

Barium Strontium Titanate

Barium Strontium Titanate (**BST**) is a material suitable for **Single Layer Capacitors**. PPD technique allows to deposit a **very high dielectric constant** material ($k \geq 500$) measured on a deposited thin films of BST.

BST thin films are **crystalline**, very **homogeneous** and free of pin holes, with a high degree of purity and with a **low roughness** (lower to 20nm). The layer has a thickness lower to 500nm

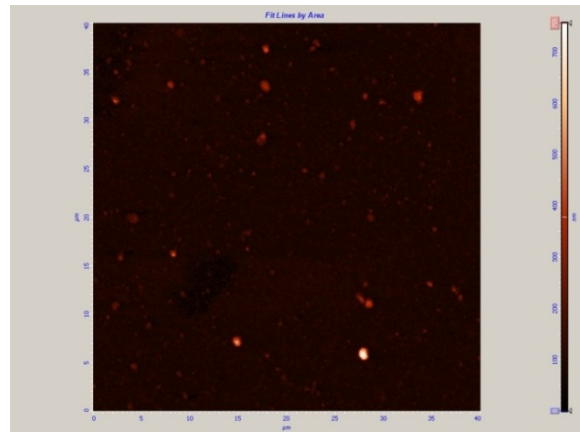
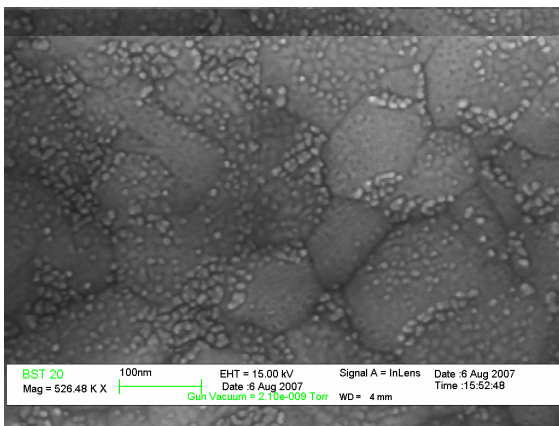


Figure 1. Roughness 15-20 nm with grains size of 150 nm
On Left: SEM image of BST layer
On Right: AFM image of BST layer

X ray diffraction on a BST sample shows that layer grows **preferentially oriented** with the **111** crystal plane parallel to the substrate surface. Reflections at 39,7 and 67,5 degrees of angles 2θ correspond to reflections

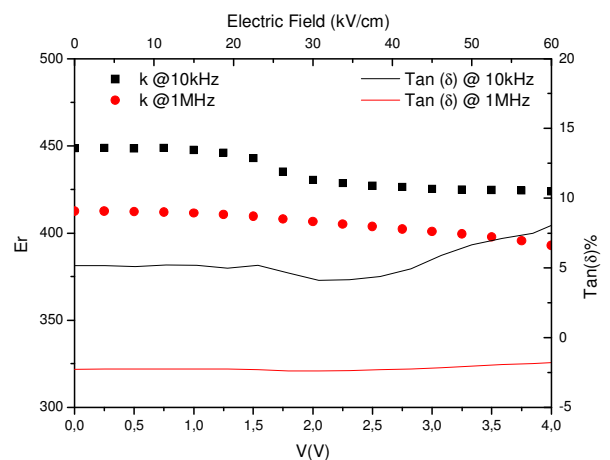
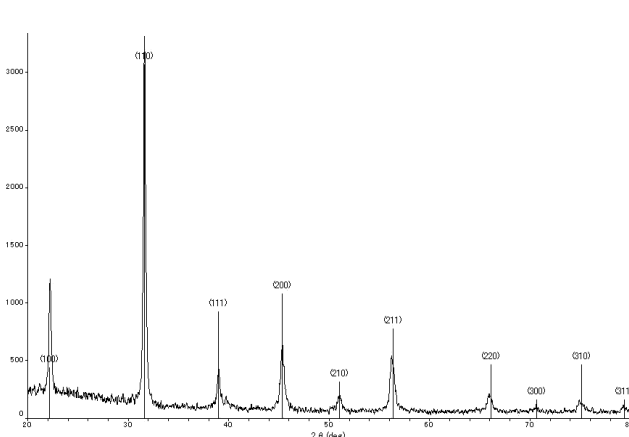


Figure 2. On Left: XRD of BST layer.
On Right : k and Tan(δ) of a BST layer.