Patent Search

Invention Title	ML strategy for performance enhancement of phase change material for a smart control solar application
Publication Number	43/2022
Publication Date	28/10/2022
Publication Type	INA
Application Number	202241059633
Application Filing Date	19/10/2022
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRICAL
Classification (IPC)	H02S0040420000, H02S0020300000, F21Y0115100000, H02S0020000000, F28D0020020000

Inventor

Name	Address
Dr A Ugendhar	Dr A Ugendhar Associate Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campu Ibrahimpatnam, Hyderabad 501506, Telangana, India.
Nampally Vijay Kumar	Nampally Vijay Kumar Assistant Professor, Department of Computer Science and Engineering, B V RAJU Institute of Technology, Narsapur, Telangana, India – 502313.
Chelle Radhika	Chelle Radhika Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Enginee Dundigal, Hyderabad - 500 043 Telangana, India.
B. Samirana Acharya	B. Samirana Acharya Assistant Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad 501506,Telangana, India.
Vahini Siruvoru	Vahini Siruvoru Assistant Professor, Department of CSE (Artificial Intelligence & Machine Learning), B V RAJU Institute of Technolo Narsapur, Telangana, India - 502313
Dr P. Dileep	Dr P. Dileep, Professor, Department of Computer Science and Engineering, Malla Reddy College of Engineering and Technology, Kompally, Hyderabad, India- 500100
P. Revathy	P. Revathy Assistant Professor, Department of Computer Science and Engineering, Narsimha Reddy Engineering College, Kompall Hyderabad, Telangana, India-500100
Madduru Sambasivudu	Madduru Sambasivudu, Associate Professor, Department of Computer Science and Engineering, Malla Reddy College of Engineeri and Technology,Kompally, Hyderabad, Telangana, India-500100
Dr.Sukanya K	Dr.Sukanya K, Associate Professor, Department of Electronics and Communication Engineering, TKR college of Engineering and Technology, Meerpet, Telangana, India - 500097
Addagatla Prashanth	Addagatla Prashanth, Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500 043, Telangana, India

Applicant

Name	Address
Dr A Ugendhar	Dr A Ugendhar Associate Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campu Ibrahimpatnam, Hyderabad 501506, Telangana, India.
Nampally Vijay Kumar	Nampally Vijay Kumar Assistant Professor, Department of Computer Science and Engineering, B V RAJU Institute of Technology, Narsapur, Telangana, India – 502313.
Chelle Radhika	Chelle Radhika Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Enginee Dundigal, Hyderabad - 500 043 Telangana, India.
B. Samirana Acharya	B. Samirana Acharya Assistant Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad 501506,Telangana, India.
Vahini Siruvoru	Vahini Siruvoru Assistant Professor, Department of CSE (Artificial Intelligence & Machine Learning), B V RAJU Institute of Technolo Narsapur, Telangana, India - 502313
Dr P. Dileep	Dr P. Dileep, Professor, Department of Computer Science and Engineering, Malla Reddy College of Engineering and Technology, Kompally, Hyderabad, India- 500100
P. Revathy	P. Revathy Assistant Professor, Department of Computer Science and Engineering, Narsimha Reddy Engineering College, Kompall Hyderabad, Telangana, India-500100
Madduru Sambasivudu	Madduru Sambasivudu, Associate Professor, Department of Computer Science and Engineering, Malla Reddy College of Engineeri and Technology,Kompally, Hyderabad, Telangana, India-500100
Dr.Sukanya K	Dr.Sukanya K, Associate Professor, Department of Electronics and Communication Engineering, TKR college of Engineering and Technology, Meerpet, Telangana, India - 500097
Addagatla Prashanth	Addagatla Prashanth, Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500 043, Telangana, India

Abstract:

In this research, investigates the use of beeswax phase change materials (PCM) to maintain the temperature of the panels close to ambient. One of t during the operation of photovoltaic (PV) panels was overheating due to excessive solar radiation and high ambient temperatures. Solar panels used length, 537 mm wide, and 50 mm thick, with maximum output power at 50 W. During the study, there were two solar panels was evaluated, one with while the other one was using beeswax phase change material. Solar panels were mounted at 15o slope. Variables observed was the temperature of voltage and current that produced by PV panels, wind speed around solar panels, and solar radiation.

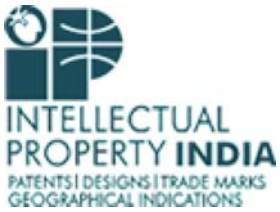
Complete Specification

Description:FIELD OF THE INVENTION
This invention is represents to the field of solar energy electronics.
SUMMARY OF THE INVENTION
One of the main obstacles faced during the operation of photovoltaic (PV) panels was overheating due to excessive solar radiation and high ambier research, investigates the use of beeswax phase change materials (PCM) to maintain the temperature of the panels close to ambient.
Solar panels used in this study has 839 mm length, 537 mm wide, and 50 mm thick, with maximum output power at 50 W. During the study, there was evaluated, one without phase change material while the other one was using beeswax phase change material. Solar panels were mounted at 1 Variables observed was the temperature of solar panel's surface, output voltage and current that produced by PV panels, wind speed around solar radiation.
The observation was started at 07:00 am and ended at 06:00 pm. The research shows that maximum temperature of solar panels surface without is ranging between 46-49 oC, and electrical efficiency is about 7.2-8.8%.
Meanwhile, for solar panels with beeswax phase change material, the maximum temperature solar panels surface is relatively low ranging betwee electrical efficiency seems to increase about 9.1-9.3%.
In line with the increasing pace of development and the increasing pattern of life, energy consumption in Indonesia continues to increase. This incr all sectors that include industry, transportation, commercial, household, power generation and other sectors. The total national energy consumptio

View Application Status

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

(http://ipindia.nic.in/index.htm)

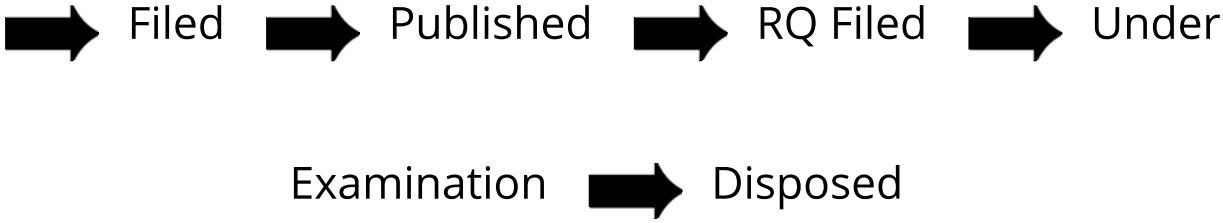


(http://ipindia.nic.in/index.htm)

Application Details	
APPLICATION NUMBER	202241059633
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	19/10/2022
APPLICANT NAME	1 . Dr A Ugendhar 2 . Nampally Vijay Kumar 3 . Chelle Radhika 4 . B. Samirana Acharya 5 . Vahini Siruvoru 6 . Dr P. Dileep 7 . P. Revathy 8 . Madduru Sambasivudu 9 . Dr.Sukanya K 10 . Addagatla Prashanth
TITLE OF INVENTION	ML strategy for performance enhancement of phase change material for a smart control solar application
FIELD OF INVENTION	ELECTRICAL
E-MAIL (As Per Record)	joepatrickgnanaraj@gmail.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	28/10/2022

Application Status	
APPLICATION STATUS	**Awaiting Request for Examination**

			View Documents



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in