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**Synthesis of Novel Birnessite Type MnO<sub>2</sub> Nanochains by Electrospinning and their Application as Supercapacitor Electrodes** MUHAMED SHAREEF, Kansas State University, MILAN PALEI, SAMERENDER HANUMANTHA RAO, TIRUPATTUR NATARAJAN, Indian Institute of Technology Madras, GURPREET SINGH, Kansas State University — A first time method for the synthesis of continuous nanochains by employing electrospinning and post processes are reported with theoretic support. High aspect ratio electrospun PAN nanofibers were stabilized in air at a specific heating rate followed by functionalization in aqueous KMnO<sub>4</sub> solution. The composite membrane was calcined in air in order to remove polymer skeleton along with reduction of KMnO<sub>4</sub> into MnO<sub>2</sub>. The highly crystalline and phase pure birnessite type MnO<sub>2</sub> nanochains were characterized by different microscopic and spectroscopic techniques. Electrochemical studies of these nanochains were carried out using three electrode and two electrode set up with 0.5 M Na<sub>2</sub>SO<sub>4</sub> aqueous electrolyte. A possible mechanism for the formation of nanochains was also explained

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