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AN ALKALINE DIRECT CHLORO ETHANOL FUEL CELL WITH A CATION EXCHANGE MEMBRANE

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ABSTRACT

A barrier that limits the performance of anion exchange membrane (AEM) direct chloro ethanol fuel cells (DCLEFCS) is that state of the art AEMs do not allow the fuel cell to operate at high temperature (< 60^0C). Here we describe an alkaline DCLEFC that employs a cation exchange membrane (CEM) and show that this type of CEM-DCLEFC can stably discharge with a high power density at an operating temperature as high as 90^0 C.

KEYWORDS: DCLEFC, AEM, CEM, EOR, Membrane