

Project

Written by Administrator

Thursday, 06 September 2012 07:35 - Last Updated Thursday, 06 September 2012 07:58

Objectives

This proposal builds on world-class and innovative research performed at the University of Cyprus, in the integration of satellite technology of GPS in power systems. The aim of the project is to develop methodologies for real-time monitoring, security, and control of power systems using SMT. Among other objectives the project aims to:

- To perform applied research in the field of GPS synchronized measurement technology (SMT) for real-time monitoring, security, and control of power systems

- The main test bed for this project is the Cyprus power system, thus benefiting Cyprus through the development of tools and processes that ensure the operational integrity of its power system

- The methodologies developed in the proposed project will assist in real-time visualization of the operating states, increasing situational awareness, and ability to take control actions

- To develop methodologies and algorithms for the use of SMT for secure and reliable operation of an isolated power system (e.g., Cyprus), anticipating renewable energy penetration

- To investigate the use of modified SMT with asynchronous sampling to obtain an effectively higher sampling rate than conventional synchrophasor technology allows.

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Project work packages

WP 1. Project management

WP 2. Dissemination and exploitation of results

WP 3. Development of a roadmap for the implementation of wide area measurement system in Cyprus

WP 4. Development of a hybrid state estimator

WP 5. Investigation of communication delays and time alignment of measurements

WP 6. Synchronized measurement technology for reliable and secure operation of an isolated power system with renewable energy penetration

WP 7. Testing and validation of hybrid state estimator using actual synchronized measurements