

# D-SMP01

## Domestic Poster Session

13:00 – 13:50

Chair : Kim Soo Hyun (KAIST)

Room : Terrace(3F)

Co- Chair : Jooyoung Park (Korea Univ.)

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13:00 – 13:50

D-SMP-7

### The Study of Acquisition Signal Distortion due to Edge Effect in Direct Digital Radiography System

Cho Jin-Wook, Choi Jang-Yong, Mun Chi-Woona, Lee Hyung-Won, Nam Sang-Hee  
(Inje Univ.)

Successive image contrast enhancement was used to direct digital radiography system. This system was accurately required acquisition signal in each pixel. But, applied high electric field in a-Se thin film for x-ray conversion layer was caused to acquisition signal distortion, then bring low image contrast. The purpose of this study was to reduce the signal distortion, carried out different electrode size.

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13:00 – 13:50

D-SMP-8

### Development of Neutrality System using Intelligent PLC

Ahn Ihn-Seok, Kim Sang-Bin, Ahn Kwang-Seok, Lee Sung-Hwan, Lee Pyung-Gi  
(Uiduk Univ.)

This paper is about to consist of neutralization public decision system which is level controled the amount of inflow and outflow water to make use of PLC in automatic system and according to numerical value of PH, which is projected into a water tank counteragent automatically. But nevertheless, appearance of extended PLC, there is a limit to realize from automatic system to intellectual system which is more efficient and active. There are two problems in PLC. First, there is not generalized that a module of PLC (which is installed in PLC) is realized control algorithm form. Second, there is a difficulty of expression that provided PLC control language is realized. There fore I take fuzzy inference control technique of various intellectual algorithm and I make a control rule and ...

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13:00 – 13:50

D-SMP-9

### Development of Dual System Technology for PC based control system at the steel plant

Park Yeong-Bok  
(POSCO)

This paper describes the dual system technology of PC based control system at steel plant. Because PC is developed to be used in wide area such as Office Automation, Personal, It is cheaper and more portable than the present process control system, but is less stable and less reliable. In this research, We gathered the fault example of a general process control system and steel process control system, analyzed the cause of fault and decided the target fault that took over in our proposed system. The proposed PC based system is the dual system that has a shared RAID system connected by SCSI bus between two systems. In order to assist system reliability, we proposed watchdog manager to monitor ...

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13:00 – 13:50

D-SMP-10

### Robot Off-line Programming Based on a 2D CAD Drawing of Shoe Outsoles

Jin-Young Kim, Ho-Hyun Sung, Dong-Joon Kang(Tongmyung Univ.), Hyung-Suck Cho(KAIST)

Most of shoes manufacturing processes are not yet automated, it puts restrictions on increasing of productivity. Among them, adhesive application processes particularly are holding the most workers and working hours. In addition, its working conditions are very poor due to the toxicity of adhesive agents. In case of automating adhesive application processes by using robots, the robot teaching by playback is difficult to produce high productivity because the kinds of shoes to be taught mount up to several thousands. Therefore, it is essential to generate the robot working paths automatically according to the kind, the size, and the right and left of shoes, and also to teach them to the robot automatically.....

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13:00 – 13:50

D-SMP-11

### PD+I-type fuzzy controller using Simplified Indirect Inference Method

Ji-Hoon Kim, Hae-Jin Jeon, Kyung-Han Chun, Bong-Yeol Choi(Kyungpook National Univ.)

Generally, while PD-type fuzzy controller has good performance in transient period, it has uniform steady state error of response. To improve limitations of PD-type fuzzy controller, we propose a new fuzzy controller to improve the performance of transient response and to eliminate the steady state error of response. In this paper, PD-type fuzzy controller is used a simplified indirect inference method(SIIM). When the SIIM is applied, the proposed method has the capability of the high speed inference and adapting with increasing the number of the fuzzy input variables easily. The outputs of this controller are the output calculated by PD-type fuzzy controller and the accumulated error scaling factor. Here, the accumulated error scaling factor is adjusted by fuzzy rule according to the system state variables. To show the usefulness of the proposed controller, it is applied to 0-type 2nd-order linear system.

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13:00 – 13:50

D-SMP-12

### Shape recognition using Least-Square Method and compensation method

Hur Yonegi and Lee Dae-Kun  
(POSCO)

This paper proposes the recognition method of the strip shape using the Least-Square method and the distinction method of the asymmetric shape and the compensation method upon the shape control values for the stainless steel cold rolling mill. This paper proposes the shape recognition method before control and the compensation method to minimize the fluctuation of the shape deviation and to get symmetric shape. This paper shows on line test results to verify the performance of the control method for the process. The experiments have been performed with respect to various material type, thickness, and strip width. The performance of the proposed method is obtained excellent quality and high productivity as results.