Claims

1 . An automated system (100) for detecting soiling over solar panels (112) of a solar plant, the automated system comprising:

a plurality of actinometers (102) arranged on a plurality of solar panels (112);

a plurality of temperature sensors (104) coupled to the plurality of actinometers and solar panels;

a central processing unit (106) coupled to the plurality of actinometers and plurality of temperature sensors, wherein the central processing unit includes:

a central sever (108) configured to acquire data from the plurality of actinometers and plurality of temperature sensors;

a processing module (110) configured to process the acquired data; and

wherein arranging the plurality of actinometers on the plurality of solar panels includes configuring weather sensors at a predetermined distance to detect appropriate data from the plurality of actinometers

2. The automated system (100) as claimed in claim 1, further comprising a remote control device communicably coupled to the central processing unit and configured to operate remotely.

3. The automated system (100) as claimed in claim 1, wherein the plurality of actinometers includes pyranometers.

4. The automated system (100) as claimed in claim 1, wherein the central processing unit is configured with automation soft wares.

5. The automated system (100) as claimed in claim 4, wherein the automation soft wares include artificial intelligence and machine learning algorithms.

6 . The automated system (100) as claimed in claim ~~1~~ 2, wherein the remote control device includes PDA, tablets, cell phones, and a combination thereof.

7 . An automated method (200) for detecting soiling over solar panels of a solar plant, the method comprising:

installing a plurality of actinometers on solar panels;

collecting weather data through pyranometers and temperature sensors, wherein the weather data includes irradiance value, ambient temperature value, and solar panels temperature;

evaluating the collected weather data, wherein evaluating includes:

mapping a correlation between irradiance value against the ambient temperature value to understand a degree of soiling on top of solar panels;

determining a difference in value of current condition in mapped data over ideal condition;

detecting an accumulation of soiling over surface of the solar panels;

transmitting detection of soiling over to a central server; and

wherein installing the plurality of actinometers on solar panels includes configuring weather sensors at an adequate distance to detect appropriate data from the plurality of actinometers.

8. The automated method (200) as claimed in claim 7, wherein transmitting further includes transceiving data over remote device.

9. The automated method (200) as claimed in claim 7, further comprising generating a mathematical model that would interpret an ideal irradiance value from the ambient temperature, thereby contrasting an ideal condition versus a current irradiance condition.