(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :29/03/2022

(21) Application No.202211018492 A
(43) Publication Date : 08/04/2022

(54) Title of the invention : IOT AND AL BASED IMPLEMENTATION OF COOLING TECHNIQUES FOR SOLAR PHOTOVOLTAIC PANELS USING MACHINE LEARNING ALGORITHMS

| | |
|---|---|
| (51) International classification | :H01L0031054000, H02S0020000000, F24S0020700000, H02S0020300000, F21V0029830000 |
| (86) International Application No | :NA |
| Filing Date | :NA |
| (87) International Publication No | : NA |
| (61) Patent of Addition to Application Number | :NA |
| Filing Date | :NA |
| (62) Divisional to Application Number | :NA |
| Filing Date | :NA |

(71)**Name of Applicant :**
**1)Dr Ankit Kumar Srivastava**
Address of Applicant :Assistant Professor, Department of Electrical Engineering, Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya Pin: 224001 State: Uttar Pradesh, Country: India ---------- ----------
**2)Mr Dilip Kumar**
**3)Mr Dinesh Kumar**
**4)Mr Priyesh Pandey**
**5)Mr Rajiv Kumar Srivastava**
**6)Mr Praveen Kumar Singh**
**7)Mr Bhupendra Raw Gautam**
**8)Mr Shailendra Kumar**
**9)Mr Pramit Kumar Samant**
**10)Mr Deenbandhu Singh**
**Name of Applicant : NA**
**Address of Applicant : NA**
(72)**Name of Inventor :**
**1)Dr Ankit Kumar Srivastava**
Address of Applicant :Assistant Professor, Department of Electrical Engineering, Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya Pin: 224001 State: Uttar Pradesh, Country: India ---------- ----------
**2)Mr Dilip Kumar**
Address of Applicant :Assistant Professor, Department of Electrical Engineering, Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya Pin: 224001 State: Uttar Pradesh Country: India ---------- ----------
**3)Mr Dinesh Kumar**
Address of Applicant :Assistant Professor, Department of Electrical Engineering, Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya Pin: 224001 State: Uttar Pradesh Country: India ---------- ----------
**4)Mr Priyesh Pandey**
Address of Applicant :Assistant Professor, Department of Electrical Engineering, Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya Pin: 224001 State: Uttar Pradesh Country: India ---------- ----------
**5)Mr Rajiv Kumar Srivastava**
Address of Applicant :Principal, Nirmala Devi Polytechnic College, Nayansand, Jaunpur Pin: 222133 State: Uttar Pradesh Country: India ---------- ----------
**6)Mr Praveen Kumar Singh**
Address of Applicant :Assistant Professor, Department of Electronics & Communication , U.N.S.I.E.T., V.B.S. Purvanchal University, Jaunpur Pin: 222001 State: Uttar Pradesh Country: India ---------- ----------
**7)Mr Bhupendra Raw Gautam**
Address of Applicant :Principal, Gajraj Singh Polytechnic Village:-Aharpur, Post: Jamuniya, Jaunpur, Pin: 223103 State: Uttar Pradesh Country: India ---------- ----------
**8)Mr Shailendra Kumar**
Address of Applicant :Assistant Professor, Department of Mechanical Engineering, BN College Of Engineering And Technology (BNCET) Lucknow Pin- 226201 Uttar Pradesh Country: India ---------- ----------
**9)Mr Pramit Kumar Samant**
Address of Applicant :Assistant Professor, Department of Computer Science & Engineering, Galgotia College Of Engineering and Technology, Great Noida Pin- 201310 Uttar Pradesh Country: India ---------- ----------
**10)Mr Deenbandhu Singh**
Address of Applicant :M.Tech BBD University Lucknow Pin:226028 State: Uttar Pradesh Country: India ---------- ----------

(57) Abstract :
According to studies, photovoltaic systems are one of the fastest growing alternatives to resolving the world's energy crisis. This is crucial because photovoltaic (PV) panels require constant cooling to perform properly. The goal of this research is to examine several of the most effective cooling techniques, including cooling using nanofluids, heat sinking with thermoelectric modules, and radiative cooling. Additionally, the topic of radiative cooling and methods for cooling floating solar panels is discussed in detail. This article discusses how cooling systems are categorised, how they work, and how they look in order to aid in the selection of the optimal cooling technology for new photovoltaic (PV) panels, ultra-high concentration photovoltaic panels, and floating photovoltaic panels. Additionally, it displays the effectiveness of solar photovoltaics (PV), the amount of energy they can generate at various temperatures, and the results.

No. of Pages : 12 No. of Claims : 7