

Abstract Submitted
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Surface sensitivity to dielectric environment of optical and magneto-optical properties in magnetoplasmonic nanodisks CÉSAR AURELIO HERREÑO-FIERRO¹, Universidad Distrital F. J. de C., EDGAR J. PATINO , Universidad de los Andes, GASPAR ARMELLES, ALFONSO CEBOLLADA, Instituto de Microelectrónica de Madrid (CNM-CSIC) — The optical, ellipsometric and magneto-optical surface sensitivity to dielectric environment of magnetoplasmonic nanodisks is experimentally studied. Here the shift of the corresponding spectral structures as a function of the thickness of a coating SiO₂ layer is characterized. Our results reveal that the so called pseudo-Brewster Angle, easily identified in the ellipsometric phase (Δ) spectrum, is up to four times more sensitive than the conventional features used in Surface Plasmon Resonance (SPR) based sensors. These results highlight the need of investigating the factual implementation of this technique to develop improved ellipsometric-phase based transducers for bio-chemical sensing purposes.

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