पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 06/2023	शुक्रवार	दिनांक: 10/02/2023
ISSUE NO. 06/2023	FRIDAY	DATE: 10/02/2023

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(21) Application No.202341007283 A
(22) Date of filing of Application :05/02/2023
(43) Publication Date : 10/02/2023

(54) Title of the invention : INTEGRATION OF IOT AND DEEP LEARNING APPROACHES FOR AIR POLLUTION MONITORING IN SMART CITIES

(51) International classification :G01N0033000000, G01N0015060000, G06Q0050260000, H04W0074000000, F23J0015000000
(86) International Application No :PCT//
Filing Date :01/01/1900
(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

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(57) Abstract :
INTEGRATION OF IOT AND DEEP LEARNING APPROACHES FOR AIR POLLUTION MONITORING IN SMART CITIES Generating, as a function of the air pollutant, a fingerprint for the habitable structure. A system for monitoring air quality using public transportation, the system includes many taxis and buses running on some bus lines in an urban area as a monitoring vehicles. The tail gas monitoring method on the road is based on gas sensors and an intelligent honeybee network, it is characterized by the real-time monitoring of emissions from vehicles amount on urban roads by the cognition technology of electrochemical sensors and wireless sensor technology. A plurality of monitoring equipment, pollution factor qualitative modules, pollution factor quantitative modules, and a fixed tower. The difference of weather information carries out a joint correction to the sensing data, and the big density for having been disposed sensing station point is micro-atmosphere pollution data under environment. An air heater is provided downstream of the boiler and recovers the heat of the flue gas from the boiler. A first precipitator is provided downstream of the air heater and reduces dust in the flue gas after heat recovery.

No. of Pages : 16 No. of Claims : 1

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OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 18/2023 ISSUE NO. 18/2023	शुक्रवार FRIDAY	दिनांक: 05/05/2023 DATE: 05/05/2023

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :10/04/2023
(21) Application No.202341026499 A
(43) Publication Date : 05/05/2023

(54) Title of the invention : RESISTIVE IMBIBED MESH SENSOR BASED CONCRETE WALL AND CEILING STRENGTH MONITORING SYSTEM EMPLOYING IOT

(51) International classification :B01J 411400, C04B 280000, C09D 040600, F16L 050400, H01M 081039
(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

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(57) Abstract :
This system proposes a novel resistive imbibed mesh sensor-based concrete wall and ceiling strength monitoring system employing the Internet of Things (IoT). The system utilizes a resistive imbibed mesh sensor, which is embedded in concrete during the casting process, to measure the strength of the concrete wall or ceiling in real-time. The measured data is then transmitted wirelessly to the cloud server via the IoT, where it is processed and analysed. The proposed system offers several advantages, including the ability to monitor concrete strength continuously, remotely, and non-destructively, reducing the need for manual inspections and increasing the safety of the structure. The proposed system is expected to be useful in a wide range of applications, such as building construction, infrastructure monitoring, and earthquake-prone areas, where continuous monitoring of concrete structures' strength is essential.

No. of Pages : 7 No. of Claims : 4

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OFFICIAL JOURNAL
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निर्गमन सं. 10/2024	शुक्रवार	दिनांक: 08/03/2024
ISSUE NO. 10/2024	FRIDAY	DATE: 08/03/2024

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :10/02/2024

(21) Application No.202441009054 A
(43) Publication Date : 08/03/2024

(54) Title of the invention : HIGH-PERFORMANCE ECO-FRIENDLY CONSTRUCTION MATERIALS FOR SUSTAINABLE INFRASTRUCTURE DEVELOPMENT

(51) International classification :C04B0111280000, B32B0027080000, C08L0097020000, C08K0003040000, B01D0053140000
(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

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(57) Abstract :
The present invention introduces a pioneering high-performance eco-friendly construction material tailored for sustainable infrastructure development. Comprising recycled aggregates, bio-based binders, and sustainable additives, the material is meticulously formulated to optimize both structural integrity and environmental sustainability. This innovative composition not only meets or exceeds industry standards but also addresses the environmental challenges associated with traditional construction materials, contributing to resource conservation and waste reduction. With a carefully designed manufacturing process and versatile applications, the invention stands as a significant stride towards fostering environmentally conscious practices in the construction industry, promoting a more resilient and sustainable built environment.

No. of Pages : 17 No. of Claims : 7