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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah	:	Interval Confinement in Compression Zone to Evaluated Beams Performance Subjected Monotonic Loads		
Jumlah Penulis	:	4 orang (**Yulita Arni Priastiwi**, Iswandi Imran, Nuroji, Rudi Yuniarto Adi)		
Status Pengusul	:	Penulis ke-1		
Identitas Prosiding	:	a. Judul Prosiding	:	MATEC Web of Conferences The 2nd International Joint Conference on Advanced Engineering and Technology (IJCAET 2017) and International Symposium on Advanced Mechanical and Power Engineering (ISAMPE 2017)
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		d. Penerbit/Organiser	:	EDP Sciences
		e. Alamat Repository/Web	:	https://www.matec-conferences.org/articles/matecconf/abs/2018/18/matecconf_ijcaet-isampe2018_01010/matecconf_ijcaet-isampe2018_01010.html
		Alamat Artikel	:	https://www.matec-conferences.org/articles/matecconf/pdf/2018/18/matecconf_ijcaet-isampe2018_01010.pdf
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b. Ruang lingkup dan kedalaman pembahasan (30%)	9.00		7,5
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9.00		8,0
d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9.00		8,0
Total = (100%)	**30.00**		26,5
Nilai Pengusul = 60% x 26,5= 15,9			

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi prosiding:**
   Paper terdiri dari bagian ringkasan, pendahuluan, metode penelitian, hasil dan pembahasan,kesimpulan dan daftar rujukan. Unsur lengkap dan sesuai.
2. **Ruang lingkup dan kedalaman pembahasan:**
   Paper membahas penelitian terkait penggunaan sengkang pada daerah tekan balok dengan pembebanan monotonik. Pembahasan meliputi hubungan beban-deformasi, dan momen-kurvatur.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Benda uji berupa 4 buah balok dengan 2 buah balok sengkang normal, dan 2 balok dengan sengkang tekan. Balok dengan sengkang tekan memiliki 2 variasi jarak sengkang. Jumlah rujukan terbatas.
4. **Kelengkapan unsur dan kualitas terbitan:**
   Paper diterbitkan pada prosiding seminar Matec Web of Conference yang memiliki E-ISSN. Terbitan memiliki Editor, daftar isi, dan scientific committee. Pembicara berasal dari sekurangnya 5 negara.

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d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9.00		9.00
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Nilai Pengusul = 60% x 29 = 17.4			

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   Metodologi yang dipergunakan sudah tepat dan dapat menjawab tujuan dari penelitian.
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Penulis pertama: $0.6\ x\ 29.0 = 17.4$

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Volume 159, 30 March 2018, Article number 01010
2nd International Joint Conference on Advanced Engineering and Technology, IJCAET 2017 and International Symposium on Advanced Mechanical and Power Engineering, ISAMPE 2017; Bali; Indonesia; 24 August 2017 through 26 August 2017; Code 135617

Interval Confinement in Compression Zone to Evaluated Beams Performance Subjected Monotonic Loads (Conference Paper) (Open Access)

Priastiwi, Y.A.[a], Imran, I.[b], Nuroji[a], Yuniarto Adi, R.[a]

[a]Civil Engineering Department, Faculty of Engineering, Diponegoro University, Semarang, Indonesia
[b]Structural Engineering Research Group, Civil Engineering Department, Bandung Institute of Technology, Bandung, Indonesia

