Lightning protection method for solar power generation

Lightning causes intensive induced voltage and can be extremely harmful to a solar power plant. Particularly, due to the exposure to the open sky, Photo-Voltaic (PV) panels ...

A threat of solar power systems is lightning induced voltage, which can damage the photovoltaic generators and its ancillary equipment, has been examined in this paper. The ...

An efficient design of the LPS with a well-located PV panel provides high efficiency of power generation with minimised lightning risk. In order to design an external ...

In a solar power plant with a lightning protection system in Turkey, it was stated that the bypass diodes failed after a lightning strike. In this study, it is aimed to examine the ...

In this paper, the performance of a lightning protection system (LPS) on a grid-connected photovoltaic (PV) park is studied by simulating different scenarios with the use of an appropriate software tool.

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Protection against indirect lightning strikes involves several simultaneous measures: A single ground electrode, An equipotential network achieved by connecting all the metallic parts of the ...

Therefore, an adequate lightning protection system (LPS) must be installed to protect the PV panels. In addition, the transient performance of PV panels during lightning ...

The proposed procedure is finally applied to investigate lightning transients in a practical PV system. The lightning failure mode of bypass diodes is identified for the first time. ...

This paper proposes a partial element equivalent circuit (PEEC) method enhanced with the vector fitting technique for analyzing lightning transients in the PV systems.

The measures proposed in this paper based on the implementation of an active lightning protection system ensure uninterrupted operation of the ground solar power plants, ...

The lightning protection of photovoltaic installations is of great importance, in order to warrant the uninterrupted operation of the system and avoid faults and damages of the...

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Due to crisis in natural resources and ecological issues, many countries are moving on the road to renewable energy sources. Solar power is the most potential source of renewable energies. ...

In support of safety-protection, in this paper, we have modeled a Lightning Protection System (LPS) and investigate the lightning effect on a large-scale solar power plant with the proposed ...

The work recommended the mesh-type air termination instead of vertical rods to reduce mechanical damage and avoid the shadow effect. To assess the external lightning ...

Abstract: This paper presents the comparison between air terminal lightning Pole and Early Streamer Emitter lightning Pole in a Photovoltaic (PV) Power Plants. The installation of an ...

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