Analysis and application of fractal and quasi-fractal antennas

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ABSTRACT

In this thesis, we discuss about fractal and quasi－fractal antenna. Using the fractal structure, a compact and wideband antenna is designed. As long as the iteration order increases, the bandwidth can increase 50%. First, we use HFSS to simulate the performance of the 50Ω-feed designed fractal antenna. Then we etch a shape of Koch fractal structure as a microstrip feed antenna, and to fabricate this antenna on a FR4 substrate. In addition, we discuss about quasi-fractal structure to be applied on the ground plane of a trapezoid monoopole antenna. The dual operating bands of the antenna are determined by the sizes of the radiator and the quasi-fractal structure.

Keywords : fractal antenna、quasi－fractal antenna

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