Abstract

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Confinement is one way that can be used to improve the performance of reinforced concrete structures, mainly related to ductility. The parameter of the distance between the confinement becomes an important thing that must be studied its effect on ductility produced by a structural element. This study aims to study the effect of different distance between the confinement in compression zone in the beam at the plastic hinge area to the displacement and the behavior of the beam when it was given monotonic loading. The specimen model which is a simplified form of the plastic hinge area up front column will be fitted with a confinement in the compression zone which is attached to the shear reinforcement with different distances of 0, 70, 125 mm. Also made a beam with a crossties confinement spaced 125 mm for comparison. The presence of a centralized load in the middle of the span is intended to obtain the largest moment and shear areas in the plastic hinge. The test results showed that the installation of 125 mm intervals for confinement in the compression zone resulted in a higher ductility of 11-18% against the beam without confinement than the 70 mm interval which only increased by 2.78%. The hoops confinement produces higher ductility than crossties confinement for the same confinement interval. The increased confinement interval from 70 to 125 mm not yet significantly affect the moment capacity of the beam and the collapse was still dominant in the bending collapse although the distance between the stirrups and the confinement was slightly widened. © The Authors, published by EDP Sciences, 2018.

SciVal Topic Prominence

Topic: Fiber reinforced plastics | Reinforced concrete | Concrete cylinders

Prominence percentile: 98.654

Indexed keywords

Engineering controlled terms: Reinforced concrete

Engineering uncontrolled terms: Bending collapse, Compression zones, Moment capacity, Monotonic load, Monotonic loading, Plastic hinges, Shear reinforcement, Structural elements

Engineering main heading: Ductility

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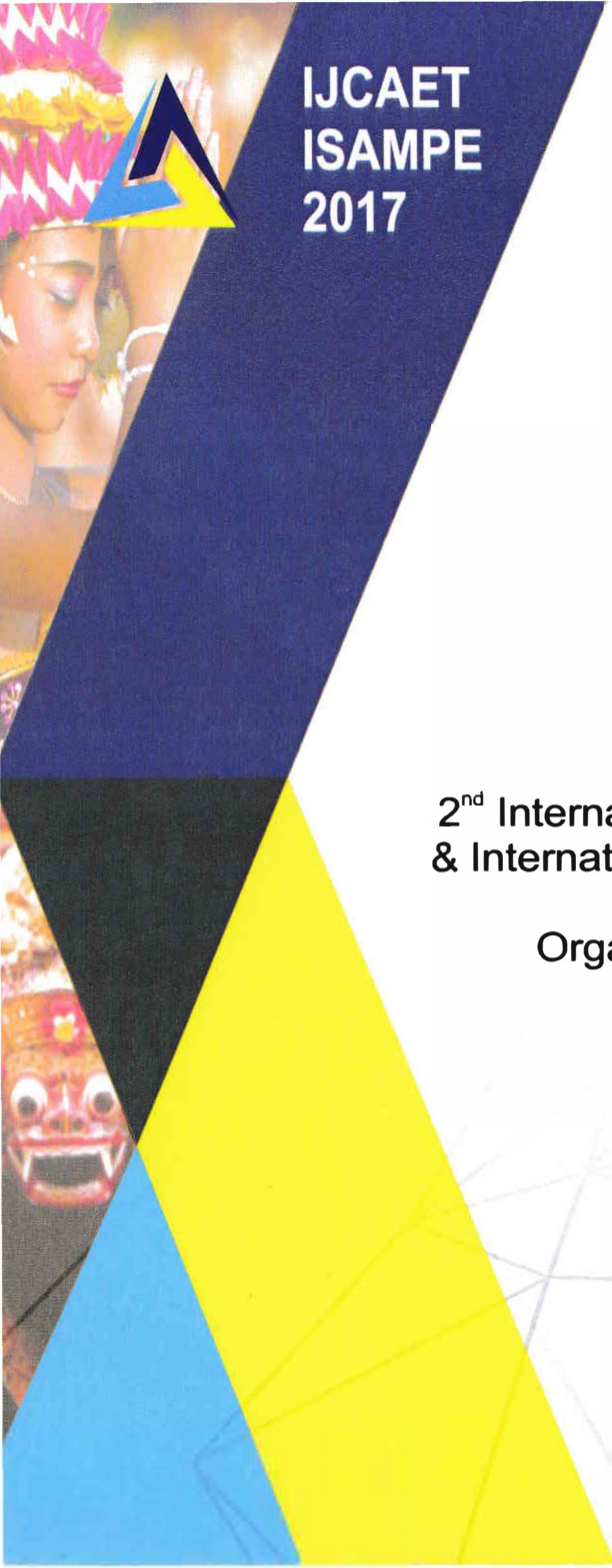

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A Comparative Analysis of Mental Workload between Train and Bus Drivers 02076

Hartomo Soewardi and Perdana Suteja Putra

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Fatigue Testing and Evaluation of Fatigue Strength under Multiaxial Stress State; Why do we need fatigue testing?

