

25 Documents

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CN105303254 A	Method and device for prediction of radiation received by photovoltaic power station	CHINA ELECTRIC POWER RESEARCH INSTITUTE, ...
JP2013246746 A	Photovoltaic power generation amount estimation system, estimation method and photovoltaic power generation system control system	HITACHI, ...
JP2013029923 A	Photovoltaic power generation amount grasping system, load estimation device employing the same and load adjustment device	CHUGOKU ELECTRIC POWER
CN102244483 A	Meteorological-information-based photovoltaic power generation active power online evaluation method	SUZHOU SIMATE ELECTRIC POWER TECHNOLOGY
CN103996082 A	Method for predicating solar radiation intensity based on double-random theory	NORTH CHINA ELECTRIC POWER UNIVERSITY
CN101783621 A	Global maximum power point tracking method of photovoltaic generating system and system device	UNIVERSITY BEIJING TECHNOLOGY & BUSINESS, ...
JP5308560 B1	Power generation amount prediction method and device in photovoltaic power generation	DENRYOKU SYSTEMS INSTITUTE
US20120261109 A1	Integrating sensing systems into thermostat housing in manners facilitating compact and visually pleasing physical characteristics thereof	GOOGLE
US20120130547 A1	Methods, systems, and related architectures for managing network connected thermostats	GOOGLE
DE102011103600 A1	Method for controlling e.g. industrial plant for optimum utilization of power supply, involves determining start time such that energy required for process or large possible energy required for process is produced by solar power plant	SEW EURODRIVE
CN107491104 A	Sun positioning method of heliostat	DALIAN ENERGAS TURBINE POWER TECHNOLOGY
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CN107491835 A	Ultra short-term photovoltaic power prediction method based on ground-based sensors	XIAN JIAOTONG LIVERPOOL UNIVERSITY
CN205844913U U	Solar tracker control system based on inverter output power	HUANGSHAN RUNSOL NEW ENERGY
JP2011159199 A	System and method for predicting generation amount of	GIFU UNIVERSITY

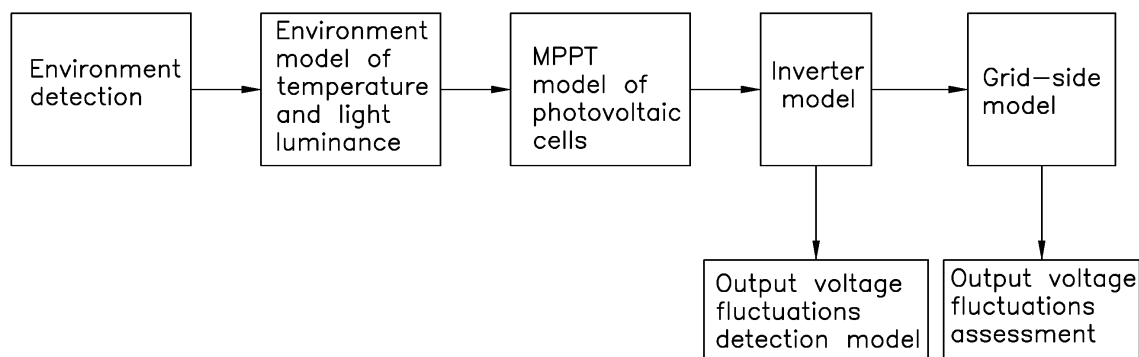
Publication numbers	Title	Current assignees
	electricity of photovoltaic power generator	
KR101761686 B1	Real time predicting system for energy management system using machine learning	HARMONY & UNITED
CN107507101 A	Photovoltaic-power-prediction-based ramp rate control method without energy storage system	XIAN JIAOTONG LIVERPOOL UNIVERSITY
CN106780540 A	Photovoltaic power generation-oriented cloud layer tracking and pre-warning method for foundation cloud chart	ZHEJIANG UNIVERSITY OF SCIENCE AND TECHNOLOGY
US20140257585 A1	Energy management system, energy management method, and program	TOSHIBA
WO9010378 A1	Protective apparatus	NAKAGAWA TAKEO
US20140224894 A1	Technique to mitigate storms using arrays of wind turbines	US DEPARTMENT OF COMMERCE
EP2713178 A1	Earth positioning system	INTERNATIONAL MOBILE IOT
WO201146880 A2	Energetic modulation of nerves	KONA MEDICAL
CN102929827 A	Wireless sensor data acquisition cluster for industrial-and-mining-enterprise-oriented safety production cloud service platform	ZHEJIANG TOPINFO TECHNOLOGY

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Title

(US20160224702)

Method of calculating voltage and power of large-scaled photovoltaic power plant

Images**Abstract**

(US20160224702)

A method of calculating voltage and power of large-scaled photovoltaic power plant includes following steps. Environment models of varies locations within the photovoltaic power plant are obtained. A photovoltaic display model is established by establishing a photovoltaic cell model, combining the photovoltaic cell model with the environment models, determining a combination of the environmental data on photovoltaic panels and the photovoltaic cell model, and determining a quantitative relationship between a photovoltaic cell power generation state and photovoltaic environment. An inverter model is obtained by modeling inverters connected to photovoltaic cells. A grid-side model is obtained. An electrical energy and voltage forecast model is constructed by integrated the photovoltaic display model, the inverter model, and the grid-side model. An energy output and a voltage quality of the photovoltaic power plant is **calculated** by detecting voltage and current of the electrical energy and voltage forecast model.

Inventors

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Latest standardized assignees - inventors removed

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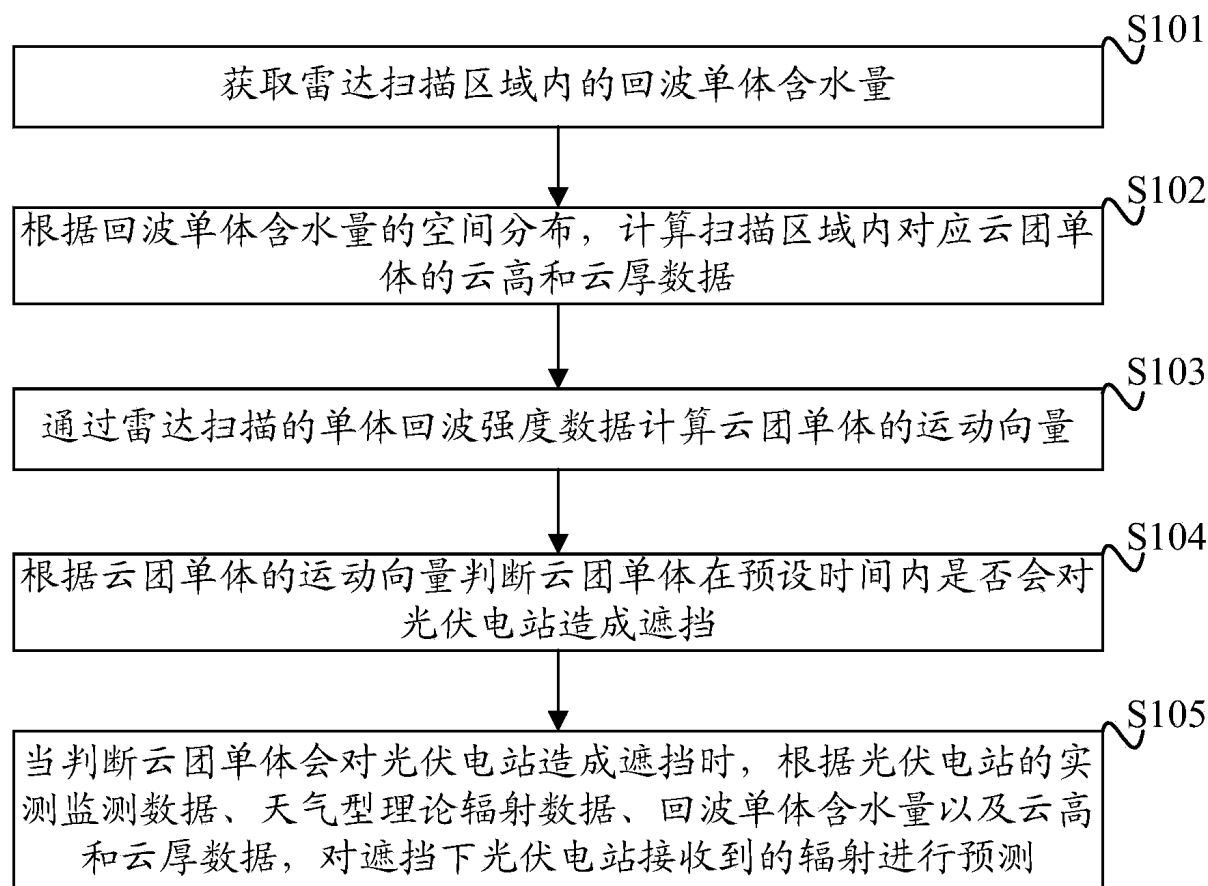
STATE GRID CORPORATION OF CHINA (SGCC)

Family 2/25 - FAMPAT - ©Questel

Title

(CN105303254)

Method and device for prediction of radiation received by photovoltaic power station

Images**Abstract**

(CN105303254)

The present invention discloses a method and device for prediction of radiation received by a photovoltaic power station. The method for prediction of radiation received by the photovoltaic power station comprises: obtaining the water content of an echo monomer; calculating cloud height and cloud thickness data with respect to a cloud cluster monomer in a scanning area according to the spatial distribution of the water content of the echo monomer; calculating the motion vector of the cloud cluster monomer according to the monomer echo intensity data scanned by a radar; determining whether the cloud cluster monomer may shield the photovoltaic power station in a preset time according to the motion vector of the cloud cluster monomer; and predicting the radiation received by the photovoltaic power station under the shield of the cloud cluster monomer according to actual measurement monitoring data, weather type theory radiation data, the water content of the echo monomer and the cloud height and cloud thickness data of the photovoltaic power station when determining the cloud cluster monomer may shield the photovoltaic power station. According to the invention, the radiation attenuation relation caused by shield of different clouds may be accurately **calculated**, and the prediction accuracy of the photovoltaic power may be improved.

Inventors

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Latest standardized assignees - inventors removed

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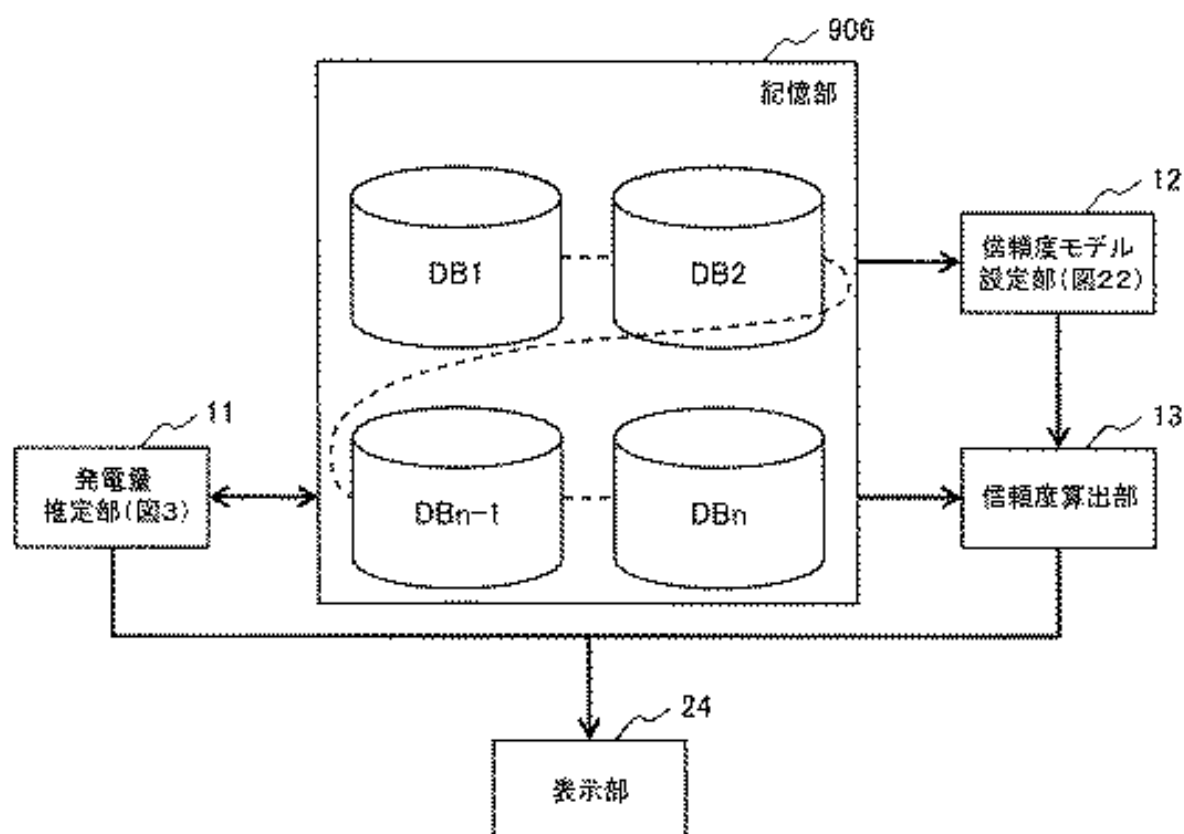
Title

(JP2013246746)

Photovoltaic power generation amount estimation system, estimation method and photovoltaic power generation system control system

Images

図 1

**Abstract**

(JP5952090)

PROBLEM TO BE SOLVED: To provide a photovoltaic power generation amount estimation system, an estimation method and a photovoltaic power generation system control system, which are low cost and capable of highly accurately calculating a photovoltaic power generation amount in a short period and reliability thereof. **SOLUTION:** The photovoltaic power generation amount estimation system is equipped with: communication means for obtaining a power generation amount of a photovoltaic power generator connected to a power distribution system at a fixed period; a first database storing time-series data on the power generation amount; a second database storing map information on an area including

the power distribution system; a third database storing weather information on an area including the power distribution system; arithmetic means; and a monitor. The arithmetic means uses weather information and map information on an area including installed positions of a first photovoltaic power generator and a second photovoltaic power generator which are connected to the power distribution system, and time-series data on a measured photovoltaic power generation amount to obtain an estimated power generation amount of the second photovoltaic power generator at estimated time together with information on reliability of the estimation.

