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## Evaluation of porous electrode properties using metal-air electrochemical system (Conference Paper)

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### Abstract

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This work explores the use of metal-air electrochemical system to evaluate porous electrode properties i.e. specific surface area and pore volume density. Porous zinc electrodes are prepared from an acidic, chloride electrolytic bath of varying supporting electrolyte (NH<sub>4</sub>Cl) formulation to produce electrodeposits of distinctive properties. Nitrogen physisorption at 77 K is utilized to evaluate the specific surface area and pore volume density of the electrodes. The zinc electrodeposits prepared from all electrolytic bath formulations are then assembled into zinc-air cells as the anodic electrode and characterized according to their limiting current density and discharge capacity. It is found that the variation in limiting current density matches that of BET surface area and the trend for discharge capacity follows that of pore volume density. © (2012) Trans Tech Publications, Switzerland.

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