



Contribution ID: 38

Type: Oral

Cost Minimization of Fuel Cell through the Application of Indigenous Graphite: An Approach

Fuel cells are projecting as beneficial energy conversion device and popular among researchers as ecofriendly, cost effective with high output alternative to traditional fuel. The component bipolar plates (BPs) in fuel cell unit distribute gases (H_2 and O_2), prevent gas leakage and guide the flow of electricity and heat within the stack. Sustainability of BP is determined by working efficiency in medium of pH 2-3, heat management upto $100^\circ C$ (in PEMFCs) and shock tolerant within cell environment. Overall efficiency, volume, weight, cost of fuel cell and its possibilities of commercialization highly controlled by quality of BP. Different category graphite (Natural, synthetic and heat treated) procured from indigenous developer and their composite preparation can be done to achieve the properties as set by USDOE 2025 for BP. It is expected that use of indigenous graphite composite and qualitative study for BP may open novel and wider prospect in relevant research domain.

Author: BORAH, DR. MUNU (ASSISTANT PROFESSOR)

Co-author: Mr SARMA HAZARIKA, ACHYUT (ASSISTANT PROFESSOR)

Presenter: Mr SARMA HAZARIKA, ACHYUT (ASSISTANT PROFESSOR)

Session Classification: Technical Session 03

Track Classification: Track 02