[TP] Poster Session	
Session Date	May 20 (Tue.), 2025
Session Time	14:30–16:00
Session Room	Room C (103+104)

[TP_01] 14:30–16:00

Optimal Design and Analysis of Permanent Magnet Linear Synchronous Motor Considering Cogging Force

Ha-Jin Kim, Gang-Hoon Kim and Dong-Kuk Lim

University of Ulsan, Korea

[TP_02] 14:30–16:00

Impact Analysis of the Optimization Strategies of the Permanent Magnet Linear Synchronous Motor with Auxiliary Teeth and Compensation Coils

Ye Zhao, He Zhang, Junren Mu, and Yuhang Liu

Harbin Institute of Technology, China

[TP_03] 14:30–16:00

Analysis of Improved Core Loss and Three-Dimensional Analysis for PMLSG Stator Considering Magnetic End Effects

Soojin Lee[1], ChangWoo Kim[2], KyungHun Shin[3], and JangYoung Choi[1]

[1]Chungnam National University, Korea, [2]Chungnam State University, Korea, [3]Changwon National University, Korea

[TP_04] 14:30–16:00

Comparison and Experimental Validation of Magnetization Arrays in Double-Sided Permanent Magnet Linear Synchronous Machines

Hwi-Rang Ban[1], Jang-Young Choi[1], and Kyung-Hun Shin[2]

[1]Chungnam National University, Korea, [2]Changwon National University, Korea

[TP_05] 14:30–16:00

Design of Permanent Magnet Linear Motor Using Grain-Oriented Electrical Steel for Thrust Enhancement and Normal Force Ripple Reduction

Taek-Hyo Nam, Hye-Won Yang, Dong-Hyeon Park, In Seok Song, Seah Park, and Sang-Yong Jung

Sungkyunkwan University, Korea

[TP_06] 14:30–16:00

No-Load Magnetic Field and Cogging Force Calculation in Linear Permanent Magnet Vernier Motor Using Subdomain Model

Young-Ho Hwang[1], Nam-Ho Kim[1], Seok-Won Jung[1], Jin Hwan Lee[2], and Sang-Yong Jung[1]
[1]Sungkyunkwan University, Korea, [2]Chonnam National University, Korea

[TP_07] 14:30–16:00

Integration of Coil Winding Process into Linear Oscillating Actuators Design

Du-Ha Park[1], Seong-Hyeon Kim[1], Jin-Ho Choi[1], Ji-Hyeon Lee[1], Soo-Hwan Park[2], and Myung-Seop Lim[1]
[1]Hanyang University, Korea, [2]Dongguk University, Korea

[TP_08] 14:30–16:00

Effect of Manufacturing Tolerances on Detent Force and Thrust Ripple in Permanent Magnet Linear Synchronous Motor

Hyewon Yang, In Seok Song, Dong-Hyeon Park, Taek-Hyo Nam, and Sang-Yong Jung
Sungkyunkwan University, Korea

[TP_09] 14:30–16:00

Performance Comparison and Study of a Nover Design of Dual Side-Permanent Magnet Linear Motor Using SMC Core

Chang-Hyeon Wang, Jae-Hoon Cho, Ho-Jin Oh, Daeseon Cheo, Seok-Won Jung, and Sang-Yong Jung
Sungkyunkwan University, Korea

[TP_10] 14:30–16:00

Thrust Ripple Reduction in Linear Synchronous Motor through Notch Implementation

Yong-Jun Kwon, Nam-Ho Kim, Ho-Jin Oh, and Sang-Yong Jung
Sungkyunkwan University, Korea

[TP_11] 14:30–16:00

Novel Design Strategies of One Coil Type Permanent Magnet Actuator for Offshore Wind Power System

Kim Jin-Seok, Yang Hyoung-Kyu, and Kim Jin-Hong
Korea Electronics Technology Institute, Korea

[TP_12] 14:30–16:00

Vibration Characteristics in Tubular Linear Induction Motor Based on Electromagnetic–Mechanical Coupled Analysis

