

2016 Session - SC C4 Preferential Subjects

PS1 / Impact of Inverter Based Generation and Energy Storage

- Potential improvement of power system dynamic performance from new functionalities.
- Challenges for system dynamic performance caused by high penetration levels (especially in island systems).
- Modeling, measurement and assessment of PQ and EMC related issues.

PS2 / Challenges with Modeling and Evaluation of Lightning Performance and Insulation Coordination in the Power System of the Future

- Transient analysis and modeling for HVDC and large renewable power plants.
- Analysis of, and operational experience with, lightning performance in high-voltage networks, including detection systems and lightning attraction models.
- Methods for the analysis of transient and temporary over-voltages and their impact on high voltage equipment including suitability of standard wave forms.

PS3 / Bridging the Gap between EMT, FEM and Positive Sequence Grid Simulation

- Limitations of positive sequence modeling methods and techniques.
- Hybrid EMT-positive sequence modeling methods, especially for HVDC and inverter based generation.
- Advanced numerical techniques in modeling and simulation, such as high frequency transformer modeling, finite element methods and finite difference time domain methods.