Inventors

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Latest standardized assignees - inventors removed

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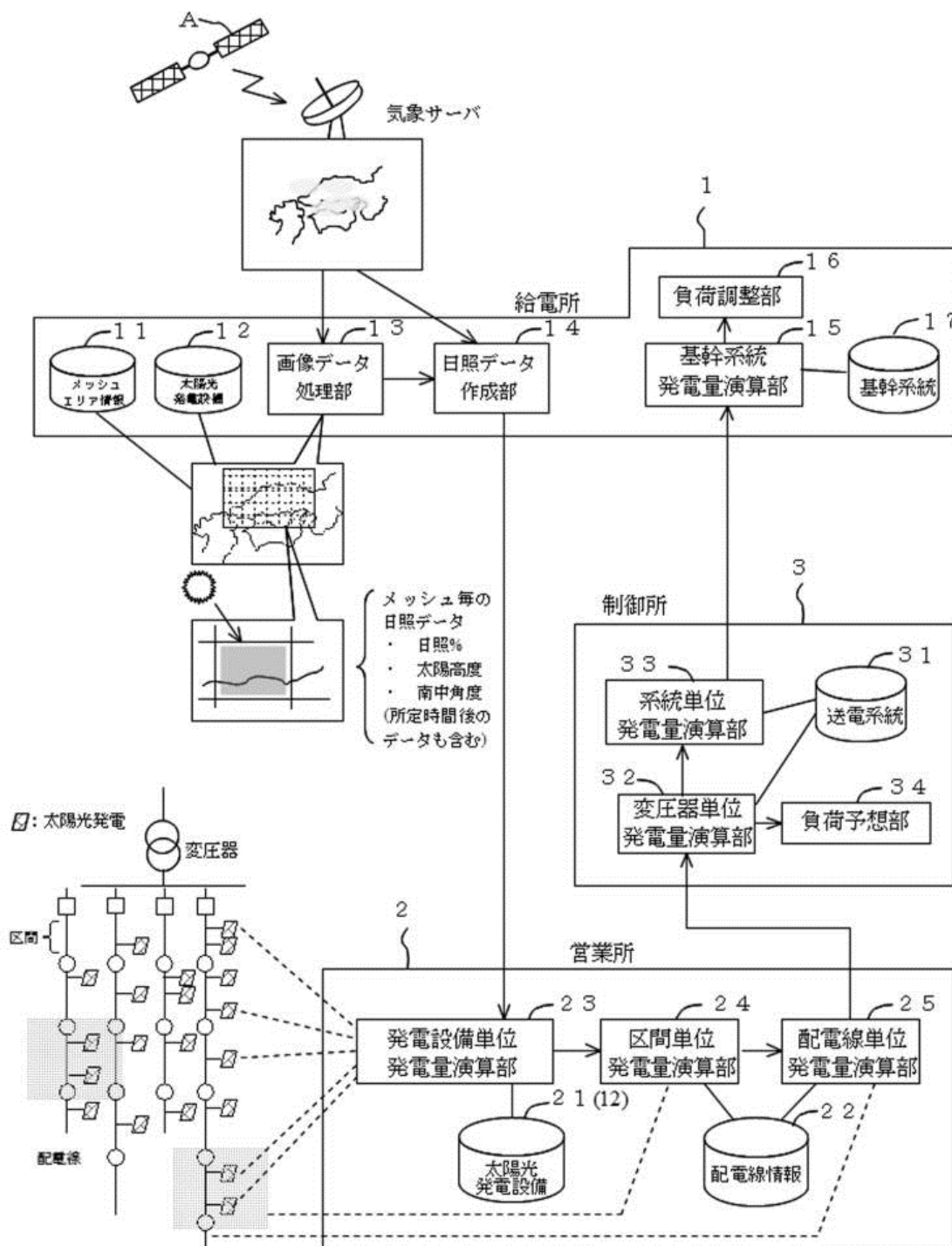
Family 4/25 - FAMPAT - ©Questel

Title

(JP2013029923)

Photovoltaic power generation amount grasping system, load estimation device employing the same and load adjustment device

Images



Abstract

(JP5214000)

PROBLEM TO BE SOLVED: To provide a photovoltaic power generation amount grasping system which is capable of precisely grasping photovoltaic power generation amounts obtained from photovoltaic power generation facilities on respective sites by linking with power distribution facilities or power transmission facilities.**SOLUTION:** In a power supply station terminal 1, a base image is produced by coating a mesh area in which a photovoltaic power generation facility is installed with a single color and on the basis of image data from a weather satellite, an image indicating a state of cloud is produced. The base image and the image indicating the state of cloud are superimposed to calculate permeation data by digitizing a permeation ratio of the single color. Sunshine data including a sunshine amount **calculated** based on the permeation data are produced for each mesh area. In a service office terminal 2, a power generation amount of each photovoltaic power generation facility is arithmetically operated from facility data and the sunshine data of each photovoltaic power generation facility, and this is iteratively performed to arithmetically operate the power generation amount for each power distribution zone and for each power distribution wire. In a control station terminal **3**, the power generation amount for each transformer and for each system is arithmetically operated and in the power supply station

terminal 1, the power generation amount of a trunk system is arithmetically operated.

Inventors

FUJITA MAKOTO

Latest standardized assignees - inventors removed

CHUGOKU ELECTRIC POWER

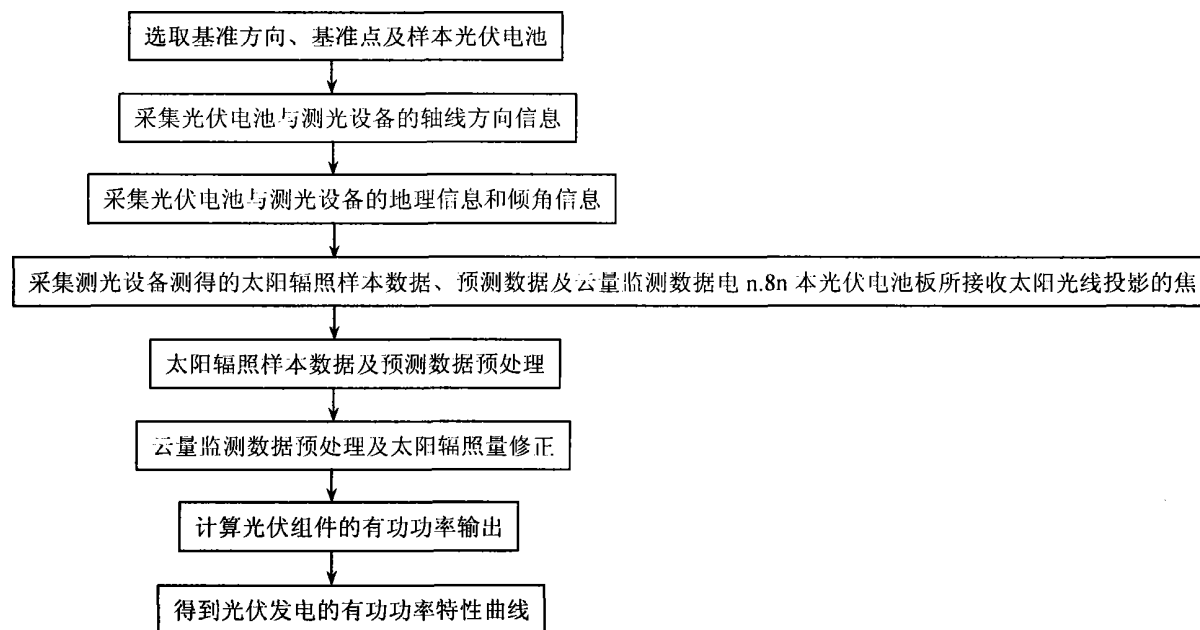
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Title

(CN102244483)

Meteorological-information-based photovoltaic power generation active power online evaluation method

Images



Abstract

(CN102244483B)

The invention discloses a meteorological-information-based photovoltaic power generation active power online evaluation method, which comprises the following steps of: 1, selecting a reference point, a reference direction and a sample photovoltaic panel, and setting a data acquisition moment t to be an initial moment 0; 2, acquiring the axial directions of the photovoltaic panel and photometric equipment; 3, acquiring the geographical position information and dip angle data of the photovoltaic panel and the photometric equipment; 4, acquiring solar irradiation sample data, prediction data and cloud cover monitoring data measured by the photometric equipment; 5, preprocessing the solar irradiation sample data and the prediction data; 6, preprocessing the cloud cover monitoring data; 7, computing the active power output of a photovoltaic component; and 8, obtaining a photovoltaic power generation active power characteristic curve. In the method, the data actually measured by the photometric equipment in the given time period of 1min is taken as a basis and the influence of a cloud cluster on a photovoltaic power station is comprehensively taken into account to obtain the photovoltaic power generation active power characteristic curve in the future 0 to 5min by approximately equal power processing and curve fitting, so active power characteristic analysis efficiency and accuracy are effectively improved, and the bases are provided for the formulation and regulation of complementary running policies and energy efficiency management policies of joint power generation systems utilizing a plurality of power supplies such as wind, sunlight and the like.

Inventors

YI TANG

QI WANG

Latest standardized assignees - inventors removed

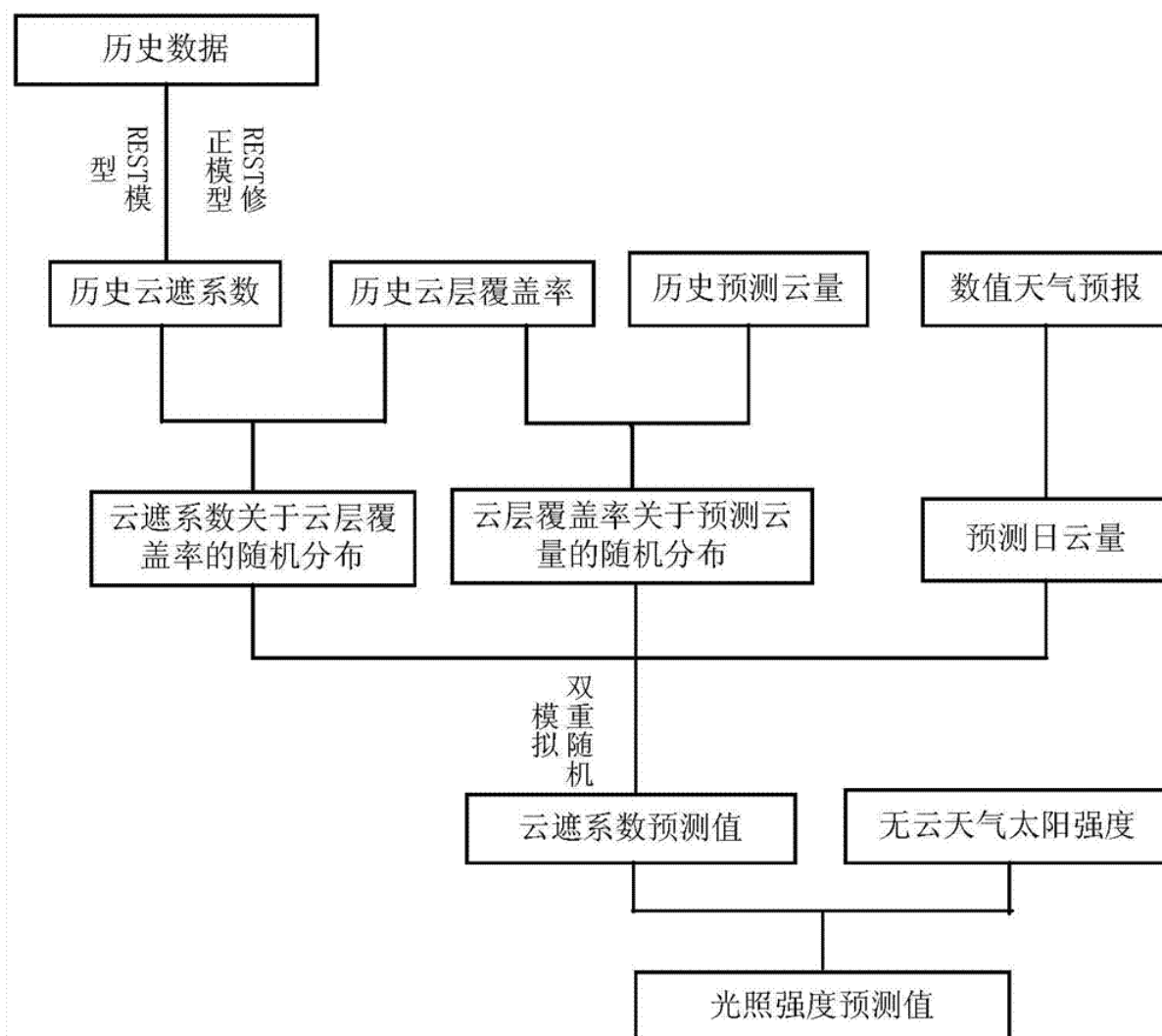
SUZHOU SIMATE ELECTRIC POWER TECHNOLOGY

Family 6/25 - FAMPAT - ©Questel

Title

(CN103996082)