Kyu–Seob Kim[1], Hye–Seong Kim[2], Yong–Min Lee[2], Dong–Hoon Ko[2], and Min–Ro Park[2]
[1]Gyeongsang National University, Korea, [2]Soonchunhyang University, Korea

[TP_13] 14:30–16:00

A Comparative Study of Dual Mover and Dual Stator Linear Oscillating Actuator Considering Mechanical Resonance in Linear Compressor

Soo–Hwan Park[1], Ji–Hyeon Lee[2], Du–Ha Park[2], Jaehoon Jeong[3], and Myung–Seop Lim[2]
[1]Dongguk University, Korea, [2]Hanyang University, Korea, [3]LG Electronics Co., Ltd., Korea

[TP_14] 14:30–16:00

Shaft Voltage Analysis Considering Force Ripple in SPMLSM Based on Stator Notch Design

Han–Joon Yoon[1], Chang Hyeon Wang[1], Jin Hwan Lee[2], Seok–Won Jung[1], and Sang–Yong Jung[1]
[1]Sungkyunkwan University, Korea, [2]Chonnam National Univerity, Korea

[TP_15] 14:30–16:00

Optimal Design of the Detent Force Reduction in a Permanent Magnet Linear Synchronous Machine

JunBeom Park[1], MinMo Koo[2], KyungHun Shin[3], and JangYoung Choi[1]
[1]Chungnam National University, Korea, [2]Korea Institute of Industrial Technology, Korea, [3]Changwon National University, Korea

[TP_16] 14:30–16:00

Design and Analysis of Linear Induction Motors for Maglev Trains

Jun Ho Jang[1], Jun Won Yang[1], Hyeon–Jae Shin[3], Kyung Hun Shin[2], and Jang Young Choi[1]
[1]Chungnam National University, Korea, [2]Changwon National University, Korea, [3]Korea Institute of Industrial Technology, Korea

[TP_17] 14:30–16:00

Design and Experimental Evaluation of a 3kW Single–Phase Linear Permanent Magnet Generator for Stirling Engine Applications

Seongwon KIM[1], Kyunghun Shin[2], and Jangyoung Choi[1]
[1]Chungnam National University, Korea, [2]Changwon National University, Korea

[TP_18] 14:30–16:00

Design of Linear Equivalent 2-D Finite Element Analysis Model for AFPMM Considering the End Effects in Radial Direction

Jae-Seung Lee, Mun-Seok Jang, Si-Uk Jung, and Jae-Woo Jung
Daegu University, Korea

[TP_19] 14:30–16:00

Hybrid Method for Calculating AC Copper Losses in Permanent Magnet Linear Synchronous Motors

Nam-Ho Kim[1], Yong-Ho Hwang[1], Yong-Jun Kwon[1], Seok-Won Jung[1], Jin Hwan Lee[2], and Sang-Yong Jung[1]
[1]Sungkyunkwan University, Korea, [2]Chonnam National University, Korea

[TP_20] 14:30–16:00

One-Step Method for Reducing the Computational Time of PMLSM Analysis

Seung-Hwan Oh and DongKuk Lim
University of Ulsan, Korea

[TP_21] 14:30–16:00

Optimal Design of a Permanent Magnet Linear Synchronous Motor for Thrust ripple Reduction Based on Machine Learning

Ji-Sung Lee, Seung-Hwan Oh, and Dong-Kuk Lim
University of Ulsan, Korea

[TP_22] 14:30–16:00

Analysis and Consideration of Thrust Changes of Steel-Cored Permanent Magnet Linear Synchronous Motors with Different Pole Pitches

Na Mo Choi and Sung Il Kim
Hoseo University, Korea

[TP_23] 14:30–16:00

A Comparative Study of Multi-Objective Optimization in Linear Oscillating Actuators

Du-Ha Park[1], Seong-Hyeon Kim[1], Jin-Ho Choi[1], Ji-Hyeon Lee[1], Soo-Hwan Park[2], and Myung-Seop Lim[1]
[1]Hanyang University, Korea, [2]Dongguk University, Korea

