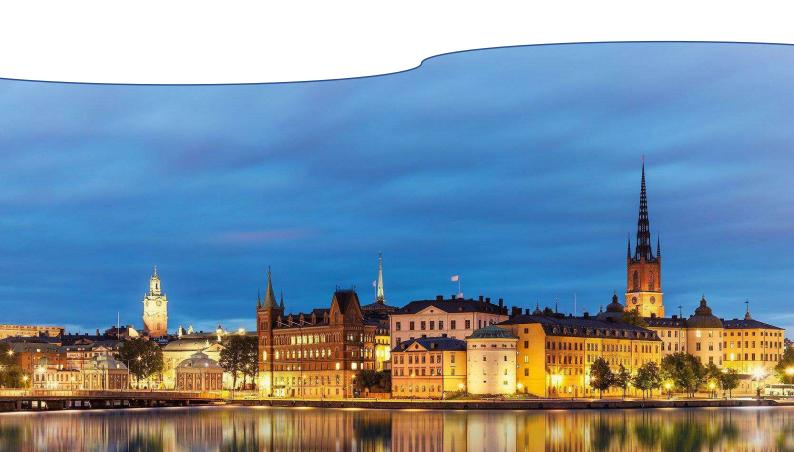
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Workbook





WeA2.6 Germanium-based Dielectric Loaded Plasmonic Waveguides For 9:45 The Long-wave Infrared Spectral Range

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Dielectric loaded plasmonic waveguides are a very efficient link for electronic and photonic devices, facilitating miniaturized on-chip optoelectronic integrated circuits. For longwave infrared applications (8-12 μ m) however, the material selection is challenging as most common dielectrics like PMMA or Silica absorb in this wavelength range. In this work, undoped germanium was identified to overcome this limitation and its basic plasmonic properties such as mode propagation length and modal effective area are assessed by numerical simulations at a wavelength of interest of 9.12 μ m. In this respect, 1 mm long plasmonic waveguide samples were fabricated and characterized experimentally. The corresponding determined propagation losses are 12 dB/mm.

WeA2.7 Sb-based Interband Cascade Mid-IR Devices With Top GaAs 10:00 Metamorphic Layers

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We present two different GaSb based interband cascade devices emitting between 3 and 4 μ m containing a metamorphic GaAs layer above the active region. The first structure is a Resonant Cavity Light Emitting Diode with an oxidized Al(Ga)As layer whereas the second structure is an Interband Cascade Laser with a GaAs top cladding.