

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141030516 A

(19) INDIA

(22) Date of filing of Application :07/07/2021

(43) Publication Date : 16/07/2021

(54) Title of the invention : 3D fabrication of improved oxygen ion conducting ceramic fuel cells

(51) International classification	:C25B0001040000, H01M0004860000, H01M0004900000, C08G0065480000, C01B0013020000	(71)Name of Applicant : 1)Dr. Beera Avinash Ben Address of Applicant :Professor, Department of Mechanical Engineering, Avanthi IET Tagarapuvalasa, Vizag Andhra Pradesh India
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Filing Date	:01/01/1900	6)Boddu Rajnaveen
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(57) Abstract :

Industrial scale deployment of fuel cells is essential for catalysing renewable clean energy production. The oxygen ion conducting ceramic electrolyte is key to accelerate renewable energy dependency. This invention details a new electrolyte composition and method for high cell performance. As well as a novel approach is adopted and disclosed in the current invention for which a 3D manufacturing route is experimentally studied to attain maximised material utilisation. Thus, produced fuel cell has proven to outperform cells developed by conventional techniques by 10.2%. The processing parameters and other technical data corresponding to optimal cell performance are disclosed in the relevant sessions of the invention documentation.

No. of Pages : 18 No. of Claims : 8