

75. Title: Tailored resonator coupling for modifying the terahertz metamaterial response

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Abstract: We experimentally and numerically study the nature of coupling between laterally paired terahertz metamaterial split-ring resonators. Coupling is shown to modify the inductive-capacitive (LC) resonances resulting in either red or blue-shifting. Results indicate that tuning of the electric and magnetic coupling parameters may be accomplished not by changing the orientation or density of SRRs, but by a design modification at the unit cell level. These experiments illustrate additional degrees of freedom in tuning the electromagnetic response, which offers a path to more robust metamaterial designs. (C) Publication year: 2011 Optical Society of America