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Electrical Conductivity Measurements of Nanofibers Electrospun from Polyaniline/Polyethylene Oxide Blends SAIMA KHAN, AURANGZEB KHAN, MARTIN KORDESCH, Physics and Astronomy, Ohio University, Athens OH 45701 — Electrically conducting fibers of polyaniline doped with Camphorsulfonic acid PAn.HCSA in the Polyethylene Oxide (PEO) matrix were prepared using the non-mechanical electrospinning technique. The morphology of the fibers was studied using the scanning electron microscope (SEM) and Transmission electron microscope (TEM), showing a uniform thickness along the fiber length. The fibers had a diameter ranging from 800nm to 2μm. The electrical conductivity of the non-woven fibrous mat and the cast film was measured using the four-point probe method, for different concentrations of Pan.HCSA in the blend. Some possible factors affecting the electrical conductivity of the fibers/films were discussed.

Saima Khan
Physics and Astronomy, Ohio University

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