

FM01

Poster Session

09:00-11:00

Room : base 2nd Floor-Zillertal

Chair1 : Hie sik Kim (Univ. of Seoul, Korea)

Chair2 : Tae-Kyu Kwon (Chonbuk Nat'l Univ., Korea)

FM01-1

Development of a measurement device of water level at the bottom of fuel tanks using an optical cable sensor.

Hiesik Kim(University of Seoul, KOREA), Byoungsuk Lee

< 1. New level meter inside the fuel tank >
Ultrasound level sensors are widely applied as level meters of liquid tank. Measurement instrument of level between water and fuel is developed. Since the fuel is inflammable, the sensor system doesn't allow to include any electric circuit inside the fuel tank. The optical cable sensor can satisfy this explosive condition. The measurement method with ultrasonic sensor is attached on the tank wall or tank manhole lid. The pressure sensor can't be applied inside the gasoline fuel tank. An ultra-sonic sensor doesn't detect a enough signal reflected from water level deep under gasoline fuel. The pressure sensor is difficult to measure the height o...

FM01-2

Development of an Algorithm to Measure the Road Traffic Data Using Video Camera

HieSik Kim, JinMan Kim(University of Seoul, KOREA)

1. Introduction of Camera Detection system
Camera Detection system is an equipment that can detect realtime traffic information by image processing techniques. This information can be used to analyze and control road traffic flow. It is also used as a method to detect and control traffic flow for ITS(Intelligent Transportation System). Traffic information includes speed, head way, traffic flow, occupation time and length of queue.
There are many detection systems for traffic data. But video detection system can detect multiple lanes with only one camera and collect various traffic information. So it is thought to be the most efficient method of all detection system.
Though the...

FM01-3

Simultaneous Multi-Channel Sensor System for Gas Flow Measurement

Young Han Kim, Ok Jin Joung(Dong-A Univ., KOREA)

A multi-channel electrostatic probe is utilized to determine gas flow rate in a cylindrical container. A numerical analysis is conducted to compare experimental measurement with the computed gas velocity in radial and axial directions.

FM01-4

Soft Linearization of Array-Sensor Characteristics Based on Fuzzy Logic

Seung You Na, Myung Kook An, Dae Jung Shin, Heyoung Lee(Chonnam Nat'l Univ., KOREA)

1. Introduction
2. Distance measurement using array
3. Linearization of CdS array characteristics
 - 3.1. Crisp linearization of CdS array characteristics
 - 3.2. Fuzzy logic linearization of CdS array characteristics
4. Magnetic Levitation System
 - 4.1. Design of MLS
 - 4.2. Implementation of MLS
 - 4.3. Results of MLS
5. Conclusion

FM01-5

Tool Condition Monitoring Based on Wavelet Transform

Doyoung Jeon, Gun Lee, Kyungho Kim(Sogang Univ., KOREA)

Tool condition monitoring is recognized important in CNC machining processes since the excessive wear or breakage of tool has to be noticed immediately in an automated manufacturing system to keep the quality and productivity. In this research, as an economic way of detecting the status of tool change, the wavelet transform has been applied to the measurement of spindle motor current. The energy of a specific level shows the difference between a normal tool and worn one. By setting a limit on the change of energy, it is possible to notify the time to inspect the tool.

FM01-6

Robust Adaptive Beamforming Using Bayesian Beamformer : A Review

Hyun-Seok Lee, Kyung-Sang Yoo(Doowon Tech College, KOREA), Hee-Seob Ryu, Oh-Kyu Kwon (Inha Univ., KOREA)

1. Introduction
 2. Basic Concepts
 - 2.1 Signal Model
 - 2.2 Least-Mean-Square Adaptation Algorithm
 3. Minimum Mean-Square Error
 4. Bayesian Beamformer
- References