[TP_24] 14:30–16:00

Performances Analysis of Linear Oscillating Actuator with Dual Stator Topology

Jin-Ho Choi[1], Ji-Hyeon Lee[1], Du-Ha Park[1], Seong-Hyeon Kim[1], Soo-Hwan Park[2], and Myung-Seop Lim[1]

[1]Hanyang University, Korea, [2]Dongguk University, Korea

[TP_25] 14:30–16:00

Improved Loss Analysis Method Considering Core Anisotropy and AC Copper Loss in Linear Oscillating Actuator

Jin-Ho Choi[1], Ji-Hyeon Lee[1], Du-Ha Park[1], Seong-Hyeon Kim[1], Soo-Hwan Park[2], and Myung-Seop Lim[1]

[1]Hanyang University, Korea, [2]Dongguk University, Korea

[TP_26] 14:30–16:00

Comparison of Prediction Accuracy Between Kriging and Deep Neural Network Surrogate Models for Design Optimization of Linear Oscillating Actuators

Seong-Hyeon Kim[1], Du-Ha Park[1], Jin-Ho Choi[1], Soo-Hwan Park[2], and Myung-Seop Lim[1]

[1]Hanyang University, Korea, [2]Dongguk University, Korea

[TP_27] 14:30–16:00

Novel Design Strategies of Two-Coil Type Permanent Magnet Actuator Considering Nonlinear Dynamics for Circuit Breaker in 66kV Offshore Wind Power System

Kim Jin-Seok[1], Yang Hyoung-Kyu[1], Kim Jong-Woo[2], and Kim Jin-Hong[1]

[1]Korea Electronics Technology Institute, Korea, [2]ENTEC Electric & Electronic Co., Ltd., Korea

[TP_29] 14:30–16:00

A Novel Superconducting Linear Motor Used on High Speed Maglev System

Zhiming Liao and Huahua Zhao

Tongji university, China

[TP_30] 14:30–16:00

A Multirate Model Predictive Current Control of GaN Power Amplifiers for Voice Coil Motors

Yu-Xiang Xie, Guang-Zhong Cao, Hong-Jin Hu, and Su-Dan Huang

Shenzhen University, China

[TP_32] 14:30–16:00

Sensorless Control of PMLSM Based on a Novel Adaptive Super-Twisting Sliding Mode Observer

Yinze Hou, Yanxin Li, and Qinfen Lu

Zhejiang University, China

[TP_33] 14:30–16:00

Three-Vector Model Predictive Thrust Control of Linear Flux Switching Permanent Magnet Motor with Load Force Observer

Xiang Wang, Long Fang, Mingyang Chen, and Ruiwu Cao
Nanjing University of Aeronautics and Astronautics, China

[TP_34] 14:30–16:00

Research on Position Detection Method of Secondary Segmented-Linear Flux Switching Permanent Magnet Motor Based on Linear Hall

Long Fang, Mingyang Chen, Xiang Wang, and Ruiwu Cao
Nanjing University of Aeronautics and Astronautics, China

[TP_35] 14:30–16:00

PI Gain Control Method Utilizing Inductive Characteristics of MR Dampers

Si-Uk Jung[1], Sung-Hyun Park[2], Byeong-Hwa Lee[2], and Jae-Woo Jung[1]
[1]Daegu University, Korea, [2]Korea Automotive Technology Institute, Korea

[TP_36] 14:30–16:00

Position Sensorless Control of PMLSM Based on Disturbance Observer

Geon-Hui Hyeong and Young-wook Kim
Chungbuk National University, Korea

[TP_37] 14:30–16:00

Vibration Analysis of Electrodynamic Suspension Train Propulsion Systems: A Comparison Between Double-Layer and Single-Layer Coil Configurations

Huan Huang, Yougang Sun, Junqi Xu, and Guobin Lin
Tongji University, China

[TP_38] 14:30–16:00

Analysis of Traction Force For High-Speed Maglev under Steady-State Levitation

Yu Jin, Hao Ding, Zhiming Liao, and Zicong Zhang
Tongji University, China

[TP_39] 14:30–16:00

Influence of the Rotational Stability by Adding Weight to the Rotor in the HTS Magnetic Bearing System

