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Measurement of the optical constants of thin metal films by THz differential time domain spectroscopy

Source

Chinese Physics Letters, vol.28, no.9, Sept. 2011, 097803 (4 pp.). Publisher: Chinese Physical Society, China.

Abstract

Three kinds of nanometer-scale metal films (Cr, Ni and Ti) with different thicknesses are fabricated. The complex refractive indices of the three metal films are quantitatively measured by using THz differential time-domain spectroscopy (THz-DTDS). The orders of the complex refractive indices of the thin metal films are equal to those of the reported values. Our results validated that THz-DTDS can be used to study the features of the ultra-thin metal films. (17 References).