Basics and history of s-SNOM and Nano-FTIR

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By scattering focused VIS-IR-THZ radiation from an AFM tip the local optical response can be measured and mapped together with a sample's topography, at a spatial resolution down to 20 nm.[1]

This contribution will introduce the concept of optical near fields and its applications, starting with the Synge's[2] original ideas of both aperture-type and scattering-type optical near-field microscopies, along with the lecturer's own involvement in developing IR s-SNOM and nano-FTIR.

1. Keilmann, F.; Hillenbrand, R., Near-field microscopy by elastic light scattering from a tip. *Philosophical Transactions of the Royal Society A* **2004,** 362, 787-805.
2. Synge, E. H., Suggested method for extending microscopic resolution into the ultra-microscopic region. *Philosophical Magazine* **1928,** 6, 356-362.