Togo Tagami, Keigo Yagi, Ken-ichi Kondo, and Shunsuke Ohashi
Kansai University, Japan

[TP_41] 14:30–16:00

A Novel Method of Force Distribution to Reduce Force Coupling for the Six-Degree-of-Freedom Maglev Planar Motors

Chao Wang and Guang-Zhong Cao
ShenZhen University, China

[TP_42] 14:30–16:00

Magnetic-Thermal-Mechanical Coupling Analysis of Passive Damping Plate Implemented in PMEDS Vehicle

Hongfu SHI
Southwest Jiaotong University, China

[TP_43] 14:30–16:00

Optimal Design for Reducing Thrust Ripple and Detent Force in Spoke-Type PMLSMs Using Mathematical Modeling

Dong-Hyeon Park, Hye-Won Yang, Young-Ho Hwang, Taek-Hyo Nam, and Sang-Yong Jung
Sungkyunkwan University, Korea

[TP_44] 14:30–16:00

Electromagnetic Characteristic Regression Model for PMLSM Based on Convolutional Neural Network with Attention Mechanism

In Seok Song, Tae-Hyuk Ji, and Sang-Yong Jung
Sungkyunkwan University, Korea

[TP_45] 14:30–16:00

Analysis of Electromagnetic Considering the End Effect of Linear Magnetic Gears Based on Subdomain Method

Seok-Hyeon Eom[1], Jeong-In Lee[2], Kyung-Hun Shin[3], and Jang-Young Choi[1]
[1]Chungnam National University, Korea, [2]Hyundai Transys, Korea, [3]Changwon National University, Korea

[TP_46] 14:30–16:00

Analytical and Experimental Study of Tubular Linear Machine with Axially Magnetized Double-Sided Permanent Magnets and Slotless Armature Coil

Kyung-Hun Shin[1], Mingyu Park[2], Kyunghun Jung[2], and Jang-Young Choi[3]
[1]Chagnwon National University, Korea, [2]Hanon Systems, Korea, [3]Chungnam National University, Korea

[TP_47] 14:30–16:00

Performance Analysis of an Asymmetric Overhang Outer-Rotor Permanent Magnet Synchronous Motor under Z-Axis Linear Force

Jae Gak Shin, Hong Jae Jang, Tae Su Kim, Seong Han Ryu, Jeong Hun Park, and Ki Chan Kim
Hanbat National University, Korea

[TP_48] 14:30–16:00

Electromagnetic Drag Force Analysis of Hyperloop Tube According to the B-H Curve Characteristics of Steel Tube

Seong-Hwi Kim[1], Ju Lee[1], Wooyeon Cho[2], and Hyung-Woo Lee[3]
[1]Hanyang University, Korea, [2]: POSCO Co., Ltd., Korea, [3]Korea National University of Transportation, Korea

[TP_49] 14:30–16:00

A Linear Position Correction Method for Inductive Displacement Sensor in Inter-Segment Movement

Mingyang Chen, Long Fang, Xiang Wang, and Ruiwu Cao
Nanjing University of Aeronautics and Astronautics, China

[TP_50] 14:30–16:00

Optimal Design of Magnetic Module in Novel Trunk Locking System for Reducing Magnet Rotation Torque

Jae-Hoon Cho[1], Hyun-Woo Wui[1], Ho-Jin Oh[1], Kyoung taek Kwak[2], Moo seok Kwak[2], Kyeong Jun Lim[2], Jae Seung Lee[2], Jin Ho Hwang[2], Dong Hwan Lim[2], Seok-Won Jung[1], and Sang-Yong Jung[1]
[1]Sungkyunkwan University, Korea, [2]Hyundai Motor Company, Korea

[TP_51] 14:30–16:00

Analysis of Force and Losses Based on the Position and Length of the Ferromagnetic Pole Piece in a Linear MG

TaeYun Ha and EuiJong Park
Chosun University, Korea

[TP_52] 14:30–16:00

Optimization of Motor to Improve Table Surface Rotation Accuracy of the Direct Drive Motor