Method for predicating solar radiation intensity based on double-random theory

Images**Abstract**

(CN103996082B)

The invention discloses a method for predicating solar radiation intensity based on the double-random theory and belongs to the field of solar radiation intensity predication of new energy power generation of a power system. The method for predicating solar radiation intensity aims at solving the problems existing in researches of the solar radiation intensity predication field. The method comprises the steps of calculating cloud cover coefficients at different moments in history data according to a model; calculating random distribution of the calculating cloud cover coefficients under each cloud cover coverage rate and random distribution of cloud cover coverage rates of each predication cloud cover data; calculating cloud cover coefficient expected values corresponding to predication cloud cover and a cloud cover coefficient interval meeting different confidence levels on the basis of the double simulation technology; calculating solar radiation intensity expected values at different moments under cloudy weather and a solar radiation intensity interval meeting different confidence levels in the predication day. In order to solve the problem of uncertainty of solar radiation intensity caused by changes of cloud cover, a new idea is provided for predication of solar radiation intensity and predication of photovoltaic power generation, and ideal effect of the idea is achieved.

Inventors

HU YONGQIANG

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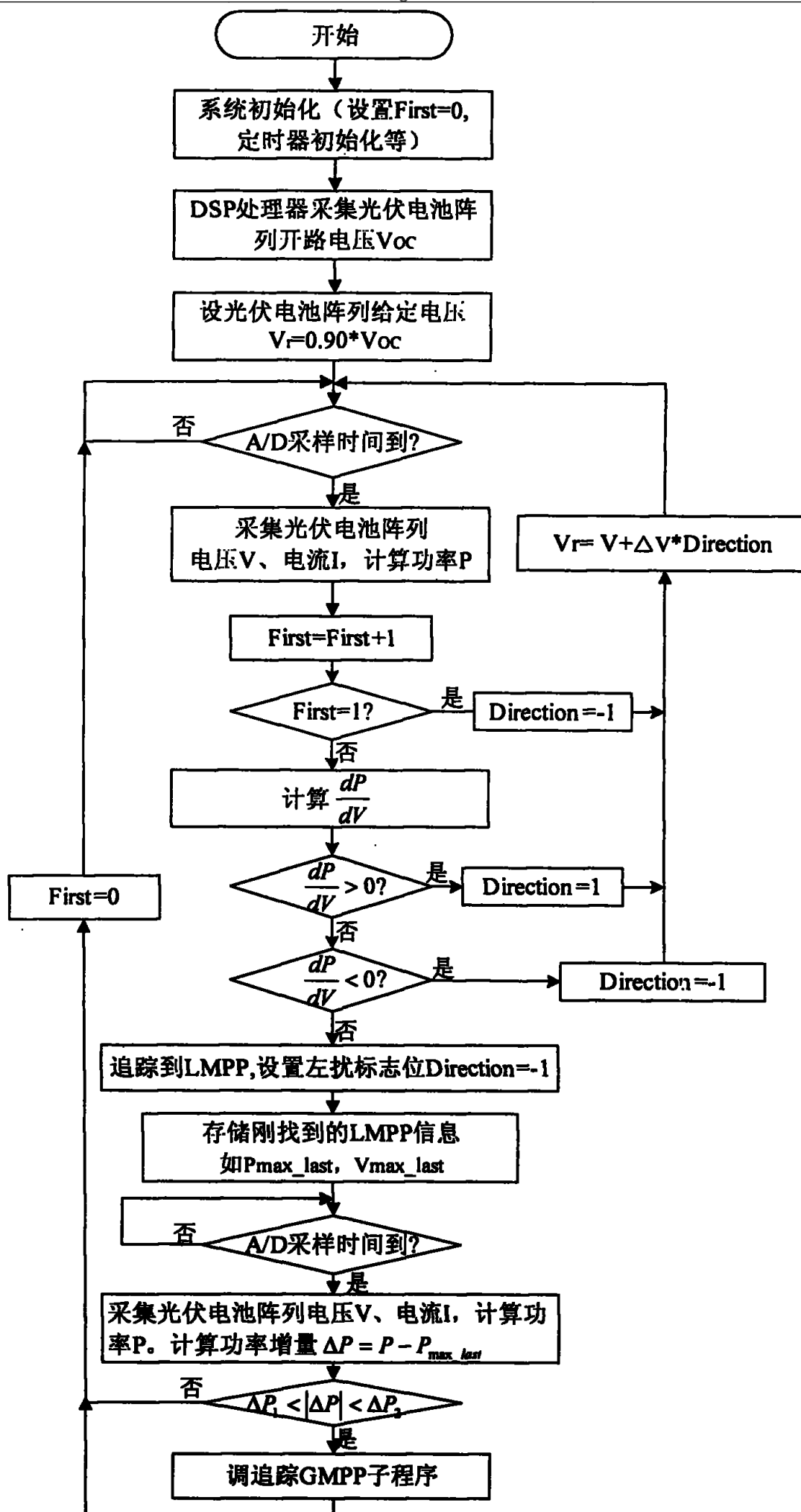
Latest standardized assignees - inventors removed

NORTH CHINA ELECTRIC POWER UNIVERSITY

Family 7/25 - FAMPAT - ©Questel

Title
(CN101783621)
Global maximum power point tracking method of photovoltaic generating system and system device

Images



Abstract

(CN101783621B)

The invention relates to a global maximum power point tracking method of a photovoltaic generating system and a system device thereof. The system device comprises an output voltage and current detection circuit and a controller of a photovoltaic cell array and a BOOST circuit, wherein the controller is internally provided with a global maximum power point tracking and controlling algorithm program, the control output end of the controller controls the BOOST circuit by a PWM driving circuit, and the output of the BOOST circuit is connected with a load. The tracking method comprises the following steps of: acquiring an open voltage of the photovoltaic cell array and inputting an initial numerical value; starting the system; and acquiring and calculating the voltages V and the currents I of photovoltaic array cells in various sampling clocks so as to acquire the power P . An identification Direction is set and which side of a voltage point is disturbed is decided according to actual conditions, and the absolute value of a power increment ΔP is compared with ΔP_1 and ΔP_2 and automatically adjusted according to actual conditions so that the maximum output power of the photovoltaic cell array is realized, and the system has higher electricity conversion efficiency.

Inventors

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Latest standardized assignees - inventors removed

UNIVERSITY BEIJING TECHNOLOGY & BUSINESS

WEIHAI CHINA GLASS SOLAR

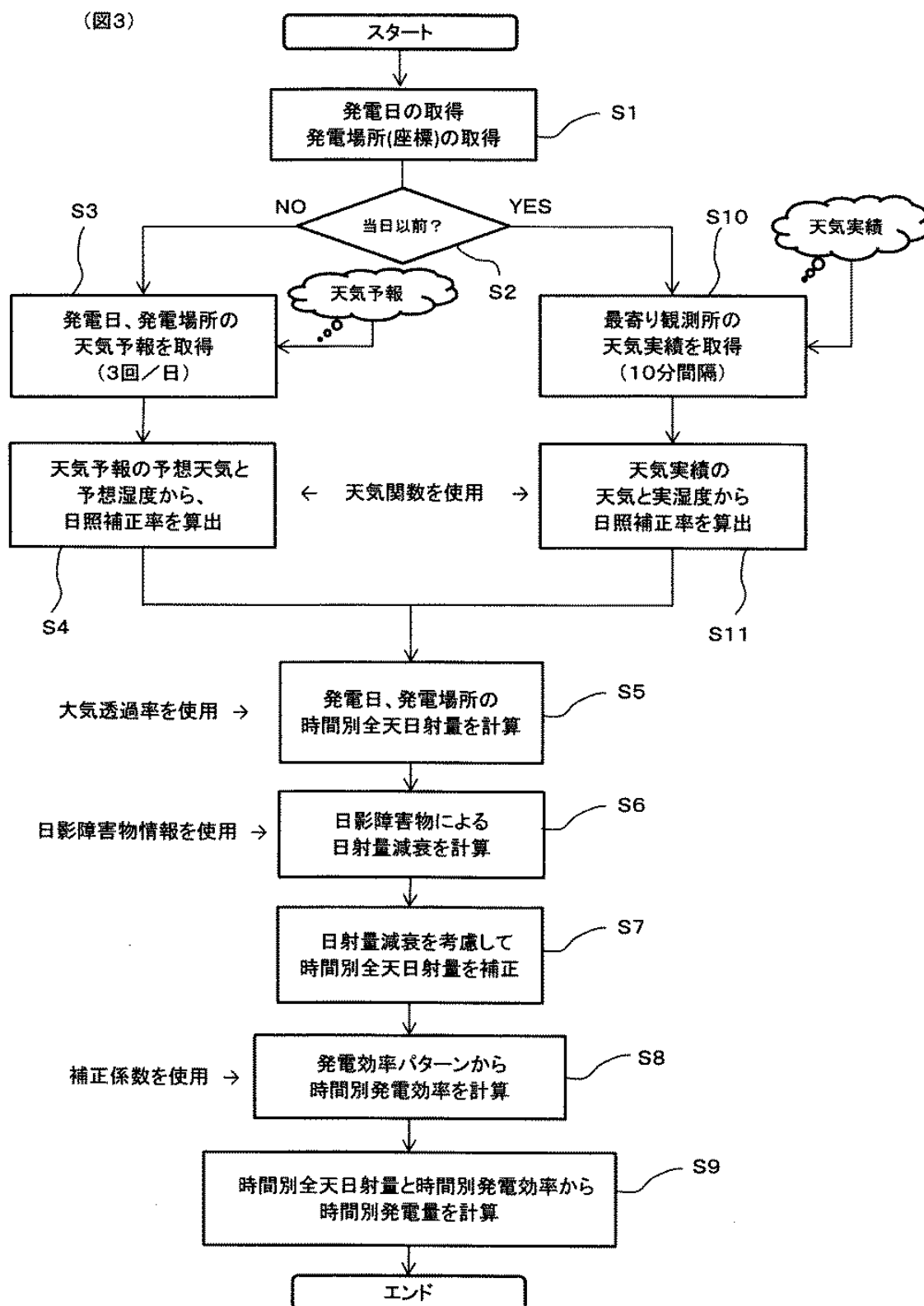
Family 8/25 - FAMPAT - ©Questel

Title

(JP2013258853)

Power generation amount prediction method and device in photovoltaic power generation

Images



Abstract

(JP2013258853)

PROBLEM TO BE SOLVED: To provide a power generation amount prediction method in photovoltaic power generation, which allows for high accuracy prediction of power generation amount in photovoltaic power generation, without actually measuring the sunshine intensity (solar radiation), temperature, and power generation amount in real time. **SOLUTION:** From the power generation achievement of a photovoltaic power generator 60, a power generation efficiency pattern unique to the photovoltaic power generator 60, and an approximate expression indicating the power generation efficiency pattern thereof are determined. At the installation site of the photovoltaic power generator 60, global solar radiation S at each time from sunrise to sunset is obtained, and a cumulative global solar radiation X is **calculated** by accumulating the

global solar radiation S at each time until power generation. From the cumulative global solar radiation X , power generation efficiency Y of the photovoltaic power generator 60 is obtained by using an approximate expression indicating the power generation efficiency pattern of the photovoltaic power generator 60. The power generation efficiency Y thus obtained is corrected by the prediction temperature during power generation, and then the power generation amount (Z) at each time is obtained from an expression of; power generation amount (Z) = maximum output (M_x) $\times$ global solar radiation (S) at each time $\times$ power generation efficiency (Y_0) at each time.

