Self powered dynamic systems Puerto Rico

What is a self-powered dynamic system?
(October 2013) A self-powered dynamic system is defined as a dynamic system powered by its own excessive kinetic energy, renewable energy or a combination of both. The particular area of work is the concept of fully or partially self-powered dynamic systems requiring zero or reduced external energy inputs.

What are the advantages of self-powered systems?
Such self-powered schemes are particularly beneficial in development of self-powered sensors [10]and self-powered actuators [11]by employing energy harvesting techniques,[12][13][14]where kinetic energy is converted to electrical energy through piezoelectric,electromagnetic or electrostatic electromechanical mechanisms. [15]

What is a self-powered sensor?
Developing a self-powered sensor eliminates the use of an external source of power such as a battery and therefore can be considered as a self-sustained system. A self-sustained system does not required maintenance (e.g. replacing the battery of the sensor at the end of the battery life).

Why is dynamic analysis important in Puerto Rico?
Puerto Rico is located in a high seismicity zone,hence it is essential the development and implementation of state-of-the-art dynamic analysis in order to predict and prevent possible damages on structures. At present,in Puerto Rico there is a lack of a facility to conduct dynamic tests on structures that are not limited by scale.

Is there a hybrid simulation facility in Puerto Rico?
At present,in Puerto Rico there is a lack of a facility to conduct dynamic tests on structures that are not limited by scale. For this reason,a hybrid simulation facility is being developed at University of Puerto Rico at Mayagüez.

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Simulations of the electrical system of Puerto Rico show that the main DG penetration was in the north and east of the island. Optimal DG penetration supports the network, improving the rotor angle stability and voltage stability during and after a disturbance. Results demonstrated the advantages of DG in the electrical system of Puerto Rico.

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GENERATION IN THE ELECTRICAL SYSTEM OF PUERTO RICO by Damián Galarza-Torres A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in ELECTRICAL ENGINEERING (Power System)

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Abstract: We consider the control of physical systems in which the control actions are constrained to be self-powered. In self-powered control technologies, the energy available to impose control inputs on an exogenously-excited system is limited exclusively to energy that has been previously harvested by the technology.

A self-powered dynamic system, in this paper, is defined as a dynamic system powered by its own excessive kinetic energy, renewable energy or a combination of both. The technologies explored in the paper are associated with self-powered devices (e.g. sensors), regenerative actuators, and energy harvesting.

The particular area of work is the concept of fully or partially self-powered dynamic systems requiring zero or reduced external energy inputs. The exploited technologies are particularly associated with self-powered sensors, regenerative actuators, human powered devices, and dynamic systems powered by renewable resources (e.g. solar-powered ...

EDPR NA Distributed Generation LLC (EDPR NA DG), a renewable energy operator in North America, and Lufthansa Technik Puerto Rico (LTPR), an aircraft maintenance company, have executed a 21-year...

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