

Table of Contents

MONDAY - 09/29/2014

KNS-1: Lawrence Blow

Chair: R. Nicolsky

8:30 h - 9:40 h

Status of Maglev Projects in the USA KNS-1
Lawrence Blow

KNS-2: Lin Guobin

Chair: R. Nicolsky

9:40 h - 10:50 h

Application and Development of Maglev Transportation in China.....KNS-2
Guobin Lin and Xiongwei Sheng

Session D1AM-1: MagLev Consolidated

Chairs: F. Loeser - A. Ferreira

11:20 h - 13:00 h

Outlook of Maglev Chuo Shinkansen D1AM-1a
Kazuo Sawada

Standardization of Maglev Technology in China D1AM-1b
Wanming Liu, Peiliang Yan and Lili Zhu

Contribution of High-speed Maglev System to Land-side Transportation of Large Hub
 Airport:A Case Study on Shanghai Maglev Train..... D1AM-1c
Ji Fu, Xiaohong Chen, Shaozhi Hong and Wanming Liu

Transrapid - proven solution meeting current and future transport needs D1AM-1d
Friedrich Loeser and Qinghua Zheng

The Maglev Option D1AM-1e
Johannes Klühspies

Session D1AM-2: Simulation and Control: MagLev

Chairs: G. Coquery - J. Santisteban

11:20 h - 13:00 h

- A Discrete-Time LQG/LTR Control Strategy for Magnetic Levitation Application D1AM-2a
Luiz Felipe Pugliese, Luis Ferreira and Jeremias Machado
- Fundamental study on preview vibration control for the superconducting maglev D1AM-2b
Shuichiro Ota, Hiroshi Yoshioka, Toshiaki Murai and Yoshiaki Terumichi
- The Coupling Effects of the Maglev Bogie with Four Decentralized Controllers D1AM-2c
Yaozong Liu, Wenxi Deng, Jie Li and Jie Dong
- Establishment and Application of Simulation Test Platform of Vehicle Control System
 in High-speed Maglev Transportation System D1AM-2d
Yijun Chen, Huahua Zhao and Zhiming Liao
- Study on the Speed Observer of Long stator linear synchronous motor in Maglev Vehicle . D1AM-2e
Seoung Gil Back, Jeong Min Jo, Jaewon Lim and Hanju Cha

Session D1PM-1: Linear Motors

Chairs: K. Woronowicz - I. Chabu

14:30 h - 16:10 h

- Magnetic Induction Modulation Analysis in the Linear Induction Motor Yoke D1PM-1a
Daniel Ribeiro Gomes and Ivan Eduardo Chabu
- Traction Linear Induction Motor End Effect Model Considering Saturation Effects D1PM-1b
Konrad Woronowicz, Alireza Safaei and Spencer Gardner
- Design of a small-scaled Superconducting Linear Synchronous Motor for 600km/h Very
 High Speed Train D1PM-1c
Chan-Bae Park, Hyung-Woo Lee, Byung-Song Lee and Chang-Young Lee
- Project of a Synchronous Linear Drive Using Superconducting Coils D1PM-1d
*Flávio Goulart Dos Reis Martins, Pedro Barusco, Daniel Dias, Antonio Ferreira and
 Rubens de Andrade Junior*
- Comparison Between a Superconductor and a Conventional Linear Synchronous Motor
 Using the Finite Element Method D1PM-1e
*Vagner Santos Da Cruz, Antonio Ferreira, Rubens de Andrade Junior and Flávio
 Goulart Dos Reis Martins*

Session D1PM-2: Ancillary Systems and Guidance

Chairs: M. Witt J. D. Garcia

14:30 h - 16:10 h

- The Safe Onboard Battery Management System Used on High Speed Maglev Train D1PM-2a
Zhiming Liao and Huahua Zhao
- Parking and Emergency Brake of the MAGLEV-Cobra Vehicle D1PM-2b
André L. C. Luna, Paulo R. Da Costa and Felipe S. Costa

- Thermal Characteristics of FBG Sensors for a Long-time SHM in Maglev Systems D1PM-2c
Donghoon Kang, Heon-Young Kim and Dae-Hyun Kim
- An Assistant Design Tool for the General Design of Propulsion and Power Supply
 System in High-speed Maglev Transportation Projects..... D1PM-2d
Ying Lin, Xiaohua Wang, Jing-Yu Huang and Hao Chi
- A Study on Guidance System in Medium High Speed MAGLEV Vehicle..... D1PM-2e
Jaewon Lim, Chang-Hyun Kim, Jong-Min Lee and Doh-Young Park

