# Smart grid topology Serbia

A MATLAB/Simulink-based model of a well-known IEEE test grid topology is modified to support real-time communication with open source IoT platform ThingSpeak used ...

SERBIA EDS SMART METERING EXPANSION . Project is closely linked to Serbia""s efforts to reduce CO2 emissions, digitalise and modernise its electricity distribution network, and improve energy efficiency by investing in smart meters and transitioning towards smart electricity grid.

Covert data attacks on the network topology of a smart grid is considered. In a so-called man-in-the-middle attack, an adversary alters data from certain meters and network switches to mislead the control center with an incorrect network topology while avoiding detections by the control center. A necessary and sufficient condition for the ...

For distribution grid topology identification, many methods have been proposed in recent years. For example, in [], the correct topology is searched from a set of possible radial networks.Given the line parameters, Cavraro et al. [] and Sharon et al. [] propose maximum-likelihood methods to select the operational distribution grid topology.Bolognani et al. [], Peppanen et al. [], and Liao ...

Serbia"s new rules for connecting solar parks and wind farms to the transmission system, operated by Elektromreza Srbije, are a test for both the state-owned company and investors, according to participants at Belgrade ...

The paper points out that the problem of monitoring power quality parameters in Serbia should be given far more serious attention in order to adopt laws and standards in the EU, and to fulfill requirements regarding EU Smart ...

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The potential of the combined application of Cloud computing and the fifth generation of cellular network technology (5G) in Smart Grid (SG) could be revolutionary in terms of empowering the ...

Cyber attacks on a smart grid aiming at misleading the control center with incorrect topology information are considered, and an undetectable attack that requires the modification of only a few meter data is proposed. Cyber attacks on a smart grid aiming at misleading the control center with incorrect topology information are considered. In such ...

Issue on Smart Grid and Power System Topologies featuring "How DERs may change grid topology

and affect system status and performance", ... grid topology. boloorchi. topology. June 2020. More Like This. 01 Nov 2023. November - General ...

How DERs Could Change Grid Topology and Affect System Performance. By Mehrdad Rostami and Mehrdad Boloorchi. The penetration of Distributed Energy Resources (DER) in primary distribution systems which operate in a radial and open-loop topology, need smarter primary network, especially for dealing with the variable generations such as solar photovoltaic and ...

This paper develops an efficient solution for power network topology identification and monitoring activities in SG by exploiting the concentration of nonzero elements in the corresponding sparse vectors around the main diagonal in the nodal admittance or structure matrix of the PN. Smart grid (SG) technology reshapes the traditional power grid into a ...

Smart grid (SG) technology transforms the traditional power grid from a single-layer physical system to a cyber-physical network that includes a second layer of information. Collecting, transferring, and analyzing the huge amount of data that can be captured from different parameters in the network, together with the uncertainty that is caused by the distributed ...

This paper presents how the problems of power quality and electrical energy losses in distribution systems led to the development of an interoperable smart grid platform ...

The paper points out that the problem of monitoring power quality parameters in Serbia should be given far more serious attention in order to adopt laws and standards in the EU, and to fulfill requirements regarding EU Smart Grid technology platform.

Review of current control practice and Grid code of Serbia; Analysis of wind penetration in the electric power system of Serbia for current topology as well as for expected (real) topology in 2015: Load flow analysis

Review of current control practice and Grid code of Serbia; Analysis of wind penetration in the electric power system of Serbia for current topology as well as for expected (real) topology in ...

Resilient Temporal GCN for Smart Grid State Estimation Under Topology Inaccuracies ... In order to make the model resilient to topology uncertainties, modifications in the TGCN model are proposed to incorporate a knowledge graph, generated based on the measurement data. This knowledge graph supports the assumed uncertain system graph.

We describe a MIP model to support grid upgrade decisions in thecontextofanenergycommunityinanexistingurbansetti ng. We evaluate the MIP model on an adaption of an IEEE radial network benchmark instance augmented with geographic data . We present interesting computational results which sugges t ad-

like) topology, which can be modified by changing breaker statuses on available lines [54]. In recent years, the growth of behind-the-meter distributed energy resources (DERs) and smart loads (e.g., air-conditioners, storage devices, electric vehicles) have brought distribution grids to the forefront of smart grid advancement [85].

A MATLAB/Simulink-based model of a well-known IEEE test grid topology is modified to support real-time communication with open source IoT platform ThingSpeak used for Cloud computing.

Two major approaches to topology modelling are dominant. The first relies on test networks of electrical networks. In [], the authors list many different types of models of distribution grid such as IEEE Test Feeder or CIGRE Benchmark models as well as many other ones, which were used in this work to validate the ability to create equivalent power network ...

Identifying arbitrary power grid topologies in real time based on measurements in the grid is studied. A learning based approach is developed: binary classifiers are trained to approximate the maximum a-posteriori probability (MAP) detectors that each identifies the status of a distinct line. An efficient neural network architecture in which features are shared for inferences of all line ...

TEN-E Regulation has identified smart grid deployment as one of the 12 trans-European energy infrastructure priority corridors and areas. Moreover, the 2019 Clean Energy Package goes ...

IEEE TRANS. ON SMART GRID (ACCEPTED AUGUST 12, 2015) 1 Online Energy Price Matrix Factorization for Power Grid Topology Tracking Vassilis Kekatos, Member, IEEE, Georgios B. Giannakis, Fellow, IEEE, and Ross Baldick, Fellow, IEEE Abstract--Grid security and open markets are two major smart grid goals. Transparency of market data facilitates a