that are directly related to the air pollution level, which are the traffic velocity, the population density, the business center aspect, the air humidity, the wind velocity, the air temperature, and the area size of the urban forest. Based on AICc and MSE value it is know that the MGWR model with adaptive bisquare kernel is the best bandwidth to analyze this model.

[Full Text](#)

Title: A printed staircase serrated CPW antenna for UWB applications

Author (s): V. Subbareddy, B. T. P. Madhav, S. Prathyusha, G. Gopi Janardhan, N. Kalpanath and M. Venkateswara Rao

Abstract: A novel compact coplanar slot antenna designed for UWB applications and presented in this paper. A slot antenna with

CPW feed technique is implemented which works more efficiently unlike antennas having microstrip feed line feeding and leading to improved bandwidth in the antenna. The current antenna structure is included with serration in the radiating element, which intern improved the bandwidth. Design and analysis of the proposed antenna is totally carried out in ANSYS Electronics Desktop (AED) tool. The bandwidth of this antenna ranges from 1GHz to 11GHz with a return loss up to -40 dB at 2.6 GHz. The simulation results of radiation patterns, return loss, gain are presented in this work. A comparison between antenna with serrations and antenna without serrations has also been done and the results are also presented.

[Full Text](#)

Title: Indigenous development of low cost harvesting machine

Author (s): Jothi shanmugam C. and Senthilkumar G.

Abstract: Harvesting machinery is equipment used for harvesting the crop. There are many types of harvesting machines which are generally classified by crop. Harvesting machines are used for production of seed. This machine harvests grain crops. The total cost of machine can be manufactured at less cost. Frame stand has been fabricated by welding and joining the MS angle to the required dimensions. Rollers are fixed at an angle 600. Thresher and Hopper are fabricated and located at the left end of the machine. Cutting Blade is made and welded with a rod. Cam is fabricated and fixed with the rod which is attached to the Blade for linear movement. This innovation can rectify the hurdles of farmer's significantly. The new harvesting machine will reduce the harvesting cost by some percentage.

[Full Text](#)

Title: Theoretical and finite element method of static structural analysis at wing segment

Author (s): Matzaini Katon, Abdul Rahim Bahari and Norhanifah Abdul Rahman

Abstract: In this paper, comparison between two methods: theoretical and finite element static structural analyses were studied. These two methods were used to solve in finding the stress value related to static analysis. These comparisons were made on a wing segment of a Blended Wing Body (BWB). MSC PATRAN and MSC NASTRAN were used as for the Finite Element Analysis (FEA) platform. Finite element models for the wing segments were developed in MSC PATRAN. CQUAD4 and CTRIA3 elements were used to represent the individual components of the wing segment such as skin and web.

[Full Text](#)

Title: Dual band notch MIMO antenna with meander slot and DGS for ultra-wideband applications

Author (s): B. L. Prakash, B. T. P. Madhav, B. Sai Parimala, T. Sravya and T. Anilkumar

Abstract: A two-element multiple-input multiple-output antenna is presented in this paper. A pair of rectangular patch elements with staircase truncations at the patch-feed interconnection serves as the planar monopole radiating element for this design. The defected ground structures are realized with T-shaped stub etched with L-shaped and meandered slots form the ground plane of the antenna. These DGS procedures and arc-shaped slot and a split ring slot yields the dual band notch characteristics at 4.21 GHz-5.16 GHz, 7.84 GHz-8.63 GHz in a spectrum of 2.109 GHz-11.05 GHz. The far-field distributions at various frequencies and ECC value below 0.5 across the band confirms the concept of polarization diversity.

[Full Text](#)

Title: Data science-partition and aggregation of data using MapReduce

Author (s): R. Shiva Shankar, V. Mnssvkr Gupta, K. V. S. Murthy and Chinta Someswara Rao

Abstract: Now a day's information increases rapidly in different directions, that will lead to create a trouble various application fields like data science, data lake, data mining etc., one of the solution for this is the MapReduce programming model simplifies that reduces the large-scale data to small tasks. For this purpose, in this paper, we proposed a mechanism that takes the large data and converting it into small sub tasks with MapReduce and reduce network traffic cost for sub task by aggregation.

