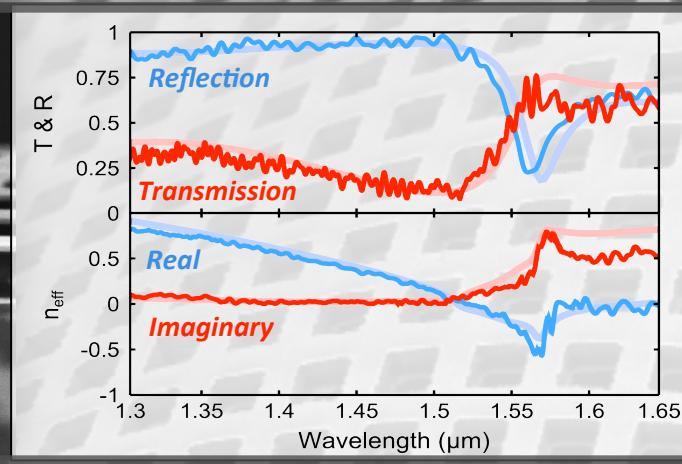
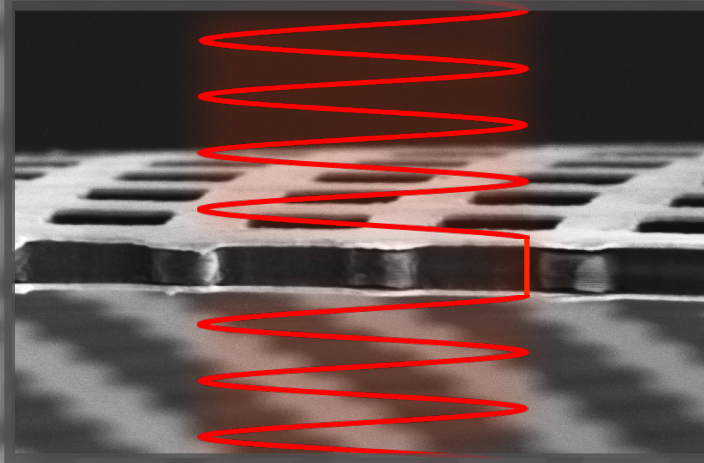


# Low-Loss Zero-Index Metamaterial in the Near-Infrared



The novel properties of meta-materials enable new technologies such as electromagnetic cloaks, flat near- and far-field focusing lenses, and transformation optics devices. MRSEC researchers' nature-inspired design techniques and accurate fabrication methods minimize loss in this polarization-insensitive free-standing gold-polyimide-gold meta-material which has both a zero refractive index and high transmission at 1.5 $\mu\text{m}$ . The vertical sidewalls eliminate bianisotropy. Low-loss meta-materials could enable a new generation of practical optical devices.

