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Title:Conversion of terahertz wave polarization at the boundary of a layered superconductor due to the resonance excitation of oblique surface waves
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Abstract:We predict a complete TM↔TE transformation of the polarization of terahertz electromagnetic waves reflected from a strongly anisotropic boundary of a layered superconductor. We consider the case when the wave is incident on the superconductor from a dielectric prism separated from the sample by a thin vacuum gap. The physical origin of the predicted phenomenon is similar to the Wood anomalies known in optics and is related to the resonance excitation of the oblique surface waves. We also discuss the dispersion relation for these waves, propagating along the boundary of the superconductor at some angle with respect to the anisotropy axis, as well as their excitation by the attenuated-total- reflection method. © 2012 American Physical Society.
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