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Title

THz dielectric anisotropy of metal slanted columnar thin films

Source

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Abstract

The anisotropic optical dielectric functions of a metal (cobalt) slanted columnar thin film deposited by electron-beam glancing angle deposition are reported for the terahertz (THz) frequency domain using generalized spectroscopic ellipsometry. We employ a simple effective medium dielectric function homogenization approach to describe the observed optical response. The approach describes isolated, electrically conductive columns which render the thin film biaxial (orthorhombic). Our findings suggest controlled variability of dielectric polarizability and anisotropy in the THz spectral range by choice of geometry, material, and structure. (25 References).