Inventors

OZAKI TETSUO

Latest standardized assignees - inventors removed

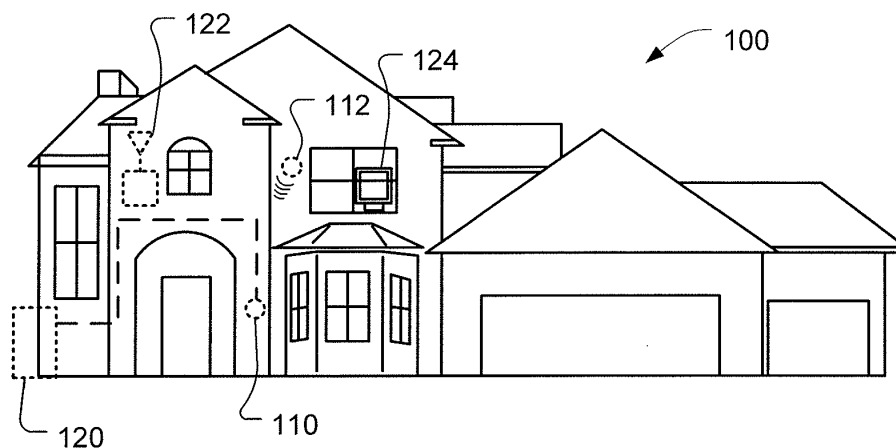
DENRYOKU SYSTEMS INSTITUTE

Family 9/25 - FAMPAT - ©Questel

Title

(EP3242092)

Integrating sensing systems into thermostat housing in manners facilitating compact and visually pleasing physical characteristics thereof

Images**Abstract**

(EP3242092)

An occupancy sensing electronic thermostat is described that includes a thermostat body having a curved exterior front surface, a dot matrix display mounted within the body viewable by a user in front of the front surface, a passive infrared sensor for measuring infrared energy and a shaped Fresnel lens having a smooth outer surface that extends across only a portion of the exterior front surface of the thermostat body. The Fresnel lens is shaped and curved so as to conform to and form a part of the curved exterior front surface of the thermostat body. A second downwardly directed passive infrared sensor can also be provided to aid in the detection of an approaching user who intends to interact with the thermostat.

Inventors

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Latest standardized assignees - inventors removed

GOOGLE

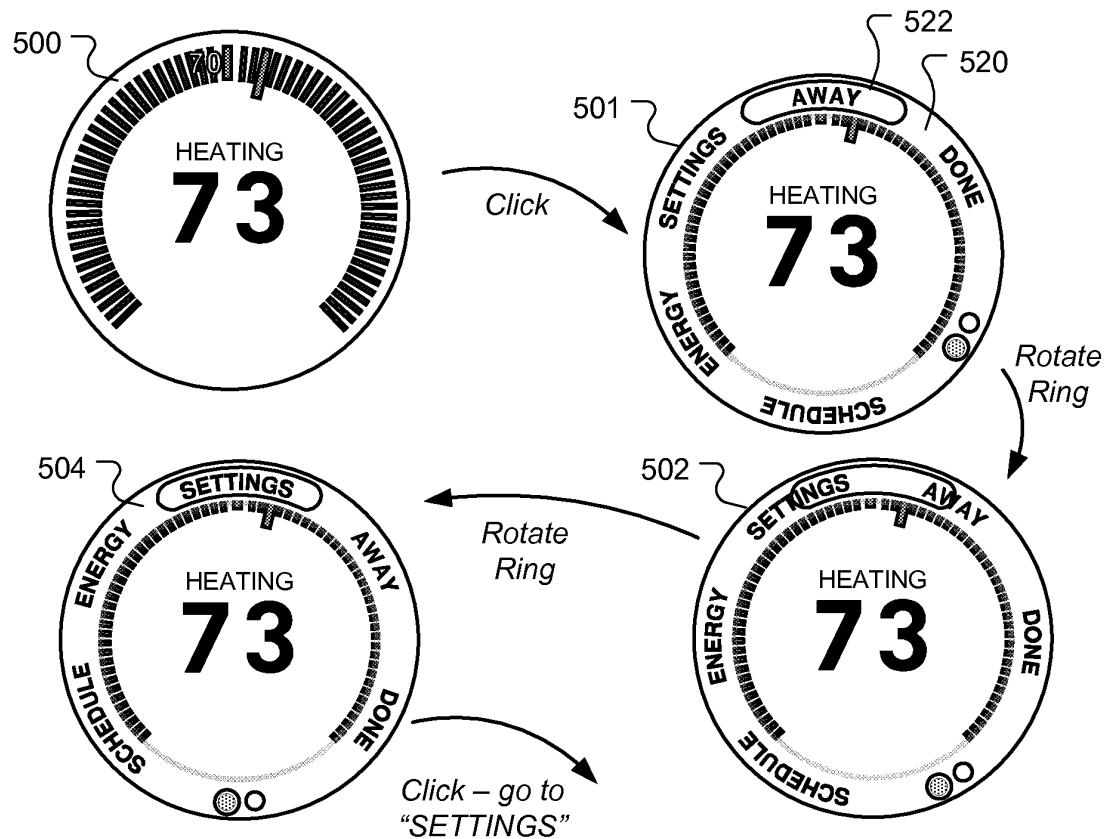
Family 10/25 - FAMPAT - ©Questel

Title

(EP3116168)

Methods, systems, and related architectures for managing network connected thermostats

Images



Abstract

(EP3116168)

A computer-implemented method of configuring a thermostat for communication with a computer device over a network connection, comprising configuring the thermostat on a private network using a network interface controller associated with the thermostat providing network connectivity between the thermostat and a thermostat management system on a public network, wherein the private network includes a router connected to the public network and provides the thermostat with access to the public network. The method further comprises sending thermostat metadata that includes a public network address associated with the thermostat over the private network to the thermostat management system on the public network for registration in a thermostat registration pool used for pairing, wherein the public network address included in the thermostat metadata is shared by the router with other devices when sending communications from the private network to the public network on behalf of the thermostat and other devices on the private network. The method further comprises pairing the thermostat registered in the thermostat registration pool to a thermostat management account on the thermostat management system when it is determined that the thermostat is on same private network as the computer device accessing the thermostat management account, wherein pairing the thermostat to the thermostat management account allows the thermostat management account to communicate with the thermostat through over the public network through the thermostat management system.

Inventors

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Latest standardized assignees - inventors removed

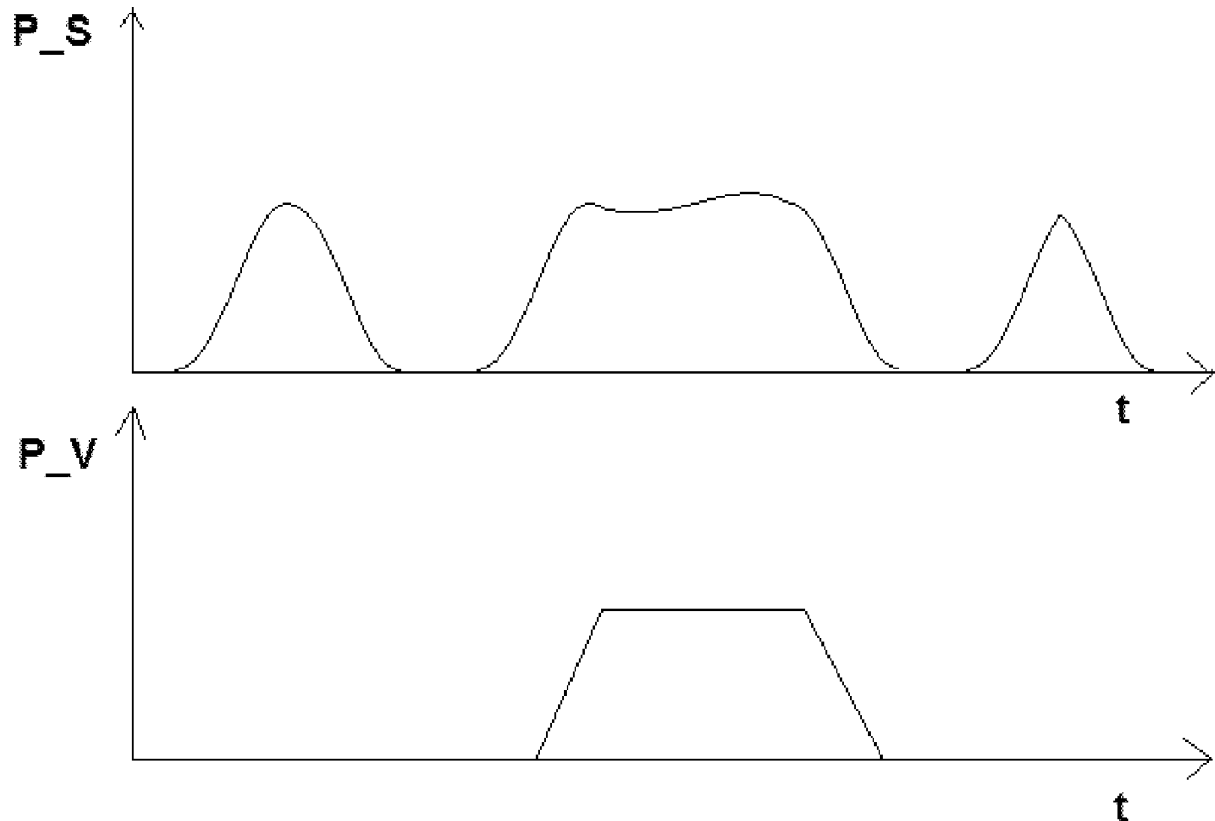
GOOGLE

Family 11/25 - FAMPAT - ©Questel

Title

(DE102011103600)

Method for controlling e.g. industrial plant for optimum utilization of power supply, involves determining start time such that energy required for process or large possible energy required for process is produced by solar power plant

Images**Abstract**

(DE102011103600)

The method involves prognosticating time course (P-S) of power i.e. electric power, of a solar power plant based on cloudiness prognosis. A device is controlled such that the device executes a process, which is commenced to a start time and provided with a planned target course of electric power. The start time is determined such that energy required for the process or large possible energy required for the process is produced by the solar power plant. A battery is charged under a boundary condition of the process. An independent claim is also included for an apparatus for controlling an industrial drive and a house-hold appliance.

Inventors

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Latest standardized assignees - inventors removed

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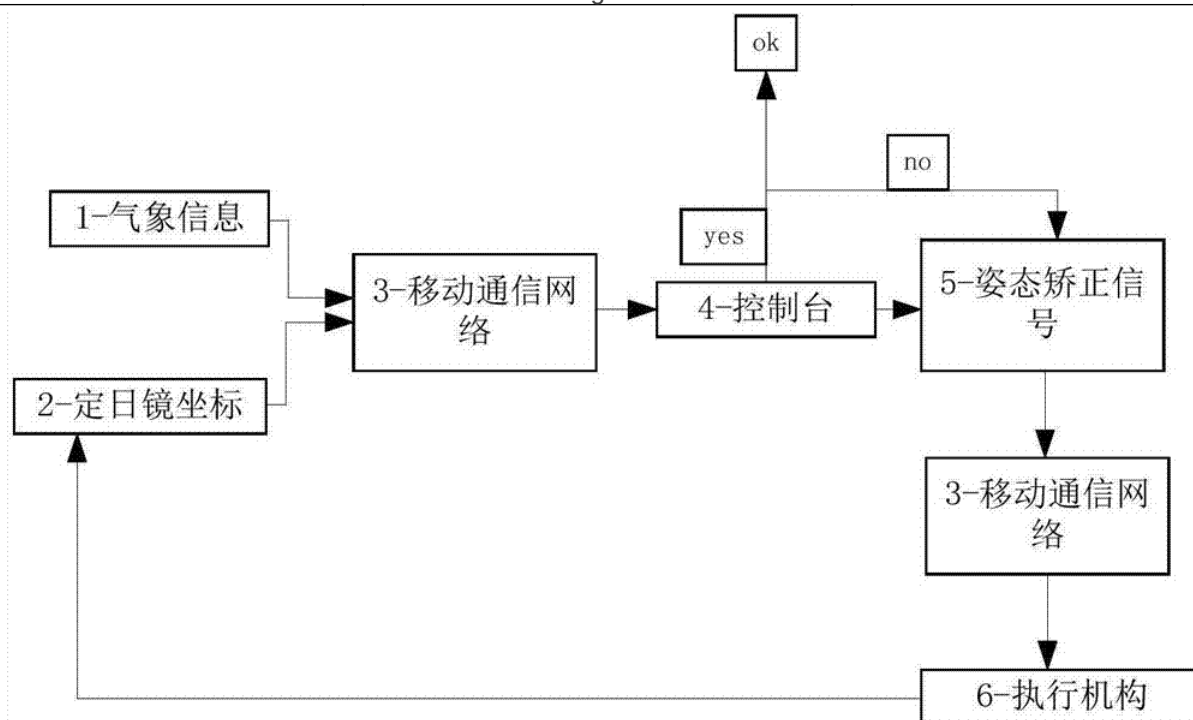
Family 12/25 - FAMPAT - ©Questel

Title

(CN107491104)

Sun positioning method of heliostat

Images



Abstract

(CN107491104)

The invention discloses a sun positioning method of a heliostat. The method comprises steps of S1, according to certain time intervals, transmitting meteorological information at the current moment and coordinate information of the heliostat to a remote control module; S2, carrying out calculation according to a preset optical light receiving position algorithm so as to obtain an optical light receiving pose coordinate of the heliostat through the remote control module according to the received meteorological information moment and the geographical position coordinate; S3, comparing the received pose coordinate of the heliostat and the optical light receiving pose coordinate, using the difference value thereof as actuation data and converting the actuation data into pose correction signals; S4, sending the pose correction signals to a pose adjustment execution mechanism so as to carry out pose adjustment actions; and S5, after the pose adjustment of the heliostat is finished, comparing the coordinate information with the optimal light receiving pose coordinate again, and if the difference value is within a tolerance range, finishing the sun positioning actions. According to the invention, the method is advantaged by simple structure, low cost, fast response, real-time feedback and high precision.

