

# Unraveling the bisignate and broadband chiro-optical response from all-dielectric distorted L-shape metamaterials

Ufuk Kilic<sup>1</sup>, Matthew Hilfiker<sup>1</sup>, Alex Ruder<sup>1</sup>, Shawn Wimer<sup>1</sup>, Eva Schubert<sup>1</sup>, Christos Argyropoulos<sup>1</sup>, Mathias Schubert<sup>1,2</sup>

<sup>1</sup> Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, USA.

<sup>2</sup> Department of Physics, Chemistry, and Biology (IFM), Linköping University, Sweden.

E-mail address: ufukkilic@unl.edu

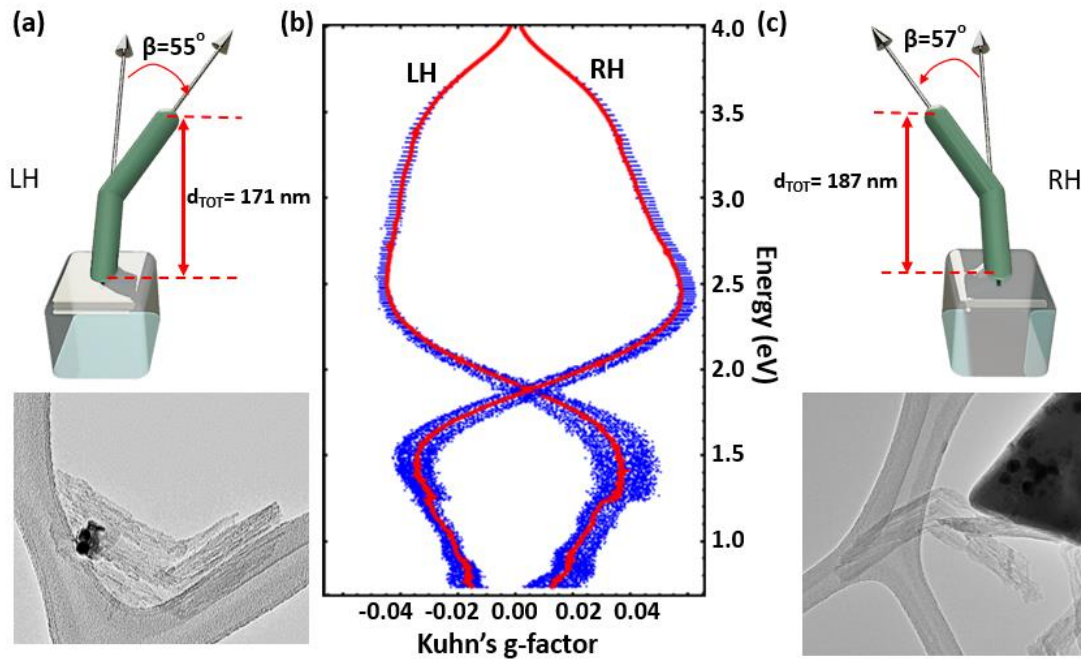


Figure 1. The schematic illustrations and the high resolution transmission electron microscopy images of both left handed (LH) and right handed (RH) all-dielectric Si metamaterials are shown on top and bottom sections of (a) and (c), respectively. (b) The corresponding spectral evolution of Kuhn's dissymmetry factors for both handedness which are obtained from straightthrough transmission mode spectroscopic ellipsometry (SE) measurements. Blue scattering data are accumulated SE for different azimuthal orientation of structure ( $0^\circ$  to  $360^\circ$  by  $15^\circ$  steps) and red line is average of all SE data.