[Full Text](#)

Title: Pile design using Multiple Linear Regression model

Author (s): Nabeel S. Juwaied and Faiq Mohammed Sarhan Al-Zwainy

Abstract: There is a marked increase in the use of statistic and its methods in representing the complex relationship between factors in geotechnical engineering. In this paper "Multiple Linear Regression" model, has been developed to produce a pile design equation. Using data from in situ full scale drilled shaft and driven pile test. The objective of this study is to use simple data from widely use tests, at an early stage of pile design, to develop (MLR) model. SPT-N values and the geometrical properties were the simple data. The MLR model developed for pre-stressed reinforced concrete pipe pile, cast in place reinforced concrete pile and precast square driven reinforced concrete pile. A database of 63 historical cases collected from five projects in Iraq/Baghdad to be the reference to the current method of pile design equation. The resulting equation was used to find the prediction design load of the pile and compare it with the actual. The results showed relatively high correlation coefficient r , 96% between the actual and predicted values. AS an application to confirm equation accuracy, 7 cases not use in the model development were taken, the results showed high correlation coefficient r , 97% and coefficient of determination r^2 , 94% between the actual and predicted values.

[Full Text](#)

Title: Fuzzy control based mobility framework for evaluating mobility models in MANET of smart devices

Author (s): Tanweer Alam

Abstract: The MANET is one of the most useful networks that established dynamically among all connected devices without fixed infrastructure in a decentralized approach. Smart devices such as Smart home automation entry point, smart air conditioners, Smart hubs, Smart thermostat, Color changing smart LEDs, Smart Mobiles, Smart Watches and smart Tablets etc. are ubiquitous in our daily life and becoming valuable device with the capabilities of wireless networking using different wireless protocols that are typically used with an IEEE 802.11 access point. MANETs provide connectivity in heterogeneous network with decentralized approach. MANET is formed by itself when two or more smart devices has active connection. The fuzzy logic control system is a novel approach that is utilized in various area of research because of the performance ability to control the system. The proposed research is focused mainly to design a fuzzy logic control

mobility framework for evaluating mobility models in MANET of smart devices in internet of things environment. To implement this research we developed a new fuzzy control based mobility framework for communication in MANET of smart devices. Smart devices are considered as mobility nodes in MANET network system. The related work shows various mobility models to reproduction the movements of nodes but unfortunately most of them are not working in reality. The proposed mobility framework is tested on simulation environment and results perform the better evaluation of mobility models in MANET. This research may be useful in the development of internet of things framework, where smart devices are connected to each other in real time.

[Full Text](#)

Title: Study of sensitivity of mode shapes in damage identification using continuous wavelet transform

Author (s): S. Suresha and D. Mallikarjuna Reddy

Abstract: In this project the existing damage identification methods are studied and new method of damage detection is introduced. Plate structure is modeled and the damage is identified by the new method. The damage is located using Daubechies wavelet transform in the form of peak at high wavelet coefficient value in the three dimensional wavelet plotted in scale translation plane. To create damage in plate model percentage of thickness of specific elements are reduced. The proposed method is numerically evaluated on a simple finite element turbine blade model. The results of analysis to indicate that the proposed continuous wavelet transform based damage identification method effectively identify single as well as multiple damages using only the fundamental mode shape. Hence, it is to show that proposed method has the potential to identify damage in structures.

[Full Text](#)

Title: Method of running diagnostics of the motor vehicle brake system

Author (s): Igor Vladimirovich Tanevitskiy and Alexander Ivanovich Belyaev

Abstract: This work considers the method of the running diagnostics of the motor vehicle brake system. The objective of the work is to develop the theoretical and methodical procedure of the running diagnostics of the brake system of motor vehicles (MV). The main idea of the offered diagnostics method is the estimation of the technical condition of the motor vehicle brake system by recording of the changes of parameters that are the characteristics of the operation (brake) properties of the vehicle. The design brake diagram of a vehicle was formed on the base of the accepted restrictions and allowances. The offered mathematical model was composed on the base of the analysis of the plane system of forces influencing the vehicle during the deceleration process. It is offered to use a complete or partial absence of the deceleration of one wheel (or several wheels simultaneously) as a criterion of a failure of the brake system of a vehicle. The detection of the causes of absence of deceleration of one wheel (or several wheels simultaneously) is performed during the profound diagnostics on the fixed diagnostic equipment at the motor transport enterprise.

[Full Text](#)

Title: Estimation of diffusion of air in water under uniform flow conditions

Author (s): Senthilkumar G., Amith Kishore P., Gutta Santosh and Raghavendra Reddy G. M.

