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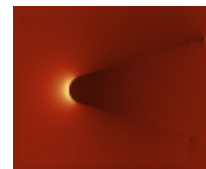
TERS field enhancement 1

TERS field enhancement

Nevertheless, we can simulate all the typical effects observed at TERS probes. We focused on aluminium coated silicon probes and first wanted to separate different competing effects, as follows. The smaller the tip radius is the bigger is the enhancement. The bigger is the thickness of aluminium layer, the bigger is the enhancement in our spectral region of interest.

A series of numerical experiments was done to see these effects separately and combined. First, probes from solid aluminium were simulated, having different radii. Second, probes with the same total radius were simulated, having different thickness of the aluminium layer (so the silicon core radius) was changing appropriately. Finally, the most realistic case which are probes with silicon core of some radius with thin film of varying thickness on top was simulated. The simulations were performed for different wavelengths and also for different materials of the core.

Sample parameter file: [TERS](#).
A 300x300x300 computational domain with TERS tip



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