



Engineering Analysis Task Team

Evangelos Farantatos (EPRI) – Co-Lead

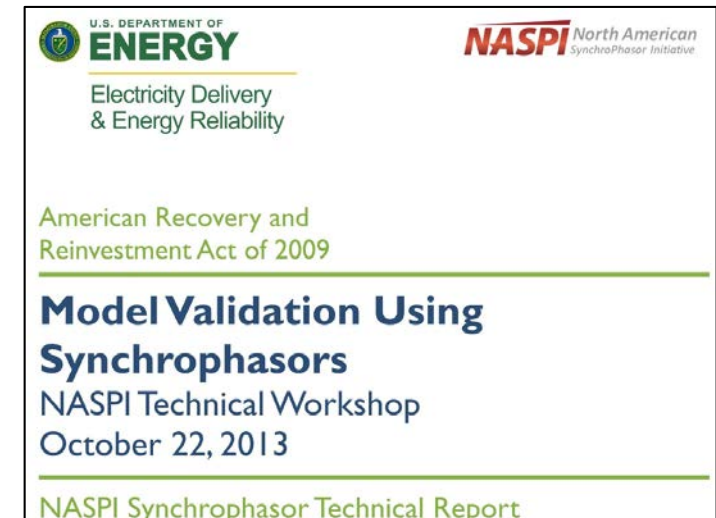
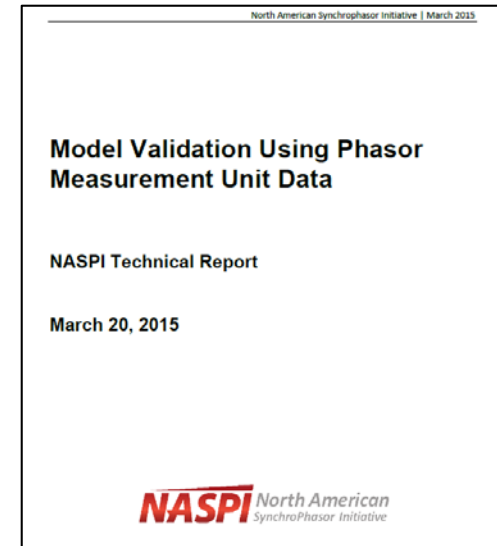
Shaun Murphy (PJM) – Co-Lead

NASPI Virtual Meeting

November 4 2020

Advanced Model Validation & Calibration

- New EATT White Paper
- Lead: Honggang Wang (GE)



Objective: Document industry advancements in model validation and calibration

Outline

[White Paper Link](#)

- 1 Introduction
 - 1.1 Motivation for Model Validation & Calibration
 - 1.2 Datasets and Data Requirements for Model Validation & Calibration
 - 1.3 State-of-the-Art Methods and Tools for Model Validation & Calibration
 - 1.4 Limitations of Existing Methods and Desired Features of Advanced Model Validation & Calibration
 - 1.5 Practical Challenges of Model Validation & Calibration
- 2 Advanced Model Validation
 - 2.1 Proposed Method (GE)
 - 2.2 Other Proposed Method
 - 2.3 Performance Metrics
- 3 Advanced Model Calibration
 - 3.1 Advanced Parameter Selection
 - 3.1.1 Trajectory Sensitivity Approach
 - 3.1.2 PCA and Similarity Based Methods (GE)
 - 3.1.3 Other
 - 3.2 Advanced Model Parameter Tuning/Estimation
 - 3.2.1 Estimation Based Approach
 - 3.2.1.1 Kalman Filter (PNNL)
 - 3.2.1.2 Other
 - 3.2.2 Optimization Based Approach
 - 3.2.2.1 Efficient Trust Region Approach (GE)
 - 3.2.2.2 Other
 - 3.3 Performance Metrics
- 4 Multiple Event Based Model Validation & Calibration
 - 4.1 Event Selection
 - 4.2 Aggregation of Performance Metrics Across Multiple Events
 - 4.3 Multiple Event Model Calibration