Abstract: In various industrial and chemical processes, attaining uniform flow of liquids is very important for cooling and other requirements. Uniform flow is required in cooling of sodium cooled nuclear reactors and many other chemical processing and open channel flow passage applications. In this paper, a method is proposed to estimate the diffusion rate of air in water as a function of mixing ratio. The experiment was conducted under uniform flow conditions with different lengths of various stream equalizer plates to calculate the variation of velocity along the longitudinal and transverse directions of the rectangular model established for this purpose.

[Full Text](#)

Title: Analysis of various pulse width modulations (PWM) for multi-level inverter with reversing voltage topology

Author (s): P. N. S. Chandana, S. Augusti Lindiya, K. Vijayarekha, D. Uma and M. Bharathi

Abstract: Multi-level inverter technology is used to obtain a high output power from medium voltage sources like batteries and solar panel. Reduced harmonic distortion in the output voltage and lower EMI (Electro Magnetic Interference) are the main advantages of multi-level inverter. However, there are some disadvantages such as increased number of components as level is increased, complicated PWM control method and voltage balancing problem at neutral point. Reversing voltage topology overcomes the disadvantages of the conventional multi-level inverter. The new topology uses reduced quantity of total switches at higher levels which leads to the reduction in switching losses, lesser carrier signals for PWM control, improves power quality and reduces the harmonics at the output voltage. The new converter topology is implemented for 5-level and 9-level using Sinusoidal Pulse Width Modulation (SPWM) techniques. Phase disposition SPWM, Phase opposition disposition SPWM, Alternate phase opposition disposition SPWM and Variable frequency SPWM techniques are applied to generate the gate pulses for the switches in the 9-level inverter and the THD (%) is compared. The simulation results are presented and discussed.

[Full Text](#)

Title: PIFA antenna for RFID application at 5.8 GHz

Author (s): Loubna Berrich and Lahbib Zenkour

Abstract: In this paper, we presented the design and simulation of a PIFA antenna, with and without T-shaped slot, to know the influence of the slot on the chosen antenna. We chose as the resonant frequency of the antenna for RFID applications the frequency 5.8 GHz. To improve the results, we have networked two PIFA antennas with slots. The results obtained by the Ansoft HFSS software are satisfactory with a reflection coefficient that exceeds -25 dB and a very suitable gain for RFID applications.

[Full Text](#)

Title: A novel method for early diagnosis of arthritis from radiographs using fuzzy-c-means clustering algorithm

Author (s): M. Subramoniam and T. Jerry Alexander

Abstract: Arthritis is a type of disorders that takes place in bone joints. This disease results in mild pain in the early stage to joint immobility in the later stage of the disease. The curse of this kind of disorder is that it cannot be cured. On the other hand, there are more possibility to control the further severity of this disease through proper diagnosis and treatment.

Even though many diagnostic tools are available, only a few methods are available to diagnose this disorder at the early stage. This paper discusses a simplistic diagnostic tool developed to diagnose arthritis at its early stage.

[Full Text](#)

Title: Analysis of some engineering parameters relevant to the performance and reliability of Hollow Fiber spinning system

Author (s): Shadia R. Tewfik, Abdel Ghani M. G. Abulnour, Hayam F. Shaalan, Mohamed I. El-Anwar, Sahar S. Ali, Kamal A. Abed, Mervat A. Badr and Mohamed H. Sorour

Abstract: Hollow Fiber (HF) membranes manifest wide applications on numerous environmental and industrial fields. The remarkable characteristics of high surface to volume ratio and compaction motivated the rapid advancement of HF technology and engineering. The spinning system is subject to numerous parameters and variables that critically influence the characteristics and performance of the produced HF. This paper outlines the endeavors to develop cellulose acetate (CA) HF membrane prepared by dry-wet spinning under varying dope, rheological settings and conditions in addition to spinning nozzle types and dimensions. Computational fluid dynamics (CFD) analysis has been used to simulate the travel of the polymer inside the spinneret. Characterization results using scanning electron microscope (SEM), atomic force microscopy (AFM) and mechanical properties are outlined. Furthermore, the effect of the fore-mentioned parameters on water flux is addressed. Moreover, the fabrication of polysulfone/polyethersulfone (PS/PES) HF has been investigated with the aim of comparing structure, morphology and properties with CA fibers. The paper is concluded with recommendations pertinent to fabrication of CA and PS/PES hollow fiber membranes.

