Email: leo-chenyu@stu.xjtu.edu.cn Curriculum Vitae Academic Homepage: www.leochenyuyan.xyz

Xi'an Jiaotong University

CHENYU YAN

Contact: +8613201758902

Education and Experience

STATE GRID Corporation of China ***Data Scientist*** ***08/2019 – present***

- Research on power grid load forecast and redistribution based on machine learning
- Research on data central platform for power equipment condition monitoring

Xi'an Jiaotong University /XJTU ***Master / Electrical Engineering*** ***09/2016 – 06/2019***

MS degree in Electrical Engineering with a focus on the electrical property of dielectric

Advisor: Assistant professor Daomin Min

Thesis: *Research on Electrical Breakdown Property of Polypropylene Nanocomposite Dielectric Modulated by Charge Transport and Molecular Displacement*

- Research focuses on **functional nanomaterial/device, interface, electrochemical material, power transmission**
- Research focuses on **charge transport/molecular motion modeling and computational calculation of dielectrics**
  Investigated the charge transport and computational modeling in dielectrics (*J. Polym.*, **2018**, 10, 9)
- Research in the **physical mechanism of electrical breakdown of dielectrics and energy storage**
  Revealed the physical mechanism of the electrical breakdown of nanocomposite (*J. Polym.*, **2017**, 10, 11)
  Summarized the current progress of electrical breakdown research on Polypropylene nanocomposite (J. *IET nanodielectrics*, **2018**, 1, 2)
- Research in **condition diagnostics modeling for power equipment**
  Investigated the dielectric deterioration of silicon rubber under corona discharge *(J. Polym.*, **2016**, 9, 10)

Northwestern Polytechnical University / NWPU ***Bachelor / Electrical Engineer*** ***06/2016 – 09/2012***

BS degree in Electrical Engineering with a focus on battery system

Advisor: Dongdong Zhao

Thesis: Design of large-scale battery management system based on ARM architecture

- Research focuses on **dynamic electron/ion migration modeling in the battery system**
- Research focuses on **nanostructured material for lithium battery**

Research interest

Functional/Nano Material, Electrochemistry, Energy Storage/consevation, Solid Physics
Computational Modeling, Electron/energy Transport

Fellowships, Honors and Awards

2019 Outstanding Graduate Student
2018 National Scholarship
National Special Scholarship
First-class Scholarship
Excellent Graduate Student Award
2017 National Scholarship
National MCM, Honorable Mention
First-class Scholarship
Excellent Graduate Student Award
2016 Scholarship for Outstanding Freshman
Outstanding undergraduate student
2015 Provincial Special Scholarship
2015 First-class Scholarship
International MCM, Honorable Mention
5th Mathorcup international MCM, Outstanding Award
Excellent Undergraduate Student Award
2014 First-class Scholarship
E+H Special Scholarship
National MCM, Outstanding award
National Undergraduate Debate Contest, Best debater
Japan, Korea and China Forum, Excellent World Teenager
Excellent Undergraduate Student Award
2013 First-class Scholarship
Excellent Undergraduate Student Award

Publication List

5 *Carrier Transport and Molecular Displacement Modulated dc Electrical Breakdown of Polypropylene Nanocomposites*
Min D, **Yan C***, Mi R, Ma C, Huang Y, Li S, Wu Q, Xing Z. *Polym.*, **2018**, 10(11)

4 *Thickness Dependent dc Electrical Breakdown of Polyimide Modulated by Charge Transport and Molecular Displacement*
Min D, Li Y, **Yan C**, Xie D, Li S, Wu Q, Xing Z. *Polym.*, **2018**, 10(9)

3 *Space-charge Modulated Electrical Breakdown in Polyethylene Nanodielelctrics*
Min D, **Yan C***, Mi R, Cui H, Li Y, Wang W, Frechette M, Li S. *IEEE Nanotechnology Magazine*, **2018**, 12(2)

2 *Polypropylene Nanocomposite for Power Equipment: A Review*

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Cheng L, Chi X, **Yan C***, Xie D, Liu X, Wen Y, Liu W, Li S. *IET Nanodielectrics*, **2018**, 1(2)

1 *Dielectric and Carrier Transport Properties of Silicone Rubber Degraded by Gamma Irradiation*
Min D, **Yan C***, Huang Y, Li S, Ohki Y. *Polym.*, **2016**, 9(10)

* **The first author as the student**

Conferences and Presentations

7 *DC Electrical Breakdown of Low-density Polyethylene Nanodielectrics Modulated by Charge Transport and Molecular Displacement*
Li, Q; Min M; **Yan C**; W W; Li S; Zhang G; Liu J. *IEEE International Conference on High Voltage Engineering and Application*, **2020**

6 *Numerical Simulation on Dc Breakdown of Polyimide Based on Charge Transport and Molecular Chain Displacement*
Li Y, **Yan C**, Min D, Li S, Xing Z, Zhang L, Zhang C. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2019**, 108-117

5 *Effect of Deep Traps and Molecular Motion on dc Breakdown of Polyethylene Nanocomposites*
Mi R, **Yan C**, Wu Q, Min D, Li S. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2019**, 1087-1096

4 *Electrical Breakdown of Polymer Nanocomposites Modulated by Space Charges*
Min D, **Yan C**, Wang W, Xie D, Frechette M, Li S. *17th International Conference on Nanotechnology*, **2017**, 267-269

3 *Study on Short-Term dc Breakdown and Corona Resistance Mechanism of Polyimide (**Presentation**)*
Xie D, **Yan C**, Huang Y, Min D, Li S. Xie, D., *International Symposium on Electrical Insulating Materials*, **2017**, 437-441

2 *Influence of Filler Content on Conductivity of Epoxy Resin Nanocomposites*
Min D, **Yan C**, Huang Y, Xie D, Liu W, Li S. 20th *International Symposium on High Voltage Engineering*, **2017**, 1-6

1 *Surface Trap and Carrier Transport of Aged and Pristine Oil-Paper Under Harmonic Voltage by Surface Potential Decay **(Poster)***
Li S, Yan W, **Yan C**, Din D, Li S, Kang W. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2017**, 94-97

Teaching Experience

2018 Guider for an undergraduate thesis
2017 TA for Dielectric Physics • Solid Physics

Expertise and Skills

- Synthesis of nanomaterial/device • Characterization • Testing • Analysis
- Charge transport • Energy transfer/storage • Molecular machinery
- Computational Calculation • Modeling Algorithm • Machine Learning
- Coding Python/TensorFlow/MATLAB • Basic web development skill HTML/JavaScript

Project Experience

Influence of molecular chain motion property in interfacial regions on dc breakdown property of polyethylene nanocomposite
- Funded by the National Science Foundation of China
- Investigated molecular motion property and dynamic process of electrical breakdown
- Investigated the changes in electrical property brought by interphase property

Insulating property and its regularity of dielectrics in current transfer and energy dissipation
- Funded by National Key Basic Research Program (973 Project)
- Compiled current(carrier) and energy dissipation model and computational calculation
- Investigated the physical mechanism of current and energy transfer

Charge transport property in silicone rubber under harmonic aging
- Funded by China Electric Power Research Institute
- Investigated electrical property changes of silicon rubber
- Built model for longevity forecast of silicon rubber and power cable

Machine learning in power grid load forecast
- Funded by State Grid Corporation of China
- Machine learning model based on the architecture of RNN and LSTM model
- Provided forecast information for decision making

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