Inventors

CHEN WEI

Latest standardized assignees - inventors removed

DALIAN ENERGAS TURBINE POWER TECHNOLOGY

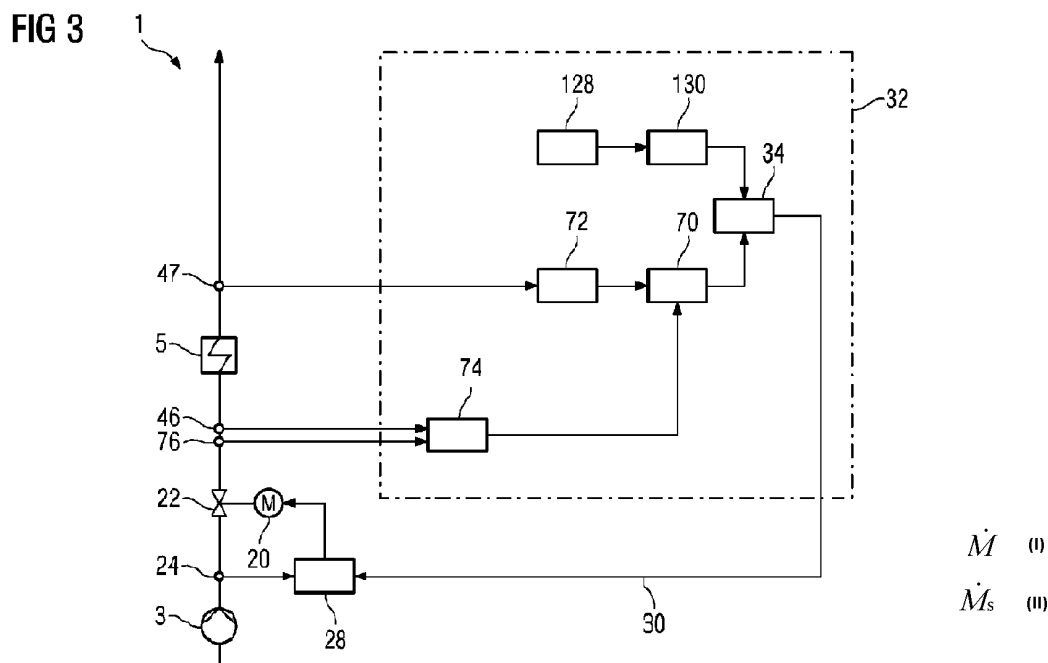
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Title

(EP2601440)

Method for operating a solar-heated continuous flow steam generator and solar-thermal continuous flow steam generator

Images



Abstract

(EP2601440)

The invention relates to a method for operating a solar-heated continuous flow steam generator comprising an evaporator heating surface (4), whereby a target value (formula (II)) for the supply water mass flow (I) is fed to a device for adjusting the supply water mass flow (formula (I)). In order to further improve the quality of a predictive supply water or mass flow control and to maintain the enthalpy of the flow medium at the evaporator outlet particularly stable especially when load changes occur, a correction factor (Kf) is taken into consideration during production of the target value (II) for the supply water mass flow (I), said correction factor being characteristic of the temporal derivative of enthalpy, the temperature or the density of the flow medium at the inlet of one or more heating surfaces (2, 4). Said method is particularly suitable for operating a solar-thermal continuous flow steam generator (1) in a solar tower power station (129) with direct evaporation.

Inventors

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Latest standardized assignees - inventors removed

SIEMENS

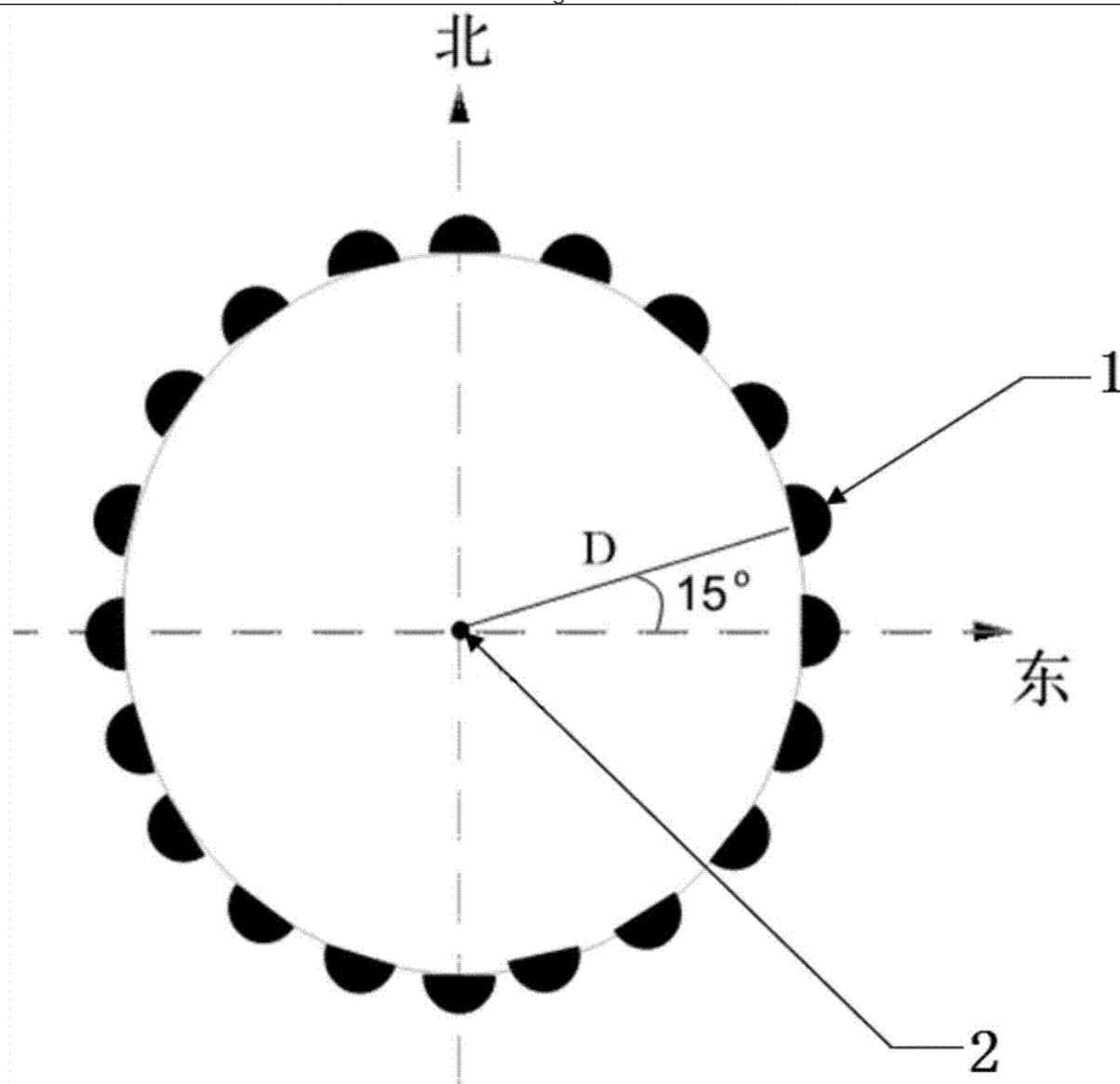
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Title

(CN107491835)

Ultra short-term photovoltaic power prediction method based on ground-based sensors

Images

**Abstract**

(CN107491835)

The invention discloses an ultra short-term photovoltaic power prediction method based on ground-based sensors. The method comprises the steps that a plurality of power sensors are arranged in a semicircular array surrounding a single power sensor being the center and form unit array sensors; the unit array sensors are arranged in a circular array around a photovoltaic power plant being the center; when one power sensor detects that photovoltaic power change exceeds a preset rated range, the corresponding central power sensor performs data monitoring comparison on the remaining power sensors surrounding the central power sensor, mutual correlation coefficients of the correlated power sensors are sequentially **calculated**, and the moving direction and speed of a cloud cluster are judged; and when it is determined that the cloud cluster moves towards the photovoltaic power plant, the corresponding central power sensor uploads real-time detected power and cloud cluster arrival time to a monitoring center through a main communication module. The method has the advantage that the electricity generation power, generated a few minutes later, of the photovoltaic power plant at the center can be predicted accurately and continuously.

Inventors

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Latest standardized assignees - inventors removed

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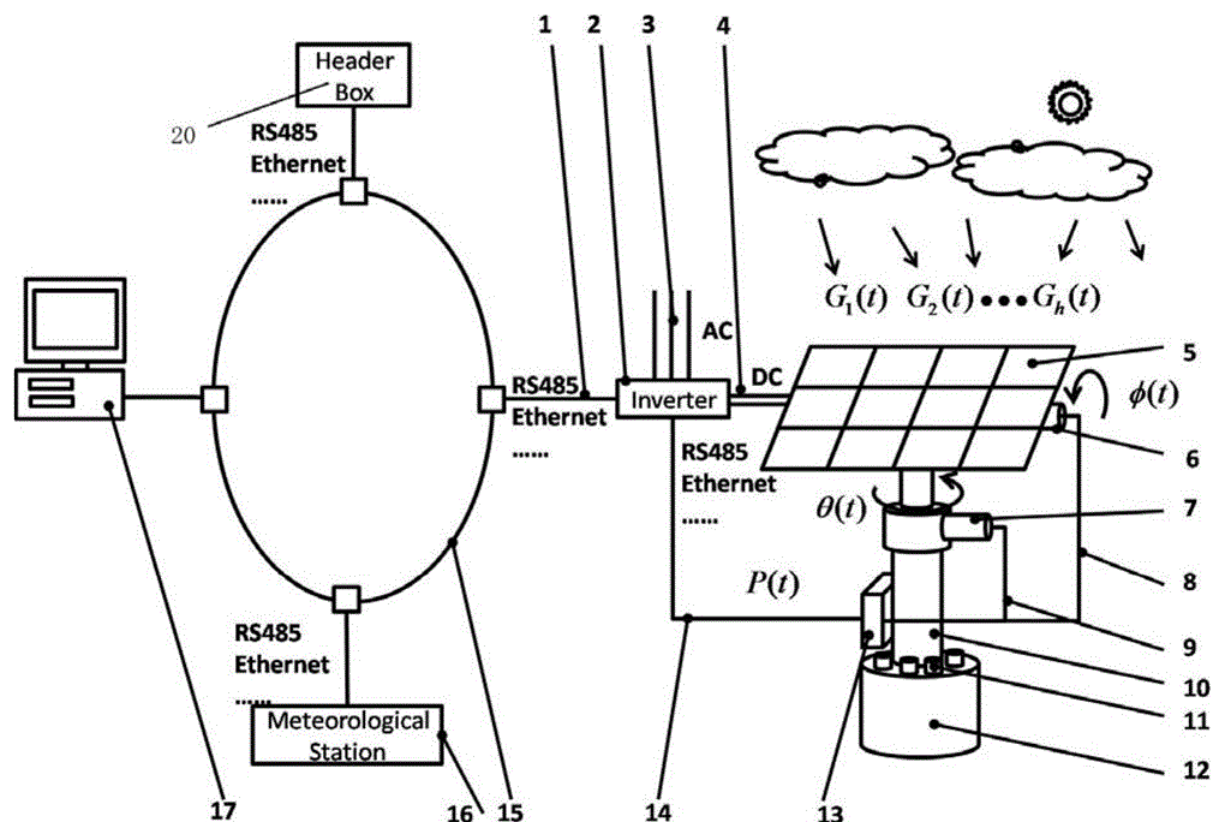
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Title

(CN205844913U)

Solar tracker control system based on inverter output power

Images



Abstract

(CN205844913U)

The utility model discloses a solar tracker control system based on inverter output power, this system include the photovoltaic cell square matrix, photovoltaic power output unit, control photovoltaic cell square matrix pivoted driving source, machine controller, still be provided with dc -to -ac converter and extreme value search engine, the electric power signal of photovoltaic power output unit is gathered to the dc -to -ac converter to the electric power signal that to gather is carried for the extreme value search engine, and the angle is put according to the ideal that received electric power signal **calculated** the photovoltaic cell square matrix to the extreme value search engine, and feeds back to machine controller with this angle value, the machine controller relatively angle of received photovoltaic cell square matrix puts the angle with the ideal, controls the driving source again and drives the photovoltaic cell square matrix and rotate to the ideal and put angle position department. Solar tracker control system is through the maximum output power of photovoltaic cell square matrix under the different weather conditions of extreme value search engine acquisition to improve the generated energy of photovoltaic cell square matrix. But wide application in sun -tracking field.