[Full Text](#)

Title: Modern technologies of complex processing of phosphates

Author (s): Kirill Karapetian and Natalia Dzhevega

Abstract: Apatite is mineral - common name for a number of related minerals of the apatite group with the common formula $\text{Ca}_5(\text{PO}_4)_3(\text{F}, \text{OH}, \text{Cl})$. Varieties (mineral species in the group) - fluorapatite (F - up to 3.8), chlorapatite (Cl - up to 6.8), hydroxylapatite, carbonate-apatite (with content of carbonate group O_3^{2-}). It often contains manganese, iron, strontium, aluminum, rare earths impurities. Kola apatite concentrate is a promising and raw material for complex processing, allowing producing, in addition to the basic product - phosphoric fertilizers, strontium, rare earth elements and fluorine compounds. Despite obvious environmental expedience of complex apatite processing, at present there is the only industrial scheme, providing for extraction of rare earth elements, strontium as by-products and fluorine recovery, based on decomposition of apatite by nitric acid. In creation of the complex phosphates processing technology it should be taken into account that apatite minerals is the main source of phosphorus in the modern industry, and its processing technology must ensure maximum extraction of this very element. As it was shown before, this can be achieved, in particular, with synthesis of glassy and melted phosphate fertilizers, used efficiently in the modern agriculture. The technology of extraction of rare earth elements from apatite concentrate must be viewed as an important additional process, contributing to complex processing of apatites.

[Full Text](#)

Title: Early concrete creep and its real modulus of elasticity consideration at calculations of multistorey frames raised in a relatively short time

Author (s): Olga Zavyalova and Alexander Shein

Abstract: Currently, the development of structural mechanics follows two main directions, on the one hand, the development of higher-end computational methods based on powerful software systems, on the other - the improvement of design models and original hypothesis underlying in the basis of calculation. Taking into account the material behavior of building constructions, especially concrete, allows to find out the constructional safety resource for ready-built building as well as to correct the real internal forces distribution and related strains in the newly designed buildings. The aim of the work is research of loading history effect of the reinforced-concrete monolithic frames on its elements strain-stress distribution. The sequence of building erection as well as hardening and concrete creep as time functions are took into calculations. The algorithm taking into account the concrete creep and changes of its modulus of instantaneous elasticity is defined. Such algorithm was based on formulas obtained by Harutyunyan. The program for performing calculations was made. It is based on the finite-difference method and allows taking into account mentioned above factors. The analysis by finite elements was made for results comparison.

[Full Text](#)

Title: Decision support based on the interval relation

Author (s): B. Kh. Sanzhapov and R. B. Sanzhapov

Abstract: The paper considers the method of decision support at the stage of the preliminary analysis of complex systems development projects in order to identify the most promising. Offered is a method for ranking objects (defining their weights) when specifying information about the degree of superiority of one object over another in the form of interval expert estimates. Elements of the interval relation are set in a multiply connected regions represented as a union of disjoint intervals. Unlike conventional approaches to ranking objects based on interval relation of preferences intensity the proposed method allows to process these estimates without their prior averaging procedure. It has been proven that the model has the desired properties: consistency, maintaining optimality, positive relationship with peer relations, preservation of superiority and other characteristics that enhance the legitimacy of its use in practice. The paper presents a numerical example illustrating how the method works.

[Full Text](#)

Title: Secure data offloading using auction based mechanism

Author (s): C. L. Stefi Sterlin, Refonaa J. and R. Ramalavanya

Abstract: The outsider Wi-Fi get to gadgets to offload client movement from the portable system has as of late picked up force as a promising way to deal with increment the system limit and all the while diminish the vitality utilization of the "radio access network" (RAN) foundation. To cultivate the entrepreneurial use of unexploited Internet associations, to propose another and open market where a portable administrator can rent the data transfer capacity made accessible by outsiders. In this paper, we propose and investigate a combinatorial turn around closeout to execute an imaginative commercial center both for choosing the least expensive outsider get to gadgets and offloading the most extreme measure of information movement from the RAN. To propose avaricious calculations that productively tackle the offloading issue, notwithstanding for huge size system situations. Keeping in mind the end goal to take care of productively the offloading issue for substantial scale arrange situations, we additionally proposed an insatiable calculation, with two option renditions of the portion stage that jelly the honesty property.

