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Identitas Prosiding :
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c. Volume, nomor, bulan tahun : 1913, 020038 (2017)
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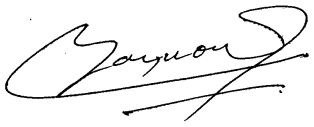
Total = (100%)	27,45	26.50	26.98
Nilai Pengusul = 40% x1/2	**5,49**	**5.30**	**5.39**

Semarang, April 2020

Reviewer 2

Prof. Dr. St. Budi Waluya, M.Si
NIP. 196809071993031002
Unit kerja : Matematika FMIPA UNNES

Reviewer 1



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Nilai Pengusul = 40% x1/2x 27,45 = 5,49				

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Penulisan artikel baik dan mengikuti standard penulisan artikel di AIP Conference Proceedings, yaitu abstract, Introduction, Result and Discussion (IRaD), Conclusion, dan Acknowledgement. Belum memuat Methodology. Artikel ini didukung dengan referensi yang sesuai.

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Lingkup bahasan dari artikel ini adalah bidang matematika terapan, khususnya pada bidang pemrograman Fuzzy. Dalam artikel ini dibahas dengan baik tentang analisis fuzzy untuk menyelesaikan pemilihan pemasok dan pemilihan pemasok yang terintegrasi dengan ketidakpastian biaya. Relevansi hasil terkait dengan strategi optimal dalam pemilihan pemasok.

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Total = (100%)	**30,00**			26.50
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2. **Ruang lingkup dan kedalaman pembahasan:**

Ruang lingkup dan kedalaman pembahasan cukup baik. Pembahasan hasil kurang ditonjolkan nilai temuan kebaruan. Pembahasan mengenai mathematical model of the problems fuzzy expected value based quadratic optimization. Termasuk Matematika Terapan yang sesuai dengan bidang keilmuan pengusul.

3. **Kecukupan dan kemutakhiran data/informasi dan metodologi :**

Kecukupan dan kemutakhiran data/informasi dan metodologi baik. Terdapat 14 referensi Sebagian besar berupa jurnal (2 referensi kurang up to date). Metodologi cukup baik.

4. **Kelengkapan unsur dan kualitas terbitan:**

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ICWOMAA 2017
INTERNATIONAL CONFERENCE & WORKSHOP ON MATHEMATICAL ANALYSIS AND ITS APPLICATIONS

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Expected Value Analysis for Integrated Supplier Selection and Inventory Control of Multi-product Inventory System with Fuzzy Cost

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Malang, 2 August 2017

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Volume 1913, 5 December 2017, Article number 020038
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Expected value analysis for integrated supplier selection and inventory control of multi-product inventory system with fuzzy cost (Conference Paper) (Open Access)

Sutrisno ✉, Widowati ✉, Heru Tjahjana, R. ✉

Department of Mathematics, Diponegoro University, Semarang, Indonesia

Abstract

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The future cost in many industrial problem is obviously uncertain. Then a mathematical analysis for a problem with uncertain cost is needed. In this article, we deals with the fuzzy expected value analysis to solve an integrated supplier selection and supplier selection problem with uncertain cost where the costs uncertainty is approached by a fuzzy variable. We formulate the mathematical model of the problems fuzzy expected value based quadratic optimization with total cost objective function and solve it by using expected value based fuzzy programming. From the numerical examples result performed by the authors, the supplier selection problem was solved i.e. the optimal supplier was selected for each time period where the optimal product volume of all product that should be purchased from each supplier for each time period was determined and the product stock level was controlled as decided by the authors i.e. it was followed the given reference level. © 2017 Author(s).

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Topic: Data envelopment analysis | Efficiency | Cross-efficiency evaluation

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Sutrisno , Widowati , Heru Tjahjana, R. *(2018) International Journal of Supply Chain Management*

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The papers were presented at the International Conference and Workshop on Mathematical Analysis and its Applications (**ICWOMAA**) 2017, which took place in Brawijaya University, Malang, Indonesia on August 2-3, 2017. These papers represent current important work in the field of mathematical analysis and its applications, which categorized into Real Analysis, Complex Analysis, Operator Theory, Integral Theory, and Applied Analysis in other fields. In general, we selected 38 papers of 60 submitted papers. Some of the presenters did not submit their papers; they only present their results in the conference. The total presenters were 98 persons from various countries.

The conference has discussed ongoing and updated researches on mathematical analysis and related subjects, including educational mathematics to foster growth in our community. During the conference, significant discussion time followed each presentation to allow for feedback and suggestions for future directions of the researches. Hopefully, participants have had used those opportunity to expand their networks and to share their ideas throughout the interaction.

