

Abstract: Improved SiO<sub>2</sub> electret films prepared by the sol-gel process are described. The electret properties of the SiO<sub>2</sub> films, including charge stability, and transport of negatively detrapped charges in the bulk, were studied. Two models were employed to simulate the growth of acid and base catalysed samples. By applying the image processing technique of SEM photography and electrical conductivity glow curves, it was found that the sol-gel oxide for electret purpose should be prepared in the acid system