[Full Text](#)

Title: Potential canal irrigation for micro hydro power plant (MHPP) in Batang Tongar irrigation West Pasaman District

Author (s): Eri Gas Ekaputra and Delvi Yanti

Abstract: MHPP establishment of the irrigation system can create an independent society for electricity provision. MHPP is environmentally friendly and continuous. Secondary canal irrigation has sufficient waterfall that potentially can be used as MHPP. The purpose of the research is to analyze the potential of the Batang Tongar irrigation canal in West Pasaman District to be a Micro Hidro Power Plants (MHPP). The waterfall partial of irrigation canal for MHPP is set with more than 1 m and the power that can be produced is more than 5kW. The Batang Tongar irrigation canal that had been analyzed is BT 5, BT 7 and BT 8. The amount of potentially waterfall on BT 5, BT 7, and BT 8 is 35 waterfall with total power 526,673 Watt. With 526,652 Watt, Batang Tongar irrigation canal can suffice approximately 500 houses in a Pinagar Village in the West Pasaman District. Based on the power produced, shows that MHPP on irrigation canal, bring a solution to overcome the electricity scarcity and can guarantee electricity availability to create an independent society that does not just depend on the government.

[Full Text](#)

Title: Health analysis using Big Data

Author (s): Sandhva

Abstract: The massive amount of data is being extracted in every day's life. Some data is very useful and some is just the garbage that means data of no use. A key term came to existence while working with or handling large data that is BIG DATA. Big Data is a processing system which computes the large data, analysis it and predict the meaningful outcome. The major role of Big Data is being played in the health care industry. If we carefully analyze the health care industry one of the most dangerous diseases is "Cancer". This Paper focuses on Breast Cancer a major problem that has been increased in numbers. To analyze the risk of a patient there are number of factor's involved and these factors make it tedious process which is hard to analyze. To simplify the process we will analyze the data set and apply the machine learning algorithm. The data set will be simplified and using R-tool we will implement the random forest algorithm.

[Full Text](#)

Title: Pixel down sampling for optimization of Artificial Neural Network for handwriting character recognition

Author (s): Kani, Irman Hermadi and Agus Buono

Abstract: The aim of this study was to develop an image preprocessing model that utilize down sampling technique to reduce the pixel matrix to optimize artificial neural network in order to facilitate the handwriting recognition for letter A, B, C, D and E. In the proposed model, the handwriting images was first subjected to binarization process, the followed by the pixel matrix down sampling first using the column approach (C-DS), then combine row and column approach (RC-DS). The compressed pixel (down sampled pixel matrix) then acted as an input vector for Artificial Neural Network (ANN). The functionality of the proposed method was demonstrated by its application to handwritten characters consisting of A, B, C, D and E examination choices. The results of the simulation indicated the proposed down sampling using combine column and row presented the higher accuracy (98.80%) and low pattern range (3.30%) with a minimum RMSE (0.1). The model further presented low execution time (560 Second) when compared to normal back propagation. Thus base on the simulation results the proposed method outperformed the normal back propagation and provide a reliable and efficient image preprocessing approach for the input of Artificial Neural Network.

[Full Text](#)

Title: Deletion of the miR-145 target sequence and eliminating the repression of meis1 expression during the zebrafish hematopoiesis

Author (s): Nibras Najm Abbood and Amir Abdullah Jabir

Abstract: Matured miRNAs are stimulated from elongated endogenous principal transcripts by the RNase III enzymes, Drosha and Dicer resulting in 22-nt double-stranded RNAs. One single strand of the duplex develops accumulated into the RNA-induced silencing complex (RISC) coincident with target identity and coupling. MiRNAs provide a smart mechanism that offers exceptionally tuned control of protein levels by adjusting translational efficacy and mRNA power. In this research work, we convey that zebrafish embryos having reduced function of the orthologous *hoxd4a* gene clear striking perturbations in vasculogenesis, angiogenesis and primitive and definitive hematopoiesis. These defects are headed by condensed expression of the hemangioblast markers *scl1*, *lmo2* and *fl1* inside the posterior lateral plate mesoderm (PLM) at 13 hours post fertilization (hpf). Epistasis analysis clearly shown that *hoxd4a* acts upstream of *meis1.1* but downstream of *cdx4* as initial as the shield stage in ventral-most mesoderm fated to grow to hemangioblasts, leading us to suggest that loss of *hoxd4a* function disturbs hemangioblast requirement. These results place *hoxd4a* higher in a genetic hierarchy leading hemangioblast formation downstream of *cdx1/cdx4* and upstream of *meis1.1*. An added significance of impaired *hoxd4a* and *meis1.1* expression is the deregulation of multiple Hox genes involved in vasculogenesis and hematopoiesis which may additionally subsidize to the defects labelled here. In this paper, the deletion of the miR-145 target sequence and eliminating the repression of *meis1* expression during the zebrafish hematopoiesis has been vividly elaborated.