Above all, we would like to express our sincere thanks to the Steering and Organizing Committees; Associate Prof. Karel Svadlenka, Ph.D (Kyoto University, Japan), Prof. Dr. Hendra Gunawan (Bandung Institute of Technology, Indonesia), Prof. Dr. Supama, M.Si. (Gadjah Mada University, Indonesia), Prof. Dr. Agus Suryanto, M.Sc (Brawijaya University, Indonesia), Dr. Eridani, M.Si (Airlangga University, Indonesia), Dr. Dieky A, M.Si (Sepuluh Nopember Institute of Technology, Indonesia), Prof. Dr. Mustafa Bayram (Istanbul Gelisim University, Turkey), Prof. Dr. Aydin Secer (Yildiz Technical University, Turkey), and Prof. Dr. Mokhtar Kirane (Universit'e de La Rochelle, France). Most importantly, we also wish to acknowledge the conference reviewers and all authors for their excellent work and contributions without whose expert input this event would not have been possible.

Finally, we are grateful for the support by the Department of Mathematics, Faculty of Mathematics and Natural Sciences, Brawijaya University. We also extend our thanks to all members of Komunitas Analisis Matematika Indonesia (KAMINDO) for their support and participation in this conference.

Editors,

Prof. Dr. Adem Kilicman
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Existence of Global Weak Solutions for Cauchy-Dirichlet Problem for Evolutional p-Laplacian Systems

Corina Karim[1,a)] and Masashi Misawa[2,b)]

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[2]*Department of Mathematics, Graduate School of Science and Technology, Kumamoto University, Japan*

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Abstract. We study the existence of global weak solutions for Cauchy-Dirichlet problem for evolutional p-Laplacian systems. The initial data is belonging to the Sobolev space $W^{1,p}(\Omega, \mathbb{R}^n)$. We use a varitional (like) method to treat the existence of a weak solution, this method seems somehow simply than the Galerkin method.

INTRODUCTION

Let Ω be a bounded domain in $\mathbb{R}^m$, $m \geq 2$, with smooth boundary $\partial\Omega$, and let $\frac{2m}{m+2} < p < \infty$. For a map $u : (0,T) \times \Omega \to \mathbb{R}^n$, $z = (t,x) = (t, x_1, x_2, ..., x_m)$, $u = u(z) = (u^1(z), ..., u^n(z))$, we consider p-Laplacian type, with principal term only, as below

$$\begin{cases} \partial_t u - \operatorname{div}(|Du|^{p-2}Du) = 0 & \text{in } (0,T) \times \Omega \\ u(0,x) = u_0(x) & \text{on } \partial_p(0,T) \times \Omega \end{cases} . \tag{1}$$

The global existence of weak solutions to the heat flow of p-harmonic maps was settled by Chen et al. ([1]) whose proof is using Galerkin method and 'monotonicity trick'. In the other hand, the existence of solution for a Cauchy-Dirichlet problem with constant coefficient and principal term only has been studied well by [4], where the proof is also using Galerkin method with the initial-boundary data is assumed to be a bounded weak solution. Our method used in this paper is different from their and we called a varitional (like) method. This method seems simple than Galerkin method. The existence itself plays important role to prove the Hölder regularity and the gradient Hölder regularity for p-Laplacian system (see [2], [3], [5], [6]).

Our main purpose of this paper is to proof the global existence of weak solution for Cauchy-Dirichlet problem for evolutional p-Laplacian systems by the Rothe type time-difference (elliptic) partial differential equation systems such that for a.e $t \in (0, \infty)$,

$$\begin{cases} \frac{u_k(x) - u_{k-1}(x)}{h} - \Delta_p u_k = 0 & \text{in } \Omega \\ u_k(0,x) = u_0(x) & \text{on } \partial_p\Omega, \end{cases} \tag{2}$$

where $k = 1, 2, ... \in \mathbb{N}$, h be a positive parameter but close to zero, $h \to 0$, and the initial data $u_0 \in W^{1,p}(\Omega, \mathbb{R}^n)$.

Such as the evolutional system (2), we have the p-energy functional, defined for functions $u_0(x)$ is any given initial data belonging to the Sobolev space $W^{1,p}(\Omega, \mathbb{R}^n)$, that is

$$E_k(u) := \int_\Omega \frac{1}{2}\frac{|u - u_{k-1}|^2}{h} + \frac{1}{p}|Du|^p dx, \tag{3}$$

for any $u \in X := W^{1,p}(\Omega, \mathbb{R}^n) \cap \left\{u - u_0 \in W_0^{1,p}(\Omega, \mathbb{R}^n)\right\}$.

