13:00 – 13:50
Development of train speed controller for EMU using servo-controller
Su-Gil Lee, Seong-Ho Han, Young Jae Han
(KRRI)

The ATO (Automatic Train Operation) System is used for train operation instead of drivers. It is interfaced with TCMS (Train Control and Monitoring System) and ATC/TWC system in the train and wayside facilities. In this paper describes configuration of ATO, Specification of ATO hardware, construction of ATO software and the algorithm for automatic train speed regulation in the carbon ATO system. This paper is mainly concerned with the development of the ATO System. The ATO system is used for automatic or driverless operation of a train using various informations from TCMS, ATC, TWC. In this paper, the general architecture of the ATO system, implementation of ATO application software and the algorithm using servo-controller for automatic train speed controller.

13:00 – 13:50
Cooperative Coordination Method of Neural Network Controller Module for Autonomous Mobile Robot Navigation
Han Seong-Joo, Oh Se-Young
(POSTECH)

This paper is concerned with designing a neural network based navigator that is optimized in a user-defined sense for a mobile robot using ultrasonic sensors to travel to a goal position safely and efficiently without any prior map of the environment. The neural network has a dynamically reconfigurable structure that not only can optimize the weights but also the input sensory connectivity in order to meet any user-defined objective. Therefore, in this research, we can select an optimal subset of sensory inputs that results in the best performance related to both navigation and structural complexity. Further, this research uses the manually trained initial population and the modular neural network to alleviate ...

13:00 – 13:50
Emotion-Based Intelligent Model
Sung-Bum Ko(Chonan Univ.) and Gi-Young Lim(Hanbat Univ.)

We, Human beings, use both powers of reason and emotion simultaneously, which surely help us to obtain flexible adaptability against the dynamic environment. We assert that this principle can be applied into the general system. That is, it would be possible to improve the adaptability by covering a digital oriented information processing system with an analog oriented emotion layer. In this paper, we proposed a vertical slicing model with an emotion layer in it. And we showed that the emotion-based control allows us to improve the adaptability of a system at least under some conditions.

13:00 – 13:50
Implementation of OSEK/VDX for Automotive Body Control System
Kim Kee-Woong, Kim Tae-Yol, Kim Jae-Goo, Lim Hong-Joon, Ryu Syeh-Yung, Lee Suk
(Pusan National Univ.)

Today, many electronic devices and ECUs (Electronic Control Units) are used in the automotive body control systems. It becomes more common that these devices exchange data with others through an in-vehicle network. Automobile manufacturers concentrate their efforts on development of body control systems based on networks in order to save cost and to increase flexibility and safety. OSEK/VDX has been founded as a joint project in German and French automotive industry aiming at an industry standard for an open-ended architecture for distributed control units in vehicles. OSEK/VDX consists of Communication (specification of data exchange within and between control units), Network Management (specification of Configuration determination and monitoring) and Operating System (specification of real-time executive for ECU software ...