

Optimized Energy Generation, Energy Storage, and Energy Dispatch for a Resilient Microgrid

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Dr. Vyacheslav Solovyov

Deputy Director, Center for Integrated Electric Energy Systems
Stony Brook University



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Abstract

Microgrids are recognized as a critical component of resilient military bases and outposts. The most efficient way to counteract a disturbance is the islanding of microgrids and shedding of non-critical loads. It is very desirable to minimize the recovery time of a microgrid after a disruptive event. The recovery time can be minimized by optimized dispatching of a properly designed mix of energy storage resources, which allows for the reduction in redundancy and cost of the microgrid. In the presentation, I will cover the latest development in distributed energy generation, energy storage, and control algorithms by Stony Brook University researchers.

Biography

Dr. Vyacheslav Solovyov received a Master of Science degree in Solid State Physics from Moscow Institute for Physics and Technology in 1989, and in 1995 received a doctorate degree in Solid State Physics from Kyiv Institute for Metal Physics. In 1997 he joined Brookhaven National Laboratory as a research scientist. In 2015 he joined Stony Brook University as a deputy director of the Center for Integrated Electric Energy Systems. The Center aims to foster economic growth in energy-related New York businesses by initiating industry-academia projects. He has co-authored 69 peer-reviewed publications. Dr. Solovyov received the 2015 R&D 100 Award, "Active superconducting fault current limiter." His research interests include energy storage, electric grid management, and energy-related materials.