Session D1PM-3: Energy Supply, Storage and Regeneration

Chairs: J. Lundin - J. Oliveira

16:40 h - 18:20 h

- Flywheel as Energy Storage in MagLev Train D1PM-3a
Johan Lundin, Janaína Gonçalves de Oliveira and Roberto Oliveira
- A Standard Power Unit for Magnetic Bearings Applications D1PM-3b
Ulisses Miranda, Hugo Ferreira, José Garcia and Richard Stephan
- Contactless Power Supply for Magnetically Levitated Elevator Systems D1PM-3c
Rüdiger Appunn and Kay Hameyer
- A Combined-Levitation-and-Propulsion System Based on Dual Frequency Power Supply
 Control Technology D1PM-3d
Shaoke Liu, Qiang Chen, Sikai Liu, Bang An, Jie Li, Peng Cui and Peizhu Zhang
- Applying Regenerative Braking to the MagLev-Cobra Linear Induction Traction Motor... D1PM-3e
Roberto Oliveira, Marcelo Benes, Laércio Mattos, Antonio Ferreira and Richard Stephan

Session D1PM-4: Prospecting Projects

Chairs: J. Klühspies L. Siveira Lopes

16:40 h - 18:20 h

- Autoshuttle Electric Express Highway D1PM-4a
Rasmus Krevet and Konrad Woronowicz
- Planning and design study of a high-speed Maglev railway connecting airport and
 seaport infrastructure in Tenerife..... D1PM-4b
Eckert Fritz and Peter Mnich
- Innovations in Rail Freight Transport with Linear Motors D1PM-4c
Cyro Laurenza
- Applications for Magnetic Levitation Trains in Brazilian Rail Transportation D1PM-4d
Flávia Pinto and Luiz Antônio Silveira Lopes

Linear generator used in a Hybrid System Solar Biomass (HSSB) D1PM-4e
*Angelo Rezek, Wladimir Cobas, Electo Lora, Osvaldo Venturini, Carlos Rocha, Paulo
 Pedroso, Rubenildo Andrade and José Escobar*

TUESDAY - 09/30/2014

KNS-3: Hiroyuki Ohsaki

Chair: R. Stephan

8:30 h - 9:40 h

Japanese Superconducting Maglev - Development and Commercial Service Plan - KNS-3
Hiroyuki Ohsaki

KNS-4: Kay Hameyer

Chair: R. Stephan

9:40 h - 10:50 h

Modern High Speed Elevator Systems for Skyscrapers KNS-4
Kay Hameyer and Rüdiger Appunn

**Session D2AM-1: Superconductors applied to transportation and Urban
 Maglev**

Chairs: L. Shultz - R. de Andrade Junior

11:20 h - 13:00 h

Investigation of High Temperature Superconducting Magnet System for Maglev D2AM-1a
Katsutoshi Mizuno, Masafumi Ogata, Hitoshi Hasegawa and Ken Nagashima

UAQ4 Superconducting Maglev Train: the Italian Project D2AM-1b
Gino D'Ovidio and Giovanni Lanzara

Dynamic Analysis of Wheel-Type Train Propelled by Superconducting Linear
 Synchronous Motor D2AM-1c
Jin Ho Lee, Chang-Young Lee, Jeong Min Jo and Youngjae Han

Korea First Urban Maglev System D2AM-1d
Byung Shin and Doh-Young Park

Study of Levitation Chopper Performance Optimization for Low-Speed Maglev Train D2AM-1e
Junqi Xu, Guobin Lin, Lijun Rong, Jianjun Yuan and Chunlong Yu

Session D2AM-2: Simulation and Control: Rotating machines

Chairs: D. Ebihara - A. Ortiz Salazar

11:20 h - 13:00 h

- A Fuzzy PID Control Strategy for Active Magnetic Bearing D2AM-2a
Xiaohua Wang, Ying Lin, Jing-Yu Huang and Lianfu Tang
- Current Slope Measurement Strategies for Sensorless Control of a Three Phase Radial
 Active Magnetic Bearing D2AM-2b
Matthias Hofer, Thomas Nenning, Markus Hutterer and Manfred Schroedl
- Characterization of an Electromagnetic Actuator Applied in the Active Vibration
 Control of Rotating Machines D2AM-2c
*Edson Hideki Koroishi, Fabian Andres Lara-Molina, Lucas Altamirando De Andrade
 Rocha and Valder Steffen Jr*
- Robust Control in Rotating Machinery Using Linear Matrix Inequalities D2AM-2d
*Edson Hideki Koroishi, Fabian Andres Lara-Molina, Adriano Silva Borges and Valder
 Steffen Jr*
- Robust Speed Control of a Bearingless AC Motor type Divided Winding, Based on a
 Conventional Squirrel Cage Induction Motor D2AM-2e
Luciano Junior, José Lopes, Andrés Salazar, João Neto and Valci Victor

