Abstracts

Eliminating surface currents with metallodielectric photonic crystals

D. Sievenpiper and E. Yablonovitch. "Eliminating surface currents with metallodielectric photonic crystals." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 663-666.

We report results on a new type of metallodielectric photonic crystal, which can act as an engineerable, artificial metal. These structures completely expel electromagnetic wave just as metals do. Like metals, they also support surface currents. By engineering the geometry of the surface, we have produced a structure that also has a band gap for the surface currents which overlaps the bulk band gap. This new material should be useful as a ground plane in low profile antenna applications.

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