

309. Title:A way to determine the permittivity of metallized surfaces at terahertz frequencies

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Abstract:A method for determining the dielectric permittivity of metal surfaces at terahertz (THz) frequencies has been suggested and tested. The method implies excitation of surface plasmons (SPs) on the sample surface and measurements of the SPs propagation length and field penetration depth in air. The technique was tested on evaporated gold with Novosibirsk free-electron laser at the wavelength of 130 μm . The method suggested paves the way for refractometry of metallized surfaces at THz frequencies.