Development of a Power System Planning Tool

Start: January 2022

Project Background

Modern control systems can operate with high degree of autonomy. Although in normal operation such controllers present optimal performance with minimum costs, recent research has shown that failures in some subsystems can produce chain reactions, causing eventually serious damages to the whole system.

At AlgoRes, EINS along with industry partners Siemens and Entega investigate robust algorithms to control complex, large-scale systems. In particular, operational guarantees under high-impact, low-probability (HILP) events, such as natural disasters and cyber attacks, are considered.

Task Description

Your work is to develop a GUI for novel control algorithms that provide insights for the distribution system operator about the planning and running of the power grid in the presence of renewable energy sources and prosumers.

The software should indicate the optimal placement of actuators and sensors such that the power grid can operate robustly under HILP events.

The work will be developed in close cooperation with Entega.

Requirements

You must be comfortable with programming and understanding existing code. Programming experience in MATLAB is a plus. Also, basic understanding of power grid operation is desirable.

Important Information

- According to standard TU contracts
- Up to 12 working hours per week

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