[Full Text](#)

Title: Areas categorization by operating Support Vector Machines

Author (s): M. Raja Sekar and Durgaprasad Mannepalli

Abstract: In recent years, Support Vector Machines (SVMs) have demonstrated excellent functioning in a variety of area categorization problems. This paper explains areas categorization by operating SVMs. The SVM is an ideally excellent machine learning approach with abundant outcomes in categorization of high dimensional datasets and has been discovered reasonable performance with the elite machine learning procedures. In the past, SVMs have been verified and assessed only as pixel-based image classifiers. Moving from pixel-based methods concerning object-based illustration, the dimensions of distant detecting imagery feature space increases considerably. These outcomes increase the difficulty of the categorization process, and instigate complications to conventional sample-based categorization systems. The goal of this paper is to estimate SVMs for usefulness and outlooks for object-based area categorization as a contemporary computationally best technique. SVM method for multi-class categorization was followed, built on basic image objects yields by a multi-resolution subdivision algorithm. The subdivision procedure constructed primitive objects of capricious sizes and figures. Then, a feature assortment step took place in order to deliver the features for categorization, which involved spectral, texture and shape information. Contextual evidence is not utilized. Following the feature assortment phase, a module combining SVM classifier and the subdivision procedure was established in C++ and built on DHTML for feature illustration. For training the SVM, example image objects, imitative from the subdivision technique are utilized. The SVM method appears very capable for object centered image analysis and future effort will emphasis on the combination SVM classifiers with rule-based classifiers.

[Full Text](#)

Title: Influence of setting variables in conventional super plastic forming process using Grey relation Analysis in Taguchi method

Author (s): A. Rajasekaran, S. P. Sundar Singh Sivam, S. Rajendrakumar and K. Saravanan

Abstract: Super plastic forming (SPF) is a manufacturing process utilized in the automotive industry to produce complex geometry aluminum or magnesium alloy components which cannot be fabricated at room temperature. During the SPF, the process parameters such as die entry radius, pressure, temperature and Material Thickness at the sheet die interface greatly influence the metal flow. The aim of the present work is to design and fabricate a set of punch and die to, produce a hemispherical cup out of AA2024 sheet in order to study the these process parameters. The sheet is placed in a die, which can have a simple to complex geometry, representative of the final part to be produced. It is shaped into the hemispherical cup using compressed air. These input parameters were varied and output parameters such as thickness variations, maximum height, Diameter and minimum forming time of cup were studied and L9 orthogonal array .In order to obtain the output parameters affecting product quality, both Grey relational Analysis and ANNOVA were evaluated.

[Full Text](#)

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Mixed geographically weighted regression using adaptive bandwidth to modeling of air polluter standard index (Article)

Ispriyanti, D.^a, Yasin, H.^a, Warsito, B.^a, Hoyyi, A.^a, Winarso, K.^b

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^bDepartment of Industrial Engineering, Faculty of Engineering, Trunojoyo Madura University, Indonesia

Abstract

[View references \(15\)](#)

Air pollution is one of the most concerned problems on earth today. It is closely related with and mostly generated from the transportation and industrialization sectors, as well as from the environmentally degrading effect of the urban physical development. Air pollution promotes the lower level of air quality, which in turn promotes the greater risk on health, especially that of the human being. This research aims to aid the government in the policy making process related to air pollution mitigation by developing a standard index model for air polluter (Air Polluter Standard Index - APSI) based on the Mixed Geographically Weighted Regression (MGWR) approach using the adaptive bandwidth. The adaptive bandwidth kernel has different bandwidth value in each observation location. Akaike Information Criterion-corrected (AICc) value is used to choose the most optimum bandwidth. The Monte Carlo Simulation is used to tests for regression coefficient non-stationarity. In this research, we also consider seven variables that are directly related to the air pollution level, which are the traffic velocity, the population density, the business center aspect, the air humidity, the wind velocity, the air temperature, and the area size of the urban forest. Based on AICc and MSE value it is know that the MGWR model with adaptive bisquare kernel is the best bandwidth to analyze this model. © 2006-2017 Asian Research Publishing Network (ARPN).

