



Ing. Bohumil Pokorný

**Moderní systémy regionální osobní dopravy
Modern Regional Passenger Traffic Systems**

At present, railways do not account for such a part of the total regional passenger traffic that would correspond to their technical possibilities and their environment-friendly qualities. It is due not only to the almost non-existent harmonization with road transport over the entire range of the transportation process, inadequate organization and non-integration with other types of transport, but also to non-use of new technological and technical solutions. One of the entirely new approaches to the creation of conditions for increasing the share of railway transport is the introduction of lightweight rail systems the main advantage of which is the possibility to bring rail transport to places of natural demand for transport by means of lightweight railway lines on which lightweight rolling stock operates. A special case is the use of lightweight integrated rolling stock, including integrated tramways.

Ing. Pavel Krýže – Ing. Jaromír Široký

**Časové aspekty v železniční osobní dopravě
Time Aspects in Railway Passenger Traffic**

The article breaks down the total transportation time into individual constituents which are commented upon in detail in subsequent parts. The analysis is based in particular on the operating conditions but also on the requirements of passengers. Described in the article are time aspects of the total duration of transportation, such as e.g. travel time, waiting and synchronization times, intervals, and last but not least also the aspects of accuracy and effects of delays.

Ing. Jan Hlaváček

**Měření hluku a vibrací na koridorových tratích před a po modernizaci
Measuring of Noise and Vibrations on Corridor Lines before and after
Modernization**

The article contains descriptions of the measurements of noise and vibrations propagating through the country from railway traffic. They are comparative measurements obtained on a high-speed corridor prior to and after modernization. The main part of the article deals with the measuring campaign after modernization. The objective of the project was to demonstrate that the emission values of noise and vibrations on the corridor after modernization will be lower even at higher speeds and greater traffic density.



Jiří Trousil – Ing. Zdeněk Hájek, CSc.

**Návrh kritérií pro vyřazování vozidel s plochými a neokrouhlými koly z provozu
na základě indikací zařízení ASDEK**
**Proposed Criteria for Putting out of Operation Rolling Stock with Flat and Non-
round Wheels on the Basis of ASDEK Device Indications**

The article deals with the ASDEK device for diagnosing defects of rolling stock, including an evaluation of the course of the 16-month testing operation under the Czech Railways conditions. The device indicates the temperatures of wheel rims and brake parts, the temperature of bearings, and indicates also flatness of rolling stock wheels. Included in the article are the results of test indications of flat wheels obtained during a run of a testing train with flat wheels.

Ing. Václav Chudáček, CSc. – Ing. Libor Lochman, Ph.D. – Ing. Michal Stolín

Navigační satelitní systémy v železniční zabezpečovací technice ?
Navigation Satellite Systems in Railway Signalling ?

The paper includes a basic information on navigation satellite systems and considerations on requirements to be fulfilled if such system should become a source of a safe train location information for signalling equipment. There is the main problematic question still remaining whether it is possible to fulfil the safety requirements for a reasonable price in a way that could be accepted by railway signalling.

Ing. Vladimír Vejvoda et al.

Ostře sledované vlaky
Closely Monitored Trains

The present solution of the project respects its requirements as regards the technical standard of the outcome as well as the limited resources of the end user, which is to be the Czech Railways. The position locator, as developed, is less expensive by almost an order than the initial calculations indicated. Yet in terms of precision and functions, it meets the requirements of controlling train transport which is the main area of application of the locator. For possible further uses of GPS and other satellite technologies on the railways, further thorough analyses will have to be made.



doc. Ing. Karel Hlava, CSc.

**Vliv změny ovládacího kmitočtu systému hromadného dálkového ovládnání na
filtračně-kompenzační zařízení trakčních napájecích stanic Českých drah
The Effect of a Change of the Operating Frequency of the Remote Multiple
Control System on the Filtration-Compensation Devices of the Czech Railways
Traction Supply Stations**

The article analyzes the effect on the impedance of the traction supply station of the single-phase system 25 kV, 50 Hz for the operating frequency of multiple remote control system used by the suppliers of electrical energy, upon transition to another frequency specified in PNE 38 2530 (167 Hz, 183.33 Hz, 216.67 Hz and 232 Hz). The analysis comprises also the effect of the variable length of the traction line sections, and at the end contains an estimate of the situation when the supply station is loaded by active traction consumption. The results of generally valid formulae are illustrated by numerical examples based on a change of the presently used frequency 216.67 Hz.

Ing. Vladimír Kudyn

**Zlepšení vlastností usměrňovače s kapacitní zátěží z hlediska EMC
The influence of the load character upon the behaviour three faze rectifire
from the poin of view EMC regarding to the feeding net**

By means of the simulation program Micro Cap 6.0 Demo has been demonstration existence a few possibility, how reduce emitting quantity of the harmonic component of the input flow to the rectifier with capacity load.

There are the most important possibilities:

- inductor inserted in the AC circuit of the rectifier
- inductor inserted in the DC circuit of the rectifier
- passive filter
- active filter

The inductor in the DC circuit is the simplest and possible face-saver between the point of view of economy and the quality.

This resolution is the first step from the point of view of EMC (Electromagnetic Compatibility). Next more steps will be very important for the extended research.



Ing. Štefan Mayerberger – Ing. Jiří Rotrekl

**Měřicí, řídicí a registrační systém pro strojní čističky kolejového lože SC
Measuring, Control and Registration System for SC Ballast Cleaners**

The article provides a brief summarization of the results of the solutions of the project Measuring, Control and Registration System for SC Ballast Cleaners, in particular technological measurements, other measurements and control of working units. The MS 900 system can be applied to the existing ballast cleaners (in accordance with specific requirements of users) as well as to ballast cleaners of new, progressive designs.

Ing. Vladimír Sosna

**Elektronická výuka (E-learning) na Českých drahách
E-learning on the Czech Railways**

The starting point are the results of the effectiveness of the teaching process used for compulsory schooling of employees. In the main part of the articles, the objectives of the Czech Railways in the sphere of E-learning are defined. On-line instruction is being introduced in compulsory training of 25,000 employees, and in qualification courses. Computer simulators for the training of dispatchers and engine drivers are being developed.