Session D2PM-1: Guideway

Chairs: G. DOvidio - E. Batista

14:30 h - 16:10 h

- System Vibration Analysis of Maglev Vehicle-Steel Guideway While Standing Still D2PM-1a
*Hyung-Suk Han, Jong-Boo Han, Ki-Jung Kim, Changwan Ha, Jaewon Lim and
 Jong-Min Lee*
- Integrating an Urban MagLev Vehicle to Highly Populated Cities D2PM-1b
Eduardo Batista, Augusto Silva, Fernanda Metello and Afonso de Araujo
- Creative Design on High Speed Maglev Guideway Automatic Inspection Equipment D2PM-1c
Yihong Yuan and Wanming Liu
- The Coupling Vibration Characteristics of the Single Levitation Frame and the
 Guideway Beam Specific for Test Bench D2PM-1d
Weihua Ma, Junqi Xu and Shihui Luo
- Dynamic Analysis of Super-Speed Maglev Train-Guideway Interaction System D2PM-1e
Jin Ho Lee, Lee Hyeon Kim and Youngjae Han

Session D2PM-2: Magnetic Bearings

Chairs: O. de Haas - O. Horikawa

14:30 h - 16:10 h

- An Electrodynamic Magnetic Bearing D2PM-2a
Marcelo Lopes, Guilherme Sotelo, Elkin Rodriguez and Richard Stephan

- Compact Magnetic and Sliding Hybrid Bearing for Low Axial Load Applications D2PM-2b
Renan Pavani and Oswaldo Horikawa
- Passive Magnetic Bearing System D2PM-2c
Elkin Rodriguez, J. José Pérez-Loya, Juan de Santiago, Felipe S. Costa, Guilherme Sotelo, Janaína Gonçalves de Oliveira and Richard Stephan
- Integrated 6-DoF Lorentz Actuator with Gravity Compensator for Precision Positioning .. D2PM-2d
Ruijun Deng, Rudolf Saathof, Jo Spronck, Sven Hol and Robert Munnig Schmidt
- Magnetic Bearing of Bulk-Annulus Magnet D2PM-2e
Yusuke Fukumoto and Masaru Tomita

Session D2PM-3: Reliability and Safety

Chairs: L. Guobin - D. Dias

16:40 h - 18:20 h

- Shanghai Maglev Trains Maintenance Management and Construction of Maintenance Management System D2PM-3a
Weiqi Cui, Lijun Rong, Jianjun Yuan and Junqi Xu
- Insulation Failure Detection in Propulsion Coil for Superconducting Maglev Using Radio Interferometer System D2PM-3b
Satoru Ota, Masao Suzuki, Ryohei Ikeda, Hiroshi Yoda and Masatake Kawada
- The Multi-division High-speed Simulation System for High-speed MAGLEV Transportation D2PM-3c
Jing-Yu Huang, Hao Ding, Di-Qiang Lu and Feng Qin
- Safety Analysis of Positioning System for High-speed Maglev Train D2PM-3d
Kai Zhang, Hongliang Pan, Decun Dong and Zhiming Liao
- Improvement of the LMS for Shanghai High-Speed Maglev Transportation System D2PM-3e
Chunlong Yu

Session D2PM-4: HTS Magnetic Levitation

Chairs: F. Werfel - G. Sotelo

16:40 h - 18:20 h

- HTS Bulk Magnetic Application in Flywheel Energy Storage Systems FESS and MAGLEV Transportation D2PM-4a
Frank Werfel, Uta Floegel-Delor, Rolf Rothfeld, Thomas Riedel, Dieter Wippich, Peter Schirrmeister and Rene Koenig
- Numerical Simulation of Superconducting Magnetic Bearings with H-Formulation D2PM-4b
Felipe Sass, Jérémie Durge, Guilherme Sotelo, Rubens de Andrade Junior and Frédéric Sirois

Dynamic and Static Measurements with the Basic Cryostat Unit of a Superconducting Magnetically Levitated Vehicle	D2PM-4c
<i>Daniel Dias, Guilherme Sotelo and Rubens de Andrade Junior</i>	
Automatic Liquid Nitrogen Supply Line of the MAGLEV-Cobra Vehicle	D2PM-4d
<i>Felipe S. Costa, Roberto Oliveira and Fernando A. N.C. Pinto</i>	
LN ₂ -free Superconducting Magnetic Bearings continuous cooled by cryocoolers for industrial applications and urban transportation systems	D2PM-4e
<i>Lars Kuehn and Oliver de Hass</i>	

