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Bandung, 24 Oktober 2018

Reviewer I



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 Unit kerja : FTSL. ITB

Reviewer II



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Semarang, 10 Oktober 2018
 Reviewer



Prof. Dr. Ir. Rizal Z Tamin
 NIP. 195508181980031005
 Unit kerja : FTSL. ITB

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Paper tentang bagai mana penerapan ergonomi di dalam memperbaiki produktivitas pekerja konstruksi ini dapat memberi masukan kepada kontraktor tentang perbaikan kondisi kerja untuk meningkatkan kinerja dalam proyek konstruksi.

Semarang,
Reviewer



Prof. Dr. Ir. Puti Farida Marzuki
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Productivity is an important issue in the construction industry. It is directly related to the construction cost and duration of the work. Construction productivity is influenced by many factors, such as material, equipment and labor. Labor is the most important factor, since labor determines how the work is done. Labor productivity is influenced by the work methods, physical fatigue, work environment, capability, and complexity of the work. To improve labor productivity due to the work method, application of the principle of ergonomics is important to consider. This research was held in Yogyakarta included 10 construction projects and involve 30 labor of brick masonry work, 22 labor of ceramic instalation, and 24 labor of wall painting work. The application of ergonomics principles in the masonry work, plaster work, ceramic installation, and wall painting work show an increase in labor productivity by 28.49%, 16.22%, 21.47%, and 26.18% respectively. Compared with the National Standards of Indonesia (NSI) these productivity per job are higher by 10.34%, 57.89%, 12.72%, and 33.33%.

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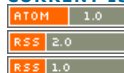
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Bit Plane Coding based Steganography Technique for JPEG 2000 Images and Videos

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Abstract: In this paper, a Bit Plane Coding (BPC) based steganography technique for JPEG2000 images and Motion JPEG2000 video is proposed. Embedding in this technique is performed in the lowest significant bit planes of the wavelet coefficients of a cover image. In JPEG2000 standard, the number of bit planes of wavelet coefficients to be used in encoding is dependent on the compression rate and are used in Tier-2 process of JPEG2000. In the proposed technique, Tier-1 and Tier-2 processes of JPEG2000 and Motion JPEG2000 are executed twice on the encoder side to collect the information about the lowest bit planes of all code blocks of a cover image, which is utilized in embedding and transmitted to the decoder. After embedding secret data, Optimal Pixel Adjustment Process (OPAP) is applied on stego images to enhance its visual quality. Experimental results show that proposed technique provides large embedding capacity and better visual quality of stego images than existing steganography techniques for JPEG2000 compressed images and videos. Extracted secret image is similar to the original secret image.

Keywords: BPC, Code block, HVS, PSNR, JPEG2000, MSE, OPAP, SIM.

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I. INTRODUCTION

Steganography is a technique of hiding secret data in a host medium like text, image, audio or video. Host media are termed as cover media and after hiding secret data, cover media are termed as stego media. The main objective of a steganography technique is to hide the large amount of secret data into a cover media to protect from the unauthorized users when it is transmitted using a public network. Hiding capacity, security and robustness are three main research targets for a steganography technique (Sencar *et al.*, 2004). Steganography approaches can be divided into three categories- spatial domain, frequency domain and compressed domain techniques. In spatial domain techniques, the pixel values of the cover image are directly manipulated to hide the secret data (Chan *et al.*, 2004; Chen *et al.*, 2010; Ioannidou *et al.*, 2012; Carvajalet *et al.*, 2013). In frequency domain, the cover image is transformed using some transform like Discrete Cosine Transform (DCT), Discrete Fourier Transform (DFT), Discrete Wavelet Transform (DWT) *etc.* and the secret data is

embedded into the transformed coefficients (Chen, 2008; Chu *et al.*, 2004; Goudia *et al.*, 2011; Jafari *et al.*, 2013; Noda *et al.*, 2006). In compressed domain techniques, the secret data is embedded into compressed output of a compression standard like JPEG, JPEG 2000 *etc.* (Chang *et al.*, 2006; Chang *et al.*, 2007; Chang *et al.*, 2011; Hai-ying *et al.*, 2008; Ishida *et al.*, 2008; Ishida *et al.*, 2009; Jin *et al.*, 2007; Ohyama *et al.*, 2008; Ramkumar and Akansu, 2001; Suand Kuo, 2003; Yang *et al.*, 2011; Zhang *et al.*, 2009). Steganography techniques of all these categories have different specifications. Spatial domain techniques are widely used for steganographic applications as they provide high embedding capacity and have less complexity. However, these techniques are vulnerable to statistical analysis. Transform and compressed domain steganographic techniques possess a higher level of security as they generally resist the aforementioned steganalytic methods since they hide the secret information more thoroughly in a stego image. All steganography techniques must focus on three issues- where to hide secret data, how safe is



