# Atomic Force Microscopy (AFM)

Atomic Force Microscopy (AFM) is one of the methods of scanning probe microscopy (SPM), which is a collective technique to measure local properties, e.g., height, friction, and magnetism. AFM consists of a sharp tip at the end of a cantilever as the probe, which is normally 3-6 μm tall pyramid and 15-40 nm end radius, to measure the force between the tip and the sample surface. AFM can generate an image profile by measuring the deflections of the cantilever using the optical lever. The vertical resolution of AFM can achieve up to 0.1 nm. AFM was developed to overcome the downside of the scanning tunnel microscopy (STM), which is only able to be utilized on conducting or semiconducting surface. The advantage of AFM is that it is able to be applied to any surface, such as polymers, and composites. Operating AFM at cryogenic temperatures can reduce thermal drift and thermal noise, which leads to high-resolution measurements.

**Customer References:**

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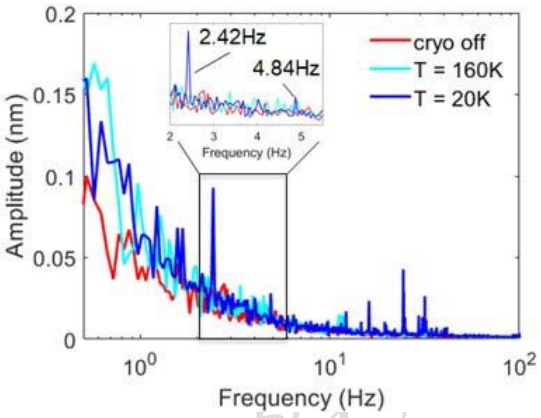


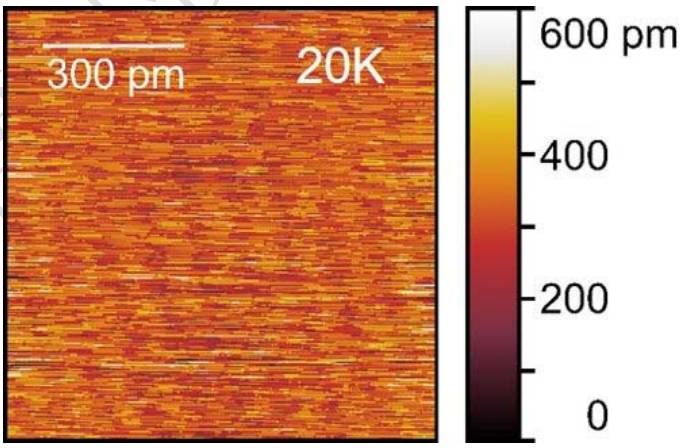


**Related Products:**


## X-20B ULV FOR UHV

• Ultra low vibrations and ultra high vacuum
• System can be baked out to 200 C

| Cryostat Model | Type |
|---|---|
| CS202-DMX-20B | CCR |
| CS204-DMX-20B | CCR |
| CS210-GMX-20B | CCR |

## LT3

• The backbone of low vibration cryogenic research
• Atomic resolution is achieved through a series of heat exchangers
•Coaxial shield flow transfer line ensures liquid at the tip

| Cryostat Model | Type |
|---|---|
| LT3 | Flow |
| LT3B | Flow |
| LT3M | Flow |

## LT4

• All-purpose, low cost flow cryostat
• Maintains the high cooling power of the LT3
• UHV option available

| Cryostat Model | Type |
|---|---|
| LT4 | Flow |