D-SMP01

Domestic Poster Session

13:00 – 13:50 **Chair : Kim Soo Hyun (KAIST)**
Room : Terrace(3F) **Co- Chair : Jooyoung Park (Korea Univ.)**

13:00 – 13:50 **D-SMP-19**

Development of Korean Dummies Based on Anthropometric Data

Lee Sang-Cheol, Son Kwon, Kim Seong-Jin,
Jeong Yun-Seok(Pusan Univ.), Choi Kyung-Hyun(Cheju Univ.)

Human dummies are essential tools in the development of such sensible products as vehicles. Dummies are actively used not only in reach and view field tests, major ergonomic evaluations, but also in impact tests and perception evaluations. This study attempts to obtain possible correlations of human body segments from Korean anthropometric data. The investigation is focused on the description of human and dummy geometric and inertial properties. The modeling approach suggested is based on rigid body dynamics using fifteen individual body segments connected by joints. The segments are joined at locations representing the physical joints of the human body and have the mass of the body between body joints. For visualization, a three-dimension graphic technique is used ...

13:00 – 13:50 **D-SMP-20**

Development of Stereo PACS Viewer for the 3-D Endoscopic Image

Jeonghoon Kim(Shinheung College), Junyoung Lee, Sungjae Lee,
and Myoungho Lee(Yonsei Univ.)

Stereo PACS (Picture Archiving and Communication System) is not available yet because of some limitations of medical stereo image software and viewing devices. As a stereo PACS viewer, we designed two functions. One is selecting and viewing a multiplexed stereo image directly, and the other is selecting a stereo pair image (left and right sides both) and merging the stereo pair image into a multiplexed image in software. For the medical image compression of 3-D (stereo) endoscopic images, we used JPEG and Wavelet compression and to determine an acceptable compression rate using PSNR (Peak Signal-to-Noise Ratio). As a result, we got the conclusion that medically acceptable image compression rate should have the PSNR of above about 40[dB] (JPEG (5:1), Wavelet (10:1)).

13:00 – 13:50 **D-SMP-21**

A Study on the Stimulus control of L-α-DLPC Organic Monolayers

Song Jin-Won, Lee Kyung-Sup
(Dongshin Univ)

Recently, the study on development of electrical and electronic device is done to get miniature, high degrees of integration and efficiency by using inorganic materials. the study of Langmuir-Boldgett(LB) method that uses organic materials because of the limitation for the ultrasmall size. In this paper, to do research for medical artificial organs as well as principal parts living body thin film application, electrical properties of L-α-DLPC Langmuir(L) films were investigated a displacement current measuring technique with pressure stimulation. We give pressure stimulation into organic thin films and then manufacture a device under the accumulation condition that the state surface pressure is 20[mN/m]. LB layers of L-α-DLPC deposited by LB method ...

13:00 – 13:50 **D-SMP-22**

Design of Digital Systems for Web-based Pulse Diagnosis Database

Junyoung Lee, Sungjae Lee, Myoungho Lee(Yonsei Univ), Jeonghoon
Kim(Shinheung College)

In this study, we have developed the digital hardware system which performs signal processing necessary for the filtering to eliminate noises by inputting pulse wave signals from the sensor group. With a view to obtain clinically effective information, we analyzed structural elements of pulse waveform and, thus, conducted a systematic classification. What is more, this study has conducted researches in the web-based diagnosis data management system of pulse waveform as well as the method of transmitting the data of pulse waveform. In order to set the standard for the documents of the pulse...

13:00 – 13:50 **D-SMP-23**

Surface Rendering using Stereo Images

Sung-Jae Lee, Jun-Young Lee, Myoung-Ho Lee(Yonsei Univ.)
Jeong-Hoon Kim(Shinheung College)

This paper presents the method of 3D reconstruction of the depth information from the endoscopic stereo scopic images. After camera modeling to find camera parameters, we performed feature-point based stereo matching to find depth information. Acquired some depth information is finally 3D reconstructed using the NURBS(Non Uniform Rational B-Spline) algorithm. The final result image is helpful for the understanding of depth information visually.

13:00 – 13:50 **D-SMP-24**

A VR Bike Simulator for Balance Rehabilitation Training

Kim Jong-Yun, Song Chul-Gue, Kim Nam-Gyun
(Chonbuk Univ)

This paper describes a development of rehabilitation training system for the postural balance control. A new rehabilitation training system, designated as a virtual cycling system, was developed to improve postural balance control by combining virtual reality technology with an unfixed bicycle. In this experiment, 20 normal adults were tested to investigate the influencing parameters of postural balance control. In order to evaluate the usefulness and the training effects of the system, several parameters including path deviation, cycling velocity, cycling time, center of pressure, and head movement were evaluated and analyzed quantitatively. Also, to improve the effect of balance training, the visual feedback information related to the subject's weight shift was assessed to identify whether it was useful. It could be also known ...