(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :30/09/2023
(21) Application No.202311065859 A
(43) Publication Date : 04/04/2025

(54) Title of the invention : AIR CATHODE COMPRISING NANO3-POLYPYRROLE-AGCL CATALYST FOR METAL-AIR BATTERY AND METHOD FOR PREPARATION THEROF

(51) International classification	:H01M4/88, B82Y30/00, H01M4/96, H01M8/16, B01J27/20
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)CHAIRMAN, DEFENCE RESEARCH & DEVELOPMENT ORGANISATION (DRDO)
Address of Applicant :Ministry of Defence, Govt. of India, DRDO Bhawan, Rajaji Marg, New Delhi 110011, Delhi, India New Delhi Delhi India
(72)**Name of Inventor :**
1)ANTONY, Thomas Kizhakkeveettil
2)MADHAVAN, Arya Sethu
3)RAJITH, Leena

(57) Abstract :
This present invention relates to the technical field of cathode catalyst for metal-air battery. The present invention more particularly relates to a high-performance cathode electrode catalyst for a metal- air battery which comprises carbon fibers coated with NaNO3-polypyrrole-AgCl catalyst. Air oxygen reduction is possible using the catalyst of the present invention with very low overpotential. The present invention further relates to a method of preparation of air cathode for metal-air battery which includes the steps of: treating carbon fiber with sodium nitrate solution to obtain an activated carbon surface; thereafter immersing the activated carbon in an aqueous solution of pyrrole for electrochemical polymerization, and deposition of AgCl by SILAR method. The process is simple, cost-effective, binder-free and suitable for the industrial production process.

No. of Pages : 25 No. of Claims : 11