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Abstract title:

PREPARATION OF THE HIGH PERFORMANCE ELECTRICAL CONDUCTIVE ACTIVATED CARBONS FROM RICE HUSK

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Short abstract:

Rice husk was selected as a widely spread agriculture waste to prepare nanoporous carbon materials having high electrical conductivity. The advanced low cost porous carbons were prepared from the rice husk by using potassium hydroxide as activating agent. Influence of activation temperature on the porosity development and formation of new crystallized phase in resulting carbons have been investigated. Activated carbons were applied for the gold separation from leached solutions of low concentrations; the kinetics of adsorption was investigated. Electrochemical characterization of resulting carbons was performed by cyclic voltammetry (CV), galvanostatic charge-discharging and electrochemical impedance spectroscopy. Estimated capacitance values were up to 200 F/g in 1 M Li_2SO_4 which is higher than most of commercially available activated carbons tested under similar conditions.

Keywords:

ACTIVATED CARBONS, RICE HUSK, ADSORPTION, ELECTRODE MATERIALS