

278.Title:Investigation of terahertz waves propagating through subwavelength metal-dielectric-metal structure

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Abstract:The dispersive and transmission properties of terahertz (THz) waves passing through subwavelength metal-dielectric-metal structure have been investigated by using the transfer matrix method. The effects of geometrical parameters, radiation frequencies and dielectric filling materials on the propagation properties of gap surface plasmon polaritons modes have been explored. The surface plot results show that with the increasing of the dielectric filling material length, the effective indices of the propagation modes increase, and the propagation losses show a peak, which is very important and useful to find the optimum size of the sample to improve the detection sensitivity. The results are very helpful and important in the fields of THz imaging and biological specimen analysis.