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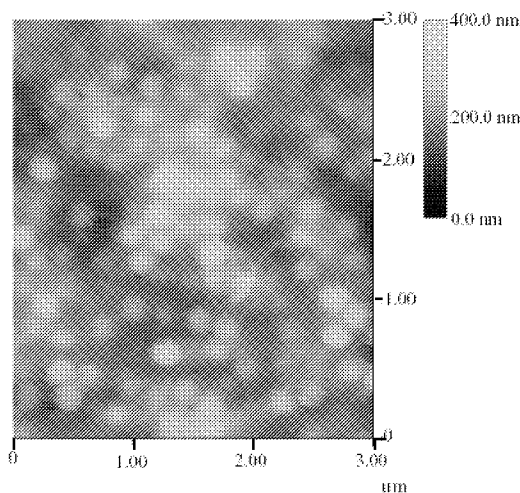
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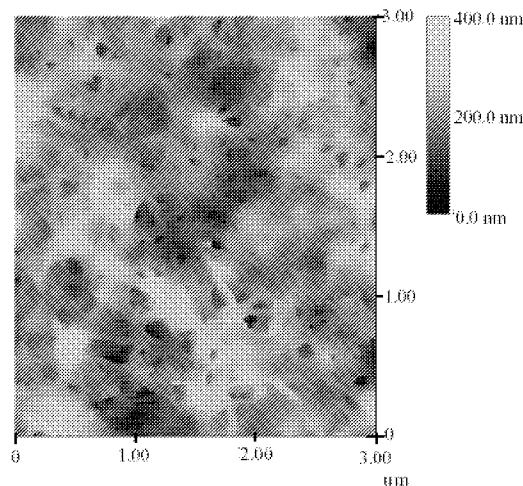
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(54) Title: HIGHLY ACCESSIBLE, NANOTUBE ELECTRODES FOR LARGE SURFACE AREA CONTACT APPLICATIONS



(A)



(B)

(57) Abstract: An highly porous electrically conducting film that includes a plurality of carbon nanotubes, nanowires or a combination of both. The highly porous electrically conducting film exhibits an electrical resistivity of less than $0.1 \Omega\text{-cm}$ at 25 C and a density of between 0.05 and 0.70 g/cm^3 . The film can exhibit a density between 0.50 and 0.85 g/cm^3 and an electrical resistivity of less than $6 \times 10^{-3} \Omega\text{-cm}$ at 25 C. Also included is a method of forming these highly porous electrically conducting films by forming a composite film using carbon nanotubes or nanowires and sacrificial nanoparticles or microparticles. At least a portion of the nanoparticles or microparticles are then removed from the composite film to form the highly porous electrically conducting film.

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