// ZSW Photovoltaics Test Laboratory: Characterization of PV Storage Systems





// PV storage system test bed



// PV generator test facility Widderstall, South of Germany



PV storage system – test lab

- // Highly resolved acquisition of power flows at the input and output of the storage systems
- // Characterization of energy efficiency as it depends on load profiles
- // Evaluation of implemented storage control algorithms, which might aim at increase of own consumption, increase of efficiency, reduction of losses due to feed-in limits, etc.
- *II* Analysis of battery cycling and quality of SOC estimation

PV storage system – connected to PV generator

- II Highly resolved acquisition of all relevant electrical and meteorological data
- // Electrical characteristics and temperature coefficients of PV generator
- // Energy yield and performance ratio
- // Real outdoor power near STC
- // Short- and long-term stability and performance of PV modules

Systems technology and grid integration of PV storage systems

II Energy management, optimization of own consumption*II* Storage control algorithms to minimize grid loading and contribute to network stability

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06/2015