

Abstract Submitted
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Tuned permeability in terahertz split-ring resonators for devices and sensors GREG ANDREEV, TOM DRISCOLL, DIMITRI BASOV, MASSIMILIANO DIVENTRA, University of California at San Diego, SABARNI PALIT, SANG YEON CHO, NAN MARIE JOKERST, DAVID SMITH, Duke University — A process is demonstrated for tuning the magnetic resonance frequency of a fixed split-ring resonator array, by way of adding material near the split-ring elements. Applying drops of a silicon-nanospheres/ethanol solution to the surface of the sample decreases the magnetic resonance frequency of the split-ring array in incremental steps of 0.03 THz. This fine tuning is done post fabrication and is demonstrated to be reversible. The exhibited sensitivity of the split-ring resonance frequency to the presence of silicon nanospheres also suggests further application possibilities as a sensor device.

Greg Andreev
University of California at San Diego

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