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Abstract. Types of multiaxial fatigue tests and their experimental results are presented in this paper. There are typical three types in multiaxial fatigue tests: the combining push-pull and reversed torsion loading test using hollow cylinder specimen, the biaxial tension-compression test using cruciform specimen and the inner pressure applied the push-pull loading test using the hollow cylinder specimen. In the combining a push-pull loading and a reversed torsion loading test, failure life under non-proportional loading in which principal directions of stress and strain were changed in a cycle was shortened compared to proportional loading in which those are fixed. Fatigue lives were well-correlated using a non-proportional strain range considering the effect of strain path and material dependence. In the biaxial tension-compression test, the failure life decreased with increase of the principal strain ratio. In the inner pressure applied the push-pull loading test, cyclic deformation behaviour due to complex loading paths of multiaxial fatigue tests with the inner pressure associated with push-pull and rev. torsion acted to reduce the failure lives. Experimental investigation of multiaxial failure life and elucidation of their governing mechanism is essential and it can broaden the applicability of structural components.

1 Introduction

Investigation of fatigue properties is essential for design of structural components. In practical application, structures are subjected to complex multiaxial load. Therefore, the understanding of multiaxial fatigue properties of materials is important. Indeed, failure lives are overestimated when the effect of multiaxiality is neglected. Multiaxial fatigue testing usually has been carried out using a hollow cylinder specimen by applying push-pull loading and a reversed torsion loading and the applicability of multiaxial stress and strain parameters has been discussed [1-5]. However, a principal strain ratio (ϕ) and a principal stress ratio (λ) ranges performable by the testing method are $-1 \leq \phi \leq -\nu$ and $-1 \leq \lambda \leq 0$, where ν is the Poisson's ratio. Structural components sometimes undergo fatigue damage at principal strain/stress ratios in excess of the above range under service loading. In

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An Integration of PSO-based Feature Selection and Random Forest for Anomaly Detection in IoT Network

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Abstract. The most challenging research topic in the field of intrusion detection system (IDS) is anomaly detection. It is able to repeal any peculiar activities in the network by contrasting them with normal patterns. This paper proposes an efficient random forest (RF) model with particle swarm optimization (PSO)-based feature selection for IDS. The performance model is evaluated on a well-known benchmarking dataset, i.e. NSL-KDD in terms of accuracy, precision, recall, and false alarm rate (FAR) metrics. Furthermore, we evaluate the significance differences between the proposed model and other classifiers, i.e. rotation forest (RoF) and deep neural network (DNN) using statistical significance test. Based on the statistical tests, the proposed model significantly outperforms other classifiers involved in the experiment.

1 Introduction

The present escalation of Internet of Things (IoT) devices and services has changed our daily life dramatically. Many applications are built based on IoT technologies, i.e. smart cities, smart health care, smart home and vehicular networks [1]. Apart from these benefits, attackers may take this such opportunity to launch malevolent code or program to the network. According to [2], security is a key barrier of the implementation of IoT network and services. This is because IoT works with different standard and protocol forming a heterogeneous network. Moreover, IoT devices prevalently produce a huge amount of data so it might become a big threat as malicious users can intercept the data while it is transmitted.