Author Index

An, Bang	D1PM-3d
Andrade, Rubenildo	D1PM-4e
Appunn, Rüdiger	D1PM-3c, KNS-4
Back, Seoung Gil	D1AM-2e
Barusco, Pedro	D1PM-1d
Batista, Eduardo	D2PM-1b
Benes, Marcelo	D1PM-3e
Blow, Lawrence	KNS-1
Borges, Adriano Silva	D2AM-2d
C. Luna, André L.	D1PM-2b
Cha, Hanju	D1AM-2e
Chen, Qiang	D1PM-3d
Chen, Xiaohong	D1AM-1c
Chen, Yijun	D1AM-2d
Chi, Hao	D1PM-2d
Cobas, Wladimir	D1PM-4e
Costa, Felipe S.	D1PM-2b, D2PM-2c, D2PM-4d
Cui, Peng	D1PM-3d
Cui, Weiqi	D2PM-3a
D'Ovidio, Gino	D2AM-1b
Da Costa, Paulo R.	D1PM-2b
de Andrade Junior, Rubens	D1PM-1d, D1PM-1e, D2PM-4b, D2PM-4c
de Araujo, Afonso	D2PM-1b
de Hass, Oliver	D2PM-4e
de Santiago, Juan	D2PM-2c
Deng, Ruijun	D2PM-2d
Deng, Wenxi	D1AM-2c
Dias, Daniel	D1PM-1d, D2PM-4c
Ding, Hao	D2PM-3c
Dong, Decun	D2PM-3d
Dong, Jie	D1AM-2c
Durge, Jérémie	D2PM-4b
Eduardo Chabu, Ivan	D1PM-1a
Escobar, José	D1PM-4e
Ferreira, Antonio	D1PM-1d, D1PM-1e, D1PM-3e
Ferreira, Hugo	D1PM-3b
Ferreira, Luis	D1AM-2a
Floegel-Delor, Uta	D2PM-4a
Fritz, Eckert	D1PM-4b

Fu, Ji	D1AM-1c
Fukumoto, Yusuke	D2PM-2e
Garcia, José	D1PM-3b
Gardner, Spencer	D1PM-1b
Gonçalves de Oliveira, Janaína	D1PM-3a, D2PM-2c
Goulart Dos Reis Martins, Flávio	D1PM-1d, D1PM-1e
Ha, Changwan	D2PM-1a
Hameyer, Kay	D1PM-3c, KNS-4
Han, Hyung-Suk	D2PM-1a
Han, Jong-Boo	D2PM-1a
Han, Youngjae	D2PM-1e, D2AM-1c
Hasegawa, Hitoshi	D2AM-1a
Hofer, Matthias	D2AM-2b
Hol, Sven	D2PM-2d
Hong, Shaozhi	D1AM-1c
Horikawa, Oswaldo	D2PM-2b
Huang, Jing-Yu	D1PM-2d, D2AM-2a, D2PM-3c
Hutterer, Markus	D2AM-2b
Ikeda, Ryohei	D2PM-3b
Jo, Jeong Min	D1AM-2e, D2PM-1e
Junior, Luciano	D2AM-2e
Kang, Donghoon	D1PM-2c
Kawada, Masatake	D2PM-3b
Kim, Chang-Hyun	D1PM-2e
Kim, Dae-Hyun	D1PM-2c
Kim, Heon-Young	D1PM-2c
Kim, Ki-Jung	D2PM-1a
Kim, Lee Hyeon	D2AM-1c
Klühspies, Johannes	D1AM-1e
Koenig, Rene	D2PM-D1AM-1ba
Koroishi, Edson Hideki	D2AM-2c, D2AM-2d
Krevet, Rasmus	D1PM-D1AM-1ba
Kuehn, Lars	D2PM-4e
Lanzara, Giovanni	D2AM-1b
Lara-Molina, Fabian Andres	D2AM-2c, D2AM-2d
Laurenza, Cyro	D1PM-4c
Lee, Byung-Song	D1PM-1c
Lee, Chang-Young	D1PM-1c, D2PM-1e
Lee, Hyung-Woo	D1PM-1c
Lee, Jin Ho	D2PM-1e, D2AM-1c
Lee, Jong-Min	D1PM-2e, D2PM-1a
Li, Jie	D1AM-2c, D1PM-3d

