

Bearbeitung: offen
Zeitraum: ab sofort



Typ: Projektarbeit (PA)
Thema: **Time-based reactive power dispatch to maximize the dynamic reactive power reserve**



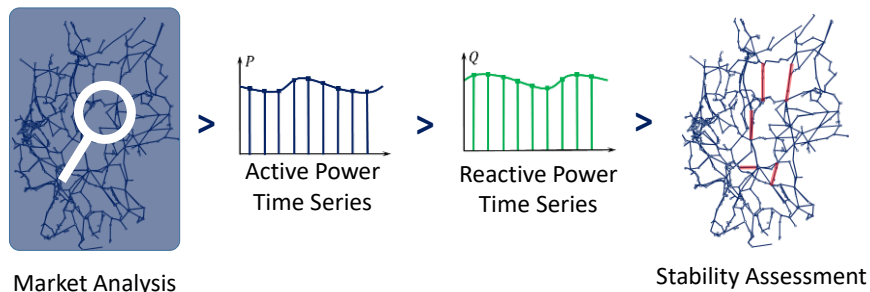
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Keywords: Reactive power dispatch, steady-state voltage stability, loadflow analysis, optimization, DIgSILENT®PowerFactory, Python

Description

The initialization of dynamic controller models for RMS simulations is based on load flow calculations and depends on the operating points of the energy sources and consumers. To estimate the stability of future grids, operating points of the energy sources are determined within the scope of market analysis. After creating time-based active power operation points using the DC load flow, more detailed AC load flow calculations are required to assess realistic component loadings and steady-state voltage stability.

In this work, a reactive power dispatch is determined based on the active power setpoints of energy sources in a transmission system. In this context, the voltage level of all nodes must be within a user-defined range. Additionally, the dynamic reactive power reserve is to be maximized under an optimal setting of the static and dynamic voltage-supporting components (MSCDN, FACTS, ...).



Scope

- Getting started with DIgSILENT®PowerFactory
- Determination of reactive power demand and dispatch
- Maximization of the dynamic reactive power reserve

Requirements

- Independent, careful and structured way of working
- Knowledge of electrical power systems
- Motivation to be part of the Kopernikus-ENSURE research project

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