



2013 Prognostics and System Health Management Conference, PHM-2013

September 8-11, 2013, Milan, Italy

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CALL FOR PAPERS

Special Session on Empirical Models for PHM in Renewable Energy Applications

In recent years, many innovative techniques for system health management, fault detection, diagnosis and prognosis have been developed. Many of these are data-driven, based on empirical modeling, and they have been successfully applied in various industrial fields. This special session focuses on applications in the context of renewable energy. Indeed, the link of renewable energy generation with highly unpredictable factors like meteorological conditions, variability of their measurement, high short-term volatility of their behavior, and generator reliability calls for techniques capable of estimating non-linear behaviors and managing uncertainty. To these purposes, innovative empirical non-linear regression methods, machine learning and statistical learning techniques are being developed and used for their ability of capturing complex nonlinear relationships from possibly uncertain and ambiguous information contained in the available real-world data. This session, then, aims at gathering experts and collecting their contributions on innovative empirical modeling and computational techniques for PHM in the context of renewable energy applications.

Examples of techniques of interest are statistical learning techniques (probabilistic support vector machines, bootstrap neural networks, Gaussian processes, Kernel methods, etc.), machine learning algorithms (genetic algorithms, fuzzy & neuro-fuzzy logic systems, etc.), data preprocessing and data mining techniques (cluster analysis, principal component analysis, data snooping techniques, etc.) for system health monitoring, fault detection, diagnosis and prognosis.

Examples of renewable energy applications of interest are:

- Wind speed and wind power generation prediction;
- Solar energy management;
- Hydropower prediction;
- Biomass and Biofuel;
- Geothermal energy.

Please submit your abstract through the conference website

<http://www.aidic.it/phm/abstractsubmission.html>

by selecting the proper topic (special session number 31)

Also, please send a copy by email to the organizer of this special session.

Organizer:

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Please submit your abstract by: October 23, 2012



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