Liao, Zhiming	D1AM-2d, D1PM-2a, D2PM-3d
Lim, Jaewon	D1AM-2e, D1PM-2e, D2PM-1a
Lin, Guobin	KNS-3, D2AM-1e
Lin, Ying	D1PM-2d, D2AM-2a
Liu, Shaoke	D1PM-3d
Liu, Sikai	D1PM-3d
Liu, Wanming	D1AM-1b, D1AM-1c, D2PM-1c
Liu, Yaozong	D1AM-2c
Loeser, Friedrich	D1AM-1d
Lopes, José	D2AM-2e
Lopes, Marcelo	D2PM-2a
Lora, Electo	D1PM-4e
Lu, Di-Qiang	D2PM-3c
Lundin, Johan	D1PM-3a
Luo, Shihui	D2PM-1d
Ma, Weihua	D2PM-1d
Machado, Jeremias	D1AM-2a
Mattos, Laércio	D1PM-3e
Metello, Fernanda	D2PM-1b
Miranda, Ulisses	D1PM-3b
Mizuno, Katsutoshi	D2AM-1a
Mnich, Peter	D1PM-4b
Munnig Schmidt, Robert	D2PM-2d
Murai, Toshiaki	D1AM-2b
N.C. Pinto, Fernando A.	D2PM-4d
Nagashima, Ken	D2AM-1a
Nenning, Thomas	D2AM-2b
Neto, João	D2AM-2e
Ogata, Masafumi	D2AM-1a
Ohsaki, Hiroyuki	KNS-3
Oliveira, Roberto	D1PM-3a, D1PM-3e, D2PM-4d
Ota, Satoru	D2PM-3b
Ota, Shuichiro	D1AM-2b
Pan, Hongliang	D2PM-3d
Park, Chan-Bae	D1PM-1c
Park, Doh-Young	D1PM-2e, D2AM-1d
Pavani, Renan	D2PM-2b
Pedroso, Paulo	D1PM-4e
Pinto, Flávia	D1PM-4d
Pugliese, Luiz Felipe	D1AM-2a
Pérez-Loya, J. José	
Qin, Feng	D2PM-3c

Rezek, Angelo	D1PM-4e
Ribeiro Gomes, Daniel	D1PM-1a
Riedel, Thomas	D2PM-4a
Rocha, Carlos	D1PM-4e
Rocha, Lucas Altamirando De Andrade	D2AM-2c
Rodriguez, Elkin	D2PM-2a, D2PM-2c
Rong, Lijun	D2AM-1e, D2PM-3a
Rothfeld, Rolf	D2PM-4a
Saathof, Rudolf	D2PM-2d
Safae, Alireza	D1PM-1b
Salazar, Andrés	D2AM-2e
Santos Da Cruz, Vagner	D1PM-1e
Sass, Felipe	D2PM-4b
Sawada, Kazuo	D1AM-1a
Schirrmeister, Peter	D2PM-4a
Schroedl, Manfred	D2AM-2b
Sheng, Xiongwei	KNS-2
Shin, Byung	D2AM-1d
Silva, Augusto	D2PM-1b
Silveira Lopes, Luiz Antônio	D1PM-4d
Sirois, Frédéric	D2PM-4b
Sotelo, Guilherme	D2PM-2a, D2PM-2c, D2PM-4b, D2PM-4c
Spronck, Jo	D2PM-2d
Steffen Jr, Valder	D2AM-2c, D2AM-2d
Stephan, Richard	D1PM-3b, D1PM-3e, D2PM-2a, D2PM-2c
Suzuki, Masao	D2PM-3b
Tang, Lianfu	D2AM-2a
Terumichi, Yoshiaki	D1AM-2b
Tomita, Masaru	D2PM-2e
Venturini, Osvaldo	D1PM-4e
Victor, Valci	D2AM-2e
Wang, Xiaohua	D1PM-2d, D2AM-2a
Werfel, Frank	D2PM-4a
Wippich, Dieter	D2PM-4a
Woronowicz, Konrad	D1PM-1b, D1PM-4a
Xu, Junqi	D2AM-1e, D2PM-1d, D2PM-3a
Yan, Peiliang	D1AM-1b
Yoda, Hiroshi	D2PM-3b
Yoshioka, Hiroshi	D1AM-2b
Yu, Chunlong	D2AM-1e, D2PM-3e
Yuan, Jianjun	D2AM-1e, D2PM-3a
Yuan, Yihong	D2PM-1c

Zhang, Kai
Zhang, Peizhu
Zhao, Huahua
Zheng, Qinghua
Zhu, Lili

D2PM-3d
D1PM-3d
D1AM-2d, D1PM-2a
D1AM-1d
D1AM-1b