Abstract Submitted
for the DFD15 Meeting of
The American Physical Society

A new framework to increase the efficiency of large-scale solar power plants.[1] SHAHROUZ ALIMOHAMMADI, JAN P. KLEISSL, UC San Diego — A new framework to estimate the spatio-temporal behavior of solar power is introduced, which predicts the statistical behavior of power output at utility scale Photo-Voltaic (PV) power plants. The framework is based on spatio-temporal Gaussian Processes Regression (Kriging) models, which incorporates satellite data with the UCSD version of the Weather and Research Forecasting model. This framework is designed to improve the efficiency of the large-scale solar power plants. The results are also validated from measurements of the local pyranometer sensors, and some improvements in different scenarios are observed.

[1]solar energy

Shahrouz Alimohammadi
UC San Diego

Date submitted: 29 Sep 2015 Electronic form version 1.4