Ing.Jan Pour

Řízení informatiky v rámci systému řízení podniku
Informatics Management within the Company Management Systém

To achieve a further development in the Czech Railways' informatics management, it is necessary **to respect the following principles:**

- The IS/IT management is part of the Czech Railways' management at all levels – strategic, tactic, and operational, and it is therefore necessary to define them at all these levels;
- When solving a new concept of the IS/IT management, it is necessary to permanently develop and exactly define the relationship between the Informatics Department and the other departments;
- Informatics management must be oriented at simplifying management procedures and documentation while the necessary functionality is ensured;
- Informatics management should be based on the use of adequate IT, i.e. special application software, Intranet technology, and others.

Ing. Jaroslav Kleprlík, Ph.D. – Ing. Tatiana Molková, Ph.D.

Železniční doprava v integrovaném dopravním systému
Railway transport in an integrated transport system

The contribution deals with the problems of integrated transport systems in the Czech Republic. It contains a decomposition of the integrated transport system to partial subsystems, sets their contents and mutual relations. A substantial part is devoted to the position and importance of passenger railway transport within the integrated transport system. The authors also defined criteria for the quality of transport service in passenger transport and proposed measures that would improve the passenger railway transport.

prof. RNDr. Jan Černý, DrSc., Dr.h.c. – Ing. Pavel Drdla, Ph.D.

Modely přizpůsobení taktového režimu výkyvům poptávky
Models of adjusting the timing mode to demand fluctuations

The purpose of the contribution is to show models and methods allowing to optimise the capacity of connections corresponding to demand fluctuations while the timing is maintained.

The contribution was implemented under the support of a grant from the Grant Agency of the Czech Republic No. 103/00/0443.

Ing. Michal Hušek – Ing. Alois Kotrba

Rádiové dálkové ovládání posunovacích lokomotiv OPL-99.A
Radio remote control of OPL–99.A shunting engines

The contribution describes new equipment operated in rail vehicle depots. Remote control can be used to increase labour productivity and improve work safety in shunting. The equipment is operated as the first of this kind at the Czech Railways and there is interest in using it also for other vehicles.

Ing. Ctirad Novotný – Ing. Lukáš Hejzlar

Modernizované osobní vozy ČD s upravenými podvozky Görlitz V z hlediska jejich chodových a vodicích vlastností
The Czech Railways' modernized passenger carriages with adjusted Görlitz V chassis in terms of their running and guiding properties

The contribution contains:

- An overview of the domestic and foreign solutions of adjusting Görlitz V chassis in terms of the range of adjustments and their price level;
- Testing of the critical characteristics of travel, assessment of the statistical parameters of lateral springing, assessment of the driving safety and driving properties of the modernized carriages equipped with the Görlitz V chassis;
- Assessment of geometric parameters of the rails of test sections;
- Conditions for economical operation of the Czech Railways' modernized carriages with the adjusted Görlitz V chassis.

Ing. Petr Kolář

Počítač náprav Frauscher AMC
Frauscher AMC Axle Counter

The Frauscher AMC axle counter in application with the RSR 122 (version 2.1) wheel sensors is designed for rail transport for the checking of switch and non-switch rail sections opening, for the checking of train passages, the setting of driving direction, or for speed measuring. The article contains a description of the device, explanation of the operation principle, examples of measuring by this device, and a description of experience with the test operation.

Ing. Václav Chudáček, CSc. – doc. Ing. Ivan Konečný, CSc. – Ing. Karel Stoll, CSc.

Problémy elektrické kompatibility kolejových obvodů
Problems of the electrical compatibility of track circuits

By early signing an agreement between manufacturers of driving vehicles and safety engineers, the Czech Railways managed to handle the start-up of the 2nd and 3rd generation vehicles and to introduce unit heaters to the Diesel traction in such a way that practically no operating problems with the compatibility of driving vehicles and track circuits occurred. This was undoubtedly done owing to the fact that workers from both sectors were engaged in these questions permanently and in mutual cooperation.

Ing. Josef Matuš – RNDr. Eleonora Čermáková, CSc.

Studium nízkofrekvenčních elektromagnetických polí na elektrizovaných tratích ČD
Study of low-frequency electromagnetic fields on the Czech Railways' electrified tracks

A low-frequency magnetic field was detected in the engine driver's cabin of an engine of series 350 on the Břeclav – Brno electrified track under the trolley line with the voltage system of 25 kV, 50Hz. The same type of field was detected on the platform in the Břeclav station in different instants of time and positions. The article presents the results of the low-frequency electromagnetic field measuring using an EFA 300 instrument from Wandel & Goltermann. It states the basic mathematical relations for the calculation of induced current density in human body when exposed to a low-frequency electromagnetic field. The experimental results of the amount of magnetic induction and the amount of intensity of the electric field of a low-frequency electromagnetic field are compared to the limit values specified by Act No. 480/2000 Coll.

doc. Ing. Karel Hlava, CSc.

Parametry odběru elektrické energie dvanáctipulzním trakčním usměrňovačem v závislosti na jeho zatížení
Parameters of power take-off by a twelve-pulse traction rectifier in dependence on its load

The study analyses the behaviour of a twelve-pulse traction rectifier introduced to the Czech Railways' traction supply stations in terms of the parameters of power take-off from the network (fundamental harmonic factor, deformation of time flow of the primary current by harmonics). The analysis is based on a computer simulation of stable electrical conditions, which enabled to respect the real time flow of phase

currents in the period of commutation which significantly differs from the commonly used linearized flow. This condition enabled to specify, for example, the calculation of percentage values of the harmonics of the primary current which are, as the performed measurement show, less than the so-called "amplitude law" says.

Ing. Josef Mynář

Nové konstrukce a technologie používané u Českých drah při rekonstrukcích železničního spodku
New designs and technologies used at the Czech Railways within the reconstruction of substructures

In the modernization of the Czech Railways' network, new progressive designs are used in the construction of substructures, such as improved and reinforced soil and technologies of establishing structure layers without collating the track grille. The stated designs and technologies reduce the costs and shorten the time of construction.

Ing. Danuše Marusičová

Evropská norma EN(V) 13803 "Parametry návrhu polohy koleje" a Technické specifikace interoperability pro infrastrukturu
European standard EN(V) 13803 "Track alignment design parameters" and Technical specifications of interoperability for infrastructure

The first part of a new European standard ENV 13803-1 "Track alignment design parameters – Part 1: Plain line" will be published soon and the proposal for the second part of EN 13803-2 dealing with shunts will be finished soon. In September 2002, technical specifications of interoperability (TSI) for high-speed tracks were published in accordance with Directive 96/48/EK. The contribution contains the main principles of both parts of the standard and compares its conformity with the TSI for infrastructure.