DISCHARGE CHARACTERISTICS OF SOLID STATE CELL, Cu/Cu_2SO_4 : Mg-Mont./Mg

M.A.K.L. Dissanayake*, H.M.N. Bandara**,
J.Karunamuni*, D.T.B. Tennakoon** and J.S.H.Q. Perera**
*Dept. of Physics, **Dept. of Chemistry
University of Peradeniya.

As a part of an ongoing programme on solid state electrochemical power sources using Cu^+ - ion conducting soild electrolytes, we have investigated the discharge characteristics of the cell Cu/Cu_2SO_4:Mg-Mont./Mg, where the solid electrolyte consists of a thin film of cuprous sulphate chemically deposited copper substrate and a thin pellet of megnesium montmorillonite in mechanical contact with the Cu_2SO_4 film and a Mg foil. Constant load discharge characteristics for various load resistors have been studied. A typical cell has an open circuit voltage of 1.8 V, a short circuit current of 900 μA. The estimated capacity of a cell is about 8 mAh.

(A research grant from NARESA is gratefully acknowledged).

References:

Dissanayake, M.A.K.L., and Bandara, H.M.N. (1988): Electrochemica Acta (33) 543.
Yu-Quin, F., and Hao-Quin, W. (1987) 6th Int. Conf. on Solid State Ionics, (Gramish, Germany) p 21.