Ing. Libor Lochman

Zahraniční systémy přejezdových zabezpečovacích zařízení pro provoz u ČD
Foreign Level Crossing SIGNALLING Systems for Operation at ČD

The paper gives a brief survey of the foreign electronic level crossing systems installed at ČD. The reasons are explained leading to the testing of these systems, their brief description and recent experience gained from their service at ČD are presented. The paper closes with an analysis of learnings from implementation of foreign technologies into ČD conditions and with general consequences for the new type of level-crossing systems.

Dr. Ing. Ivo Myslivec – Ing. Pavel Špaček – Ing. Božetěch Šula

Automatické vedení vlaku AVV
Automatic Train Operation "AVV"

Automatic train operation under driver´s supervision has been in regular daily use with EMU class 470 on the line Praha - Kolín since 1993. The onboard system comprises a central vehicle control device, speed governor and target braking with energy consumption optimation which enables stopping of trains at station platforms at points and times given by timetable (accuracy +/- 3 sec) at minimum traction energy consumption. The article contains a brief description of track equipment, route map and connections between the ATO system and existing ČD automatic train control system and between ATO and modern ATCs with speed control (e.g. Ericab 700 or ETCS).

Ing. Bohumil Nádvorník

Vlakové zabezpečovací zařízení pro jednotku ř. 680
Automatic Train Control for EMU Class 680

The paper presents the reasons leading to the proposal to equip the EMU class 680 with ATC. The function of particular installations situated in the EMU are explained with regard to the operation on the DBAG, ČD and ÖBB networks.

Ing. Václav Chudáček, CSc. – Ing. Libor Lochman

Vlakový zabezpečovací systém ERTMS/ETCS
Train Control System ERTMS/ETCS

The aim of this article is to serve as a basic information about the new European train protection system. The purpose, concept, application potentiality and a behavior of the system in service can be found here. The actual status of the system development in Europe and ČD position are also included.

Ing. Jiří Martinovský

Evropský digitální rádiový systém pro železnice - EIRENE
European Digital Radio System for Railways-EIRENE

The paper gives a basic information on a part of an extensive project dealing with unified universal system of automatic train operation control in European railways designed for international paneuropean corridors. The author briefly describes the particular stages of the project, main functional properties of the new unified digital radio system for European railways and a share of ČD in the project. The new radio system, known as EIRENE GSM-R, is based on standard GSM completed by functions specific for railway operation.

Ing. Pavel Bartoň

Testování ATM prvků v telekomunikační síti Českých drah
ATM Elements Testing in ČD Telecommunication Network

The paper describes the testing procedures of ATM elements carried out by ČD to set a strategy of future development in data and voice networks and their integration into the unified telecommunication environment.

Ing. Raimund Moliš

Pilotní projekt ATM v Olomouci
ATM Pilot Project in Olomouc

At present a question arises whether to build a backbone telecommunication network with SDH or ATM or using both of them. The testing of ATM installation should help to answer the question. Philips offers an ATM installation which operates with SDH or PDH transmissions and particular network cards work with those log sheets. Application of any technologies mentioned above depends upon wider use of optical fibre cables at ČD. Otherwise no of these technologies can be used.

Ing. Vladimír Igielski

Geometrické parametry kolejí pro jednotky s naklápěcími skříněmi
Track Geometry Parameters for Tilting Trains

The paper presents the main technical parameters as defined for the tilting system of trains developed for ČD (class 680) and main design parameters for the tilting train operation in accordance with ČSN 73 6360. The trains will be equipped with a forced tilting of car bodies based on the Italian Fiat Ferroviaria system. In the paper the reasons are explained for estimation of the designed track geometry parameters in connection with the tilting system°s technical parameters. Also the safety criteria for the curve negotiation at higher speeds are presented. It is refered to further design principles and operational requirements for the expected tilting train operation.

Ing. Jaroslav Novotný

Spolupráce sběrače proudu a trolejového vedení
Pantograph-Overhead catenary Interaction

The author describes the development of an overhead contact line and pantograph enabling a reliable feeding of the electric tractive units. The paper deals with a single overhead catenary as well with a system now in use at ČD and describes the pantographs from a pole trolley to a today-used half-pantographs.