FE01

Industrial Application I

15:40-17:40
Room : 1st Floor-Mozart

Chair1 : Oota ichirou (Kumamoto National College of Technology, Japan)
Chair2 :

15:40 – 16:00 **FE01-1**

The Application of Automated Guided Vehicle(AGV) Based on Inductive Guidance for Newsprint Rolls Transportation System

chen chao , wang bing, Ye Qingtai(Shanghai Jiaotong Univ., CHINA)

- Introduce
- Basic principle and kinematics model of the AGV
- Design of the guidance system
- Simulation and experimentation
- Conclusion

16:00 – 16:20 **FE01-2**

Characteristics of U-Shaped Slot Antenna fed by Micro-strip Line

Noppin Anantrasirichai, Wanchalerm Chanwattanapong, Auttapon Pomsathit(KMITL, THAILAND), Toshio Wakabayashi(Tokai Univ., JAPAN)

1.introduction
2.FDTD Method
3.Guidelines
4.Simulation Result
5.Conclusion

16:20 – 16:40 **FE01-3**

An Adaptive Cruise Control Study Using a Driving Simulator

Hyoung-Kwon Nam, Woon-Sung Lee, Ji-Young Lee, Jae-Suk Kim(Kookmin Univ., KOREA)

- Introduction
- Full-Scale Driving Simulator(KMU DS-3)
- Adaptive Cruise Control Implementation
- Driving Simulator Study
- Conclusions

16:40 – 17:00 **FE01-4**

Analysis of dynamic characteristics of a new electric power steering system

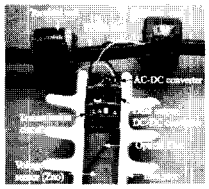
Kwangsuck Boo, Jeonghoon Song, Jongil Lee(Inje Univ., KOREA), Sunyoung Hong(Meccatech Co. Ltd, KOREA)

1. Introduction
2. The proposed EPS system
3. Mathematical Modeling of the EPS
4. Simulation results and discussions
5. Conclusions

17:00 – 17:20 **FE01-5**

Development of Floating Power Supply for Current Measurement System of High Voltage Power Line

Ichirou Oota, Hiroaki Hattori, Eiji Nishiyama, Toyonori Matsuda, Mitsunori Kawano, Kenji Kuwanami(Tech. Kumamoto Nat'l College, JAPAN)



A new floating power supply for the current measurement system of a high voltage power line is developed. It is confirmed that, the current measurement system can stably transfer the signal of the power line current about 50 - 300 A by using the proposed power supply. The excellent characteristics are obtained by the steady-state and transient experiments of the proposed circuit.

- The right figure shows the external view of the trial measurement system for 6.6 kV. In order to see the inside, 120 degrees of the insulator is cut. The toroidal coil for the power supply and the Rogowskii coil for the current sensor are both divided into two and fixed on the power line as ...
- The proposed circuit can supply +5V and -5V voltages without using a solar cell and/or a battery.

17:20 – 17:40 **FE01-6**

Design and Dynamic Characteristic Analysis of the Direct Drive-type Pneumatic Servo Valve

DongSoo Kim, WonHee Lee(KIMM, KOREA)

In this study, the pneumatic servo valve was developed, and the study results could be summarized as follows;
1. A servo solenoid was designed, and its electromagnetic field was interpreted and the system's transient response was identified by using a commercial analysis program.
2. A program for analysis the flow in the spool was developed, and a study was conducted on the flow rate of the nozzle depending upon the pressure ratio between the upstream pressure and the downstream pressure, when the valve is fully opened in the spool and the flow force depending upon a displacement of the spool in the valve.
3. A PWM analog controller was designed and manufactured in ...