Inventors

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Latest standardized assignees - inventors removed

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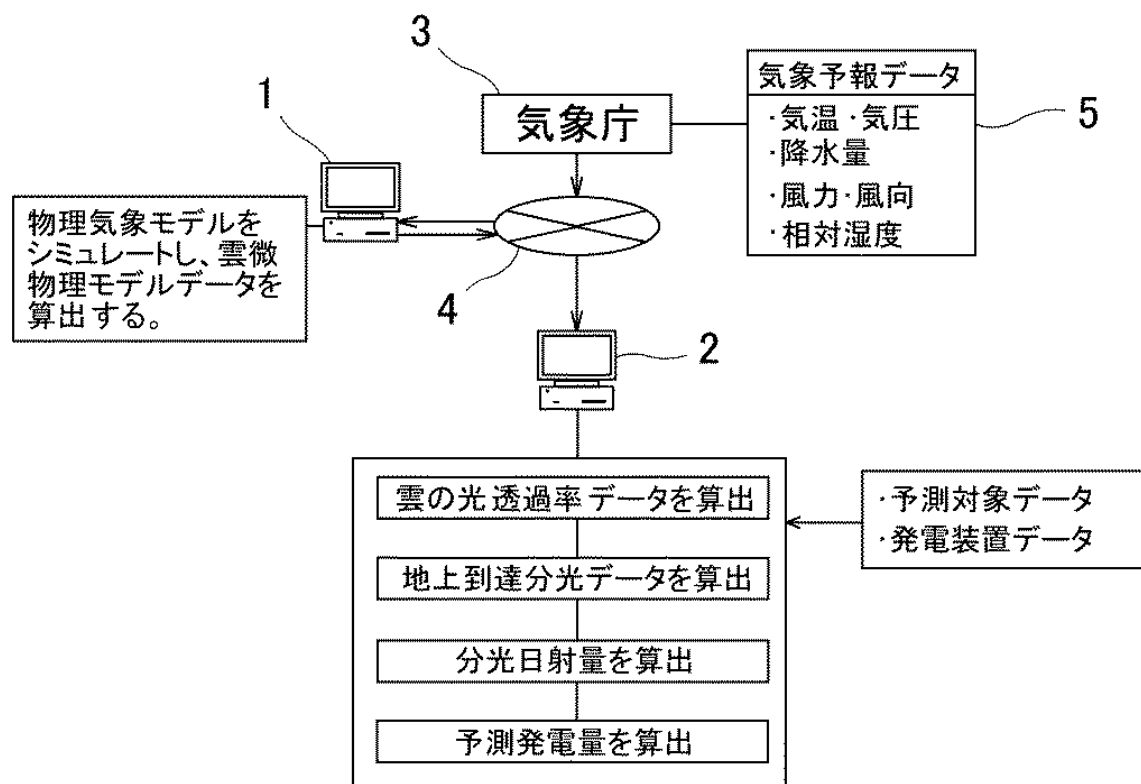
Family 16/25 - FAMPAT - ©Questel

Title

(JP2011159199)

System and method for predicting generation amount of electricity of photovoltaic power generator

Images



Abstract

(JP2011159199)

PROBLEM TO BE SOLVED: To provide a system and a method for predicting the generation amount of electricity of a photovoltaic power generator, with which the generation amount of electricity of the photovoltaic power generator is accurately predicted at an optional location.

SOLUTION: The system for predicting the generation amount of electricity of the photovoltaic power generator using electronic computers 1, 2 calculates cloud water particle size distribution by simulating a physical meteorological model regarding vapor content in atmosphere and clouds, based on meteorological prediction data 5, calculates light transmittance data of clouds at the prediction location of the generation amount of electricity, based on the cloud water particle size distribution, calculates spectral data of reaching the ground at the prediction location based on the light transmittance data of clouds, calculates spectral solar radiance, based on the spectral data, and predicts the generation amount of electricity according to the photovoltaic power generator to be installed.

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Inventors

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GIFU UNIVERSITY

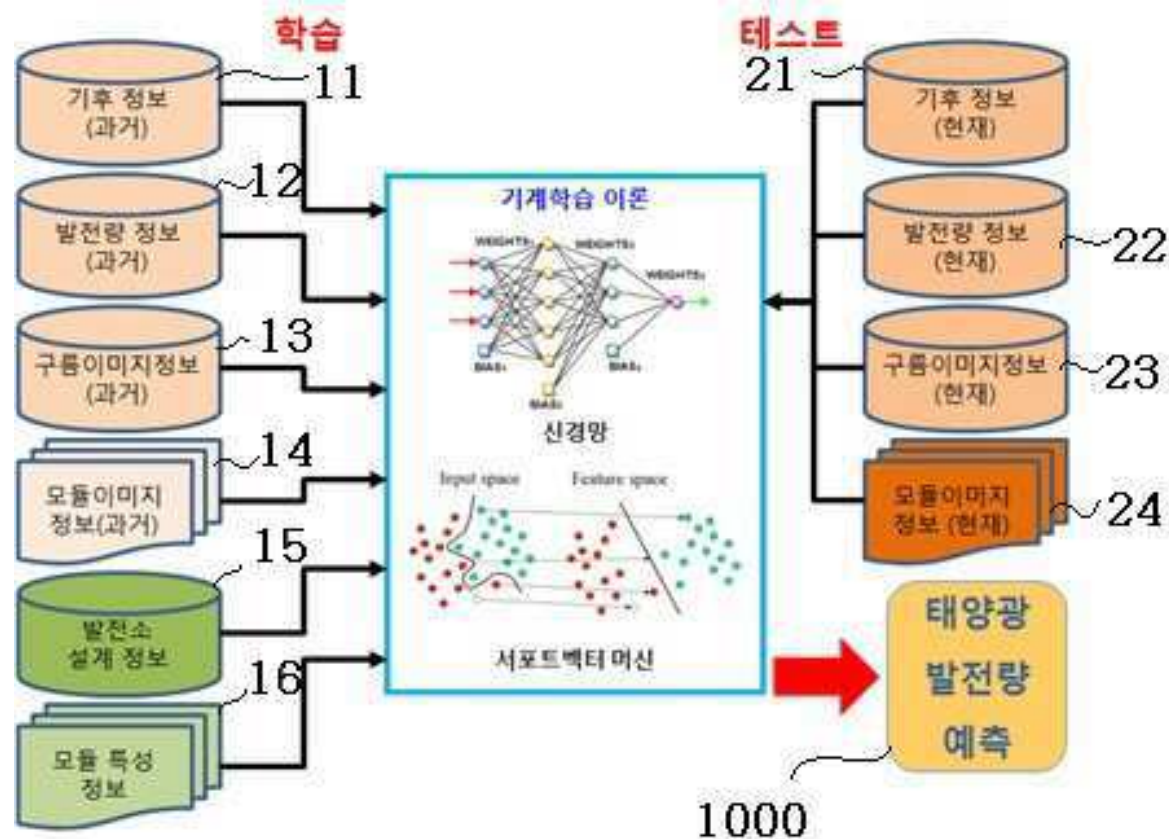
Family 17/25 - FAMPAT - ©Questel

Title

(KR101761686)

Real time predicting system for energy management system using machine learning

Images



Abstract

(KR101761686)

The present invention relates to a real-time solar power generation energy amount prediction system using machine learning. The real-time solar power generation energy amount prediction system includes: a prediction parameter setting module which receives the solar light emission amount prediction (F1) using climate monitoring measurement data and a climate database, cloud amount prediction using all-sky photographs (F2), module state diagnosis in accordance with past generation amount changes (F3), solar photo-deterioration index prediction (F4) in accordance with a solar module property model and a solar plant design; and solar power generation output prediction in accordance with the solar plant design and the coordinates of the sun as parameters for predicting selected prediction targets; a prediction execution module which makes a pattern of the past data of the prediction target with reference to the parameter values, sets multiple regions of interest (ROI) regarding the main region of interest of the patterned data, generates a prediction module from the data set as the ROIs by using a dynamic time warping (DTW) algorithm, and transmits future prediction data of the prediction targets **calculated** by inputting the current data of the prediction targets to the prediction model to an energy management system; an error rate correction module which calculates the correlation coefficient between a selected prediction target and other remaining prediction targets when an error rate between the future prediction data and actual measurement data exceeds an allowed error rate to transmit the **calculated** future prediction data to the prediction execution module; and a database storing the current data and the patterned past data.

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Inventors

BAEK SEUNG YUP

Latest standardized assignees - inventors removed

HARMONY & UNITED

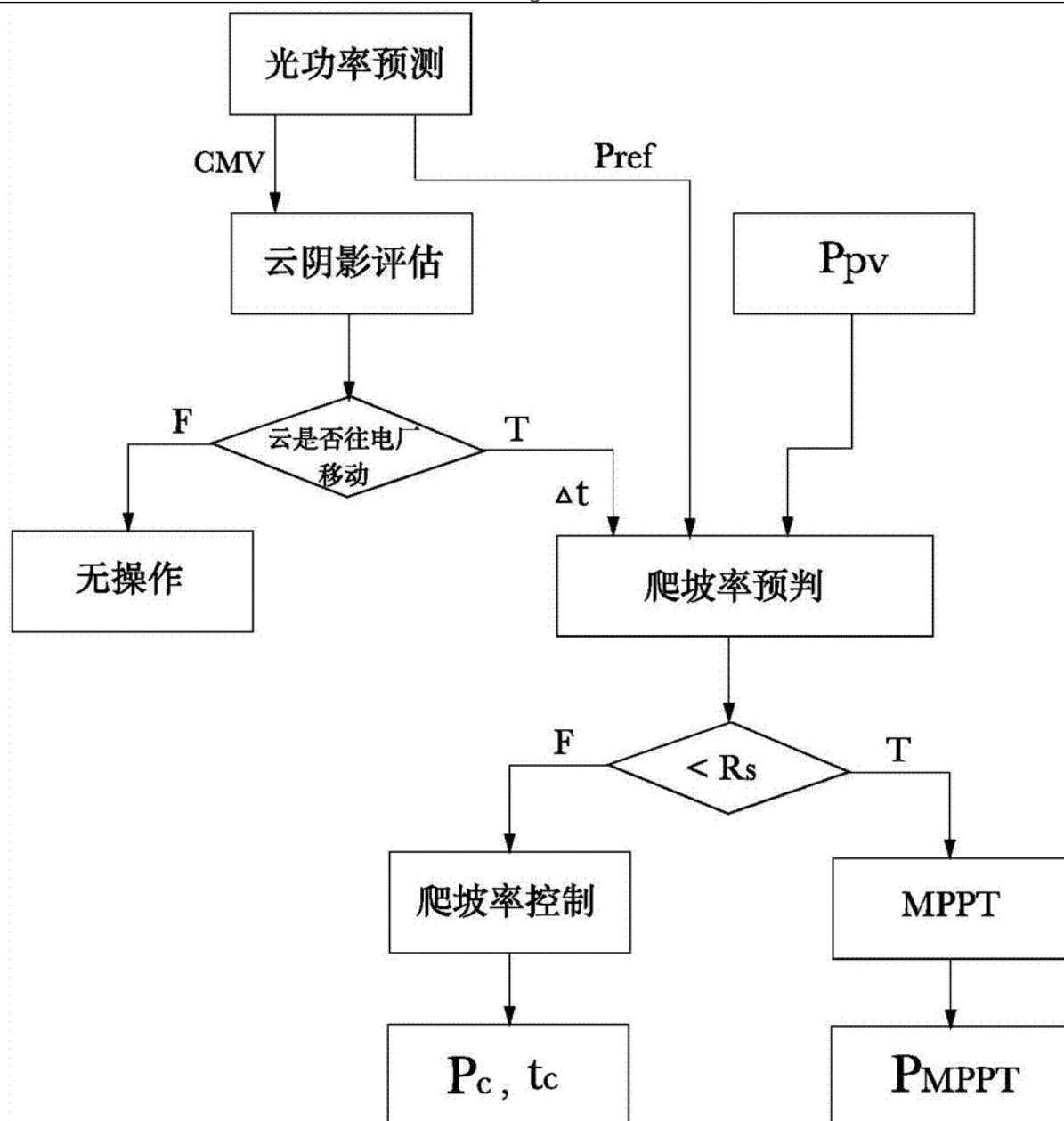
Family 18/25 - FAMPAT - ©Questel

Title

(CN107507101)

Photovoltaic-power-prediction-based ramp rate control method without energy storage system

Images



Abstract

(CN107507101)

The invention discloses a photovoltaic-power-prediction-based ramp rate control method without an energy storage system. A ramp rate control system comprises a cloud shadow evaluation module, a ramp rate pre-determination module, and a ramp rate control module. The cloud shadow evaluation module is used for identifying a cloud cluster motion vector and triggering the ramp rate pre-determination module when a cloud cluster is identified to move towards the direction of a photovoltaic power plant. The ramp rate pre-determination module is used for predicting a ramp rate of an output power. And the ramp rate control module is used for deciding output power control time according to ramp rate data predicted by the ramp rate pre-determination module and outputting a control power continuously based on a preset ramp rate. According to the photovoltaic-power-prediction-based ramp rate control method disclosed by the invention, energy-storage-free photovoltaic power generation ramp rate control is realized on the conditions of irradiation rising and falling and the method plays an important role in increasing photovoltaic power generation access and reducing occurrence of a discarding phenomenon.

