

This paper aims to forecast solar power in very short horizons to assist in real-time distribution system operations. Popular machine learning methods for time series forecasting are ...

However, the benefit of cascade hydropower power generation is affected by this regulation process. Therefore, for a large-scale hydro-wind-solar multi-energy complementary ...

To ensure frequency stability in power systems with high wind penetration, the doubly-fed induction generator (DFIG) is often used with the frequency fast response control (FFRC) to participate in ...

Here we investigate the modulation of the equatorial electrojet (EEJ) amplitude by solar tides and planetary waves. This is the first study to exploit the short-term variability of these signals in the EEJ.

In this work, a modified force-field approach is established to investigate the long-term solar modulation of galactic cosmic-ray (GCR) protons. In this approach, the solar modulation ...

Abstract Normalized occurrence rates of daily Madden-Julian oscillation (MJO) events are calculated as a function of phase lag relative to peaks and minima in solar ultraviolet flux ...

Compared with wind storage without frequency modulation and wind storage constant coefficient frequency modulation, when the wind speed and energy storage SOC are large, the ...

We confirm the curious "crossover" in spectra measured near solar minima during epochs of opposite solar magnetic polarity, and show that it is directly related to a sudden change in the spectral ...

In conclusion, this study constructs a short-term co-scheduling model of a hydro-wind-solar-PSHP hybrid energy system (SHWSSCMM) that considers the VSU constraint and the principle ...

This study analyzes the predictability of the solar modulation potential using time series models. Recently, new data sets for the modulation potential have become available, at daily, monthly, and ...

Here we investigate the modulation of the equatorial electrojet (EEJ) amplitude by solar tides and planetary waves. This is the first study to exploit the short-term variability of these signals in ...

Short-term frequency stability (STFS) is becoming a great concern for a regional receiving-end power system such as the East China Power Grid (ECPG) mainly for two reasons: (i) ...

Short-term frequency modulation solar container

The proposed model can quantify the frequency response characteristics of the power system more accurately, and improve the frequency stability and operation safety under high ...

The modulation potential is difficult to predict beyond the short term at any resolution, but for different reasons. The lower frequency cycles do not exhibit consistent periodicity or ...

For instance, Roy et al., (2019) used solar radio flux (F10.7 cm) data from 1965 to 2014 and found several short-term periodicities such as 157 days, 127 days, 78 days, 57 days, and 27 ...

Abstract ESA's constellation mission Swarm with its three identical spacecraft allows the separation of spatial and temporal variations of wave phenomena. Here we investigate the modulation of the ...

The solar container can be used for short-term use at events, for longer use, for example over the summer months, or as a long-term solution. To cover the wide range of requirements, we make a ...

The framework illustrated in Fig. 2 is designed for short-term PV power forecasting in both low- and high-frequency domains. This framework employs a combination of frequency domain ...

A finite-time control scheme (FTCS) for pulse-width modulation (PWM) in microgrids was proposed to enhance voltage and frequency stability amid the variability of renewable energy ...

To address the limited frequency regulation capability under high renewable penetration, this paper proposes a short-term optimal scheduling approach for a cascade hydropower-wind-photovoltaic ...



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