Meiyi LI

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EDUCATION

Shanghai Jiao Tong University (SJTU) *Shanghai, China*

●*M.Sc. in Electrical Engineering* |GPA: 3.56/4.0 *Sep. 2017-Present*

○Received waiver for the National Postgraduate Entrance Examination to enter SJTU (Rank 10/170)

○**National Scholarship** for Outstanding Academic Achievements (**Highest scholarship, Top 1%, Top 1 among female students**)

○Thesis: "Stability Analysis and Optimal Control of Virtual Synchronous Generator Controlled Inverter-Interfaced Distributed Generators"

●*B.Sc. in Electrical Engineering and Automation* |GPA: **4.01**/4.3 *Sep. 2013-Jun. 2017*

○Outstanding Engineers Honor Class (30 students selected from 160 candidates in the school)

○Merit student of SJTU (Top **3**%)

○Outstanding Graduates of Shanghai (Top **5**%)

○Thesis: "Transient Stability and Optimization Control of Microgrid"

PUBLICATIONS

[1] **M Li**, W Huang, N Tai, Liuqing Yang. A Dual-Adaptivity Inertia Control Strategy for Virtual Synchronous Generator. ***IEEE Transactions on Power Systems***, 2019. Published.

[2] **M Li**, W Huang, N Tai. Transient Behavior Analysis of VSG-IIDG During Disturbances Considering the Current Limit Unit. ***2019 IEEE Power and Energy Society General Meeting***, 2019. **Prize Conference Paper (4/900), the only Chinese student who won the prize in the past several years**. Accepted.

[3] **M Li**, W Huang, N Tai. Behavior Analysis of the VSG-IIDG During Voltage Disturbance Considering the Current Limit Unit. ***IEEE Transactions on Power Systems***. Under Review.

[4] **M Li**, W Huang, N Tai. Stability Analysis of the VSG-IIDG in the Microgrid: A Review. ***Applied Energy***. Under Review.

[5] **M Li**, W Huang, N Tai. Lyapunov-Based Large Signal Stability Assessment for VSG Controlled Inverter-Interfaced Distributed Generators. ***Energies***, 2018. Published.

[6] **M Li**, W Huang, N Tai. Control Strategy for Inverter Interfaced Distributed Generator based on Virtual Synchronous Generator using Adaptive Inertia under Frequency Disturbances. *Power System Technology*, 2019. (Chinese EI Journal). Accepted.

[7] **M Li**, W Huang, N Tai. Surge Current Calculation and Limit Strategy of the IIDG during Loop Closing Operation in Distribution Networks. 2019 IEEE Sustainable Power & Energy Conference, 2019. Accepted.

[8] **M Li**, W Huang, N Tai. Analysis and Limit Strategy of the Surge Current Caused by Closing-Loop Operation in the DG dominated Distribution Network. 2019 China Electrotechnical Society Academic Annual Conference, 2019. Accepted.

[9] Y Chen, Z Liu, **M Li**. Evaluation Index and Method of Active Distribution Network Based on Multi-source Data. Electrical Automation, 2019. (Chinese Core Journal). Accepted.

[10] **M Li**, W Huang, N Tai. Large Signal Stability of Autonomous Operation of A VSG-IIDG: Modeling and Analysis (Working paper).

RESEARCH EXPERIENCE

Research Assistant (RA), Key Laboratory of Control of Power Transmission and Conversion, Shanghai

●*Project I: Adaptive Control of the Inverter-interfaced Distributed Generator (IIDG)* ***([1])*** *Jun. 2018-Sep. 2018*

○Proposed a dual-adaptivity inertia control strategy for the IIDG based on the virtual synchronous generator to 1) offer responsive and stable frequency support and 2) achieve the balance between power regulation and frequency regulation according to different operating conditions.

○Derived transfer functions of the IIDG power and angular frequency.

○Analyzed the response characteristics (overshoot and resettling time) of the IIDG output power and frequency.

○Proposed an assessment method considering the cumulative effect of the output deviation and its duration to 1) cope with the tradeoff between speed and tracking accuracy and 2) universally reflect the dynamic performance of power and frequency.

RA, Research Center for Big Data and Artificial Intelligence Engineering and Technologies, Shanghai

●*Project I: Virtual Power Angle Stability of the IIDG* ***([3])*** *Sep. 2019-Present*

○Analyzed the power-angle characteristics of the VSG-IIDG considering the terminal voltage fluctuation to illustrate the behavior mechanism when the Q-V controller has an enhanced or deteriorative effect on stability.

○Established the small-signal model of the VSG controller to analyze the behavior mechanism during voltage disturbances.

○Derived the power-angle curve of the IIDG considering nonlinear saturation of the inner loop controller to provide a comprehensive and quantitative explanation about different types of behaviors of the VSG- IIDG during voltage disturbances.