Inventors

DU YANG

CHEN XIAOYANG

Latest standardized assignees - inventors removed

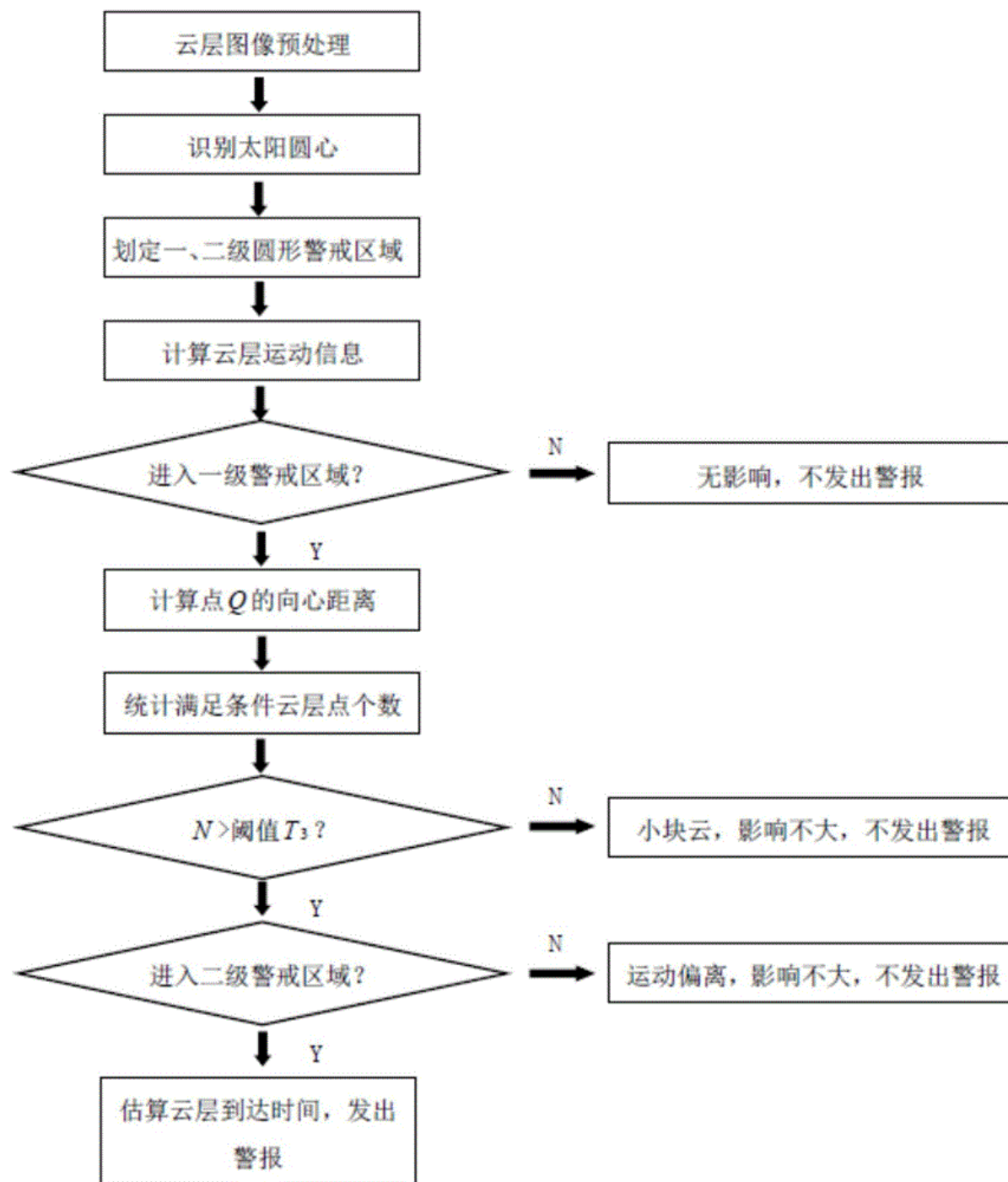
XIAN JIAOTONG LIVERPOOL UNIVERSITY

Family 19/25 - FAMPAT - ©Questel

Title

(CN106780540)

Photovoltaic power generation-oriented cloud layer tracking and pre-warning method for foundation cloud chart

Images**Abstract**

(CN106780540)

The invention discloses a photovoltaic generated power short-term forecast-oriented cloud layer tracking and pre-warning method for a foundation cloud chart. The method comprises the steps of preprocessing cloud layer images; identifying a circle center of sun; defining and setting primary and secondary round warning regions; calculating motion information of pixel points of each cloud layer; judging whether the warning regions are accessed or not; and judging time of reaching a sun region by each cloud layer through calculating centripetal distances of the pixel points of the cloud layer. According to the method, the cloud layers of the foundation cloud chart can be better subjected to tracking, motion information analysis and pre-warning; the stability is high; and relatively good idea and method are provided for photovoltaic power generation process-oriented power short-term forecast.

Inventors

HOU BEIPING

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ZHU WEN

YU AIHUA

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LI GANG

Latest standardized assignees - inventors removed

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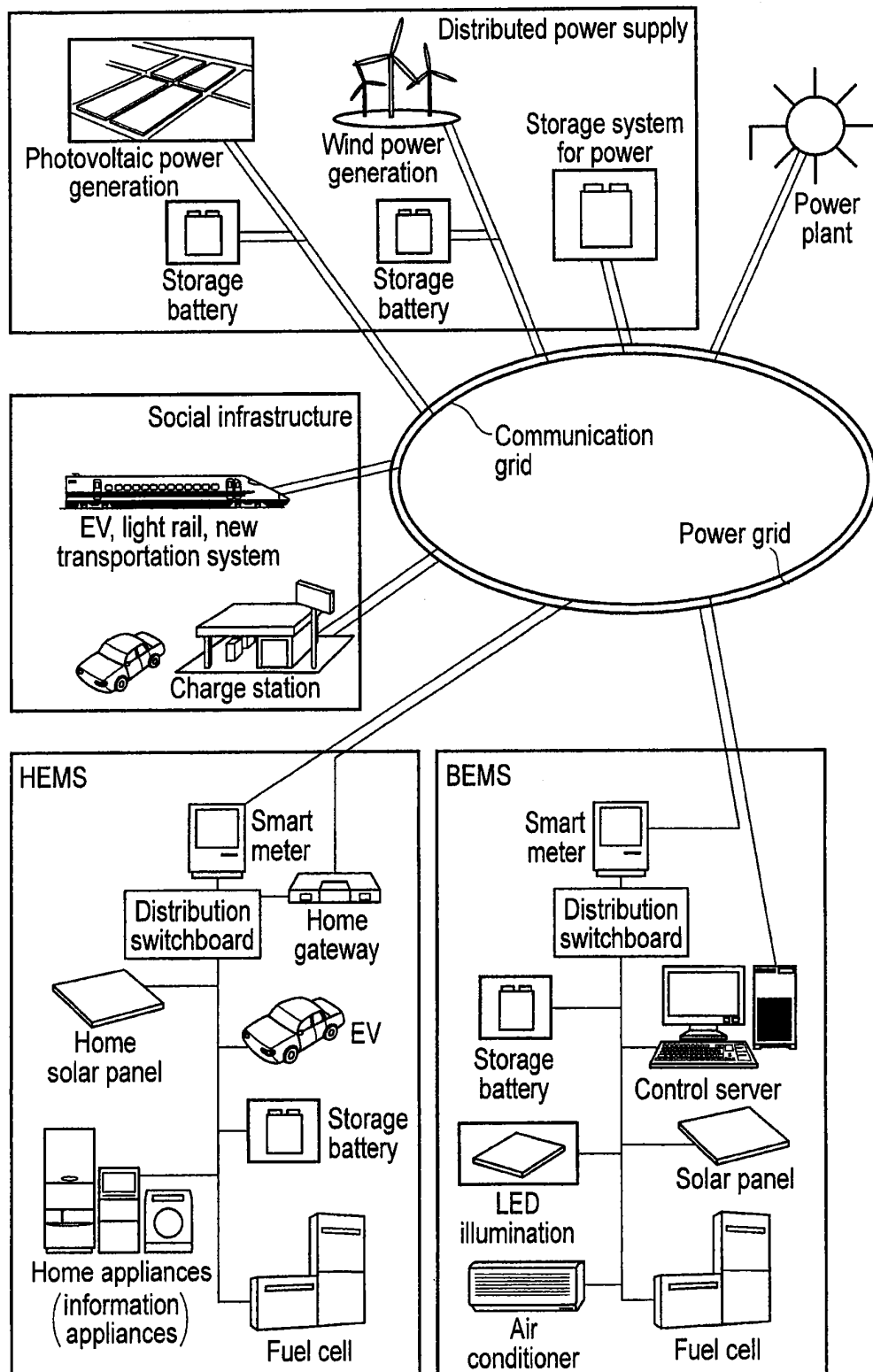
Family 20/25 - FAMPAT - ©Questel

Title

(EP2966610)

Energy management system, energy management method, and program

Images



Abstract

(EP2966610)

According to an embodiment, an energy management system manages energy of a customer, including a power generation device configured to generate power derived from renewable energy and a battery device capable of being charged and discharged. The energy management system includes an estimation unit, a creation unit, and a control unit. The estimation unit estimates the demand of the energy of the customer to obtain a demand estimated value, and estimates the power generation amount of the power generation device to obtain a power generation amount estimated

value. The creation unit creates the charge and discharge schedule of the battery device, which can minimize an electricity purchase cost using the push up effect of an electricity selling profit by discharge of the battery device, based on the demand estimated value and the power generation amount estimated value. The control unit controls the battery device based on the charge and discharge schedule.

Inventors

KUBOTA KAZUTO

KATAYAMA KYOSUKE

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Latest standardized assignees - inventors removed

TOSHIBA

Family 21/25 - FAMPAT - ©Questel

Title

(WO9010378)

Protective apparatus

Images

F2 ... 光発電板、 G2 ... 反

Abstract

(WO9010378)

This invention relates to a protective apparatus which is disposed in the space so as to face the earth, projects a solar ray shadow portion to the specific area of the earth, controls the weather and generates nature artificially and locally by solar ray power generation and by a computer and protects the earth environment. The problems of the earth environment such as warming of the earth, destruction of the ozone layer, acid rain, forest degradation, desertification, food problems, and the like have become increasingly severe resulting from the drastic increase in the consumption of the fossil fuel as a result of the drastic increase in the world population in this century. These problems, if left uncorrected, will become more critical and global in and after the 21st century. Therefore, these problems are analyzed and solved by means which controls locally the radiation of the solar rays exerting the greatest influences on the earth environment and effecting the weather control, and the like.

Inventors

NAKAGAWA TAKEO

Family 22/25 - FAMPAT - ©Questel

Title

(US20140224894)

Technique to mitigate storms using arrays of wind turbines

Images

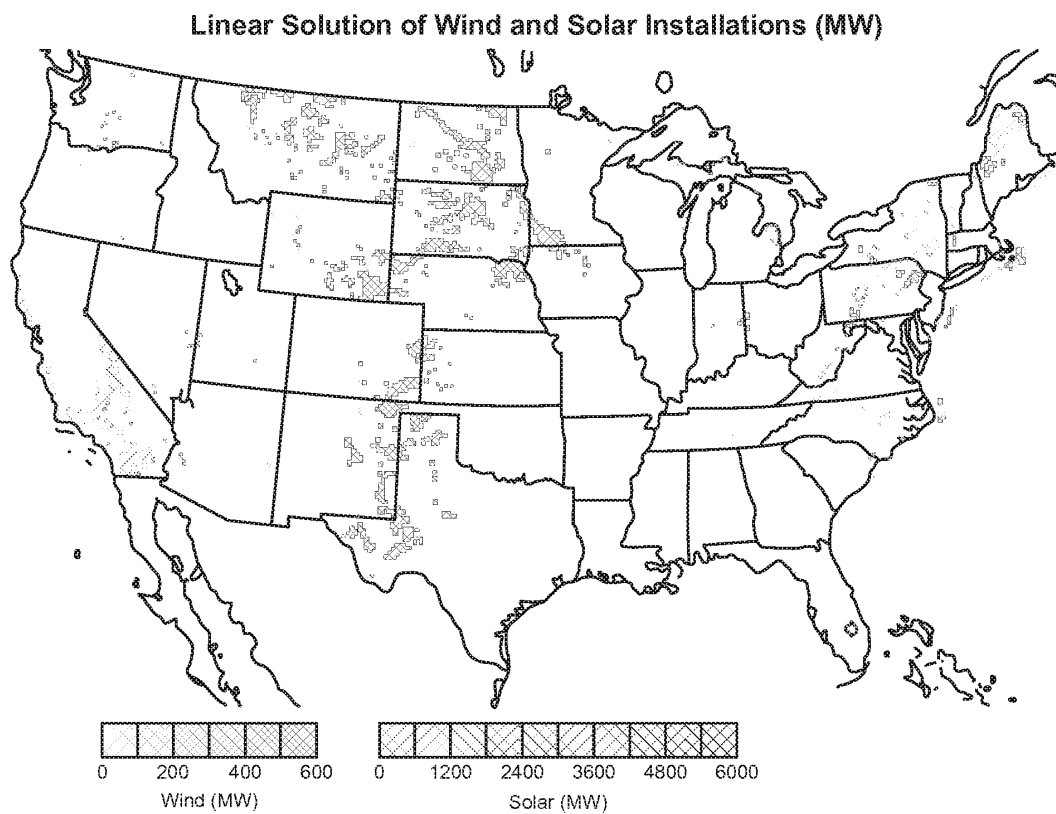


FIG. 1

Abstract

(US20140224894)

This invention describes a system whose operation can change the track and intensity of atmospheric storms. The invention uses arrays of wind turbines which are being built for power generation. Using existing atmospheric and storm tracking models, calculations of a storm track may be determined to establish a baseline track calculation. The storm track may then be **calculated** for a number of permutations where various groups or individual wind turbines are curtailed (e.g., feathered). The optimal storm track may be determined based on damage estimate calculations. Signals may be sent to individual or groups of wind turbines to curtail the turbines to alter the track of the tropical storm.

