



The Project PerduS: Forecasting the reduction in photovoltaic power production during Saharan dust outbreaks – first results

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The importance of Photovoltaic (PV) power in Germany's energy mix is constantly increasing. In 2015, approximately 7.5% of Germany's net energy consumption was supplied by Photovoltaic energy. Currently, about 1.5 Million PV plants provide an installed capacity of 40 GW and, during sunny days, PV-power can supply up to 50% of Germany's energy consumption. *)

The research project PerduS is a collaboration of the German Weather Service (DWD), the Karlsruhe Institute of Technology (KIT) and Meteocontrol GmbH. Together, PV power forecasts shall be improved during Saharan dust outbreaks. Operational numerical weather prediction (NWP) models do not consider the effects of the additional mineral dust in the atmosphere during such special weather situations. Thus, in PerduS, the model system ICON-ART is used. It combines the non-hydrostatic NWP model ICON, which allows for the incorporation of two-way nested local grids with higher resolution, and the ART modules for the treatment of Aerosols and Reactive Trace gases in the atmosphere in an online-coupled system.

Within this presentation, the project PerduS will be introduced. Furthermore, first simulations of Saharan dust outbreaks with the model system ICON-ART will be presented.

*) Source: www.pv-fakten.de Aktuelle Fakten zur Photovoltaik in Deutschland, Fraunhofer ISE