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First breakthrough electrical measurement system at < 100mK and high magnetic field has been installed in the field

Santa Clara, California – February 15, 2021 – PrimeNano proudly announces the launch of a the ScanWave™ mK LT, an ultra-low temperature SPM (Scanning Probe Microscopy) solution using microwaves to characterize material at millikelvin temperatures. Two mK LT systems have already been installed in the field despite the pandemic restrictions and are being used for research in the quantum properties of materials.

The mK LT system enables electrical characterization of materials at ultra-low temperatures and high magnetic fields (<100 mK and up to 15T). The system is a complete turnkey solution that reduces the time it takes researchers to start their low temperature research on advanced materials and fields such as quantum computing. The standard system comes with the ScanWave™ sMIM electronics module, optical interferometer feedback scanning probe microscopy for sMIM at mK temperatures, top loading insert for fast sample and probe exchange, closed cycle cryostat, and superconducting magnets with a computer-controlled interface. The system can be configured to have closed loop SPM scanner and a multi-axis magnet up to 15T.

With the mk LT system one can measure deep sub-micron variations in permittivity and conductivity (ε & σ) in a sub 100 mK environment and high magnetic field. The top loading design makes for fast sample/probe exchange.

EXAMPLE USE CASES

- Quantum computing
- Solid state physics and quantum effects
- Phase transitions
- Topologic insulators
- Quantum Hall effect
- Quantum spin Hall effect
- Ferroelectrics
- Manganites
- 1D/2D materials
- Domain walls
- Graphene

Contact us to learn more:

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