

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202341052750 A

(19) INDIA

(22) Date of filing of Application :05/08/2023

(43) Publication Date : 01/09/2023

(54) Title of the invention : MAGNETIC NATURAL FIBER COMPOSITES FOR ENERGY HARVESTING APPLICATIONS

(51) International classification :H02N0002180000, H02J0007350000, F03D0003060000, D01F0001100000, G06Q0050060000
(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

(71)Name of Applicant :

1)Dr. R.Bhoopathi

Address of Applicant :Associate Professor, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai-600044, Tamilnadu, India.

2)Dussa Govardhan

3)Dr.N.Arunkumar

4)Mrs.D.Umamaheswari

5)Dr. R M Sathiyamoorthy

6)Mr.K Bala Murugan

7)Mr. R.Rajaprassana

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. R.Bhoopathi

Address of Applicant :Associate Professor, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai-600044, Tamilnadu, India.

2)Dussa Govardhan

Address of Applicant :Professor, Department of Mechanical Engineering, Institute of Aeronautical Engineering, Dundigal-Hyderabad, Telangana, 500043. -----

3)Dr.N.Arunkumar

Address of Applicant :Professor, Department of Mechanical Engineering, St.Joseph's College of Engineering, Old Mamallapuram Road, Chennai-600119. ---

4)Mrs.D.Umamaheswari

Address of Applicant :Assistant Professor, Department of Mechanical Engineering, M.Kumarasamy College of Engineering, Thalavapalayam, Karur-639113. -----

5)Dr. R M Sathiyamoorthy

Address of Applicant :Assistant Professor, Department of Mechanical Engineering, PERI Institute of Technology, Mannivakkam 600048. -----

6)Mr.K Bala Murugan

Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Unnamalai Institute of Technology, Kovilpatti -628502. -----

7)Mr. R.Rajaprassana

Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Sri Sai Ram Engineering College, West Tambaram, Chennai, Tamil Nadu – 600044. -----

(57) Abstract :

The invention pertains to magnetic natural fiber composites tailored for energy harvesting applications. By integrating magnetic particles uniformly within a natural fiber matrix, the invention creates a composite material that leverages the inherent advantages of natural fibers, such as flexibility and sustainability, with the functional attributes of magnetic materials. The composite is designed to harvest energy from various ambient sources, including mechanical vibrations, thermal gradients, and solar radiation, and convert it into usable electrical power. The innovative manufacturing process ensures homogeneous dispersion, long-term stability, and environmental compatibility. With potential applications in green energy solutions, portable electronics, wearable technology, and more, the invention represents a significant advancement in the field of energy harvesting, offering an efficient and eco-friendly approach to renewable energy utilization. Accompanied Drawing [FIGS. 1-2]

No. of Pages : 22 No. of Claims : 10