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Errors Analysis of Problem Solving Using The Newman Stage After Applying Cooperative Learning of TTW Type

Rr Chusnul C[1, a)] Mardiyana[2, b)] Dewi Retno S[3, c)]

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Abstract. Problem solving is the basis of mathematics learning. Problem solving teaches us to clarify an issue coherently in order to avoid misunderstanding information. Sometimes there may be mistakes in problem solving due to misunderstanding the issue, choosing a wrong concept or misapplied concept. The problem-solving test was carried out after students were given treatment on learning by using cooperative learning of TTW type. The purpose of this study was to elucidate student problem regarding to problem solving errors after learning by using cooperative learning of TTW type. Newman stages were used to identify problem solving errors in this study. The new research used a descriptive method to find out problem solving errors in students. The subject in this study were students of Vocational Senior High School (SMK) in 10th grade. Test and interview was conducted for data collection. Thus, the results of this study suggested problem solving errors in students after learning by using cooperative learning of TTW type for Newman stages.

INTRODUCTION

Mathematics is a compulsory subject at the school level, evident at every level of mathematics course. Mathematics has an important role in the mastery of science and technology. According to Leonard in [1] mathematics knowledge and skill provide a key for entry into rapidly changing technological world. This is because mathematics as the basis of other knowledge, mathematics is also closely related to everyday life. Everyday activities that we live are closely related to math. There are many mathematical reasons. One reason is that students are expected to have the ability and skills in solving problems.

Problem solving is essential in learning math. Problem solving drill students to work out the problem systematically. According to Okur in [2] problem solving is a way of thinking, reasoning and using the things learned in all the math activities. To solve the problem, in solving the problem requires knowledge that has been obtained before. Problem solving as a process, an activity that is more about important procedure steps, strategies and characteristics that are taken to resolve the so that students can find answers to question and not just the answer it self [3].

Problem Solving has 4 steps to solve the problem at hand. According to Polya, stages to solve problems are understand the problem, make a plan, carry out the plan, and look back at the complete solution [4]. In step understand the problem, students are expected to know the information contained in the problem and the desired question. In step make a plan, students are expected to find the formula that will used to solve the problem. In the carry out the plan, students are expected to be thorough in calculating the settlement. According Miller, in this process the teacher can promote the use of different problem solving strategies [5]. In step look back at the complete

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Numerical Method for The Simulation of Contact Angle Dynamics

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Abstract. In this research, we develop a method to simulate nonsymmetric triple junction motion given by the gradient flow of surface energy with arbitrary surface tensions of the participating interfaces. The foundation of the method is the diffusion-based BMO algorithm in vector-valued formulation. We realize the nonsymmetric motion by generalizing the original BMO method and adding a corrective projection step. In the end, we show the numerical example for the simulation of the bubble motion using two different contact angles to simulate the contact angle dynamics.

INTRODUCTION

Understanding the contact angle dynamics is very useful to realize some kinds of important phenomena. An example of such phenomena is the motion of small droplets or bubbles which has important applications in nanotechnology and heat transfer.

In this research, we develop an interface model with contact angle. The interface between two fluids is considered as a membrane with its own physical parameters. We build an interface model based on gradient flow of surface energy and develop a numerical model for interface motion with arbitrary surface tensions leading to nonsymmetric triple junctions. To treat such curvature-dependent motions, several methods have been developed. For symmetric junctions, Merriman, Bence and Osher [1] introduced the BMO method, which alternately diffuses and sharpens characteristic function for each phase region. Ruuth [2] generalized the BMO method to nonsymmetric triple junctions by replacing the thresholding step with a new decision using a projection triangle. Svadlenka et al. [3] reformulated the BMO algorithm in a vector-valued setting for multiphase motion. This vector-valued formulation is essential for implementing constraints and for dealing with more general motions. However, it is restricted to the symmetric case. Mohammad et al. [4] improved the symmetric multiphase BMO algorithm of [3] by introducing a vector-valued signed distance function.

In this work, we consider three evolving curves meeting at a junction and having arbitrary surface tensions. We achieve the simulation of such a triple junction by generalizing the two main ingredients of the method in [3]: the reference vectors (corresponding to the positions of wells in the phase-field method) and the way of diffusing. Moreover, we improve the scheme by including a modification of the projection step in [2]. The developed method is applicable to constrained motions, which is essential for the considered coupled model. The contact angle dynamics have been analyzed using interface-fluid coupled model that have been developed in [5, 6].

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