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## Polyaniline Based Nano Composite Film and its Electrical Characteristics

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The nano composite film was prepared with 50 nm nano TiO<sub>2</sub>-polyaniline (PANI) nanocomposite materials and polyvinyl alcohol (PVA). The conducting polymer PANI/50 nm (TiO<sub>2</sub>) composite was synthesized by in situ polymerization techniques. This nanocomposite material was used with polyvinyl alcohol (PVA) for forming the nano composite film in different compositions. The composite films were characterized by SEM and DC conductivity. SEM images also indicated the fibrous structure of the composite film. Dielectric behavior and ac conductivity of the composite film were investigated in the frequency range 2 Hz to 90 kHz. The nanocomposite film had own high dielectric constant. It is observed that both dielectric loss and dielectric constant decreased with increase in frequency.