

Abstract Submitted
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The Tucson Electric Power Solar Test Yard VINCENT LONIJ, SEAN ORSBURN, ANAS SALHAB, EMILY KOPP, ADRIA BROOKS, VIJAI JAYADEVAN, JAMES GREENBERG, MICHAEL ST. GERMAINE, NATE ALLEN, SARAH JONES, GARRETT HARDESTY, ALEX CRONIN, University of Arizona — In collaboration with Tucson Electric Power we studied the performance of twenty different grid-tied photovoltaic systems, consisting of over 600 PV modules in all. We added data acquisition hardware to monitor DC power from the modules, AC power from the inverters, PV module temperatures, and meteorological data such as the irradiance incident on the PV systems. We report measurements of PV system yields and efficiencies over periods of minutes, days, and years. We also report temperature and irradiance coefficients of efficiency and measurements of long-term degradation. We also use our data to validate models that predict the output from PV systems.

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