RA, Department of Electrical Engineering, SJTU

●*Project I: Lyapunov-based Stability Analysis of the Virtual Synchronous Generator* ***([5])*** *Apr. 2018-Jun. 2018*

○Derived the Lyapunov energy function based on Popov's theory to determine the stability domain of the IIDG system.

○Analyzed the effects of control parameters on the large-signal stability of the IIDG system.

●*Project II: Stability Mechanism of the IIDG (****[2], [4], [6], [10])*** *Sep. 2017-Present*

○Calculated the operation area of parameters according to 1) phase and gain margin, 2) system capacity, 3) standards in accordance with power quality, and 4) characteristic roots.

○Revealed the typical instabilities and their mechanisms of the IIDG system.

●*Project III: Surge Current of the IIDG during Closing-Loop Operation* ***([7], [8])*** *Sep. 2018-Sep. 2019*

○Presented an algorism for calculating the surge current of voltage source inverters and current source inverters.

○Proposed a control scheme to limit the surge current of the IIDG during closing-loop operation in the distributed network.

INDUSTRIAL COLLABORATIVE PROJECTS

Key Technologies Study on Control and Protection of Multi-microgrid *Dec. 2016-Dec. 2018*

Electric Power Research Institute of Guangxi Province

○Established a simulation platform of the microgrid in Guangxi No.1 middle school, including three photovoltaic plants, a wind generator, three storage batteries, a diesel generator, and their controllers, et al.

○Analyzed the amplitude-frequency and phase-frequency characteristics of controllers and phase-locked loops based on impedance-based stability theory.

○Designed and implemented an automated software tool to determine the stability of the microgrid based on MATLAB.

WORK EXPERIENCE

Intern Electrical Engineer, State Grid Corporation of China, Shanghai, China ([9]) *Sep. 2018-Nov. 2018*

○Led a team of 3 students and established the simulation platform of the grid-connected photovoltaic power system of the Songjiang District of Shanghai.

○Calculated and analyzed the overvoltage and high impact current with the increase of penetration of photovoltaic power.

TECHNICAL SKILLS

Programming: MATLAB, Simulink, Power Systems Computer Aided Design/Electro-Magnetic Transient in DC System (PSCAD/EMTDC), Real Time Digital Simulator (RTDS), Python, C/C++

Standardized tests:

GRE:327 (V158-Q169-A3.5)

TOFEL:106 (R30-L28-S25-W23)

RECORDS FOR UNDERGRADUATE

COLLEGE: School of Electronic Information and Electrical Engineering MAJOR: Electric Power Engineering and Automation CLASS: F1303015

STUID: 5130309456 NAME: Li Meiyi

ACADEMIC YEAR: 2013-2014

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
CS902	Thinking and Approach of Programming	1	3	B+
EI901	Science and Technology Innovation (Part 1)	1	2	B+
EN025	University English I	1	3	B
IN901	Information Literacy and Practice	1	2	A
MA077	Linear Algebra	1	3	A
MA115	Discrete Mathematics	1	2	A+
MA118	Mathematical Analysis I	1	6	A
PE001	Physical Education I	1	1	A
TH000	Cultivation of Ethics and Fundamentals of Law	1	3	A
TH004	Military Theory	1	1	A
TH009	Circumstance and Policy	1	1	A-
CS048	C++ Programming	2	3	B+
EN026	University English II	2	3	B
EV017	Water Resource and Water Environment Protection	2	2	A-
MA043	Mathematical Analysis II	2	6	A
MA119	Probability and Statistics	2	3	A
MU903	World Ethnic Music Appreciation	2	2	A
PE002	Physical Education II	2	1	A-
PH001	Physics I	2	4	A+
PH028	Physics Lab. I	2	1	A-
TH009	Circumstance and Policy	2	1	A-
TH010	Military Training	2	3	P
TH021	Modern Chinese History	2	2	A-
XP000	General Education Practice	2	2	P

ACADEMIC YEAR: 2014-2015

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AM923	Innovation and Entrepreneurship	1	2	A-
EI203	Fundamental Circuit Theory	1	4	B+
EI204	Basic Circuit Lab.	1	2	A
EI205	Digital Electronics Technology	1	3	B-
EN027	University English III	1	3	B+
MA097	Mathematical Methods in Physics	1	3	A-
ME068	Modern Technology of Electric Automobile	1	1	A-
PE003	Physical Education III	1	1	A+
PH002	Physics II	1	4	A
PH029	Physics Lab. II	1	1	A-
PU933	Political Man	1	2	A-
SO923	News Media and Society	1	2	A
TH007	Basic Theory of Marxism	1	3	A-
TH009	Circumstance and Policy	1	1	A
BI903	Experimental Exploration to Life Science	2	2	A+
CH927	Introduction to Modern Chinese Poetry	2	3	A
EE206	Cognitive Practice	2	1	A-
EE207	ARM Embedded Systems and its Experiments	2	5	A-
EI200	Electromagnetic Field	2	2	B+
EI207	Analog Electronic Technology	2	3	B+
EI210	Signals and Systems	2	3	A
EI227	Science and Technology Innovation (Part 2A)	2	2	A
EN026	University English II	2	3	A-
ES003	Electronics Lab.	2	3	A
ME037	Basics of Machine Manufacturing	2	2	A-
PE004	Physical Education IV	2	1	A-
TH009	Circumstance and Policy	2	1	A+
TH012	Introduction to Mao Zedong's Thoughts and Theoretical System of Socialism with Chinese Characteristics	2	6	A-

