

THE SPECTRUM OF SURFACE
PLASMA POLARITONS UNDER GAUSSIAN
SPATIAL DISTRIBUTION OF ELECTRONS

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S u m m a r y

Dispersion of surface electromagnetic waves (surface plasma polaritons, SPP) of a nonhomogeneous solid-state plasma with Gaussian spatial distribution of electrons is calculated within the local dielectric function approximation. The calculated spatial distribution of electromagnetic fields allows one to identify the nature of the corresponding branches of the SPP dispersion. The attenuated total reflection spectrum is calculated for the Otto geometry of the experiment. The genesis of SPP dispersion curves under variation in the characteristic parameters of the solid-state plasma distribution is investigated as well.