Unsteady MHD flow of a dusty nanofluid past a vertical stretching surface with non-uniform heat source/sink

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Abstract - We analyzed the momentum and heat transfer characteristics of unsteady MHD flow of a dusty nanofluid over a vertical stretching surface in presence of volume fraction of dust and nano particles with non uniform heat source/sink. We considered two types of nanofluids namely Ag-water and Cu-water embedded with conducting dust particles. The governing equations are transformed in to nonlinear ordinary differential equations by using similarity transformation and solved numerically using Shooting technique. The effects of non-dimensional governing parameters on velocity and temperature profiles for fluid and dust phases are discussed and presented through graphs. Also, the skin friction coefficient and Nusselt number are discussed and presented for two dusty nanofluids separately in tabular form. Results indicate that an increase in the volume fraction of dust particles enhances the heat transfer in Cu-water nanofluid compared with Ag-water nanofluid and a raise in the volume fraction of nano particles shows uniform heat transfer in both Cu-water and Ag-water nanofluids.

Keywords — MHD, Dusty fluid, Nanofluid, Stretching Sheet, Volume fraction, Convection.

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I. INTRODUCTION

Many researchers have investigated the heat and mass transfer characteristics of either dusty or nanofluids through different channels. In this study, we are taking initiative to analyze the momentum and heat transfer characteristics of a dusty nanofluid over a stretching surface by considering volume fraction of dust particles and volume fraction of nano particles. There are tremendous applications for dusty and nanofluids individually in engineering and sciences (Marble, 1970, Wang and Mujumdari, 2008)). Through this initiative, we try to focus on the metals or metallic oxides (mm or micro meters) which give good thermal enhancement by embedding into various nanofluids. (Debnath and Ghosh, 1988) considered dusty fluid flow between two oscillating plates. MHD dusty fluid flow through stretching surface was analyzed by (Chakrabarti and Gupta, 1979). (Datta and Dalal, 1995) discussed heat transfer characteristics of dusty viscous flow over circular pipe. (Bagewadi and Shanharajappa, 2000) analyzed dusty fluid flow over Frenet frame field. Oztop and Abu Nada (2008) discussed natural convective heat transfer through partially heated rectangular enclosures filled with nanofluid. (Ibrahim Saidu et al., 2011) discussed convective heat transfer of dusty viscous fluid by considering volume fraction of dust particles. (Mohan Krishna et al., 2015) discussed the effects of radiation and chemical reaction on MHD convective flow over a permeable stretching surface.

The heat transfer effect on unsteady stretching permeable sheet with combined effect in the presence of thermal radiation and non-uniform heat source/sink is discussed by (Pal, 2011). (Vajravelu et al., 2011) have discussed heat transfer analysis of convective nanofluid through a stretching surface with Ag-water and Cu-water. They concluded that increase in volume fraction of nanoparticles depreciates the velocity and thermal boundary layers. (Hady et al., 2012) analyzed the radiation effect on viscous nanofluid over a nonlinear stretching sheet. (Giresha et al., 2012) discussed heat transfer characteristics of dusty viscous fluid over stretching sheet. (Pal and Mondal., 2012) have studied the effect of non-uniform heat source or sink on MHD mixed convective flow with variable viscosity in the presence of porous medium. (Makinde et al., 2013) analyzed the combined MHD convective heat transfer with buoyancy effects past a Nanofluid over a heated stretching sheet and presented dual solutions by varying buoyancy parameter. (Raju et al. 2015a, 2015b, 2015c) discussed the radiation effect on the flow over a stretching sheet and a flat plate. They extended this work for ferro fluids also. (Sandeep et al., 2014) discussed the aligned magneticfield, radiation and rotation effects on unsteady hydro magnetic free convection flow past an impulsively moving vertical plate. (Sulochana and Sandeep, 2015) discussed the stagnation-point flow and heat transfer behavior of Cu-water nanofluid towards



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