PrimeNano, Inc.
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PRIMENANO

Announcement

PrimeNano Announces the release of its LT ScanWave™ System, a turn-key microwave measurement solution for cryogenic temperatures and high magnetic fields

LT ScanWave™ is a stand-alone, turn-key solution for sMIM microwave measurements reaching down to low temperatures of 1.5 º kelvin and high magnetic fields up to 12 Tesla

Santa Clara, California – Feb 5, 2018 –PrimeNano announces the expansion of its product line into the advanced physics, materials, and low-temperature device research communities with its low temperature high magnetic field platform, LT ScanWave™.

PrimeNano's LT ScanWave™ is a turnkey platform, integrating the sMIM microwave measurement mode with a low temperature scanning probe microscope (SPM) insert in a closed cycle cryostat to 1.5K with a superconductor magnet of up to 12T. It enables high resolution imaging of the permittivity and conductivity of materials at the nanoscale and at the extreme conditions of temperature and magnetic field. PrimeNano has commercialized the ultra-low temperature high magnetic field system first developed by Prof ZX Shen's group at Stanford University.

ScanWave™ Scanning Microwave Impedance Microscopy (sMIM) is a new electrical mode that measures a material's change in permittivity and conductivity at the scale of an AFM probe tip. By measuring the reflected microwave signal, sMIM detects the real and imaginary impedance (Re(Z) and Im(Z)) of the probe sample interface, capturing the variations in local permittivity and conductivity; for doped semiconductor materials, ScanWave™ sMIM can measure variations in doping concentrations and carrier type. The long-range sensitivity also enables imaging hidden buried structures through surface layers. sMIM measurements allow for up to six simultaneous channels to be captured in one measurement.

The LT ScanWave™ system utilizes key components from attocube systems, a leader in the cryogenic and high magnetic field SPM, which were jointly developed and adapted for our application, while maintaining compatibility. The LT ScanWave™ system is designed to be user/operator friendly, thus reducing the need for specially dedicated support staff. It is a turnkey, industry robust platform that allows researchers to focus on their science experiments without the need to worry about instrumentation development.

attocube systems AG is a world leader in the cryogenic and high magnetic field SPM.

PrimeNano LT ScanWave™ is exclusively available through PrimeNano Inc. starting Feb. 1, 2018.

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