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Metrology for Industry 4.0 and IoT

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MetroInd4.0&IoT NAPLES / 2019

CALL FOR PAPERS for the Special Session on

IOT FOR SMART GRIDS: SCIENTIFIC CHALLENGES AND PERSPECTIVES

ABSTRACT

The last scientific report on climate change of the Intergovernmental Panel on Climate Change (IPCC), based on about 6,000 reference documents by researchers over the world, said that the global warming should be limited to 1.5 °C, instead of 2,0°C originally proposed by Paris agreements of 2015. To this aim, the carbon dioxide (CO_2) emissions must be reduced of 45% by the end of 2030 and brought close to zero by the end of 2050. To achieve these ambitious goals, States are progressively increasing carbon taxes, with the objective to make too expensive the use of energy sources based on fossil fuels. The reduction of the CO_2 emission is achieved increasing the percentage of renewable energy and by means an efficient management of power flows. Thus, we are faced with an epochal transformation of the use of electrical energy that involve cities, mobility, industries, etc., and many challenges must be addressed.

As an example, these challenges involve: (1) the deployment of charging points for electrical vehicles (EV); (2) the use of suitable accumulators to manage both the unpredictability and intermittency of renewable energy sources and the rapid changes in power demand, which could have negative impact on the production planning.

To overcome the considered issues, the existing infrastructure has to be enriched with a new digital layer, involving instruments and actuators operating and communicating according to IoT paradigm, thus allowing to suitably combine the obtained measures with the processing capability of cloud-based control and monitoring systems.

TOPICS

Authors are invited to contribute with papers involving (but not limited to):

- IoT for Smart Grid: design challenge and paradigms;
- Power quality for Industry 4.0;
- IoT oriented of electrical quantities;
- Electrical Vehicles and their integration in IoT environment and Industry 4.0;
- Wide Area Measurement and Smart Protection;
- Energy Management in Smart grids;
- IoT for Smart metering;
- IoT Communication for Smart grids;
- Renewable Energy and Energy efficiency;
- New generation of accumulators for Industry 4.0;
- Augmented Reality for electrical systems.

MORE INFORMATION

www.metroind40iot.org

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www.metroind40iot.org/special-session-7

NAPLES

Naples is a city on the sea, a place full of light yet with dark, hidden foundations. It has a great cultural and artistic identity which is stamped on the brow of its many museums, castles, churches, squares, narrow streets and archaeological remains. Naples is noted for its rich history, art, culture and gastronomy and, in the modern day, the historic centre of the city is listed by UNESCO as a World Heritage Site.

ORGANIZERS

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