ACADEMIC YEAR: 2015-2016

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AM001	Basic Management	1	2	B+
EE301	Fundamentals of Electrical Engineering I	1	4	A
EE303	Fundamentals of Power Electronics Technology	1	3	A
EE311	Database	1	2	A+
EE314	Electrical Machinery Theory	1	4	A
EE317	Digital Signal Processing (B)	1	2	A
EI205	Digital Electronics Technology	1	3	A+
EI303	Automatic Control Theory B	1	3	A
EI310	Science and Technology Innovation (Part 3-A)	1	2	A-
PE901	Sport Culture	1	1	A+
AU321	Motion Control System Integrated Test	2	2	B+
EC016	Engineering Economics(F)	2	2	A-
EE302	Fundamentals of Electrical Engineering II	2	2	B+
EE308	Relay Protection of Power System	2	3	A
EE315	Electrical Power System Automation	2	3	A-
EE318	Motor Control Technology	2	3	A-
EE319	Electrical and Electronic Measurement Technology	2	2	A
EE329	Electrical Professional Practice	2	2	A
EE332	Course Design in Power Electronic	2	2	A
EE413	Transient Analysis of Power System	2	2	A
EI317	Science and Technology Innovation (Part 4-B)	2	2	A
T030PRP28075	PRP(T030PRP28075)	2	2	A

ACADEMIC YEAR: 2016-2017

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
EE404	Digital Power Systems Protection and its Application	1	2	A
EE411	Course Design in Power System Protection	1	2	A-
EE412	Electrical Power System Optimization and Marketing	1	2	A
EE414	Modern Electrical Technology	1	1	B+
EE422	Numerical Computation of Electro-Magnetic Field	1	2	A
EE431	Electrical System Lab.	1	2	A+
EI302	Communication Fundamentals (B)	1	2	A-
BS055	Undergraduate Project (Thesis)	2	17	B+

学生成绩证明专用章

NOTE1-MARK"△"Means the Course Failed NOTE2-The sheet should be stamped to be official

Registrar Registrar's Office,ShangHai Jiao Tong University http://jwc.sjtu.edu.cn 2019-10-17

地址(Address)：上海市东川路800号(800 Dongchuan Road, Shanghai200240, P.R. China)
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上海交通大學
SHANGHAI JIAO TONG UNIVERSITY

TRANSCRIPT FOR GRADUATE STUDENT

Date Issued:25-OCT-2019

Name: Li Meiyi
Nationality:China
Gender:Female
Date of Birth:22-JUL-1994
Student ID: 117031910072
Supervisor:Tai Nengling
School: School of Electronic Information & Electrical Engineering
Major:Electrical Engineering
Study Program:Professional Master
Enrollment Date:SEP-2017

COURSE TITLE	CREDIT	GRADE	SEMESTER
☆ Academic Speech and Seminar	2	A	2018 Fall
☆ English for Academic Purposes	2	A-	2018 Spring
☆ Power System Security Analysis	2	A	2018 Spring
☆ Reliability of Power Systems	2	A+	2018 Spring
☆ Introduction to Computer Relaying Protection	2	A	2018 Spring
Distribution automation system	2	A	2018 Spring
Advanced Optimization of Power System Operation	2	B	2017 Fall
☆ Theory and Application of Optimization in Modern Power System Operation	2	B-	2017 Fall
Relaying Protection for Extra-high Voltage Transmission Line	2	B	2017 Fall
☆ Fundamentals and Theory for Optimization Methods	3	B-	2017 Fall
Dialectic of nature	1	A	2017 Fall
The Theory and Practice of Socialism in China	2	B+	2017 Fall
☆ Modern Control Theory	3	A-	2017 Fall
☆ Project Management	1	A-	2017 Fall

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Total Credits	Credits for GPA	Cumulative GPA	Degree-Specific Requirements	Semester	Grade
28	19	3.56/4.0	research assistant	2019 Spri	P
Degree Conferre			Conferred Date		
Thesis Title					

* Courses marked with ☆ are used for calculating GPA.
** The transcript should be stamped to be official.
*** Explanatory legend is printed on the back page.

Dean: Yang Shengrong

上海交通大学研究生院 成绩专用章
Shanghai Jiao Tong University
Graduate School