

2021 FREEDM Symposium - Student Research Presentations

Student	Principal Investigator	Presentation Title	Research Pillar
Taohid Latif	Iqbal Husain	Design, Modeling and Control of a Pole-changing Induction Motor	Electric Transportation
Tomas Sadilek	Iqbal Husain	A New Low-THD 2-Switch PFC ZVS DCM Rectifier for Electrified Aviation Applications	Electric Transportation
Dakai Wang	Wensong Yu	Evaluation Methodology of Power-Frequency Boundary of Medium-Voltage SiC MOSFETs under Soft-Switching Conditions	Power Electronics
Hafsa Qamar	Raja Ayyanar (ASU)	Advanced Space Vector PWM Method with Low Loss, Low THD and Elimination of Zero States	Power Electronics
Karan Maru	Doug Hopkins	Accessible and Adaptable Approach for Calculating the Thermal Resistance of a Power Package using ParaPower	Power Electronics
M A Awal	Iqbal Husain	Transient Stability Assessment for Current Constrained and Unconstrained Fault Ride-Through in Unified Virtual Oscillator Controlled Grid Forming Converters	Power Electronics
Md Rashed Hassan Bipu	Iqbal Husain	Hybrid AC/DC Microgrid Enabled by Unified Virtual Oscillator Control	Power Electronics
Semih Isik, Harshit Nath	Subhashish Bhattacharya	Real time C-HIL Implementation of 100 MVA Convertible Static Compensator (CSC) for New York Power Authority	Power Electronics
Shane Stein	Spyridon Pavlidis	Design and Performance Analysis of GaN Vertical JFETs with Ion-Implanted Gates	Power Electronics
Siye Cen	Iqbal Husain	Design and Development of A Multi-Port Converter for Marine Microgrid Application	Power Electronics
Sourish Sankar Sinha	Doug Hopkins	E-Field Reduction Techniques in HV Multi-layered Modules Using New Capacitive Modelling Method	Power Electronics
Utkarsh Mehrotra	Doug Hopkins	Scalable Cascaded SuperCascode High Voltage Power Switch	Power Electronics
Ritvik Chattopadhyay	Iqbal Husain	Heavy Rare-Earth Free High Power Density Motors for Traction Applications	Power Electronics
Mark Nations & Dr. Richard Beddingfield	Subhashish Bhattacharya	150 kW, 3.5 kV to 400 V Contactless Magnetic Plug	Power Electronics
Jishnudeep Kar	Aranya Chakraborty	Neural Network Assisted Resilient Wide Area Control of Power Systems under Denial of Service Attacks	Power Systems
Rahul Chakraborty	Aranya Chakraborty	Hierarchical Frequency and Voltage Control for Transmission Network with Prioritized Renewable Dispatch	Power Systems
Ashwin Shirsat	Wenyuan Tang	A Hierarchical Multi-timescale Framework For Energy Management of Dynamic Community Microgrid	Renewable Energy
Md Rifat Kaiser Rachi	Iqbal Husain	Main Breaker Switching Control and Design Optimization for A Progressively Switched Hybrid DC Circuit Breaker	Renewable Energy