8th International Conference on Railway Engineering (ICRE 2018)

IET Conference Publications 742

London, United Kingdom 16 – 17 May 2018

ISBN: 978-1-5108-6539-6

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by the Institution of Engineering and Technology All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institution of Engineering and Technology at the address below.

Institution of Engineering and Technology P. O. Box 96 Stevenage, Hertfordshire U.K. SG1 2SD

Phone: 01-441-438-767-328-328 Fax: 01-441-438-767-328-375

www.theiet.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

USE OF NDT INSPECTION DATA TO IMPROVE RAIL DAMAGE PREDICTION MODELS	1
MODELLING PASSENGER TRAIN ARRIVAL DELAYS WITH GENERALIZED LINEAR	
MODELS AND ITS PERSPECTIVE FOR SCHEDULING AT MAIN STATIONS	7
M.M. de Faverges, G. Russolillo, C. Picouleau, B. Merabet, B. Houzel	/
LOW ADHESION BRAKING DYNAMIC OPTIMISATION FOR ROLLING STOCK	
(LABRADOR) SIMULATION MODEL	13
H. Alturbeh, J. Stow, A. Lawton	13
ANALYSIS AND RECTIFICATION OF POOR BOGIE DYNAMIC BEHAVIOUR BY USING	
COMPUTER MODELLING AND FIELD VALIDATION	10
M. Awadalla, J. Guettler, A. Anderson, F. Azobi, D. Ward	1)
SCALABILITY OF AN ONTOLOGY-BASED DATA PROCESSING SYSTEM	28
J. Wei	20
EFFECTS OF PLATFORM SCREEN DOORS ON THE OVERALL RAILWAY SYSTEM	22
U.T. Abdurrahman, A. Jack, F. Schmid	33
IMPLEMENTING A DATA DRIVEN MAINTENANCE APPROACH	20
M. Thompson	
PREDICTION OF RAIL CORRUGATION GROWTH AND RAIL WEAR RATE USING THREE-	
DIMENSIONAL FINITE ELEMENT ANALYSIS	12
A.K. Ng, L. Martua, J.H. Yebra, G. Sun	43
· · · · · · · · · · · · · · · · · · ·	
IMPROVING AVAILABILITY AND UTILITY OF SHARED RAIL REMOTE CONDITION MONITORING DATA USING A BROKER	40
P. Johnson	49
VISION-BASED LOCALIZATION FOR STOPPING CONTROL OF PUBLIC	55
TRANSPORTATION SYSTEM	33
	<i>C</i> 1
USING CHROMASONICS TECHNOLOGY IN THE RAILWAY INDUSTRY	61
R.K. Todd	(7
INDUSTRY INTEGRATION ON THE THE GREATER WEST PROGRAMME: A CASE STUDY	67
S. Turner, S. Regan, A. Pearce, N. Woodbridge, S. Maple RAILWAY CONTROL & SAFETY SYSTEMS AS A CLOSED LOOP NEGATIVE FEEDBACK	
	70
CONTROL SYSTEM	12
EXPERIENCES WITH IMPLEMENTING MULTI-USER DATABASE PLATFORMS TO	
INCREASE QUALITY AND EFFICIENCY OF MANAGEMENT AND COMMUNICATIONS ON	70
LARGE AND MEDIUM SIZE INFRASTRUCTURE PROJECTS	/8
M. Turner, K. Gutteridge, D. Thiele, C. Welbourn	0.5
AN ON-BOARD BATTERY SYSTEM FOR CATENARY FREE OPERATION OF A TRAM	85
EARTHING AND BONDING TECHNIQUES AND CHALLENGES CASE STUDY - CROSSRAIL	90
M. Anderson, N. Leary, J. King	89
INTEGRATED APPROACH FOR COMPATIBILITY ASSESSMENT BETWEEN TRACTION	0.0
POWER SUPPLY AND ROLLING STOCK	96
R. Kadhim, P. Fayet, R.R. Hameed	
STATIC FREQUENCY CONVERTER (SFC): A SOLUTION TO POWER QUALITY AND	101
NEUTRAL SECTION ISSUES IN SINGLE PHASE, 25 KV, 50 HZ TRACTION SYSTEM	101
EFFECTIVE MEP TECHNIQUES AND DESIGN STRATEGY FOR LARGE SUBSURFACE	100
METRO PROJECTS	106
J. King PROTECTING TRAINS AND DRIVERS FROM HOSTILE LASER POINTERS	110
M. Bray, D. Black, L. Laycock, M. Fritz	112
ACHIEVING A SUCCESSFUL RAIL SUPPLY CHAIN SAFETY ARGUMENT IN THE CSM	11/
ENVIRONMENT	116
(3.11.)(1)(1)(1)	

PRAGMATIC MANAGEMENT OF RAILWAY RISK IN UK SOCIETAL INTEREST: ARE WE	
HEADING THE RIGHT WAY?	122
D.N. Woodland, M.J.C. Castles	
EFFECTIVE RELIABILITY, AVAILABILITY, MAINTAINABILITY (RAM) AND SAFETY (S),	
PRINCIPLES AND GUIDELINES FOR LARGE SUBSURFACE METRO AND MAIN LINE	
PROJECTS	129
J. King, O. Gugala	
A PROTOTYPE MODEL FOR UNDERSTANDING HEAT-RELATED RAIL INCIDENTS: A	
CASE STUDY ON THE ANGLIA AREA IN GREAT BRITAIN	137
Q. Fu, D.J. Jaroszweski, J.M. Easton	
THE TECHNICAL CHALLENGES OF MONITORING ERTMS SYSTEMS AND USE OF A	
VALUE ENGINEERING APPROACH TO INCREASE CAPACITY AND REDUCE COSTS FOR	
THE RAIL SECTOR	143
L. Fornasiero, C. Ughetti	
INVESTIGATION INTO THE POSITIONING ACCURACY REQUIRED FOR TRAFFIC	148
H.A. Hamid, G.L. Nicholson, C. Roberts	
ON THE DEVELOPMENT OF A FULL-SCALE REPOINT LIGHT TRACK SWITCH	155
M.L. Sarmiento-Carnevali, T.J. Harrison, S. Dutta, C.P. Ward, R. Dixon	
Author Index	