Rongping Fan, JuanJuan Cao, Shuhua Wang, Bian Zhang, and Yongjian Jin
Yokokawa Robotics (Shenzhen) Co., Ltd., China

[TP_53] 14:30–16:00

End Teeth Topology Optimization of PMLSM Using Normalized Gaussian Network
Jiaqi Hong, Lize Wu, Yanxin Li, and Qinfen Lu
Zhejiang University, China

[TP_54] 14:30–16:00

Torque Ripple Optimization of Arc Linear Permanent Magnet Synchronous Motor with Subdomain Model
Kai Zhang[1,2], Yingquan Liu[1], and Junyong Lu[1]
[1]Naval University of Engineering, China, [2]Zhejiang University, China

[TP_55] 14:30–16:00

Analysis of Sensorless Control Applicable to Linear Motor: Methods and Applications
AReum Kang and Jae Suk Lee
Jeonbuk National University, Korea

[TP_56] 14:30–16:00

Semi-Active Control of Superconducting Electrodynamic Suspension Train Based on Magnetorheological Damper
Piji Feng, Guangtong Ma, Zhenhua Su, Libin Cui, Taoning Zhu and Jun Luo
Southwest Jiaotong University, China

[TP_57] 14:30–16:00

Feasible Design and Operating Investigations for Fast Wireless Power Charging Module Using Supercapacitor Unit in the High-Speed Superconducting Levitation Hyperloop Train
Yoon Do Chung[1], and Chang Young Lee[2]
[1]Suwon Science College, Korea, [2]Korea Railroad Research Institute, Korea

[TP_58] 14:30–16:00

Modelling and Analysis of Double-Layer Harmonic Linear Generator for Superconducting Electrodynamic Suspension Integrated with Propulsion, Levitation and Guidance
Zhenhua Su, Guangtong Ma, Jun Luo, Piji Feng, and Libin Cui
Southwest Jiaotong University, China

[TP_59] 14:30–16:00

Dynamic Characteristic Analysis of Linear Induction Motors Applying Various Skew Method
Jin Hwan Lee[1], Yong-Jae Kim[2], and Sang-Yong Jung[3]
[1]Chonnam National University, Korea, [2]Chosun University, Korea, [3]Sungkyunkwan University, Korea

[TP_60] 14:30–16:00

Theoretical Modelling of Permanent Magnet Linear Eddy Current Brake Based on Equivalent Circuit

Libin Cui, Guangtong Ma, Jun Luo, Zhenhua Su, and Piji Feng
Southwest Jiaotong University, China

[TP_61] 14:30–16:00

Asymmetric Mover Design for Mitigating Detent Force and Thrust Ripple of Spoke-Type Permanent Magnet Linear Synchronous Machine

Hyeon-Taek Oh, Jong-Seok Seon, and Han-Kyeol Yeo
Konkuk University, Korea

[TP_62] 14:30–16:00

Coupling Magnetic Field Analysis of Teeth Slot and Longitudinal End Effects for Long Primary Double-Sided Linear Induction Motor

Tianping Li[1,2], Liming Shi[1,2], Yaohua Li[1,2], Zeyu Yang[1], Jinhai Liu[1,2], and Ganlin Kong[1,2]
[1]Chinese Academy of Sciences, China, [2]University of Chinese Academy of Sciences, China

[TP_63] 14:30–16:00

Investigation of Braking Characteristics in Dual-Winding Rail Eddy Current Braking System with AC Excitation

Xu Niu and Baoquan Kou
Harbin Institute of Technology, China

[TP_64] 14:30–16:00

Thrust Ripple Suppression in Spoke-Type Permanent-Magnet Linear Synchronous Machine with Arc-Shaped Mover Pole

Jong-Seok Seon, Hyeon-Taek Oh, and Han-Kyeol Yeo
Konkuk University, Korea

[TP_65] 14:30–16:00

Influence of the Novel Secondary Structure on the Performance of LP-DSLIM

Zhuo Zhang[1,2], Yumei Du[1,2], Liming Shi[1,2], and Ruihua Zhang[1,2]
[1]Chinese Academy of Sciences, China, [2]University of Chinese Academy of Sciences, China