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Preparation and characterization of the PVA nanofibers produced by electrospinning

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Electro spinning is a simple and quick technique for producing fibers with nano scale diameters from a wide range of materials. The Polyvinyl alcohol PVA Polymer dissolved in the DMF was electrospun to obtain the alignment nanofibers PVA. The nanofibers were obtained using 25 wt % solution concentration, an applied voltage 10 kV, spinning distance10 cm and different flow rates of 0.1, 0.2, and 0.3 ml/hr. The properties of alignment nanofibres including morphology, crystallization, functional group and the effected of flow rates on it was studied.

The morphology of the electrospun PVA nanofibres is studied using scanning electron microscopy (SEM). Structural characteristics analysis by X-ray diffraction (XRD) that showed the crystalline peaks of the PVA nanofiber. The formation of functional group of PVA polymer was predicted by the FT-IR spectra.

Biography:

Dr. Ziad A. Toma is Assit. Professor of physics department, college of education, Al-Mustansiriyah University, Is received his M.Sc. degree from Nahrain University, college of science, physics department, Iraq. 1999, and PhD degree from Baghdad University, college of science, physics department, Iraq, 2008, his research interests include: thin films, nanotechnology, superconductivity composites, astronomy physics.