

## Measurement of performance and observation of liquid flow in a transparent direct methanol fuel cell

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Behavior of liquid flow in the electrode of direct methanol fuel cell (DMFC) is important to attain stable voltage. We prepared a transparent single cell unit of DMFC in order to observe water generation in a cathode channel. Overall voltage was electrochemically measured at each current density and liquid droplet was shown from a certain current density ( $80\text{mA}/\text{cm}^2$ ). Anode potential and cathode potential were attained by 3-electrode system. It was useful to check the change of each electrode potential under various operation conditions and to understand the effect of liquid flow on each potential according to the concentration of methanol, operation temperature, flow rate of oxygen, and humidity of gas. The fundamental data will support interpretation of mass transfer behavior of the cathode side.