



TEXAS A&M UNIVERSITY

Department of Electrical
& Computer Engineering

TRANSFORMING ENGINEERING EDUCATION

ENERGY & POWER SEMINAR

Generating Electric Field Test Patterns for Electric Grid Resiliency Studies

Abstract

The world's electric grids are susceptible to geomagnetic phenomenon such as disturbances created by coronal mass ejections (CMEs) from the sun, which create geomagnetically induce currents (GICs) in the systems. It is important to study events such as geomagnetic disturbances (GMDs) to ensure the electric grids' resiliency against such events. In this work, test patterns of time varying electric fields are proposed to assist with the study of GMDs and other electromagnetic phenomena which may affect the stability of the power grids. Formulation of mitigation strategies against electromagnetic events which may cause major grid issues, such as system voltage collapse and transformer overheating is the focus of this work.



Melvin Stevens

PhD Student
Electrical & Computer Engineering
Texas A&M University

Friday, December 1
11:30 am - 12:20 pm
244 ZACH

Biography

Melvin Stevens earned his BSEE and MSEE from University of Illinois. He is currently working on mitigation techniques to geomagnetically induced current in power systems.

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