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QUANTITATIVE TEMPERATURE PROFILING THROUGH NULL-POINT SCANNING THERMAL MICROSCOPY

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SUMMARY: We develop and demonstrate the theory and method of null-point scanning thermal microscopy, which can obtain quantitative temperature profiles, even when the heat conductance between the tip and the sample is disturbed due to abrupt changes in the surface topography or properties. Due to its generality, it would be widely applicable for a variety of problems associated with the thermal characterization of nanomaterials and nanodevices.