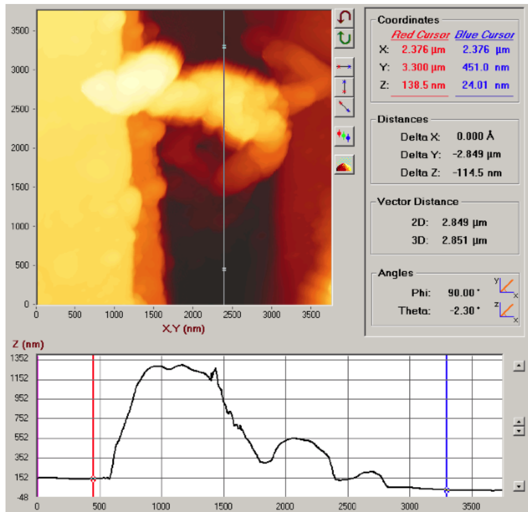
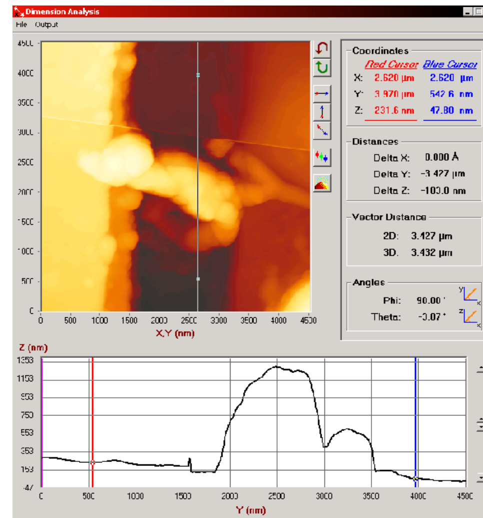
*Material Science*

# Superior High-Aspect Ratio Defect Analysis Results Available for Your AFM

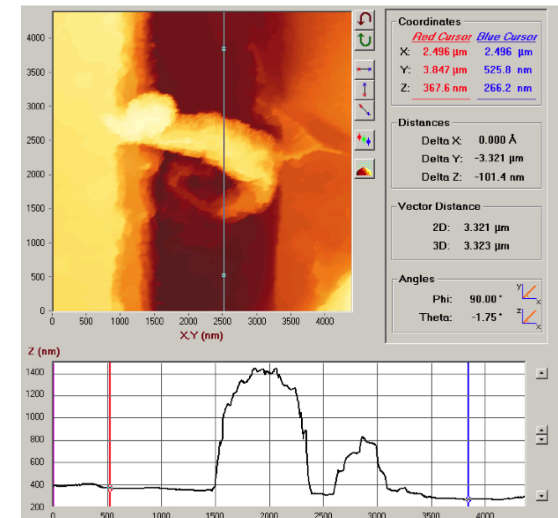
C|D|I
Carbon Design Innovations
**SIMPLY BETTER IMAGES**



**Standard Si Probe**



**Diamond Tip Probe**



**CDI CCHAR CNT Probe**

A deep trench structure featuring a failed nano-bridge was imaged using a standard Si probe, a diamond tip probe and the new CCHAR (carbon core high-aspect ratio) carbon nanotube probe (CNT) from CDI.

While the diamond tip probe clearly provided sharper images along one edge of the trench, as compared to the Si probe, both the Si probe and the diamond tip probe failed to image both edges of the trench and both failed to resolve the detail in the center of the failed bridge.

The CCHAR probe from CDI provides much sharper resolution of the nano-bridge structure and sharper imaging of both trench edges. The histograms indicate that the CCHAR probe could image the >1m trench walls with much less distortion and achieve significant bottom travel.

The patented processing technologies used by CDI ensure that the CNT is straight and mounted at precisely the correct angle to ensure that the probe is imaging perpendicular to the surface, thus maintaining the full extreme high-aspect ratio advantage of using CNTs for AFM imaging.  CDI can mount CNTs to almost any cantilever.  Contact us to discuss your needs.



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