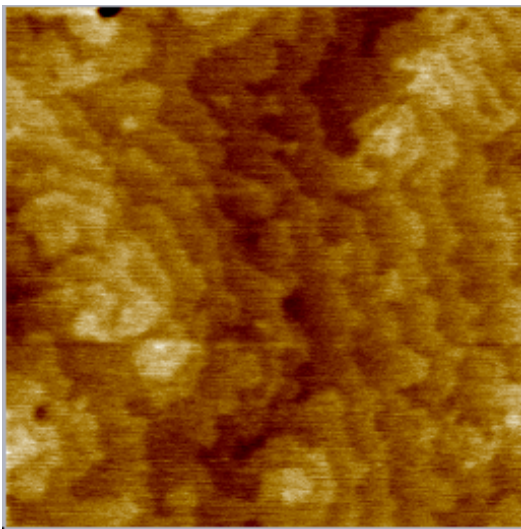


# Strontium Ruthenate Thin Film

## Nanosurf® - Application Note No. 00254

Strontium ruthenate is a potential electrode material for ferroelectric capacitors. The electrical properties (e.g. leakage currents) of such thin film devices are dependent on the electronic properties of the electrode/ferroelectric junctions where Strontium ruthenate on Strontium titanate provides an excellent characteristic. Also the film thickness is of great importance in the field of capacitors as it determines the size of the final capacitor. As the electronic devices are getting smaller and smaller the films need to get thinner as well.



Scan size  $2\mu\text{m} \times 2\mu\text{m}$ ; z-range 2.5nm

To meet the market requirements tremendous progress has been made in thin film materials science over the last decades. The development of new in situ analysis techniques such as Reflective High Energy Electron Diffraction made it possible to grow high purity thin monolayer films in a controlled fashion. Analysis of these layers also underwent a revolution with the invention of various scanning probe methods, primarily the atomic force microscope and scanning tunnelling microscope.

The Strontium ruthenate was imaged with the Mobile S high resolution scanner operated in dynamic mode. The AFM image nicely shows the terrace structure of the deposited thin film.

**Can be measured with:** easyScan 2 AFM  
Nanite B  
Mobile S

**Application domain:** Coating  
Material Science  
New Material