

“Artificial magnetic conductors enhancing the wave propagation in oversized parallel plate waveguides for planar antenna applications”, pp.22-29

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Abstract – Electromagnetic BandGap (EBG) structures have unique properties in controlling the propagation of electromagnetic waves. In this work we analyze the effect of EBG structures acting as artificial magnetic conductor (AMC) to enhance wave guidance in parallel plate waveguides. These structures are compared with conventional perfect electric conductor (PEC) surfaces in parallel plate waveguides with three examples of practical applications. For future applications, we will apply AMC structures in parallel plate slot antennas and oversized rectangular slotted waveguides in order to improve the performance of these kinds of planar antennas.