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摘要: The Drude-Smith (DS) model hitherto has been a well accepted model for the terahertz conductivity of nanomaterials, even though its physical basis is not clear. It is shown that a series sequence of transport involving grains and grain boundaries produces a Lorentzian-type energy loss and dominates the THz conductivity in nanomaterials, which is able to explain both the real and imaginary parts of the conductivity. The present model represents a completely different point of view than the standard Drude-Smith model. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.3697404]
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