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作者: Sabah, C (Sabah, C.); Roskos, HG (Roskos, H. G.)
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摘要: In this numerical study, the influence of the choice of metal (and hence of the conductivity) used for the fabrication of THz fishnet metamaterials is investigated. We explore an exemplary structure for which surface-plasmon-polaritons offer - assuming sufficiently good conductivity - pronounced extraordinary transmission and strong multiple magnetic resonances with negative permeability. We analyze the dependence of these signatures on the type of metallization. Studying five different metals, we find that the metallization is important for achieving the multiple resonances. A reduction of the conductivity can lead to a dramatic weakening and even a near-disappearance of magnetic resonances if they lose their diamagnetic character. [DOI: http://dx.doi.org/10.2971/jeos.2012.12005]
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地址: [Sabah, C.; Roskos, H. G.] Goethe Univ Frankfurt, Inst Phys, D-60438 Frankfurt, Germany
通讯作者地址: Sabah, C (通讯作者),Goethe Univ Frankfurt, Inst Phys, Max von Laue Str 1, D-60438 Frankfurt, Germany
电子邮件地址: Sabah@Physik.uni-frankfurt.de
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