

Full-Wave Analysis of Magnetic Meta-Surfaces for Microwave Component Applications

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Abstract : In this contribution, we report the electromagnetic response of a split ring resonator (SRR) based magnetic metamaterial unit cell in free space nature by means of a full-wave electromagnetic simulation. The effective parameters of these designed structures have been analyzed. The structures have been specifically designed to work at high frequency considering the development of many microwave and lower mm-wave devices. In addition to that, the application of the designed metamaterial structures is also proposed, namely metamaterial loaded planar transmission lines, potentially useful to optimize size and quality factor of circuit components and radiating elements.

Keywords : CPW, Microwave Components, Negative Permeability, Split Ring Resonator (SRR)

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