Inventors

MACDONALD ALEXANDER E

Latest standardized assignees - inventors removed

US DEPARTMENT OF COMMERCE

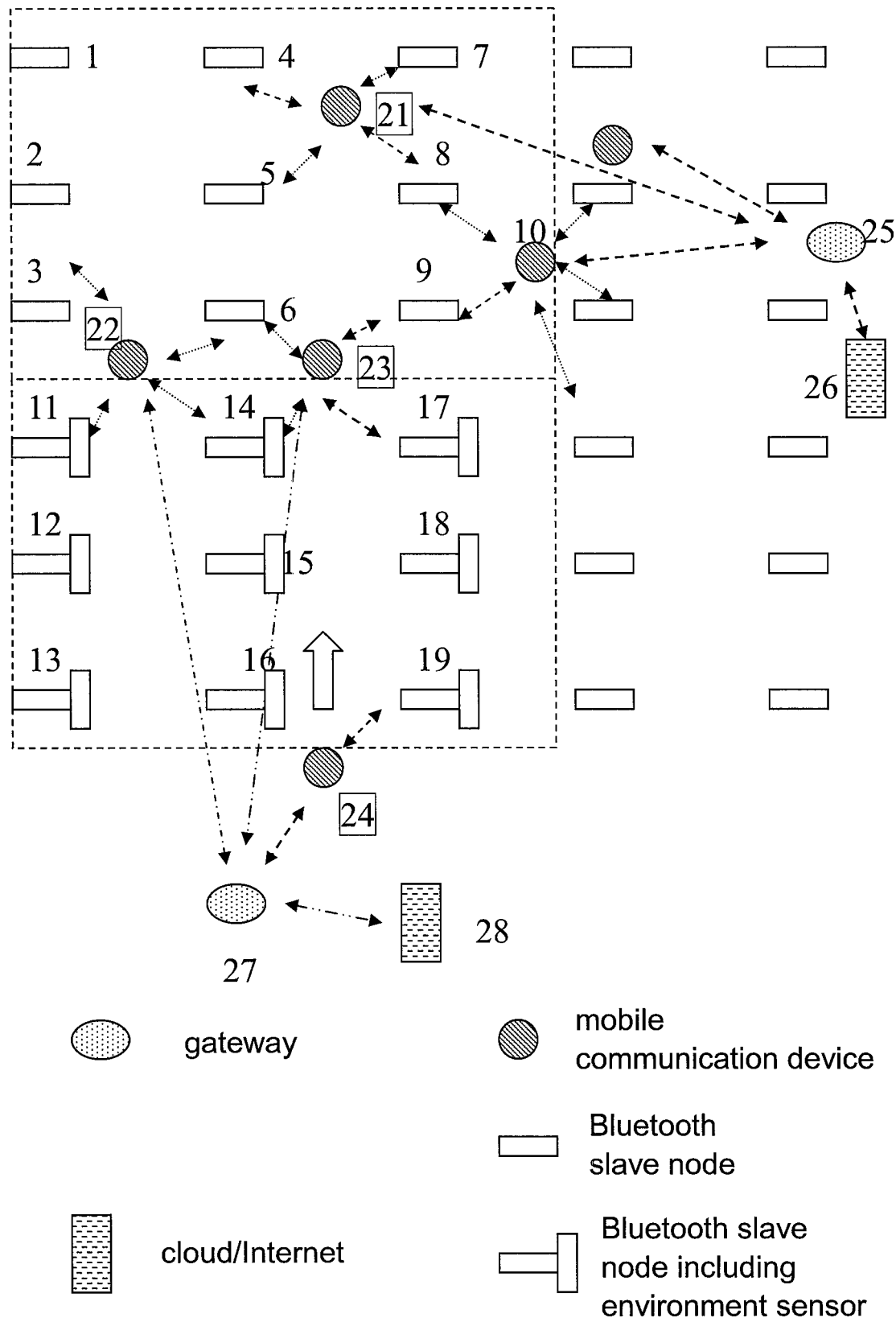
Family 23/25 - FAMPAT - ©Questel

Title

(EP2713178)

Earth positioning system

Images



Abstract

(EP2713178)

An earth positioning system (EPS) is provided. The EPS includes a plurality of fixed LED lights with communication functions and a mobile communications device. A cloud computer and at least one map marked with world coordinates of the fixed LED lights may be further included. The LED light includes a substrate, at least one LED die, a power supply, a wireless communication module, a control unit and a housing. The LED lights may be arranged in indoor and outdoor environments, with coordinates represented in longitude, latitude and altitude. The coordinates are included in a map data of the cloud computer. When the mobile communication device moves with its carrier, the world coordinates of the mobile

communication device can be located based on the coordinates of the LED lights nearby or based on the unique IDs of the LED lights together with the aforementioned map.

Inventors

HUANG JUNG-TANG

Latest standardized assignees - inventors removed

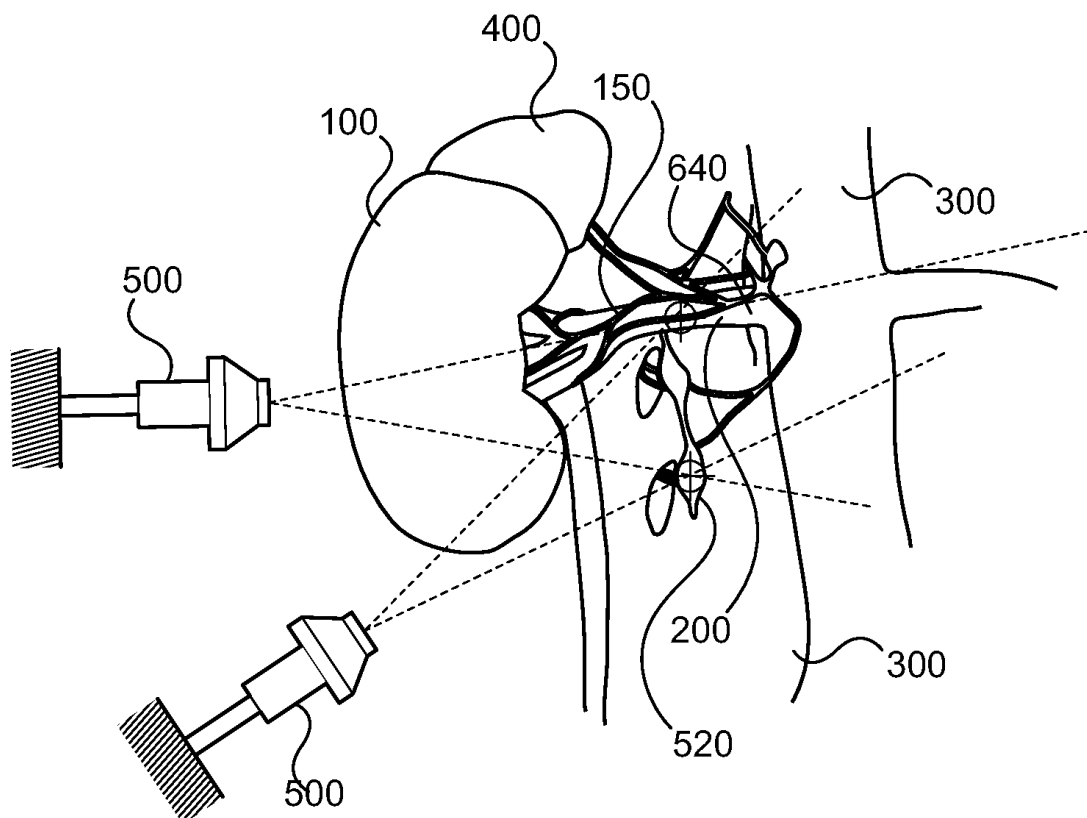
INTERNATIONAL MOBILE IOT

Family 24/25 - FAMPAT - ©Questel

Title

(EP3005944)

Energetic modulation of nerves

Images**Abstract**

(EP3005944)

A system for energy delivery into a patient comprises imaging means configured to image the patient and provide an image signal; an energy source (500, 510, 730, 900, 1100); and a processor configured to: receive the image signal, the image signal being related to a position of a blood vessel; determine a three dimensional coordinate of the blood vessel based on the image signal; and control the energy source based on the determined coordinate of the blood vessel. The energy source (500, 510, 730, 900, 1100) is configured to deliver ultrasound energy from external to the patient to multiple regions (1350, 1680) that contain one or more nerves, the one or more nerves being next to or around the blood vessel (1140, 1155, 1340).

Inventors

GERTNER MICHAEL

Latest standardized assignees - inventors removed

KONA MEDICAL

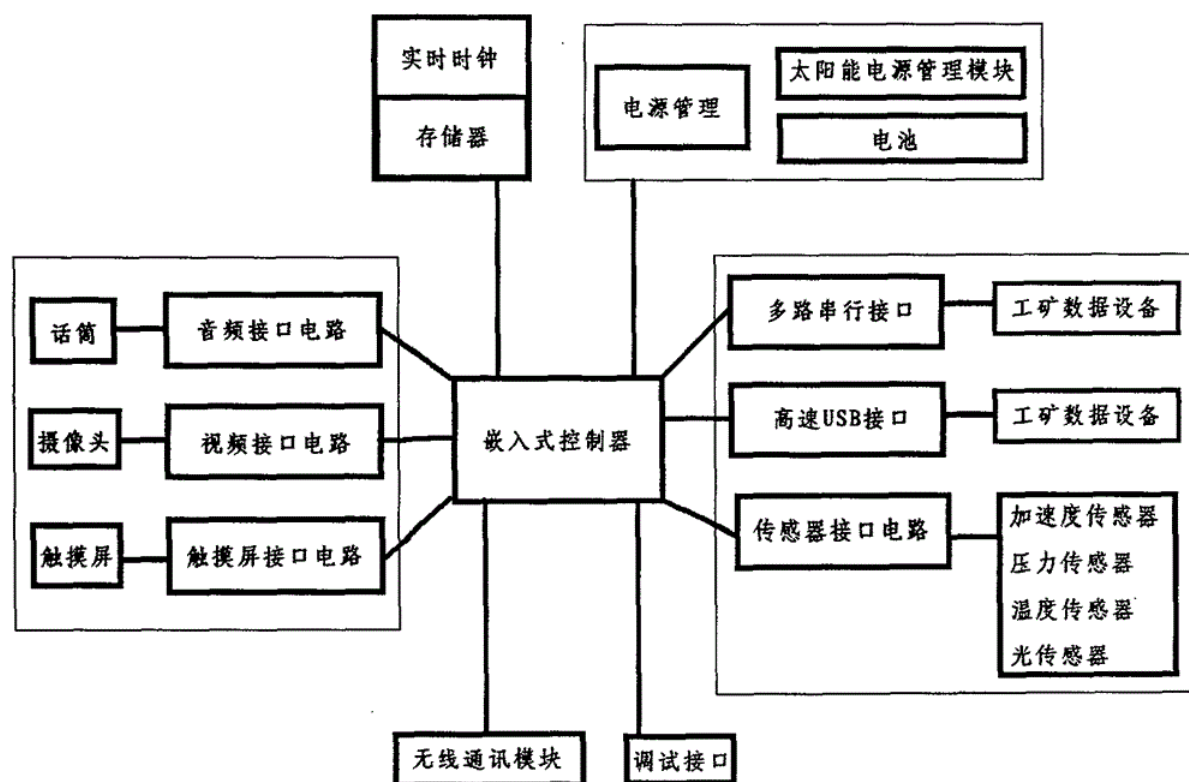
Family 25/25 - FAMPAT - ©Questel

Title

(CN102929827)

Wireless sensor data acquisition cluster for industrial-and-mining-enterprise-oriented safety production cloud service platform

Images



Abstract

(CN102929827B)

The invention discloses a wireless sensor data acquisition cluster for an industrial-and-mining-enterprise-oriented safety production cloud service platform. The wireless sensor data acquisition cluster is arranged in data acquisition equipment and is connected with industrial and mining data equipment in a wired or wireless manner through a data or analog interface according to a function requirement of an application component in the system; the acquisition frequency is sent to be the highest frequency and the precision of the function requirement, so that data sampling can be realized; acquired data are cached into a memory of the data acquisition cluster; and after being compressed into a uniform format, the data are transmitted to a remote monitoring center through a wireless transmitting and receiving unit. Wireless sensor equipment can synchronously or asynchronously communicate with one another to form the data acquisition cluster.

Inventors

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Latest standardized assignees - inventors removed

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