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Title:Terahertz near-field microscope: Analysis and measurements of scattering signals

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Abstract:We present the analysis and measurements of scattering signals of a terahertz pulse scattering-type near-field microscope. We used a self-consistent line dipole image method for the quantitative analysis of the THz near-field interaction. The line scan across a gold film demonstrated that the terahertz miscroscope has a nanoscale resolution of ∼80 nm. The measurements of scattering signals on gold and silicon substrates were in good agreement with calculations.

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