

Product Model: **TipCheck**

The Problem

When imaging a sample by AFM, it may be difficult to know whether the surface is mapped accurately or is affected by a blunt or broken tip. Blunt or broken tips will falsify measurement results like surface roughness or structures dimensions dramatically!

To be sure you're using a proper tip, used tips must be thrown away or checked by SEM regularly, both methods being extremely uneconomic or time consuming.

The Solution

BudgetSensors introduces the **TipCheck** - an SPM sample for fast and convenient determination of the AFM tip condition.

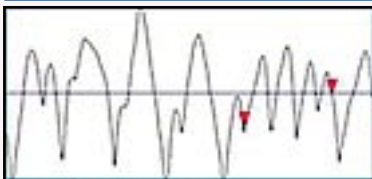
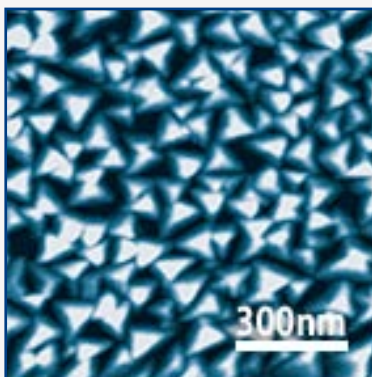
The clear differences between the tips become apparent even within a single scan line. Therefore the **TipCheck** offers a fast and easy way to compare and categorize different AFM probes with respect to tip apex, shape and sharpness.

You can easily check whether your tip is still good, starts showing wear or is already blunted or broken without the need of scanning an entire image or doing SEM inspection.

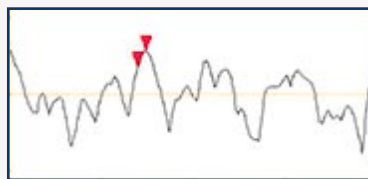
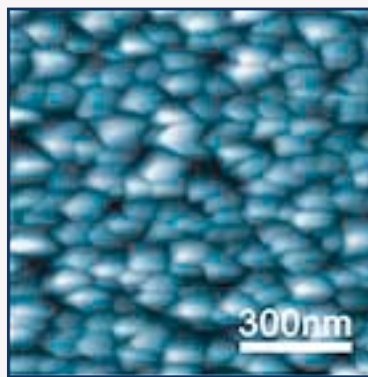
Additionally, this sample works perfectly with Auto Tip Qualification and Tip Characterization software that is available on the market.

The following figures show a comparison between different probe tips used to image the **TipCheck** sample. The scan size is 1 x 1 μm for all images. The height scale is 100nm. Below the topography images you can find a representative cross-section of the respective image.

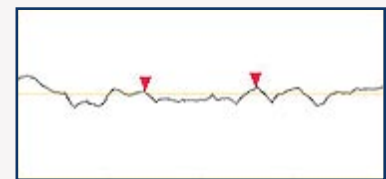
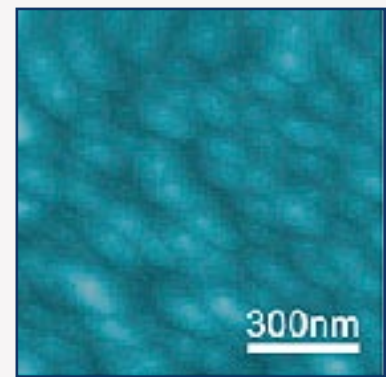
a) good tip



b) used tip



c) worn-out tip



The BudgetSensors **TipCheck** sample consists of an extremely wear-resistant thin film coating that is deposited on a silicon chip. This thin film coating shows a granular, sharply peaked nanostructure which makes it ideal for reversely imaging an AFM probe's tip apex. The die size of the **TipCheck** is 5x5 mm.

It comes glued onto a metal disc so that it is ready to be placed into your AFM set.

Order Code:

TipCheck

Price:

\$180