As the development of IoT devices increase, insecure information processing might immediately affects to the whole IoT network. The jeopardy of information disclosure in public space will increase caused by the broadly development of IoT. As presented in Figure 1, security architecture in IoT is divided into three layers, i.e. perception layer, transportation layer, and application layer [3] [4]. Transportation layer comprises network access security which is responsible for attack detection and prevention. An intrusion detection system (IDS) is one security solution which can be deployed in the transportation

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SYNTHESIS OF BARIUM SULFATE IN THE VARIATION OF TEMPERATURE AND ADDITIVE CONCENTRATION

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Abstract. Barium sulfate (BaSO4) with fine sizes is important for many applications. Barium Sulfate (BaSO4) is suitable for applications as diverse as whiteness, inertness and high density. Many different approaches have been reported for the preparation of nanoparticles BaSO4 including the addition of different additives. Aims of this study to synthesize barium sulfate (BaSO4) from natrium sulfate and barium chloride with the modification of the mixing speed, temperature and additive concentration variations. This study conducted in Diponegoro University Laboratorium. The sample were characterized by a number of different methodologies, including XRD and SEM-EDS. The higher the temperature of the mass of the crust that formed more and more. The results showed a temperature of 40°C was obtained crust mass greater than at 30°C. The addition of the additive citric acid to 20 ppm does not have enough influence to lower the formation of crust mass. From the SEM image, it is clear that the particle size is less than 10 μm.

1 Introduction

Synthesis of inorganic powder with ultrafine size, surface properties controlled and controlled morphology attract increasing interest for use are important in many fields. Barium Sulfate (BaSO4) is suitable for applications as diverse as whiteness, inertness and high density [1]. Barium sulfate is a kind of important inorganic chemical products as packaging and additives in painting, coating, plastics and pharmaceuticals fiber [2-4]. Barium sulfate crystals can be formed from a chemical reaction as follows:

$$BaCl_2\,(l) + Na_2SO_4\,(l) \rightarrow BaSO_4\,(s) + 2NaCl\,(l) \qquad (1)$$

The reaction liquid / liquid is the primary method of preparation of nano-BaSO4. This method has several divisions such as direct rainfall, the separation of micro-emulsion [5] membrane [6], the reactor microchannels [7]. Preparation $BaSO_4$ particles have been studied to assess the effect of mixing, the model precipitation, the stirrer speed and position feedback on particle size distribution, crystal growth and morphology [8,9].

Many different approaches have been reported for the preparation of nanoparticles BaSO4 including the addition of different additives [10,11] induction with monolayer and

Design studies of inner and outer embedded Permanent Magnet for hybrid electric vehicles

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Abstract. Hybrid vehicles require high torque for propel, hence permanent Magnet machines are highly suiting for the improvement in the torque density. The paper focus on designing built-in interior permanent magnet (IPM) synchronous machine for hybrid electric drive. With the permanent magnet switched from rotor to stator and the characteristics over a wide range of speed operation is studied. The results obtained though performance analysis shows that at 130 rpm high torque with power peaking at around 900 rpm. Both the inner and outer machine are studied using numerical study tool for performance analysis for the application mentioned above. The inner magnet rotor design has provide a better magnetic flux flow due to the larger flux linkage between the permanent magnet and stator pole. Both type of machines are evaluated for torque where the machine with inner magnet provide a higher torque density of 4.94% as compared to the outer magnet machines.

1 Introduction

Unlike internal combustion engine (ICE) vehicles, the mechanical losses are converted into heat and dissipate to surrounding which does not practice the concept of energy efficiency [1-2]. Hybrid vehicles operate based on permanent magnet machine where magnetic flux linkage generated from the overlapping of magnetic field between permanent magnet and electromagnet [3]. The brushless permanent magnet DC machines have advantages over other machines such as simpler to maintain, more durable, and compact, less likely to suffer reduction in torque performance. The issues occurred where the fixed magnetic field in the stator could not increase the torque density due to difficulty in controlling the magnetic flux. [4-5]. A new type of design that includes two rotors one inside the machine and the other outer rotor enable applications in future wherein the operating mode is feasible in either simultaneous or independent operations using control techniques. A comparative design analysis using torque density value as evaluation parameter is presented to suiting to a hybrid electric vehicle.

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