

SUMMARIES

ARTICLES

Marek Bartczak, Barbara Kabacińska, Krzysztof Olszewski: Switch Control Systems Relay Type – Requirements and Tests

The article describes requirements imposed on switch control systems. The classification and characteristics of these systems used in relay devices applicable on PKP Polskie Linie Kolejowe S.A. lines (PKP Polish Railway Lines) have been presented. The scope of technical tests necessary to acquire authorization certificate for placing into service has been outlined.

Keywords: switch control system, point machine, railway traffic control devices, relay

Przemysław Brona, Adam Dąbrowski: Modern Demonstrator of Simulator for Rail Vehicles' Drivers, which Increases Safety and Efficiency of their Performance – Part II

The article, which is part 2 of the paper published in „Prace Instytutu Kolejnictwa” Issue 152, presents the Railway Research Institute's two last tasks carried out within the project of building a demonstrator of simulator for rail vehicles' drivers (pilot programme DEMONSTRATOR+ of the National Centre for Research and Development – NCBR). These tasks aimed at presenting a formal scope of methodology of exercises on rail vehicles' simulators and devising sample training scenarios that could be used in simulators' training. The final part of the article summarises the Railway Research Institute's achievements in the project of the demonstrator and proposals with a view of further using the results gained.

Keywords: locomotive, simulator, virtual reality

Magdalena Garlikowska, Piotr Gondek: Situation of Passengers on the Polish Railway Stations in Terms of Safety Taking into Account Solutions for Persons with Disabilities

Every passenger perceives safety issues in a subjective way. Some are afraid of suspect persons hanging about near railway stations, while others fear frequent train delays or night and evening connections. The sources of fear of passengers using railway stations and personnel responsible for their safety have been examined. Activities under-

taken in order to reduce these fears and increase safety at the stations in Poland have been described. Implemented solutions aiming at railway stations' adaptation for the persons' with disabilities needs have been presented.

Keywords: traveler, passenger, railway station, safety, persons with disabilities

Michał Głowacz: Problems and Methods of Overhead Contact Line Geometry Measurements

The article describes a method of overhead contact line geometry measurement using a hand-held measurement trolley. The effectiveness and efficiency of this method has been assessed basing on practical experiences to date. The importance of measured parameters of proper overhead contact line operation has been described.

Keywords: trolley, measuring device, contact wire, stagger, height, distance

Eugeniusz Skrzyński: Drainage and Its Impact on the Railway Substructure Stability

This paper characterizes the subsoil drainage on lines managed by PKP PLK S.A. Attention has been paid to the negative effects of improper drainage and the need for regular maintenance of drainage facilities.

Keywords: railway substructure, dewatering

Eliza Wawrzyn: IK's Activities to Fulfill the Aims of the Shift2Rail Joint Undertaking

Shift2Rail Joint Undertaking is a formally established Public-Private Partnership that aims at designing, coordinating and conducting activities connected with research and innovations supporting the increase of railway services' level in Europe. The article describes activities undertaken by the Railway Research Institute for developing innovative solutions for the railway sector within Shift2Rail, missions and goals of this initiative, its priorities connected with Research and Innovation, (R&I), budget and topics of calls (competitions) announced this year.

Keywords: Shift2Rail Joint Undertaking, Work Plan 2017, calls for railway sector, Horizon 2020, Research Programmes of the European Union

RESEARCH INFORMATION

Paweł Winciorek: Operation Tests of Rail-to-Road Vehicle Type CRAB 3100E

The article presents operation and performance tests of locotractor (rail-road vehicle) type CRAB 3100E intended to operate shunting and manoeuvring movements on railway sidings. The vehicle has been assessed basing on technical documentation provided by the principal (contracting party), as well as on essential tests carried out by the Railway Research Institute.

Keywords: railway transport, service tests, rail-road vehicle

RECENT EVENTS

Magdalena Garlikowska: XV National Scientific and Technical Conference „Modern Technologies and Management Systems in Rail Transport”

The paper presents information regarding the XV National Scientific and Technical Conference „Modern Technologies and Management Systems in Rail Transport” held in Zakopane on 30.11-02.12.2016, organized by the Polish Association of Transport Engineers and Technicians, Cracow Branch, in which the Railway Research Institute's employees participate actively every year.

Keywords: railway transport, modern technologies, rail infrastructure

Izabella Grzegorzółka: The 5th International Conference on Advanced Rail Technologies

The paper presents information concerning the 5th International Conference on Advanced Rail Technologies organized regularly every year by the Railway Research Institute and Transport Faculty of the Warsaw University of Technology, connected with the celebration of the Railway Research Institute's 65th anniversary jubilee.

Keywords: science, rail transport, advanced technologies, jubilee

Iwona Wróbel: Jubilees at the Railway Research Institute and Accompanying Conferences

In 2016, the Railway Research Institute celebrated two jubilees. The first one was connected with the 20th anniversary

of the railway test track in Żmigród, the second one related to the Institute's 65th anniversary. During the aforementioned anniversaries' celebrations, thematic conferences were held, during which apart from the Institute's achievements to date, there were shown current capabilities of using railway test track in Żmigród, the only such facility in Poland, to carry out tests, new technologies verification processes, research including the implementation of the test and research results and new solutions on the transport market and standardization, certification and approval activities for the economic operators' needs.

Keywords: railway test track, research institute, international conferences

Iwona Wróbel: Scientific Seminars in the Railway Research Institute, September – December 2016

It is the Railway Research Institute's tradition to organize regular scientific seminars. Their topics concern crucial issues of rail transport and they are aimed to improve the knowledge relating to innovative solutions and develop new technology development perspectives. The article describes issues presented during four seminars (nine papers in total) which were held in the second half of 2016. There were presented social, economic and technical matters, high speed rail system, timber sleepers, as well as the description of the test stand and its possibilities as regards ETCS L1 on-board equipment installed on the Railway Test Track in Żmigród.

Keywords: scientific seminar, High Speed Rail, timber sleepers, European Rail Traffic Management System, European Train Control System

EXTERNAL PUBLICATIONS

Andrzej Massel, Janusz Poliński: Lodz Railway Node – Existing State and Development Prospects

The monograph contains characteristics of Łódź Province (voivodship) and the role of railway in this area urbanization process has been described. Moreover, the social and economic development is outlined in a historical perspective. The development of interregional and regional transport services in that region is outlined taking into account settlement, technical conditions as well as multimodality in passenger transport. The further considerations referred to Łódź Agglomeration Railway, inter alia, the history of its establishment, a network of connections, marketing activities and transport services' results to date. Finally, the role of rail transport is characterized in relation to building territorial capital in Warsaw – Łódź functional area as well as

the Łódź railway node's prospects of development in a long time perspective.

Keywords: railway node, agglomeration railway, multi-modal node, agglomeration transport

Janusz Poliński: Passenger Information in Railways

Passenger information, necessary to plan an efficient and favourable journey is sent in visual, sound (verbal) or tactile form both on railway stations (infrastructure) and

in transport stock (suprastructure) as well. Information intended for travelers is common on the entire network regardless the operator and kind of used traction means. Each information should involve many features including, inter alia, usefulness, complexity, clarity, availability, certainty, being up to date, reliability, accuracy and should be free of charge. More and more often, advanced information transmission means are used. However, they should not eliminate traditional messages.

Keywords: passenger information, railway station, visual message, sound message, tactile message