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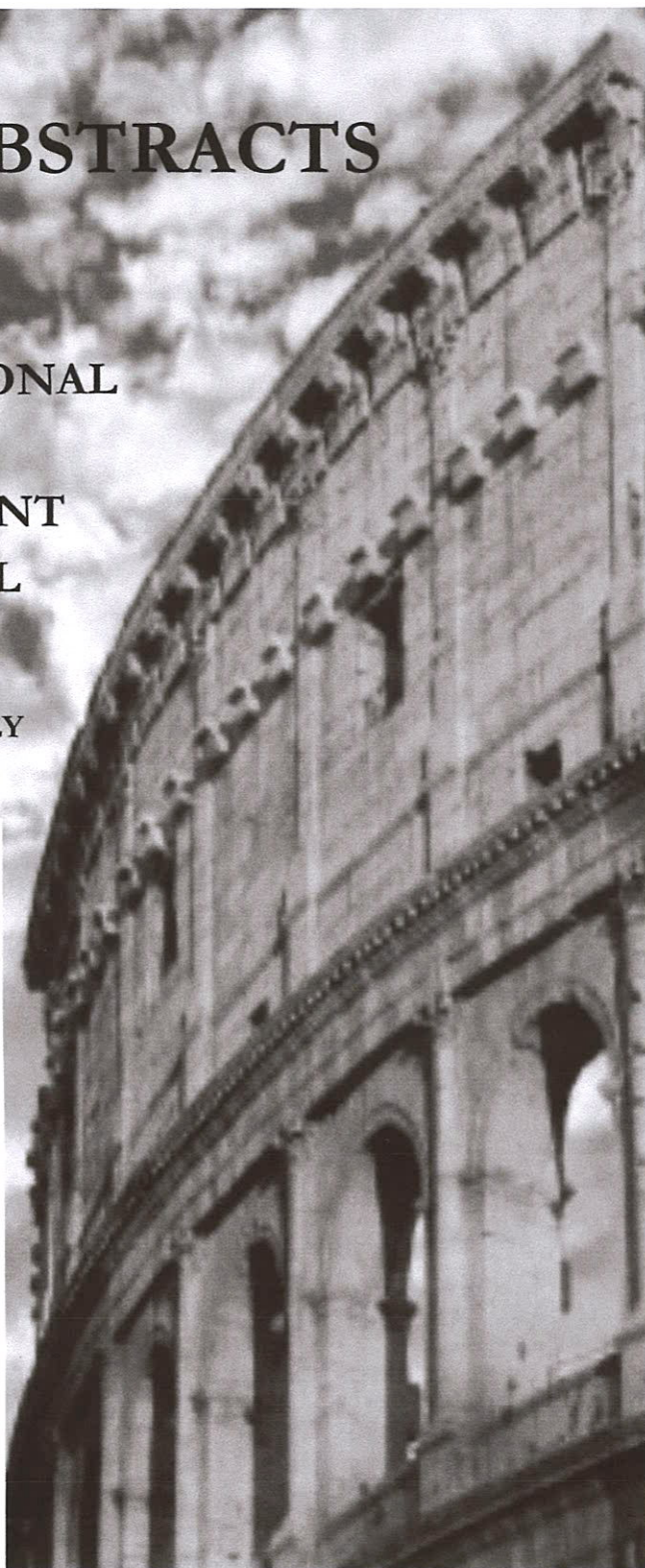
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the grid connected doubly fed induction generator. The induced stator voltage vector of the DFIG is synchronized with the grid voltage irrespective of the accuracy of signal from position encoder. Computer simulation results for the test set up show excellent response in starting up the generator on the fly and also in achieving decoupled power control thereby validating the effectiveness of the proposed control approach.

#365 Karthikeyan A, Sujan Kumar Kummara, Nagamani C and Saravana Ilango G. Power control of grid connected Doubly Fed Induction Generator using Adaptive BackStepping approach

Abstract: This paper presents the findings of investigation of decoupled power control of grid-connected doubly fed induction generator (DFIG) based on Adaptive Back Stepping Control (ABSC) technique. The Adaptive Back Stepping control technique offers a systematic stabilizing procedure wherein unwanted cancellation of favourable nonlinearities can be avoided. Incorporation of the proposed controller improves both transient and steady state performances due to the excellent tracking response for the given power references. Numerical simulations are carried out in MATLAB programming environment for the laboratory DFIG test set up.

#366 Johannes Rolink and Christian Rehtanz. Capacity of Low Voltage Grids for Electric Vehicles

Abstract: In this paper a method is proposed to identify the grid capacity of low voltage grids concerning electric vehicles. The analysis is based on structural data and does not require detailed grid information. The methodology is exemplary applied to the city of Berlin. The paper discusses the impact of electric vehicles on the grid capacity. Charging curves as well as simultaneity factors are given. Further, the main boundary conditions restricting the grid capacity are regarded. Finally, some results are presented for Berlin.

#367 Svetlana Beryozkina, Antans Sauhats and Edvins Vanzovichs. Modeling of the load current of the transmission line

Abstract: This paper deals with the influence of changes in transmission line maximum conductor temperature and load current depending on conductor type and climate conditions. The theoretical backgrounds of the allowable conductor temperature as well as load current determination principles are proposed. The simulation tasks were based on a specific line model. The results of the obtained data are presented.

#368 Saswat Kumar Ram, Smruti Ranjan Prusty, Prabhat Kumar Barik, K.K Mahapatra and B.D Subudhi. FPGA Implementation of Digital Controller for Active Power Line Conditioner using SRF Theory

Abstract: A large variety of electronic circuits such as inverter, chopper, cyclo-converters, SMPS used by industrial and domestic purpose, the characteristics of such equipments are non-linear in nature. Due to non-linear characteristics the load current gets distorted which causes undesirable effects like heating, equipment damages, EMI effects etc. in power network. The active power filter (APF) is the best solution for eliminating the harmonics caused by the non-linear loads. This paper presents the implementation of a digitally controlled APF. Designed in Hardware Description Language (VHDL or Verilog) the controller becomes independent of process technology. Synchronous reference frame is used for generation of reference current. PI currents algorithm is written in VHDL code and hysteresis current controller (HCC) together is implemented using FPGA platform.

#370 Seyyed Mehdi Mahaei, Jafar Jafazadeh and Navid Akhavan Mohseni. Simultaneous Network Reconfiguration and Conductor Resizing

Abstract: In this paper a modified objective function has been proposed for optimal network reconfiguration and conductor resizing simultaneously and includes conductor costs, and energy losses costs. Furthermore, a new method is proposed for optimization of objective function in simultaneity and non-simultaneity states. The Simulation results are presented and compared for a 16 buses civanlar system in three states include, network reconfiguration before conductor resizing, network reconfiguration after conductor resizing and conductor sizing and network reconfiguration simultaneously. Simulation results show that the results of simultaneous conductor sizing and network reconfiguration are better than two other states' results.