

34. Title: Near Field Enhancement for THz Switching and THz Nonlinear Spectroscopy Applications

Author: Merbold, H; Brunner, F; Cannizzo, A; Feurer, T

Source: CHIMIA

Volume:65

Issue:5

Pages: 316-319

Publication year: 2011

Document type:Journal article (JA)

Abstract: Slits in thin metal sheets and split-ring resonators (SRR) featuring gaps on the micro- or nano-scale are shown to be a promising tool for THz switching or THz nonlinear spectroscopy applications. Both structures show strong field enhancement in the gap region due to light-induced current flows and capacitive charging across the gap. Whereas nano-slits allow for broadband enhancement the resonant behavior of the SRRs leads to narrowband amplification and results in field enhancement of tens of thousands. This property is particularly beneficial for the realization of nonlinear THz experiments.