Construction and Testing of a Direct Water Methanol Fuel Cell

Dawson Plummer

Department of Civil & Mechanical Engineering
United States Military Academy
West point, New York

ARL Sponsor: Dr. Deryn Chu and Rungzung Chung

Research Scientist
U.S. Army Research Laboratory
Adelphi, Maryland

ABSTRACT:

Direct Water Methanol Fuel Cell technology is a hydrogen fuel cell which utilizes the chemical reactions between methanol, water, platinum, and ruthenium to create electricity. The recent advances in fuel cell technology and the increasing need for alternative power have attracted the attention of the Army. Research in conceptual designs and initial applications of using fuel cell technology in military vehicles as well as basic soldier equipment are presently occurring at the Army Research Lab in Adelphi Maryland. The purpose of this study is to explain how to construct a water methanol fuel cell, graphically display the output parameters, and discuss some of the basic military applications.

CONTACT: CPT Dawson Plummer, USMA, West Point, NY 10996
Tel: (845) 938-5517 email: id1812@exmail.usma.army.mil

Deryn Chu, Ph.D., ARL, APG, MD, 21005-5067
Tel: (301)394-0308 email: dchu@arl.mil