

FA06

Sensors and Instrumentation I

09:00-11:00

Room : 1st Floor-Brahms

Chair1 : Asa Prateepasen (kmutt, Thailand)

Chair2 :

09:00 – 09:20

FA06-1

An Audio Signal Wire Condition Test Device

Lerdlekha Tanachaikhan(Ramkhamhaeng Univ, THAILAND), Witsarut Sriratana, Sawai Pongswatd(KMITI, THAILAND)

- Contents 1 Abstract
- Contents 2 Introduction
- Contents 3 Design of the system
- Contents 4 Creating product database
- Contents 5 Functionality testing
- Contents 6 Conclusion
- Contents 7 References

09:20 – 09:40

FA06-2

New method of optical laser extensometer

jiwhan noh(KJIST, KOREA)

- 1.the principal of a PSD(Position Sensitive Detector)
2. the optical system of the proposed method
3. signal processing
- 4.experimental result

A mechanical engineer experiment on the tension test. In this experiment, they use the extensometer which can measure the extended distance of material. A normal extensometer is the contact type which means that the extensometer should be attached to the specimen. It is not convenient to the user. The contacting type can also effect the characteristic of the specimen. So a extensometer is changed from contacting type to non-contacting type. Non-contacting type is not necessary to attach the extensometer to the specimen...

09:40 – 10:00

FA06-3

Variable Multi-valued Spatial Filter Detector with High Speed Exchangeable Weighting Function and Its Application

Hyunmin GO, Junya Takayama, Shinji Ohyama, Akira Kobayashi(Tokyo Institute of Tech., JAPAN)

- Introduction
- Structure of variable multi-valued spatial filter detector(VMSFD)
- Moment analysis by VMSFD
- Experimental results
- Fabricated chip with photodiode array
- Conclusion

10:00 – 10:20

FA06-4

Preliminary study of time-of-flight measurement for 3D position sensing system based on acoustic signals

Heung Gi Kim, Youngjin Park(KAIST, KOREA)

Our goal is the development of a system that estimates the location of interested point in a room with accuracy and low cost. Non-contacting position estimating method is widely used in various areas. Among these methods, acoustic signal-based method is the cheapest and provides reasonably accurate estimation as a result of many research efforts. Most of the acoustic-signal-based three-dimensional location estimators such as 3D sonic digitizer are using the ultrasound, and are organized with two procedures; time-of-flight (TOF) estimation and localization estimation. Since the errors in estimating the TOF could be accumulated with that of localization estimate, accuracy of TOF estimate is as...

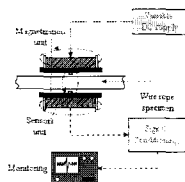
10:20 – 10:40

FA06-5

Coil Sensors for Wire Rope Inspection using Magnetic Flux Leakage Instrument

Cherdpong Jomdecha, asa Prateepasen, Wachira Methong(KMUTT, Thailand)

- Introduction
- Deterioration of wire rope
- Magnetic flux leakage Instrument
- Experiment setup
- Performance of the instrument
- Conclusions



10:40 – 11:00

FA06-6

A Digital Data Transmission Unit using Asynchronous Protocol for Power Transmission line

Eiji NISHIYAMA, Kenshi KUWANAMI, Hiroyuki KITAJIMA, Mitsunori KAWANO(Tech. Kumamoto Nat'l College, JAPAN)

We propose here sequential 2 methods for obtain information of current or potential data for power transmission line. One is a digital data transmission unit, this is, an output of a current sensor of power transmission line is digitalized by use of an easy asynchronous protocol. The unit has high speed transform rate, easy making header caused of consisting of only logic circuit. The other is, the output of the unit is transformed via LAN interface and displayed on a personal computer. We have confirmed remote measuring using the method for 100A and 240 A of the current information of power transmission line. Therefore we will be able to see a current waveform by use of internet at a cheap c...