MAX-PLANCK-INSTITUT
FÜR DYNAMIK KOMPLEXER
TECHNISCHER SYSTEME
MAGDEBURG

CSC Seminar

SPEAKER

Dr. Willem Esterhuizen
TU Chemnitz

TITLE

Transient Stability Analysis of Power Grids with Admissible and Maximal Robust Positively Invariant Sets

ABSTRACT

In this talk I will cover the main results of a new approach to construct admissible and maximal robust positively invariant sets for constrained nonlinear systems. Under certain assumptions these sets are closed, and parts their boundaries may be found by constructing special trajectories of the system that satisfy Pontryagin's Maximum Principle. Transient stability refers to the ability of a power grid, modelled as an undirected graph, to return to acceptable behaviour after being subjected to a contingency (such as a major short circuit). I will demonstrate how this property can be guaranteed by constructing the mentioned sets for individual generators nodes.

Tuesday, March 12, 2019 at 2 pm
Seminar room Prigogine V0.05-2+3