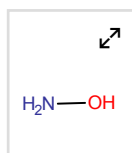
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Topic: Housing | Model | Regression GWR

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Robust geographically weighted regression of modeling the Air Polluter Standard Index (APSI)

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Modeling of air pollutants SO2 elements using geographically weighted regression (GWR), geographically temporal weighted regression (GTWR) and mixed geographically temporalweighted regression (MGTWR)

Winarso, K. , Yasin, H.

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Winarso, K. , Notobroto, H.B. , Fatmawati, X.X.X. (2014) *Applied Mathematical Sciences*

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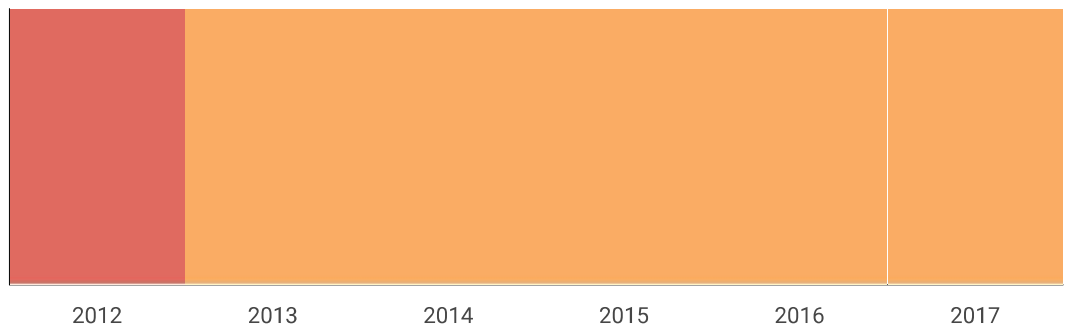
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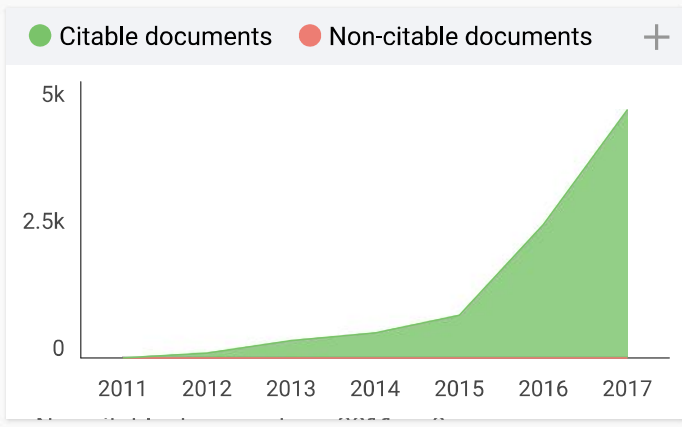
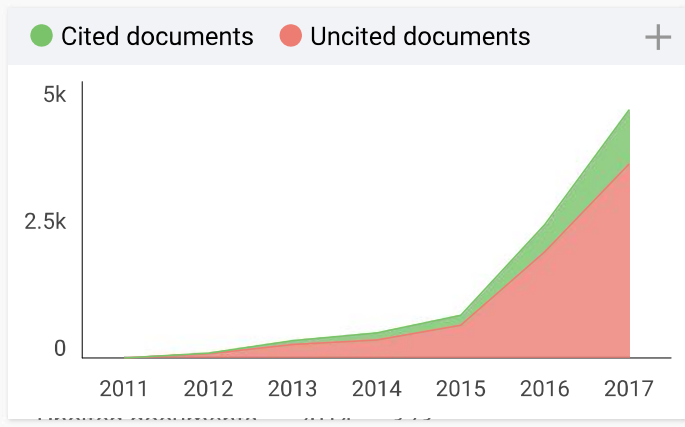
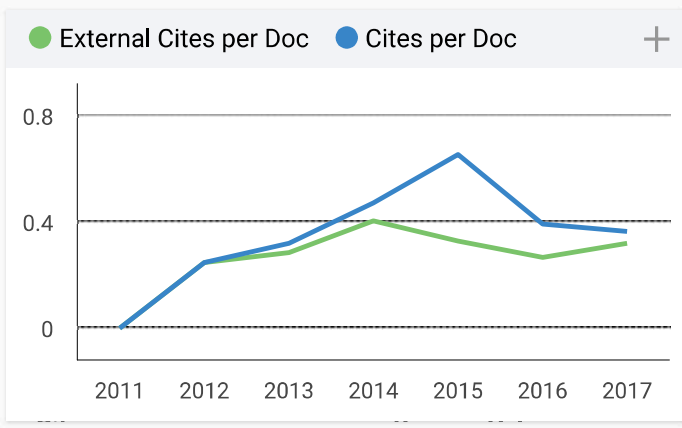
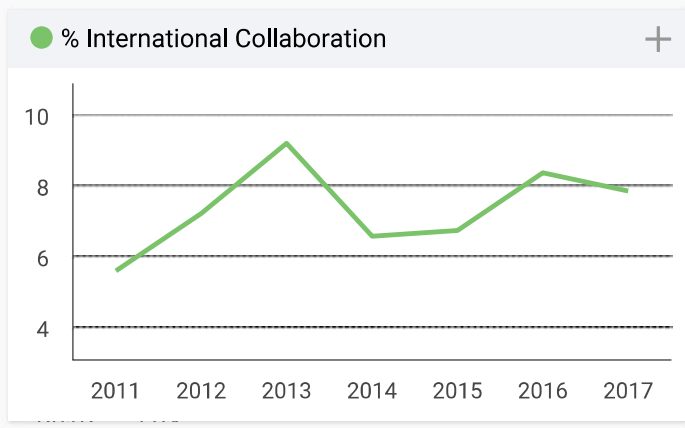
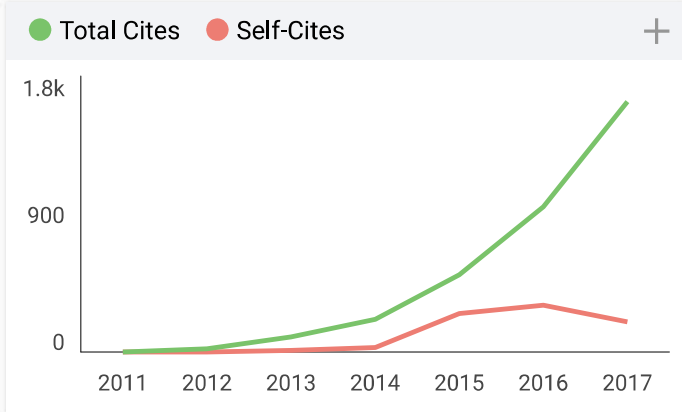
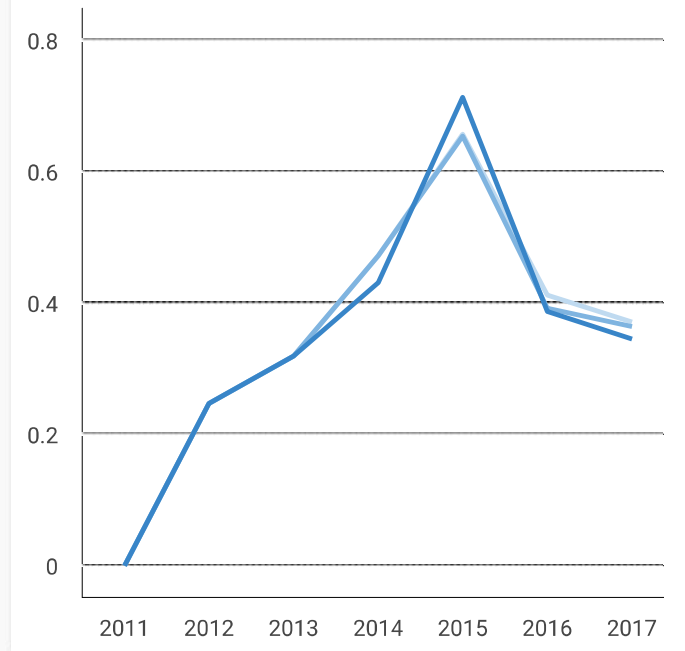
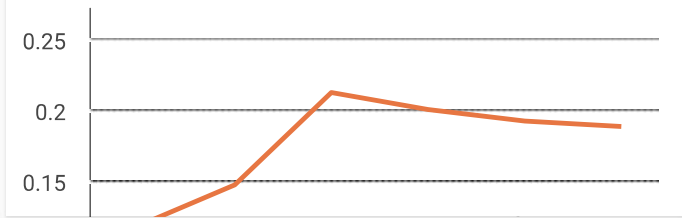
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