



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

**VLA KOVÝ ZABEZPEČOVACÍ SYSTÉM ERTMS/ETCS (2. část)
TRAIN CONTROL SYSTEM ERTMS/ETCS (Part 2)**

The paper deals with details about basic functions of the system and about the technical solution of the track mounted part of it. The status and problems of introducing the system are discussed too.

prof. Ing. Hynek Šertler, DrSc.

**STANOVENÍ SPOLEHLIVOSTI STÁVAJÍCÍCH ŽELEZNIČNÍCH MOSTŮ
ASSESSMENT OF RELIABILITY OF EXISTING RAILWAY BRIDGES**

The paper gives the basic information about probabilistic methods used for reliability calculations of existing railway bridges. It describes the basic concepts, differences of new design and some more significant calculation procedures. It explains basic principles of reliability calculation developed by University of Pardubice.

Ing. Josef Konvičný – Ing. Jiří Kaštura – Ing. Petr Sedláček

**MĚŘICÍ VŮZ PRO MĚŘENÍ TRAKČNÍHO VEDENÍ
MEASURING CAR FOR OVERHEAD LINE**

Measurement of an overhead line is a diagnostics procedure which determines the properties of an overhead line. The measurements are carried out by the means of a measuring car the technical parameters of which meet the requirements of measurements of two main groups of parameter of an overhead line, i.e. geometric parameters and dynamic parameters. The complete measuring equipment is concentrated in this mobile means.

Ing. Pavel Štolcbart

**DIAGNOSTIKA SIGNÁLU VLA KOVÉHO ZABEZPEČOVAČE
TRAIN CONTROL SYSTEM SIGNAL DIAGNOSTICS**

The article describes a new method of monitoring and signal quality analysis of a train line control system which is transmitted from the track to a vehicle. The method enables to determine critical areas and failure causes.



prof. Ing. Jiří Izer, CSc.

**VOZIDLO A KOLEJ
VEHICLE AND RAIL**

The paper deals with problems concerning the cinematic as well as force relation between vehicle and rail especially those which are less known within CD. It is based on knowledge gained by members of Departement Transport Means of the Jan Perner's Transport faculty of University Pardubice within last ten years especially during the solution of the project Vehicle and rail on refurbished tracks of the CD. The paper explains the inception of an unquiet , in some cases even unstable ride of vehicles on tracks with very good lateral and vertical alignment. For the first time there is a definition of an unstable ride in connection with other requirements of the UIC Leaflet 518.

Antonín Vaněček

**OBLOUKY MALÉHO ŽELEZNIČNÍHO ZKUŠEBNÍHO OKRUHU JAKO ZKUŠEBNÍ
TRAŤ EXPONOVANÝCH ZKUŠEBNÍCH ÚSEKŮ PODLE VYHLÁŠKY UIC 518
CURVES OF THE SMALL TEST CIRCUIT AS TEST TRACK WITH EXPOSED
TEST SECTIONS ACCORDING THE UIC LEAFLET 518**

The paper deals with problems concerning the test sections which are prescribed by the UIC Leaflet 518. It is concentrated on test curves with cant deficiency U_r in the range $137 \text{ mm} \leq U_r \leq 150 \text{ mm}$. On the Test Circuit there are test sections with prescribed cant deficiency. The length of those sections is approximately 10% of the overall length of test sections prescribed by the Leaflet UIC 518. The rest , i.e. 90 % of the test sections length must be found out on other tracks of the CD.

Ing. Jiří Vlachý

**DIAGNOSTIKA ŽELEZNIČNÍHO SPODKU VYUŽITÍM RADAROVÉ METODY
TRACK BED DIAGNOSTICS USING RADAR METHOD**

The paper is dedicated to radar method and its usage as a diagnostic method for the track bed as a part of geotechnic survey. Possibilities of using so called georadar in connection with a measuring car for a complex diagnostics of the track superstructure for the complete check of a track is discussed.



Ing. Gustav Koutník

**SOUČASNOST A VÝHLED DEFEKTOSKOPICKÉ KONTROLY KOLEJNIC NA
KORIDOROVÝCH TRATÍCH
DEFECTOSCOPIC CHECK OF RAILS ON THE CORRIDOR TRACKS - THE
PRESENT AND PROSPECT**

The paper deals with problems concerning the defectoscopic check of rails and switch parts for trains at speeds up to 160 km/h. It is concentrated on necessary equipment (hand devices, defectoscopic cars), possibilities of elaborating the check results and optimum organization of defectoscopic activities on corridor tracks of the CD.

Ing. Petr Sychrovský

**NOVÉ DIAGNOSTICKÉ PROSTŘEDKY PRO MĚŘENÍ ŽELEZNIČNÍHO SVRŠKU
U ČESKÝCH DRAH
NEW DIAGNOSTICS MEANS FOR MEASUREMENTS OF THE TRACK
SUPERSTRUCTURE WITHIN CZECH RAILWAYS**

In the year 1999 the Technical Centre of the Infrastructure Praha opens the operation of newly developed diagnostic means - measuring car for the track superstructure and measuring draisine. Both of them are destined for measurements of the geometric properties of the track. The measuring car is fitted out with systems enabling measurements of a cross section of rails, microgeometry of the rail head surface and of evaluation the vehicle response. These new measuring means will replace the obsolete measuring car of the soviet production , which has assured these activities since second half of eighties. The development of these means was materialized by Výzkumný ústav železniční, Pardubice in collaboration with foreign producers and with Technical Centre of the Infrastructure Praha.

Ing. Roman Tomek – Ing. Antonín Trubák

**MĚŘENÍ PROSTOROVÉ PRŮCHODNOSTI TRATÍ
MEASUREMENT OF A TRACK PASSAGE CROSS SECTION**

Integrated digital diagnostics systems of a passage cross section of a track using the fotogrammetry create a base for effective and objective decision processes especially in the area of transport economics but in the area of special deformation monitoring of complicated , statically exacting and unremovable objects of CD (tunnels, cuttings, bridges and so on), of CAD designing as well and last but not least in an effective management of CD information system with prospective link-up to data base of the CD.



In these days the Czech Railways are developing a digital diagnostics system using the experience acquired with analogue and semidigital fotogrammetry system FS 3.